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**Pension Provision by Small Employers in Ireland: An Analysis of PRSAs Using
Bounded Rationality Theory**

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ABSTRACT

This paper applies the theory of bounded rationality to study small employer pension provision decision-making in Ireland. PRSA pension products were intended to provide inexpensive, flexible pension options, particularly targeted towards small enterprises and yet employees in small organisations are the least likely to be members of pension schemes. Ten years after their introduction, evidence suggests that the PRSA pension product had little impact on pension coverage in Ireland. Drawing on the theory of bounded rationality and a review of the legislative and institutional context within which small employers in Ireland make pension provision decisions, this paper presents a small employer pension decision making model. A range of propositions are set out which illuminate small employer pension provision practices relating to whether they have a tendency to organise rather than sponsor PRSAs for their employees. The implications for theory, research and policy are explained.

KEY WORDS

Pensions, employer decision making, PRSAs, bounded rationality.

INTRODUCTION

A pension scheme “is an arrangement that provides for payments to be made to a worker on retirement from paid work, or his/her dependents in the event of death” (Kenny, 2004: 1).

The pension system in Ireland has three dimensions or pillars (Nivakoski and Barrett, 2012): (i) the state pension, (ii) occupational pensions, and (iii) personal pensions and other forms of retirement savings. Each pillar can comprise all or part of a retired person’s income. In 2010, Irish residents, aged 65 and over, relied on social welfare transfers from the State (i.e. pillar one) for about two-thirds of their income (Ireland. Central Statistics Office, 2012a).

Population projections suggest that the ratio of workers to pensioners will fall from 5.6 in 2006 to 2.5 in 2041 (Ireland. Department of Social and Family Affairs, 2007: 17). Many national governments and the OECD (2012) believe that it is likely that the social welfare transfers to pensioners will continue to fall thereby requiring greater pension income from the other two pillars: occupational pensions and personal pensions and other forms of retirement savings.

Pension coverage refers to the percentage of people in employment contributing to an occupational or personal pension scheme. In Ireland retirement savings is voluntary.

Following a review of the Irish pension system, the OECD (2013: 10) recently concluded that “private pension coverage, both in occupational and personal pensions, is uneven and needs to be increased urgently.’ Small employers were particularly of interest because reports dating back to 1995 indicated that employees of small firms (fewer than 50 employees¹) were less likely to have access to an occupational pension scheme than employees of larger firms (Hughes and Whelan, 1996). The last major initiative to increase pension coverage in Ireland occurred following the enactment of the Pension (Amendment) Act 2002 which introduced Personal Retirement Saving Accounts (PRSAs). Envisaged as a simple product, accessible

through employment, with deductions made from earnings so that employees could immediately benefit from tax relief, the PRSA was considered to be the most important component of the National Pensions Policy Initiative (NPPI) ‘...in the drive to extend coverage by occupational and personal pension provision’ (The Pensions Board,ⁱⁱ 2004: 2).

Ten years after their introduction, evidence suggests that the PRSA product had little impact on pension coverage in Ireland. The NPPI target established in 1998, was to achieve 62% coverage of the workforce aged over 30 within five years from supplementary (occupational and personal) pension provision and 70% ultimately (The Pensions Board, 1998). Statistics on pension provision indicate that, in 2009, the percentage of the workforce contributing to supplementary pensions was 51%ⁱⁱⁱ, the same percentage as reported in 2002 and 19% below the NPPI target (Ireland. Central Statistics Office 2011, 2006). Although almost half of Irish employees work for small enterprises (Ireland. Central Statistics Office, 2014), in 2011 less than 25% of those employees were members of employer-sponsored pension schemes (The Pensions Board, 2012b). Only one in five PRSA schemes are classified as ‘active employer designates’ meaning that the scheme has employees as members (The Pensions Authority, 2014a). The presence or absence of employee members may be explained, in part, by the attitudes and decision making processes of the employers whose decisions are made within legal and institutional contexts shaped by government and pension providers.

A significant amount of empirical research indicates that structural pension changes, such as automatic pension enrolment and automatic contribution increases, lead to higher coverage (Madrian and Shea, 2001; Choi et al, 2004) and the communication of pension options is also reported as important in influencing employee pension behaviour (Weiner and Doescher, 2008). However, there is a significant gap in our understanding of the decision making

process of employers concerning the structure and communication of the pension schemes that they offer to employees.

Adopting the bounded rationality theoretical perspective on decision making, the current paper aims to illuminate small employer pension provision decision making processes. Thus, the paper focuses on the supply side of pension provision. Bounded rationality is a theory that proposes that decision-making rationality of individuals is limited by the information they have, their knowledge and computational capacity, and the finite amount of time available to make a decision (Simon, 2008). Bounded rationality, therefore, is a particularly appropriate theoretical lens through which to examine employer pension decision making given that such decisions require complex choices, and current and future computational analysis involving risk and uncertainty based on imperfect knowledge. Employers can adopt a minimalist approach where they simply *organise* access to pensions to ensure compliance with legislation or, at the other end of the scale, they can engage much more fully in the decision making process to identify the most suitable pension schemes for their employees based on their particular needs and can actively promote and *sponsor* pension investment among their employees. Figure 4 provides a model of the bounded rationality decision processes applied to small business owners' PRSA decisions and acts as the organising framework around which the current paper is presented and from which a range of propositions are forwarded.

The current study contributes to the literature and pension theory in a number of important ways. First, there has been a lack of focus on the employer as a key actor in the pension coverage debate nationally and internationally. The influence of employers is recognised in academic research in relation to improving pension coverage (Wu et al, 2014; Wu and Ruthledge, 2014; Madrian and Shea, 2001) and the adequacy of retirement savings (Benarti

and Thaler, 2007; Choi et al, 2007). A limited body of international research, mainly from the US and UK, identifies the opinions of small employers concerning pensions (Munnell et al, 2012; Hall, 2010; Brandon, 2013; EBR,I 2003; Fuscaldo, 2013 and Schwartz, 2007). However, there is no research found to date that attempts to explain the low coverage of employees of small firms within an analytical framework that examines the legal and institutional contexts in which small business owners make their decisions. This paper aims to address this gap.

Second, very little research has used a bounded rationality model of decision making as the theoretical lenses through which to understand pension decision making in general, and small employer pension provision decision making in particular. While institutional reports and expert reviews tend to conclude that there is not enough pension coverage (Munnell and Bleckman, 2014; Sass, 2014; OECD, 2013), much of this discourse focuses on why employees are not contributing to pensions. Although employees are heavily influenced by the extent to which their employers support and encourage pension investment behaviour, little research has explored employer pension decision making practices. The current paper aims to address this gap by providing a conceptual model of the small employer pension decision making process.

The paper is organised as follows: the next section discusses the legal and the institutional contexts through which standard PRSA products are sold in Ireland; the third section demonstrates the low uptake of standard PRSAs offered to employees since their introduction in 2003; section four analyses employer pension decision making using a bounded rationality model; and the final section concludes with a discussion of the key findings and the

implications of this research for small employers and policy makers, proposing ideas for future empirical research.

THE LEGAL AND INSTITUTIONAL CONTEXTS AND PRSA UPTAKE

The *legal* context in which small employers in Ireland make their decisions is defined by the Pension (Amendment) Act 2002 which is legislation that resulted from the NPPI. As recommended by the Pension Board (1998: 128), the legislation required ‘...mandatory provision of access by all employers to coverage for all employees...’ through defined contribution (DC), defined benefit (DB) or PRSA schemes but contributions by employers and employees remain voluntary. Mandatory pension contributions were considered but the Board decided to hold these options ‘in reserve’ because of the high costs that would be incurred by employers and employees if they were implemented. Where an employee elects to contribute to a pension, the legislation stipulates that employers must deduct employees’ pension contributions from their wages so that employees get immediate tax relief. Employers must advise employees that the facility to invest in PRSAs is available. They do not have to advise employees about the pension schemes but they must allow pension providers or their representatives access to employees during working hours either on or off-site, if requested by employees.

There are two classifications of PRSAs: standard and non-standard. Both types of PRSA products must comply with the legal requirements developed by the Pensions Authority, the body with statutory authority to approve and monitor PRSA products and are regulated by the Central Bank of Ireland (The Pensions Board, 2012a). PRSAs can be sold directly to individuals or they can be employer-organised and offered through the workplace. If an

employer does not offer an occupational pension scheme, or if restrictions to their scheme exclude some employees, the employers must provide access to a standard PRSA.

The standard PRSA has capped pension charges and contributions can only be invested in managed funds which are ‘...collective investment schemes in which investors’ money is pooled to buy a portfolio of assets including government bonds, deposits, property and stocks’ (The Pension Board, 2012a: 40). Non-standard PRSAs have unrestricted charges and investment fund options. Because the PRSA products are developed, sold and serviced by third parties, PRSAs were intended to provide inexpensive, flexible pension options, particularly targeted towards small enterprises (Hughes 2013) and therefore are the pension option under review in the current paper.

The *institutional* context in which small businesses make their decisions is defined by the competitive market where pension providers offer standard PRSA products. Although regulated, pension providers differentiate their products through the design of their products, the media used to communicate information, the type of information provided and the channels of distribution. Currently, there are five standard PRSA providers: Aviva Life & Pensions Ireland Ltd, Friends First Life Assurance Co Ltd, Irish Life Assurance plc, New Ireland Assurance plc and Zurich Life Assurance plc offering 55 standard PRSAs (The Pension Authority 2014b). The legal context means that pension contributions for standard PRSAs are voluntary and that products are developed through private pension providers. This has resulted in an institutional context of competing pension providers developing products that are designed and marketed differently.

The data presented in Figure 1 confirm that in the years following the publication of the NPPI and the introduction of the PRSA, the pension coverage for employees of small enterprises remains low^{iv}. Membership in an employer-sponsored pension scheme continues to be more common for employees of schemes with more than 50 members, associated with medium-to-large enterprise. Figure 2 compares the number of persons engaged in small active enterprises (1-49) with membership in small pension schemes (50 members or less)^v.

Insert Figure 1 here

Insert Figure 2 here

In 2007, four years after the introduction of PRSAs, about 17% of people engaged in small enterprises were members of employer-sponsored pension schemes (see Figure 2). During the period between 2007 and 2012, the best ratio of membership of small schemes to persons engaged in small enterprises was 1:4 (or 25%) in 2010. The ‘improvement’ was a result of the reduction in numbers of persons engaged in small enterprises rather than an increase in pension scheme membership. Employers with PRSA provision are divided between ‘active employer designates’ (PRSA schemes sponsored by an enterprise with employees as members) and ‘employer designated schemes with no employees’. Figure 3 shows both categories. The number of PRSA schemes with employee membership (Active Employer Designates) increased until 2010, remained fairly steady until 2012 and increased in 2013. In 2013, DB membership decreased by about 11,000 while DC and PRSA membership increased by just over 13,000 members (Ireland. The Pensions Board 2014c). This suggests that organisations that wound up or closed DB schemes to new members may be offering DC-type schemes as a substitute. Only about 20% of employer designated PRSA schemes reported members in 2013.

Research is required to understand why some PRSAs have employee members while others do not. This paper argues that one possible explanation may lie in the commitment of the employer to pensions in general and PRSAs in particular. To further understand commitment levels, the term ‘organised’ will refer to employers who only fulfil their statutory obligations, providing employees access to PRSA pension option(s). These employers locate a pension provider for a standard PRSA, complete the designation contract with the pension provider and notify their employees that access to a standard PRSA is available. Upon request from interested employees, they organise contact between their employee(s) and the pension provider either on- or off-site. It will be argued that these schemes are unlikely to have members.

On the other hand, employers may take much more active roles, investing more time and resources in pension decision making and act as ‘sponsors’. A typical definition of a plan sponsor describes a ‘designated party, usually a company or employer, that sets up a plan... for the benefit of the organization's employees. The responsibilities of the plan sponsor include determining membership parameters, investment choices and, in some cases, providing contribution payments in the form of cash and/or stock’ (Investopedia, 2014). In addition to compliance, these employers will search for an appropriate PRSA, work with the pension provider and invest in pensions as an employee benefit with their time and possibly their money. Their desire to sponsor, however, may be enhanced or diminished by the legal and institutional contexts in which they make their decisions. To better understand the dynamics at play in determining whether small employers organise or sponsor PRSA pension provision in Ireland, the following section applies a model of bounded rationality to such employer level pension decision making processes.

SMALL EMPLOYER PENSION DECISION-MAKING: A MODEL OF BOUNDED RATIONALITY

Bounded rationality is used to ‘...designate rational choice that takes into account the cognitive limitations of the decision-maker—limitations of both knowledge and computational capacity’ (Simon, 2008: 893). The behaviour of individuals making risky decisions has been investigated by scholars in many fields. Economists in the 20th centuries developed theories of decision making under conditions of risk (von Neumann and Morgenstern, 1947; Freidman and Savage, 1948). Stylised rational choice models, based on utility theory were promoted by economists as being simple and fruitful (useful for prediction). The critique of Herbert Simon (1955, 1983) challenged their descriptive value and predictive ability. This led to a split in economics that impacted on pension research. Neoclassical economists developed lifetime consumption models and regret theory that are used to investigate pension decision making. On the other hand, behavioural psychologists and economists argue that heuristics, biases and framing act as predictable departures from rational choice models. Kahneman and Tversky (1979) proposed prospect theory to explain the empirical inconsistencies observed when testing responses to decisions involving risk. The bounded rationality decision making process is dynamic; individuals change objectives and adjust the alternatives considered when faced with imperfect information and time constraints. Decisions, when made, tend to ‘satisfice’. They are ‘good enough’ rather than the ‘best’ possible solution predicted by rational choice theorists (Simon, 1983). Figure 4 presents the conceptual model of bounded rationality decision process applied to a small business owner’s pension decision-making.

Insert Figure 4 here

Simon (1983) identified three elements required for bounded rationality in decision making: a focus on problems of high urgency; a mechanism for generating alternatives; and a capability for finding out facts about the environment and some level of capability to draw inferences from those facts. The following section applies these elements of bounded rationality theory to small employer pension decision making concerning PRSA provision to further understand why the outcome of this process is organisation rather than sponsorship for most small employers as illustrated in Figure 4.

Focus on Problems of High Urgency

International empirical research suggests that small business owners are not homogeneous in their reasons for offering employee pensions. Some small employers offer pensions to attract, motivate and retain talent in competitive labour markets (Hall, 2010; Brandon, 2013; Fuscaldo, 2013 and Schwartz, 2007) and to demonstrate social responsibility (Hall, 2010; Brandon, 2013). Providing a pension was considered by some to be the ‘right’ thing to do and a driver of business success (Hall, 2010). Because this is perceived as an important problem, this group of employers will probably search until they find an appropriate product and sponsor the pension.

However, for most small employers, pension provision does not appear to be a problem of high urgency. Empirical data from small employers in the US and the UK reveal that they do not believe that pension provision is a source of competitive advantage because employees did not expect, ask for, or value pensions (Munnell et al, 2012; Hall, 2010; EBRI, 2003). Small business owners, especially those who lack confidence in pensions, report that there were more reliable ways to reward employees (Hall, 2010). In the US, some small business

employers believe that employees value health care (Brandon, 2013) or wages (EBRI, 2003) more than pensions. Furthermore, small employers in the UK and the US report concerns about the financial viability of their business. Pension schemes cost money while cost-reduction is required to maintain competitiveness (Munnell et al, 2012; Hall, 2010; EBRI, 2003). Business uncertainty and the cost of setting up and administering pensions make them unattractive to small enterprises (Brandon, 2013; Hall, 2010; EBRI, 2003). Thus, there is no sense of urgency among many small employers to provide pensions as a form of employee reward.

The lack of urgency could also be linked to the low percentage of small enterprises with HR or employment relations managers reported in surveys in the UK (Storey et al, 2010) and the US (McEvoy, 1984; Little, 1986). Some research suggests that as firms grow in size, their personnel methods become more sophisticated (Hornsby and Kuratko, 1990; Kotey and Slade, 2005). Comparing the compensation policies of small firms classified by size categories (1-50; 51-100; 101-150), Hornsby and Kuratko (1990: 13) report that the size of the firm affects the sophistication and complexity of benefits offered to employees. The smallest category of employer (1-50) was the least likely to provide pensions or any other benefit. Only one-fifth of the smallest businesses offered pension schemes and this appeared to be due to competitive pressures (Hornsby and Kuratko, 1990).

International research suggests that, in general, small employers do not view pension provision as an important issue and, therefore, we suggest the following proposition:

Proposition 1: For most Irish small employers, pension provision is not a problem of high urgency because their employees do not indicate a strong demand for a pension

product. Therefore, employers are more likely to organise rather than sponsor a PRSA.

A related theoretical concept impacting on the urgency of a problem is *framing effects* (see Figure 4). The legal context and the communication from the Pensions Board may ‘frame’ the decisions of small employers in a way that leads them to focus on compliance with legislation as the problem of urgency rather than fully engaging in pension decision-making to increase coverage, the stated objective of the NPPI. Building on bounded rationality theory, Tversky and Kahneman (1981: 453) described the perspective of the decision maker as the ‘decision frame’ referring ‘...to the decision-maker’s conception of the acts, outcomes, and contingencies associated with a particular choice. The frame that a decision-maker adopts is controlled partly by the formulation of the problem and partly by the norms, habits, and personal characteristics of the decision-maker.’ In some cases, the decision maker herself will develop the decision options. In other cases, the options will be presented to the decision maker. Bay (2011) reports that the framing of issues by public authorities can alter a decision maker’s behaviour and, therefore, framing of pension provision requirements are likely to impact on employers’ pension provision decision-making. The legislative context that requires employers to provide access to a pension fund but make contributions voluntary, does not escalate improving pension coverage to one of urgency in either Ireland or the UK. In 2001, the UK government imposed a retirement saving mandate on employers, and like Ireland, contributions from employers and employees were voluntary, which resulted in most pension plans actually having no contributors (Sass, 2014: 2). Hall (2010) conducted qualitative research in the UK with small employers and reported that some employers who offered a pension to employees but did not contribute, ‘...did so because of their understanding of the legal requirement... That understanding was not always fully formed.

Rather, it was based on what they had been told: that it was the law to offer a pension and that was the end of it. They may have had no other motivation apart from their understanding of the law and their need to comply with that' (Hall, 2010: 52.)

In the Irish context, *The Personal Retirement Savings Accounts (PRSAs) A consumer and employers' guide to PRSAs* was published in 2012 by the Pensions Board (2012a) to provide guidance to employers. It heavily focuses on legal compliance, framing employer choices in relation to actions required to fulfil the legal minima rather than addressing issues that would promote pension coverage like finding an appropriate PRSA and matching employee contributions. Taken together, the legislative context in Ireland and the framing of information to promote compliance is too weak to increase pension coverage and we, therefore propose:

Proposition 2: The Irish legal context and information provided by the Irish Pensions Board which requires pension access rather than pension contribution encourages small business owners to organise rather than sponsor PRSA schemes.

Generate Alternatives

When the decision maker focuses on a problem of interest, Simon (1983) believed that the next stage of the decision process was generating the alternatives designed to solve a particular problem. Cyert et al (1956: 237) argued that in an organisational setting, '...it is necessary to include the search for alternatives as an important part of the [decision-making] process'. Although a large proportion of the decision maker's time may be devoted to generating alternatives, the generated list of alternatives tends to be limited because under most circumstances, it is not reasonable to find all possible alternatives (Simon, 2008).

Hall (2010) found that when looking for information in general, small UK employers used a variety of different sources that changed as they approached a decision. The sources of information include: media, informal personal and business networks, formal business and trade networks, correspondence with government, internet sites for professionals, trade and/or government departments, trusted professionals and government departments (Hall, 2010).

No research has been found to date that identifies the information sources used by Irish small business owners to inform themselves about PRSA alternatives. However, multiple sources are easily accessed. A complete source of information about standard PRSA alternatives is found on the Pensions Authority (2014b) website. The *PRSA Providers & Products Register* (subsequently called the *Register*) is updated regularly. The current *Register* is a nine-page document that lists of all approved standard and non-standard PRSA products. The contact details for pension providers form part of this document. All PRSA providers sell products through what the National Consumer Agency (2014) classify as multi-agency intermediaries. Independent Financial Advisors or Brokers are able to advise employers about a number of financial products from competing companies. Most companies have additional distribution channels including direct sales, banks and accountancy firms with approved Life & Pensions services.

A small business owner, to comply with legislation, must complete a PRSA designation contract directly with a pension provider or through another distribution channel. The large number of small employers with employer designated PRSAs (see Figure 3) suggests that locating sufficient information to complete a PRSA designation contract from a range of alternatives should be relatively easy to achieve. Thus, the following is proposed:

Proposition 3: It is relatively easy for small business managers to generate alternative options and organise a PRSA because of the institutional context that features many channels of distribution and sources of professional advice.

As shown in Figure 4, if the sole objective of the small business owner is to comply with legislation, her decision process ends when one alternative is discovered and the designation contract is completed. The process continues for the small business owner seeking to identify an appropriate PRSA from a range of alternatives.

Finding Information and Drawing Inferences

Finding Information

The third element of Simon's bounded rationality model of decision making is finding facts and drawing inferences from those facts. Increasing evidence that the market for pensions is segmented, indicates some investors are better able to understand and make complex investment decisions than others (Clark and Strauss, 2008, Gough and Sozou, 2005; Gough and Nurallah, 2009). Further, different market segments have different information requirements (Clark et al, 2012; Hales and Gough, 2003). Gough and Sozou (2005: 569) identify six distinctive pension target groups and conclude that 'the identification of target groups... could ultimately lead to enhanced abilities for pension providers to develop customised pension and saving products for those groups.' The importance of targeted pension information was highlighted in a recent EU peer reviewed report on pension communication. One of three recommendations suggests that '...adequate tools and methods should be developed which meet the information needs and other characteristics of the individuals receiving the information' (Stevens and Van Assche, 2013: 5). Targeted information increases its salience to the relevant consumer and possibly decreases the information costs for the decision maker.

While the individual looking for information is trying to identify a pension product to meet their own needs, the decision of the small employer is slightly different. She is seeking a single product that meets the needs of all employees who may differ in age, gender, marital status, education and other variables that are known to impact on pension product and investment fund choice. However, like an individual, having information that is accessible and salient e.g. tailored to her needs would clearly help the small business owner to achieve her objectives of complying with legislation and finding an appropriate PRSA product for her employees.

As mentioned in the previous section, the Pensions Authority (2014b) *Register* is a complete list of standard PRSA products which are available to small employers. A review of the *Register* reveals that much of the information is irrelevant to the small business owner seeking information about PRSAs. Of the 14 pension providers identified, five currently offer standard PRSAs with 55 PRSA alternatives that are open to new members. Only the Pension Authority or the pension provider would find the product names meaningful as the sample of approved standard PRSA products for Aviva (an insurance broker) in Exhibit 1 illustrates.

Insert Exhibit 1 here

Two reasons for the number of products were provided by representatives of the main pension providers: similar products may be branded differently depending on the distribution channel (e.g. brokers or IFAs) and different products reflect different charging structures for different distribution channels. The daunting number of 55 alternatives does not accurately

reflect the number of PRSA product offerings that would be presented to the small business owner seeking information through a limited number of distribution channels.

Pension provider websites are another possible information source that a small employer could use to gather information about standard PRSAs. A review of the websites of PRSA providers in Ireland (Aviva, Friends First, Irish Life, New Ireland and Zurich) was conducted to examine this information source for its salience and information seeking costs – key elements of bounded rationality theory. Table 1 summarises information about PRSAs accessed from the pension providers' websites. While every effort was made to examine all relevant information, it should be noted because of the challenges of navigating the websites, some information may have been unintentionally omitted.

Insert Table 1 here

For two of the pension providers, Aviva (2014a) and Friends First (2014), no information could be found on their websites that promoted PRSAs as *employer* designated schemes; information is written for individual PRSA investors. A download brochure with details about PRSAs was available from New Ireland (2014b) for employers and from Irish Life (2014) for individuals. Information about standard PRSA investment funds is available in fund guides that can be downloaded from the website for Aviva (2014b) and Zurich (2014). However, these guides include information about the investment funds for all financial products offered by the companies and are irrelevant to the small business owner's decision. Three pension providers include information on their websites about employer designated PRSAs which are accessed through hyperlinks or various drop-down menus and sub-menus. Overall, finding information about group PRSAs tends to be circuitous and fragmented and we, therefore, propose:

Proposition 4: The information costs incurred by small business owners trying to find information to compare standard PRSA options are high because much of the information is neither targeted nor salient encouraging them to organise rather than sponsor a PRSA.

Drawing Inferences

Drawing inferences requires assessing alternatives and their possible consequences. Thaler and Sunstein (2009: 104) observe that ‘as alternatives become more numerous and more complex, choice architects have more to think about and more work to do, and are much more likely to influence choice (for better or for worse).’ The number of investment funds offered within a PRSA is one source of complexity. Barr and Diamond (2007) reflect that too much choice can lead to inertia arguing that as a result of excessive choice or excessive complexity, people often fail to make any choice at all. They go on to argue that choices should be kept simple by offering only a small number of clearly differentiated funds.

Limiting the number of investment fund choices is one strategy for plan sponsors and pension providers to promote pension scheme membership. Research conducted in the US by Sethi-Ivengar et al (2004: 91) with over 800,000 401(k) members of 647 plans in 67 industries found that ‘... if a plan offered more funds, this depressed the probability of employee 401(k) participation. Other things equal, every ten funds added was associated with 1.5 percent to 2 percent drop in participation rate...If only two funds were offered, participation rates peaked at 75 percent’. Other research, using a large data set of almost a million members of over 1,000 401(k) plans in the US conducted by Tang et al (2009) reports that, although the addition of particular kinds of funds increased diversity and enhanced efficiency, the limit of additional benefits is reached at nine funds.

There is limited research on the impact of fund complexity on small employers' pension decision-making behaviour. However, research conducted in the US, where pension provision is voluntary, found that many small employers reported being 'overwhelmed by the number of plan options, administration requirements, and fiduciary responsibilities' (US Government Accountability Office, 2013: no page) and concluded that the complexity means that small employers are less likely to sponsor a pension scheme.

In the Irish context, the Pension Board (2013b) published guidelines for the trustees of DC schemes, that will, if used, reduce the complexity of those schemes. While stating that the choice of the number of investment funds will differ, they suggest that the choice should be between five and seven striking a balance between providing sufficient choices for risk diversification and limiting scheme complexity. At present, pension providers offer between 12 and 22 investment fund options for their standard PRSAs alone. Thus, the following is proposed:

Proposition 5: The legislative and institutional context that allows pension providers to offer an unlimited number of PRSA investment funds increases the complexity of small employer pension decision-making thereby encouraging them to organise rather than sponsor a PRSA.

Prospect theory, developed by Kahneman and Tversky (1979) suggests that most people are loss averse; the dissatisfaction that they experience with a loss is greater than the satisfaction that they experience with a gain of a similar amount. Mitchell and Utkus (2004:22) quantify the extent of the differences referring to research that suggests '...the index of loss-aversion is about 2.5: In other words, when evaluating risky gambles, the individual will report that losses are 2.5 times as painful as the equivalent dollar values of gains.' However, individuals

do differ in that outcomes of gain or loss are reference dependent meaning that ‘...outcomes are expressed... as positive or negative deviations (gains or losses) from a neutral reference outcome...’ (Tversky and Kahneman, 1986: S258). That reference differs for individuals and can change for an individual over time. This means that experienced investors will tolerate larger losses with less dissatisfaction than inexperienced investors. It is unlikely that the employees of small businesses are experienced investors; therefore, employers are making decisions that may lead to saving losses for their employees who are not only risk averse, but are likely to be very dissatisfied, even if losses are small.

In relation to the range of risk covered by the portfolio of pension investment funds, the Pensions Board’s (2013b: 9) DC guidelines state that ‘...the funds offered should cover a range of risks including the main asset classes (equities, bonds, property and cash) or the offering could be a suite of managed funds from lower to higher risk.’ In the Irish context, the Society of Actuaries in Ireland (2013) recommended classifying fund risks using the European Securities and Market Authority (ESMA) rating mechanism where risk ratings are identified on a scale of 1 to 7 based on volatility with 7 representing the most risky fund options. Each risk rating has a verbal description and volatility band as shown in the first three columns of Table 2.

Insert Table 2 here

Risk increases as the risk rating number increases meaning that risk class 2 is more volatile and therefore riskier than risk class 1. However, the impact on savings is not intuitive.

According to MoneyMate (2014) risk ‘is estimated using annualised standard deviation over the previous 5 years... taking into account weekly performance observations.’ If, for example,

the standard deviation of an investment fund over a five year period is 7.5, the middle of the risk rating 4 (medium) and the long-term volatility target for this fund is 7%. The actual return should fall between -8% and +22% in 95 years out of 100^{vi}. Therefore, for an investment fund classified as ‘medium’, the rate of return in any one year is potentially negative, although in the long-run, it should average at 7%. For an inexperienced investor, a short-term loss could negatively impact their continued pension savings (Dolan et al, 2010). Table 2 demonstrates that there are few options in the low risk category for risk-averse investors. However, as prospect theory suggests, most people are loss averse.

Adding to the difficulties faced by the decision maker, Simon (1955) observed that the outcome of decisions cannot be known at the time that the decision is made. Even though all standard PRSAs clearly place the burden of choice on the member, employer-sponsorship ties the employer to decisions where the value of investment funds may rise and fall. This risk is highlighted by the plethora of standard warnings which are used such as ‘If you do not understand the risks of this product, do not purchase it’ (The Society of Actuaries, 2013: 5) and others presented in Exhibit 2. Whatever their personal attitude is towards risk, the verbal warnings probably make small employers carefully consider the extent to which they recommend these products to their employees. Organising, rather than sponsoring, may be a strategic choice to limit the employers’ perceived responsibility if employees’ investment choices lead to reductions in pension fund values. We, therefore, propose:

Proposition 6: The legislative context that allows pension providers to offer PRSAs with investment options that are unbalanced in relation to risk, increases the probability that small employers will organise rather than sponsor a standard PRSA.

Possible Outcomes

Simon (1955) proposed that an outcome can be viewed by the decision maker as either satisfactory or unsatisfactory. It is satisfactory if certain conditions are met for each element or component that forms part of an individual's decision. In psychology, this is called an aspiration-level; it is the boundary that separates satisfactory and unsatisfactory alternatives. Consider the small business owner who started the decision process with two objectives: to comply with legislation and to identify an appropriate standard PRSA product for her employees. She focused on the problem, generated alternatives (a subset of all possible alternatives), found information and drew inferences. There are four possible outcomes (see Figure 4). First, she may find one appropriate PRSA product within the subset of alternatives that she considered. Second, she may find more than one suitable PRSA and refine the objectives to compare, for example, after sales support and the costs of the different PRSA alternatives. Both satisfactory outcomes result in an employer-sponsored PRSA. However, the subset may not include any satisfactory standard PRSAs. Simon (1955) describes two possible reactions that are relevant in this context: broaden the search to add alternatives to the subset or adjust the aspiration level to redefine 'satisfactory'. Following from the third outcome, the persistent small business owner may decide to maintain her original objectives and widen the search for more standard PRSA alternatives. Alternatively, the small business owner may adjust the aspiration level reducing the original two objectives to one: Comply with legislation. Following from this possible outcome, she will be satisfied to organise a PRSA. Of the four possible outcomes, this appears to be the most likely given the high information costs and difficulty in comparing alternatives that are complicated and risky as described above.

DISCUSSION, CONCLUSION AND IMPLICATIONS

PRSAs were intended to provide inexpensive, flexible pension options, particularly targeted towards small enterprise; however, they have not achieved their targets in terms of participation and pension coverage. The majority of employer designated PRSA schemes have no members. This paper argues that some standard PRSAs are ‘employer-organised’ with the small business owner achieving the objective of legal compliance, providing access to a standard PRSA. These PRSAs are unlikely to have employees as members. Other standard PRSAs may be ‘employer-sponsored’. It conjectures that these employers comply with legislation and make decisions that are appropriate for their workforce, investing in pensions as a benefit with their time and possibly their money. These PRSAs are more likely to have employees as members.

Drawing on bounded rationality theory, this paper derived and discussed a model of small employer pension provision decision making which highlights the complexities and challenges small employers face in trying to navigate pension information, options, and risk/return outcomes. Following the application of a bounded rationality model within the legislative and institutional contexts where small employers make their pension provision decisions, a range of propositions were presented to illuminate the possible reasons why most small employers organise rather than sponsor PRSAs. These propositions can serve as the basis of empirical research that will support or refute their usefulness.

The model presented in Figure 4 commences by referring to Simon’s (1955) concept of focusing on problems of high urgency. Our analysis suggests that, for most small employers, pension provision is not a problem of high urgency. Framing effects, both in terms of legislation and communication by the Irish Pensions Board, promote compliance with

legislation which can be achieved through organising a standard PRSA rather than improving pension coverage which can be achieved through active pension sponsorship.

Simon (1983) and Cyert et al (1956) suggested that for many business problems, generating alternatives can be a difficult and a time consuming part of the decision making process.

International research suggests that small business owners seek pension information from a number of different sources that vary from websites to trusted professionals. In Ireland, generating alternatives is probably the easiest element of the decision making process for the small business owners has an abundance of information sources and distribution channels. It should be noted that locating one standard PRSA distribution channel allows the small business owner to comply with legislation by organising a PRSA. The opportunity cost for the small business employer terminating the decision process at this point is very low.

However, for the small employer who persists in attempting to locate an appropriate PRSA for their employees, the costs of gathering information and drawing inferences quickly escalate. Although Irish small business owners appear to be a very large market segment, (see Figure 2), much of the standard PRSA information, available from the Pension Authority and pension providers' websites is not targeted to their needs, and, therefore, information salience is problematic. The legislative context that regulates the PRSA products was designed, in part, to facilitate greater choice through competition between pension providers. The unintended side effect is an institutional context with multiple product providers and distribution channels offering multiple sources of information that vary significantly in both quality and content making it difficult to compare PRSA alternatives. This suggests that the costs of gathering information that can be used to compare standard PRSA products is

relatively high for small business owners and may result in pension organisation rather than sponsorship.

Those small business owners who locate enough information to successfully compare PRSA schemes may be concerned with their findings. The PRSA schemes considered from four pension providers are complicated and risky. Although empirical research is required, it is likely that small business owners would be reluctant to be closely associated with pension schemes that place employees' earnings at risk. This suggests that interested and persistent small employers are more likely to organise than to sponsor a PRSA.

The crucial role of the small employer as a critical actor in the pension coverage debate needs greater attention. This paper sets out a number of propositions which would benefit from national, and indeed international, empirical investigation. This enhanced understanding of the role of the small employer in pension provision would assist policy makers and legislators to identify the challenges that need to be overcome for small employers and set a framework to better assist the goal of greater pension coverage. This paper demonstrates that without more prescriptive legislation on pension structure and information, small employers face an unwieldy decision making process which most likely results in employers taking a legal minima approach to pension provision for their employees.

The evaluation of PRSAs in Ireland is timely. The Minister of Social Protection Joan Burton '...indicated her support for mandatory pension coverage for workers, but only when the economy improves' (Frawley, 2014). Changing the legislation to require mandatory contributions would certainly increase pension coverage. It will not ensure that pension products are 'fit for purpose' for small business owners and their employees. Further research

is needed in Ireland to develop an institutional context that encourages greater participation and sponsorship of pensions by employers. This paper suggests that if the current institutional context does not change, employers will be rightfully concerned because they and their employees will be required to contribute to pension schemes that are complex, risky and difficult to compare.

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ⁱ This research will consider ‘small’ enterprises which comprises both ‘micro’ and ‘small’. This choice was made because The Pensions Authority data is presented by the following scheme sizes: 1 to 50, 51 to 99, 100 to 500, 501 to 1000 and 1000+. CSO data, on the other hand, uses the following classifications for business size: micro (<10); small (10-49); medium (50-249); and large (250+).

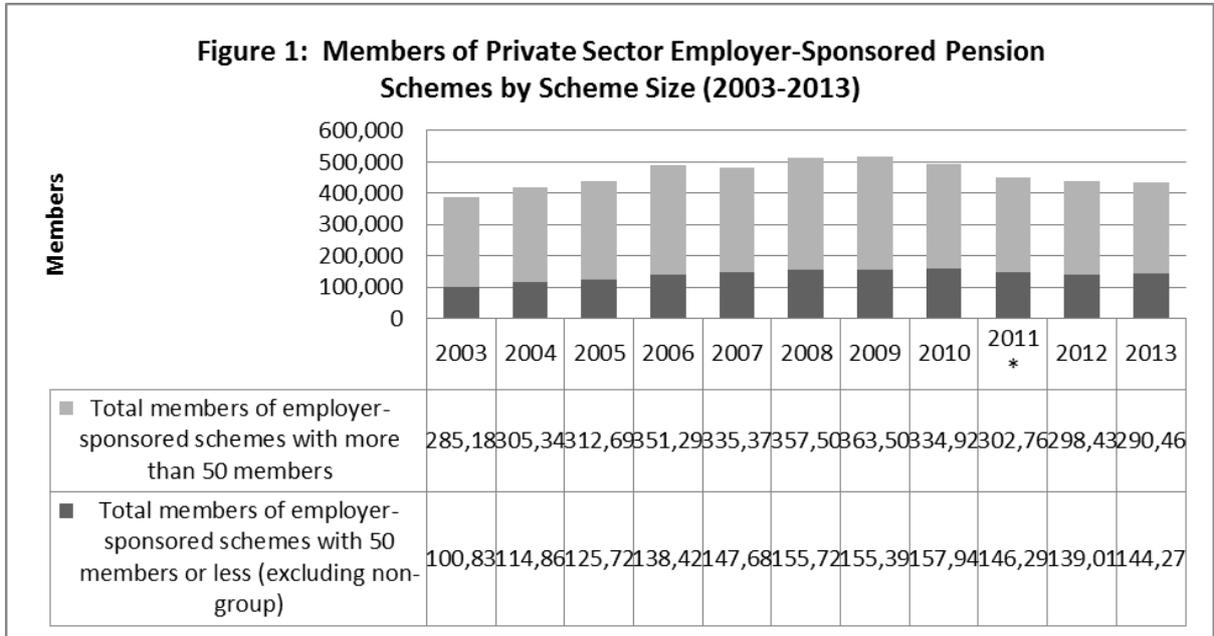
ⁱⁱ The Pensions Authority was reconstituted in 2014. Previously, it was known as the Pensions Board. Both names are used throughout this report generally in relation to published documents and information cited from their website

ⁱⁱⁱ Pension coverage is calculated by the CSO as the number of people in either full-time or part-time employment, aged between 20-69 contributing to an occupational pension, personal pension or both.

^{iv} Data for PRSAs are not categorized by scheme size. We assumed that ‘All PRSA Contracts in Active Employer Designates’ were organised in enterprises with 50 employees or less.

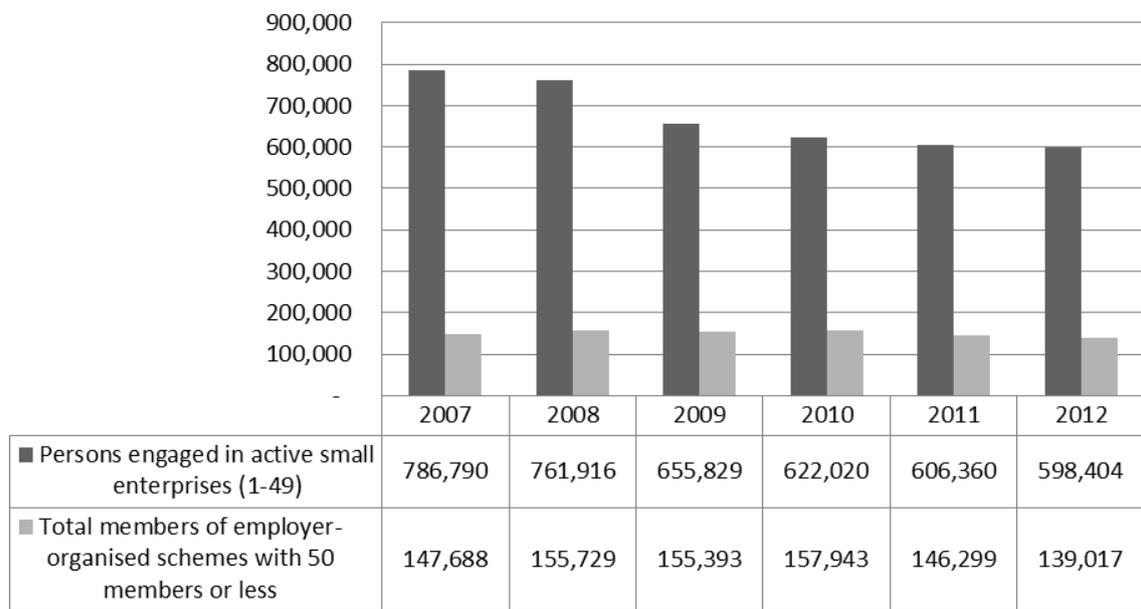
^v Data in this figure are referenced from two entirely separate sources and can only serve as an approximation. ‘Persons engaged in active enterprises’ include “... employees, proprietors and family members. Employees are persons who are paid a fixed wage or salary. Persons at work or temporarily absent because of illness, holidays, strike etc are included. Persons working on a labour-only subcontract basis are excluded” (Ireland. Central Statistics Office 2012, p. 57).

^{vi} The range of return is calculated by multiplying the standard deviation (7.5) by 2 then adding and subtracting this amount from the long-term volatility target (7). $[(7.5 \times 2) \pm 7]$.



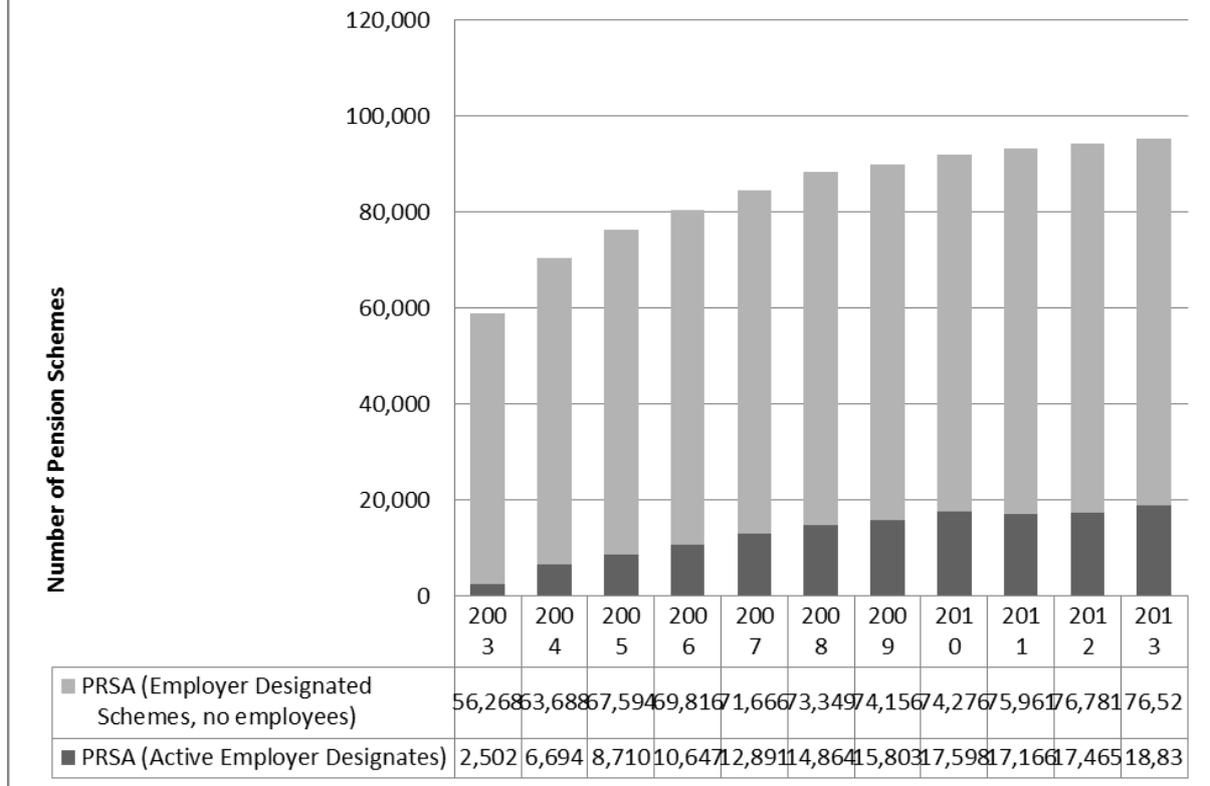
Source: The Pensions Board 2004-2011, 2012b, 2014c.

Figure 2: Comparison of Numbers of Persons Engaged in Small Active Enterprises vs Membership in Small Pension Schemes (2007-2012)



Source: The Pensions Board 2008-2011, 2012b; Ireland. Central Statistics Office 2014.

Figure 3: Employer Designated PRSA Schemes (2003-2013)



Source: The Pensions Board 2004-2011, 2012b, 2014c.

Figure 4: Bounded Rationality Decision Process Applied to a Small Business Owner's PRSA Decision

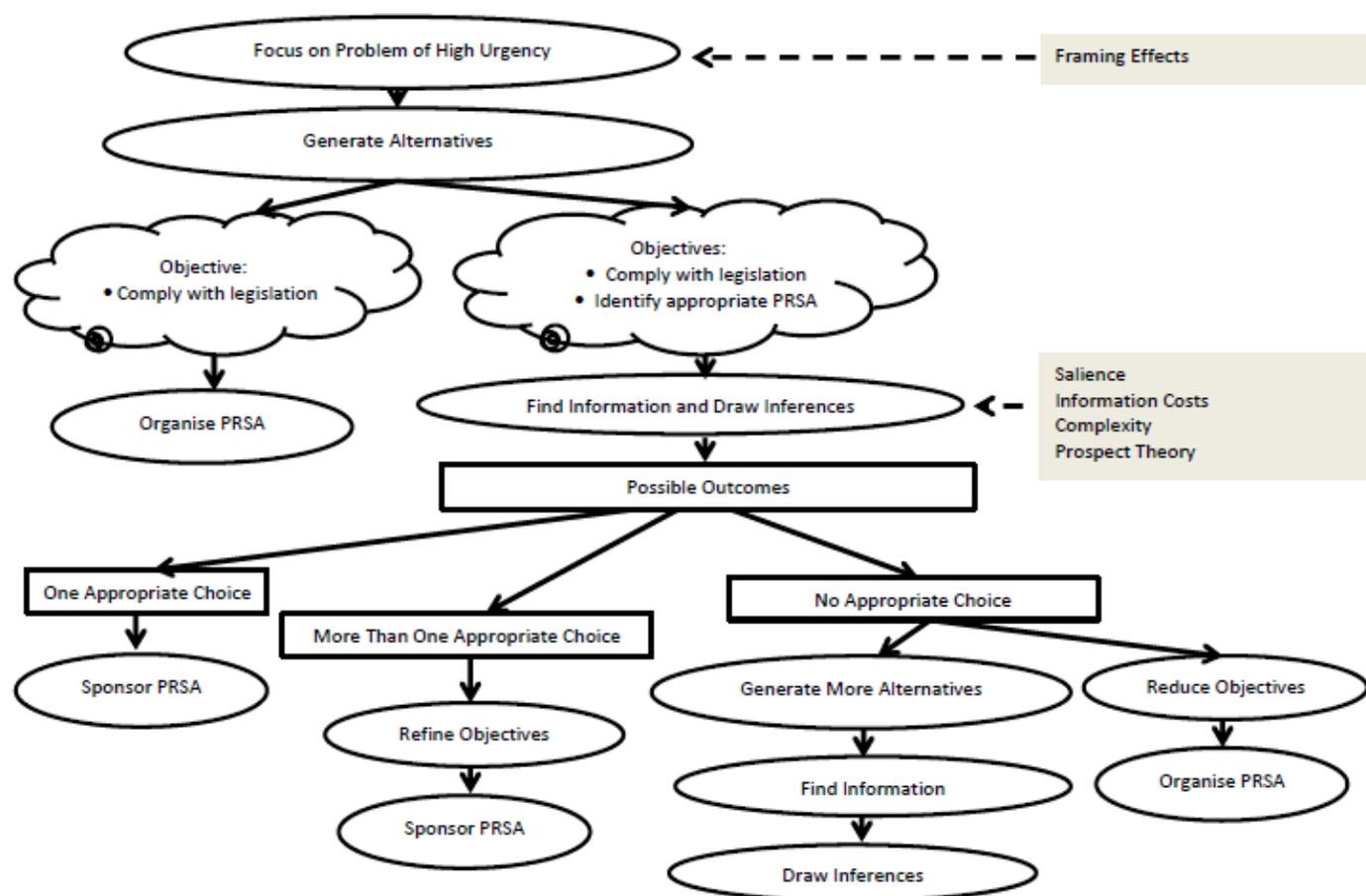


Exhibit 1: Standard PRSAs Offered by Aviva

Aviva Life & Pensions Ireland Limited Standard PRSA Products - 11 available

- Aviva Standard PRSA* - [S] PB Ref. No: APP/F/584/S
- Aviva Standard PRSA0* - [S] PB Ref. No: APP/F/188/S
- Simple PRSA5 - [S] PB Ref. No: APP/F/012/S
- Simple PRSA4 - [S] PB Ref. No: APP/F/344/S
- Simple PRSA0 - [S] PB Ref. No: APP/F/910/S
- Group PRSA0 - [S] PB Ref. No: APP/F/703/S
- Group PRSA2A - [S] PB Ref. No: APP/F/183/S
- Group PRSA2B - [S] PB Ref. No: APP/F/787/S
- Group PRSA4A - [S] PB Ref. No: APP/F/870/S
- Group PRSA4B - [S] PB Ref. No: APP/F/496/S
- Group PRSA5 - [S] PB Ref. No: APP/F/209/S

Source: The Pensions Authority (2014b, p. 2)

Exhibit 2: An Example of Warnings about Investment Fund Performance

Warning: If you invest in this product you may lose some or all of your money.
Warning: This product may be affected by changes in currency exchange rates.
Warning: Past performance is not a reliable guide to future performance.
Warning: The value of your investment may go down as well as up.

Source: New Ireland (2014b, p. 9)

Table 1: Information about PRSAs Accessed from Pension Provider Websites

Information	Aviva	Friends First	Irish Life	New Ireland	Zurich
Employer-sponsored (or group) PRSAs information			x	x	x
PRSA download brochure for employers				x	
PRSA download brochure for individuals			x		
Fund guides download brochure with information about PRSAs	x				x

Table 2: Investment Funds Classified Using ESMA Risk Ratings

Risk rating	Risk classification	Volatility Band	Aviva	Irish Life	New Ireland	Zurich	Total
1	Very low	0.0%-0.5%	1	1	1	1	4
2	Low	0.5%-2.0%	0	2	0	0	2
3	Low to medium	2.0%-5.0%	1	4	0	0	5
4	Medium	5.0%-10%	2 (one rated 4-5)	5	2	3	12
5	Medium to high	10.0%-15.0%	5	4	5	5	19
6	High	15%-25%	1	5	2	5	13
7	Very high	25%+	0	1	0	0	1
	Not classified		6	0	2	0	8

Aviva (2014c); Irish Life (2014); New Ireland (2014a); Zurich (2014)