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Pension provision by small employers in Ireland: an analysis of Personal Retirement Savings Account (PRSA) using bounded rationality theory

Research Article

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Abstract: This paper applies a model of bounded rationality to study small employers' decision-making on pension provision in Ireland. Personal Retirement Savings Account (PRSA) pension products were intended to provide inexpensive, flexible pension options, particularly targeted towards small enterprises. After 10 years of their introduction, evidence suggests that the PRSA pension product has little impact on pension coverage in Ireland and the employees of small organisations are least likely to be the members of pension schemes. Drawing on the theory of bounded rationality and a review of the legislative and institutional context within which small employers in Ireland make decisions on pension provision, this paper presents a pension decision-making model of small employers based on the work of Simon (1983). A range of propositions are set out for empirical research to examine pension provision practices of small employers 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.

Keywords: *pensions; employer decision-making; PRSAs; bounded rationality; small business*

INTRODUCTION

Pension coverage refers to the percentage of people in employment contributing to an occupational or personal pension scheme. The last major initiative to increase pension coverage in Ireland occurred following the enactment of the Pension (Amendment) Act 2002 that introduced Personal Retirement Savings Account (PRSA). The legislation required all employers who did not offer a pension as a benefit to organise access to a PRSA for their employees. Policy makers were particularly interested in small employers because reports dating back to 1995 indicated that employees of small firms (fewer than 50 employees[1]) were less likely to have access to an occupational pension scheme than employees of larger firms (Hughes and Whelan, 1996). Designed with small employers in mind, compliance with the legislation was relatively straightforward.

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,[2] 2004: 2). However, 10 years after their introduction, evidence suggests that access to a PRSA had little impact on pension coverage in Ireland. 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'. The NPPI target, established in 1998, was to achieve 62% coverage of the workforce aged >30 years within 5 years from supplementary (occupational and personal) pension provision and 70% ultimately (The Pensions Board, 1998). Statistics on pension provision indicates that, in 2009, the percentage of the workforce contributing to supplementary pensions was 51%[3] (the same percentage as reported in 2002), which was 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, <25% of these employees were members of employer-sponsored pension schemes (The Pensions Board, 2012b). Employers complied with the legislated

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requirements to organise access to a PRSA but only one in five PRSA schemes has employees as members (ThePensions Authority, 2017).

Clearly, PRSAs did not achieve the outcome of improving pension coverage, and the reasons for the failure of this policy are probably multidimensional. However, there is a significant gap in our understanding of the role of the employer and the impact, if any, of their attitudes towards PRSAs on their employees' choices to save for retirement. The presence or absence of employee members in pension schemes may be explained, in part, by the attitudes and decision-making processes of the small employers whichare formed within the legal and institutional environment shaped by government and pension providers.

Adopting bounded rationality as the theoretical perspective on decision-making, the current paper aims to illuminate small employers' decision-making processes on pension provision. Bounded rationality proposes that the decision-making capability of both individuals and organisations 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 is a particularly appropriate theoretical lens through which pension decision-making of small employers could be examined, given that such decisions are based on imperfect information and comparing complex choices and computational analysis made under conditions of risk and uncertainty.

Simon (1983) identified that three elements are required for bounded rationality in decision-making: a focus on problems of high urgency, a mechanism for generating alternatives and a capability for finding facts about the environment and drawing inferences from these facts. In this paper, a model based on these three elements is supplemented with the work of Kahneman (2011) and Tversky and Kahneman (1981, 1986) to explain the potential impact of framing effects, complexity, risk and uncertainty on employers' PRSA decisions. Because there is little research conducted in Ireland on the attitudes of small business owners towards pensions, international research, mainly from the US and the UK, is used in the application of this model to small employers' PRSA decisions. A series of propositions are put forward that require testing through future empirical research in the Irish context.

Small business research suggests that the classification based on size includes a very heterogeneous mix of businesses and a wide range of HR practices formed through their interface with the external environment and their internal dynamics (Harney and Dundon, 2006; Nadin and Cassell, 2007). Sheehan (2014: 548) argued that '...in the context of the... EU generally, the regulatory environment is likely to have had a significant influence on SMEs' use of human resource practices'. However, the outcomes of employment regulation are not always as intended as Arrowsmith et al. (2003: 453) observed:

> *An important lesson is that employment regulations do not have impacts on small firms that are easily predictable in advance; they are mediated not just by different external environments in which the firms operate, but by the often opaque and complex internal dynamics within the 'black box'.*

In the context of the current paper, while small businesses complied with PRSA regulations, this compliance had no impact on pension coverage. It is important, therefore, to examine the internal dynamics of small firms to better understand how management's approach impacts on pension coverage above and beyond regulation.

The Pension (Amendment) Act 2002 provided two possible courses of action for those employers who wished to fulfil their statutory obligations. Employers could comply with the 'letter of the law', adopting a minimalist approach and organising access to a PRSA. Alternatively, they could engage with the 'spirit of the law' sponsoring a PRSA. This required greater commitment to the decision-making process to identify a suitable PRSA product and to promote its use by employees. Using the bounded rationality model, we proposed that the legal and institutional environment made organising a PRSA the favoured alternative of small business owners, thus explaining its failure to improve pension coverage.

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 (Madrian and Shea, 2001; Wu and Rutledge, 2014; Wu et al., 2014) and the adequacy of retirement savings (Benzarti and Thaler, 2007; Choi et al., 2004). A limited body of international research, mainly from the US and the UK, had identified the opinions of small employers concerning pensions (Brandon, 2013; EBRI, 2003; Fuscaldo, 2013; Hall, 2010; Munnell et al., 2012; Schwartz, 2007). However, there is no research found to date that attempted to explain the low coverage of employees of small firms within an analytical framework that examines the legal and institutional environment 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 lens through which pension decision-making in general and small employers' decision-making on pension provision in particular could be understood. While reports and expert reviews conclude that there is not enough pension coverage (Munnell and Bleckman, 2014; OECD, 2013; Sass, 2014), much of this discourse focuses on why employees are not contributing to pensions. However, it is likely that employees are heavily influenced by the extent to which their employers support and encourage pension investment behaviour and little research has explored pension decision-making practices of employers. The current paper aims to address this gap by applying a theoretical model of thepension decision-making processes of small employers.

The paper is organised as follows: the next section discusses 'Legal and institutional environment and PRSA uptake'. The section 'Pension decision-making by small employers: a model of bounded rationality' analyses pension decision-making by employers 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 policymakers, proposing ideas for future empirical research.

LEGAL AND INSTITUTIONAL ENVIRONMENT AND PRSA UPTAKE

The legal environment in which small employers in Ireland make their decisions is defined by the Pension (Amendment) Act 2002, which is a legislation that resulted from the NPPI. As recommended by The Pensions 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 remained voluntary. Mandatory pension contributions were considered, but The Pensions 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 inform employees that the facility to invest in PRSAs is available. They do not have to inform employees about the pension schemes but they must allow pension providers or their representatives to access 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. The Central Bank of Ireland is also involved in the regulation with responsibility '...for the prudential supervision of PRSA providers and the supervision of the sales process of approved PRSA products' (The Pensions Board, 2012a: 10). PRSAs can be sold directly to individuals or they can be organised by employers 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 Pensions 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).

The institutional environment 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, who offer 55 standard PRSAs (The Pensions Authority, 2014). The legal environment means that pension contributions for standard PRSAs are voluntary and that products are developed through private pension providers. This has resulted in an institutional environment 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 remained low[4]. In the private sector, most employees are members of employer-sponsored pension schemes with more than 50 members, which are associated with medium-to-large enterprises. Figure 2 compares the number of people engaged in small active enterprises (1–49) with membership in small pension schemes (50 members or less)[5].

Figure 1. Members of private sector employer-sponsored pension schemes by scheme size (2003–2013). Source: The Pensions Board (2004–2011, 2012b, 2014).

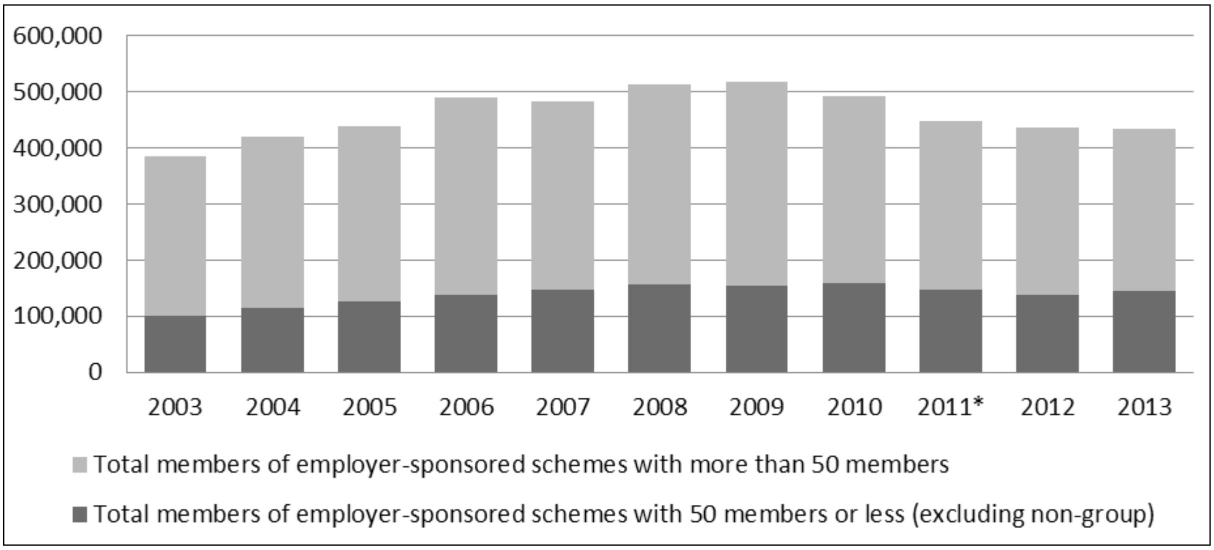
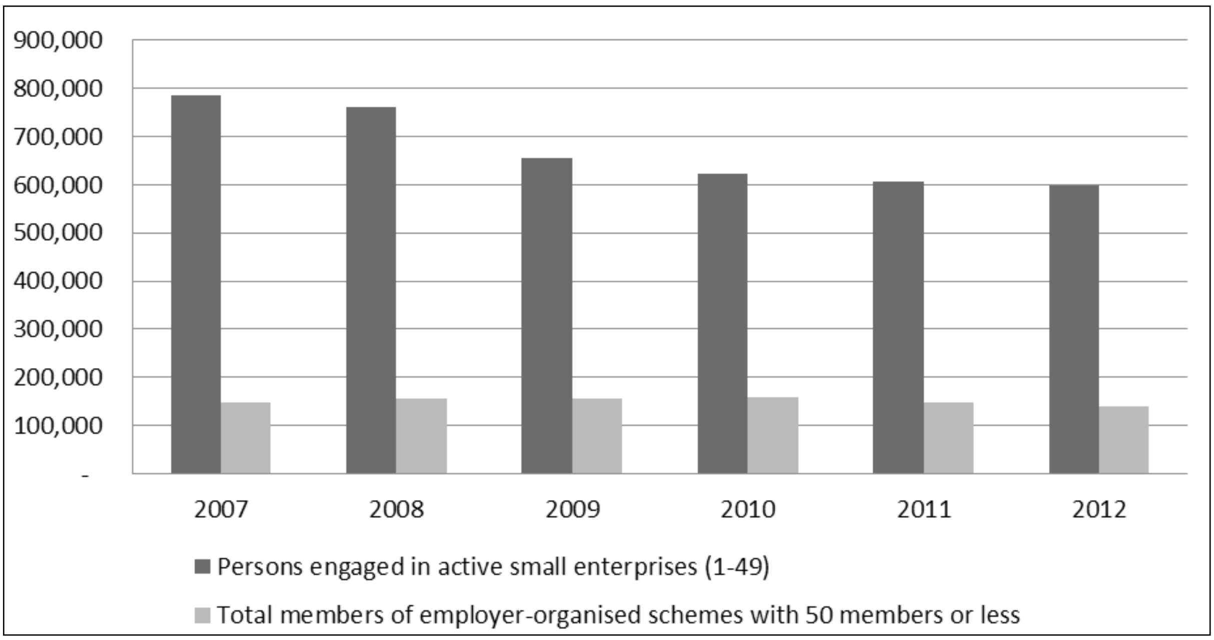


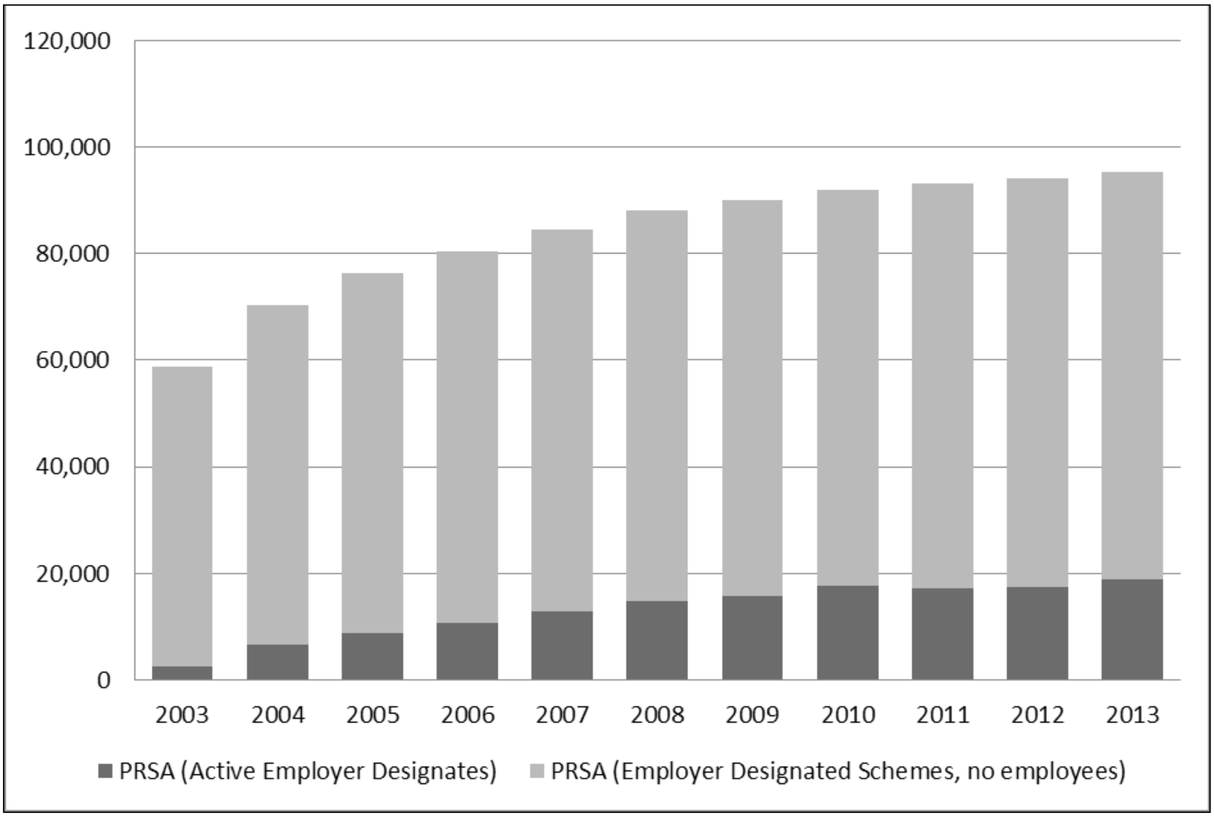
Figure 2. Comparison of numbers of persons engaged in small active enterprises and membership in small pension schemes (2007–2012). Source: The Pensions Board (2008–2011, 2012b) and Ireland. Central Statistics Office (2014).



In 2007, 4 years after the introduction of PRSAs, approximately 17% of people engaged in small enterprises were members of employer-sponsored pension schemes (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 (25%), which was observed in 2010. The 'improvement' was a result of the reduction in numbers of people 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.

Figure 3. Employer-designated PRSA schemes (2003–2013). Source: The Pensions Board (2004–2011, 2012b, 2014). PRSA = Personal Retirement Savings Account.



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 approximately 11,000, while DC and PRSA membership increased by just >13,000 members (The Pensions Board, 2014). This suggests that organisations that wound up or closed DB schemes to new members may be offering DC-type schemes as a substitute. Approximately 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 a PRSA. 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 arrange 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 environment 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.

PENSION DECISION-MAKING BY SMALL EMPLOYERS: A MODEL OF BOUNDED RATIONALITY

The behaviour of individuals making risky decisions has been investigated by scholars in many fields. Economists in the 20th century developed theories of decision-making under conditions of risk (Friedman and Savage, 1948; von Neumann and Morgenstern, 1947). Stylised rational choice models based on utility theory were promoted by economists as being simple and fruitful (useful for prediction). The critique of 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 were used to investigate pension decision-making.

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). Building on the work of Simon, behavioural psychologists and economists argue that heuristics and biases commonly observed in decision-making are evidence of predictable departures from rational choice models. Furthermore, the presentation or framing of information can alter a decision maker's choice although this will be moderated by individual characteristics (Kahneman, 2011). 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; both organisations and 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).

Simon (1983) identified that three elements are 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 drawing inferences from these facts. Figure 4 presents the conceptual model of bounded rational decision-making processes based on these three elements, which is applied to a small business owner's pension decision-making.

The following sections consider each element in detail and the possible outcomes of organisation or sponsorship.

Figure 4. A model of the bounded rationality decision process applied to a small business owner's PRSA decision. PRSA = Personal Retirement Savings Account.

Exhibit 1. Standard PRSAs offered by Aviva

Aviva Life & Pensions Ireland Limited's 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 (2014: 2). PRSA = Personal Retirement Savings Account.

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)

Focus on problems of high urgency

International empirical research suggests that small business owners are heterogeneous in their views on offering a pension to their employees and for some employers, it is a more urgent problem than for others. Some small employers offer pensions to attract, motivate and retain talent in competitive labour markets (Brandon, 2013; Fuscaldo, 2013; Hall, 2010; Schwartz, 2007). McGill et al. (2005: 355) observed that while large organisations compete internationally and nationally, '...the jobs they offer are in local communities. ...Thus the effects of large employers offering retirement plans in their national labor markets force smaller employers operating in more restricted markets to offer plans as well'. Gough (2006) agreed noting that some small business owners believed that offering a pension was necessary to attract employees from larger firms. She also found that many small employers were willing to consider pensions to reduce staff turnover and the associated costs of training (Gough, 2006). Some small business owners offered a pension to demonstrate social responsibility (Brandon, 2013; Hall, 2010). Providing a pension was considered by some to be the 'right' thing to do and a driver of business success (Hall, 2010). Small employers motivated to offer a pension for competitive and social reasons probably consider pension provision as a problem of high urgency and will potentially 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 do not expect, ask for or value pensions (EBRI, 2003; Hall, 2010; Munnell et al., 2012). Small business owners, especially those who lack confidence in pensions, report that there are more reliable ways to reward employees (Gough, 2006; 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 (Casey, 2009; EBRI, 2003; Gough, 2006; Hall, 2010; Munnell et al., 2012). Business uncertainty and the cost of setting up and administrating pensions make pensions unattractive to some small enterprises (Brandon, 2013; EBRI, 2003; Hall, 2010).

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 (Little, 1986; McEvoy, 1984). Some research suggested 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 and 101–150), Hornsby and Kuratko (1990) reported that the size of the firm affects the sophistication and complexity of benefits offered to employees. The employers belonging to the smallest category (1–50) were 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 reports that, in general, small employers do not view pension provision as an important issue, and therefore, we suggest the following proposition for further research:

> Proposition 1: For most Irish small employers, pension provision is not a problem of high urgency. 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 (Figure 4). The legal environment 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 himself/herself will develop the decision options. In other cases, the options will be presented to the decision maker. Bay (2011) reported that the framing of issues by public authorities can alter a decision maker’s behaviour, and therefore, framing of pension provision requirements is likely to impact on employers’ decision-making on pension provision.

The legislative context that requires employers to provide access to a pension fund but make contributions voluntary may 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). Hall (2010: 52) 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.*

In the Irish context, *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 such as finding an appropriate PRSA and matching employee contributions. Taken together, the legislative environment in Ireland and the framing of information to promote compliance is probably too weak to increase pension coverage, and we therefore propose for empirical investigation:

> Proposition 2: The Irish legal environment and information provided by the Irish Pensions Board that 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 has identified 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 website of The Pensions Authority (2014). The *PRSA Providers & Products Register* (subsequently called the *Register*) is updated regularly. The current *Register* is a nine-page document that lists all approved standard and non-standard PRSA products. The contact details of pension providers form part of this document. All PRSA providers sell products through what the National Consumer Agency (2014) classifies 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 (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 for empirical testing:

> Proposition 3: It is relatively easy for small business managers to generate alternative options and organise a PRSA because of the institutional environment 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, his or her decision process ends when one alternative is discovered and the designation contract is completed. The process continues for the small business owners 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 these facts. Increasing evidence that the market for pensions is segmented indicates that some investors are better able to understand and make complex investment decisions than others (Clark and Strauss, 2008; Gough and Nurullah, 2009; Gough and Sozou, 2005). Furthermore, different market segments have different information requirements (Clark et al., 2012; Hales and Gough, 2003). Gough and Sozou (2005: 569) identified six distinctive pension target groups and concluded 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 suggest 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 his or her own needs, the decision of the small employers is slightly different. They seek 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 the choice of pension product. However, like an individual, having information that is accessible and tailored to their needs would clearly help the small business owners to achieve their objectives of complying with legislation and finding an appropriate PRSA product for their employees.

As mentioned in the previous section, The Pensions Authority (2014) *Register* is a complete list of standard PRSA products that are available to small employers. A review of the *Register* reveals that much of the information is irrelevant to the small business owners 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 Pensions 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.

Two reasons for the number of products, provided by representatives of the main pension providers, are as follows: 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 included in the *Register* does not accurately reflect the number of PRSA product offerings that would be presented to the small business owners 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 that some information may have been unintentionally omitted because of the challenges of navigating the websites.

Table 1. Information about PRSAs accessed from pension provider websites

Information	Aviva	Friends First	Irish Life	New Ireland	Zurich
Employer-sponsored (or group) PRSA 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

PRSA = Personal Retirement Savings Account.

For two of the pension providers, Aviva (2017a) and Friends First (2017), no information could be found on their websites that promoted PRSAs as employer-designated schemes; information was written for individual PRSA investors. A download brochure with details about PRSAs is available in New Ireland (2014b) for employers and in Irish Life (2014) for individuals. Information about standard PRSA investment funds is available in fund guides that can be downloaded from the website of Aviva (2017b) and Zurich (2014). However, these guides include information about the investment funds for all financial products offered by the companies and therefore most information is irrelevant to the small business owners' decision. Three pension providers included information on their websites about employer-designated PRSAs, which can be accessed through hyperlinks or various drop-down menus and submenus. Overall, finding information about group PRSAs tends to be circuitous and fragmented, and we therefore, propose the following for further investigation:

> 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, thus 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 (2009) reflected 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 suggested 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-Iyengar et al. (2004: 91) with >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 >1,000 401(k) plans in the US conducted by Tang et al. (2009) reported 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' decision-making behaviour on pensions. However, research conducted in the US, where pensions provision is voluntary, found that many small employers were '...overwhelmed by the number of plan options, administration requirements, and fiduciary responsibilities' (US Government Accountability Office, 2013) and concluded that the complexity means that small employers are less likely to sponsor a pension scheme. In a criticism of pension products in the US, Starr (2007: 45) observed that '...small employers want things to be simple! They are not looking for highly complex designs that require enormous amounts of attention spent on them'.

In the Irish context, The Pensions Board (2013) published guidelines for the trustees of DC schemes that will, if used, reduce the complexity of these schemes. While stating that the choice of the number of investment funds will differ, they suggested 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, making them difficult to understand and compare. Thus, the following is proposed for empirical research:

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

The 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) quantified 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). This 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 (2013: 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 Markets Authority (ESMA) rating mechanism where risk ratings are identified on a scale of 1–7 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[6].

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

Source: Aviva (2014), Irish Life (2014), New Ireland (2014a) and Zurich (2014). ESMA = European Securities and Markets Authority.

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. Volatility is calculated based on weekly returns over a 5-year period rescaled to a yearly basis (Committee of European Securities Regulators (2009). . If, for example, the standard deviation of an investment fund over a 5-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[7]. 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 makers, 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 that are used such as 'If you do not understand the risks of this product, do not purchase it' (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 the following for empirical testing:

> Proposition 6: The legislative environment 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 owners who started the decision process with two objectives: to comply with legislation and to identify an appropriate standard PRSA product for their employees. They focused on the problem, generated alternatives (a subset of all possible alternatives), found information and drew inferences. There are four possible outcomes (Figure 4). First, they may find one appropriate PRSA product within the subset of alternatives that they considered. Second, they 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 and select the best option. Both outcomes result in an employer-sponsored PRSA.

However, the subset of alternatives may not include any satisfactory standard PRSAs. Simon (1955) described two possible reactions that are relevant in this context. The business owners may adjust their aspiration level to redefine 'satisfactory', reducing the original two objectives to one: comply with legislation. Following from this third possible outcome, they will be satisfied to organise a PRSA. Alternatively, the persistent small business owners may decide to maintain their original objectives, return to the second element of the model and expand the search for more standard PRSA alternatives. If no appropriate choice is found in the original search, organising a PRSA is arguably the most likely outcome because if the small business owners continue the process, they will encounter the same challenges of high information costs and complicated alternatives that are difficult to compare.

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 owners 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 employers' decision-making on pension provision, 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 environment where small employers make their decisions on pension provision, 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 with 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 Pensions Authority, promote compliance with legislation, which can be achieved through organising a standard PRSA. The advice of Arrowsmith et al. (2003) following their analysis of the implementation of the minimum wage in the UK seems appropriate. They state, 'One policy implication... is that there needs to be a clearer integration and communication of the objectives of employment regulation to the principal recipients, which are in many instances small firms' (Arrowsmith et al., 2003: 453). Communication that frames pension legislation in terms of the welfare of the employees at retirement may result in employer sponsorship, leading to improved pension coverage.

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 as 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 owners to comply with legislation by organising a PRSA. The opportunity cost for the small business employers terminating the decision process at this point is very low.

However, for the small employers who persist in attempting to locate the most appropriate PRSA for their employees, the costs of gathering information and drawing inferences quickly escalate. Although Irish small business owners appear to occupy a very large market segment (Figure 2), much of the standard PRSA information available from The Pensions 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 for small employers 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 these products. The PRSA products 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 small employers initially interested in sponsoring a PRSA may reduce their aspirations and organise one.

The crucial role of the small employers as a critical actor in the pension coverage debate needs greater attention. This paper sets out a number of propositions that would benefit from national, and indeed international, empirical investigation. This enhanced understanding of the role of the small employers in pension provision would assist policy makers and legislators to identify the challenges that need to be overcome by small employers and set a framework to better assist the goal of greater pension coverage. This paper suggests that prescriptive legislation on pension structure and information may be required to alleviate the current unwieldy decision-making process, which most likely results in small employers taking a legal minima approach to pension provision for their employees.

It is a limitation of this paper that it only considers the employers' perspective. The employees of small enterprises were offered the opportunity to save for retirement using a PRSA. Most of them did not avail this opportunity. Research is also required to understand their perspective because sponsorship alone may not be enough to increase pension scheme coverage.

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 coverage will not ensure that pension products are 'fit for purpose' for small business owners and their employees. This paper suggests that if the current institutional environment 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. Further empirical research using the model presented in this paper will assist in better understanding how small employers impact on pension coverage. To date, the focus of the debate has largely been on the regulatory and legislative levels of analysis, and thus, there is a need for future research to focus on pension coverage using an organisational level of analysis.

ENDNOTES

[1] *This research will consider 'small' enterprises which comprises both 'micro' and 'small'. This choice was made because The Pensions Authority data are presented by the following scheme sizes: 1–50, 51–99, 100–500, 501–1000 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+)*

[2] *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*

[3] *Pension coverage is calculated by the CSO as the number of people in either full-time or part-time employment, aged between 20 and 69 years contributing to an occupational pension, personal pension or both*

[4] *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*

[5] *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: 57)*

[6] *Friends First is not included in this table because information about their PRSAs was not publicly available*

[7] *The range of return is calculated by multiplying the standard deviation (7.5) by 2 and then adding and subtracting this amount from the long-term volatility target (7). [(7.5*2)+/-7]*

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