Network for Studies on Pensions, Aging and Retirement

NETSPAR INDUSTRY SERIES

Transition to a new pension contract in the Netherlands: Lessons from abroad

Benne van Popta
Onno Steenbeek

OCCASIONAL 03 / 2021

OCCASIONAL PAPERS are part of the **Industry Paper Series**, are not refereed by the Netspar Editorial Board (**"non-refereed"**), but are released on responsibility of the authors. The Occasional Papers are highly topical, or act as a background paper to other (refereed and non-refereed) Netspar publications.

Colophon

Netspar Occasional Paper 03, June 2021

Lead authors

Benne van Popta, Former Chairman PMT Pension Fund and Board Member, pension fund Retailsector

Onno Steenbeek, Professor of Finance, Erasmus School of Economics; MD Strategic Portfolio Advice, APG Asset Management

Collaborators

Chris Curry (United Kingdom)
Eduard Ponds, Zina Lekniute (United States)
Bernard Morency and Keith Ambachtsheer (Canada)
Michael Preisel (Denmark)
Stefan Lundbergh and Marcus Karlsson (Sweden)
Fernando Larrain and Manuel Garcia-Huitron (Chile)
Alwin Oerlemans and David Knox (Australia)
Avia Spivak and David Leiser (Israel)
Yves Stevens and Emma Suzanne van Aggelen (Belgium)

Acknowledgements

We thank Rob Bauer and the International Center for Pension Management (ICPM) for organizing feedback sessions with international experts and Netspar for organizing seminars with Dutch experts and stakeholders. Comments on an earlier draft of the paper by Keith Ambachtsheer and David Knox are gratefully acknowledged. We thank Manuel Garcia-Huitron for excellent research assistance.

Netspar Occasional Papers are publications by Netspar. No reproduction of any part of this publication may take place without permission of the authors.

CONTENTS

Summary 4
Samenvatting 5

PART 1 *Lessons from abroad* 6
1. *Introduction* 6
2. *Main observations and key lessons* 7
3. *The current second-pillar pension system in the Netherlands* 15
4. *The new pension contract* 19

PART 2 *Reforms around the world* 21
1. *Introduction* 21
2. *United Kingdom* 23
3. *United States* 30
4. *Canada* 37
5. *Denmark* 44
6. *Sweden* 52
7. *Chile* 65
8. *Australia* 79
9. *Israel* 84
10. *Belgium* 91

Literature 97
Appendix 1: Results Mentimeter Netspar seminar 30 March 2021 101

Summary

This report presents lessons and observations from abroad that can help in the successful completion of the current pension reforms in the Netherlands. These lessons are based on discussions with and texts from a large number of international experts from nine countries that have gone through a similar reform process. The lessons are organized into two categories, namely lessons and observations regarding (1) the reform process and (2) pension design. An important observation is that it was difficult to define what we are doing in the Netherlands, not only in the eyes of foreign experts, but also of Dutch participants during a Netspar debate. Confusion around the terminology Defined Benefit (DB) and Defined Contribution (DC) played a central role in this. It is clear that we are taking a unique step in the Netherlands, particularly because of the transformation of accrued rights into accrued capital. This has not been done before. It is important to create a crystal-clear and honest storyline and to communicate it well. The road to the new contract does not only involve technical implementation, but a long and winding path to build and maintain trust. A new contract also raises entirely new questions and creates new dynamics.

Samenvatting

Dit rapport bevat lessen en observaties uit het buitenland die kunnen helpen bij het succesvol afronden van de huidige pensioenhervormingen in Nederland. Deze lessen zijn gebaseerd op discussies met en teksten van een groot aantal internationale experts uit negen landen die een vergelijkbaar hervormingstraject hebben doorgemaakt. De lessen zijn georganiseerd in twee categorieën, te weten: lessen en observaties ten aanzien van (1) het hervormingsproces en (2) het design. Een belangrijke observatie was dat het lastig was te definiëren wat we aan het doen zijn in Nederland, niet alleen in de ogen van buitenlandse experts, maar ook van die van Nederlandse deelnemers aan een Netspar-debat. Verwarring rond de terminologie DB en DC speelde hierbij een rol. Het is duidelijk dat we in Nederland met een unieke stap bezig zijn, met name vanwege de transformatie van opgebouwde rechten in opgebouwd kapitaal. Dit is niet eerder gebeurd. Een belangrijk advies was om een glasheldere en eerlijke verhaallijn te creëren en goed te communiceren, dat de weg naar het einddoel geen technische implementatie betreft, maar een lang en kronkelig pad om vertrouwen te bouwen en de bewaren en dat een nieuw contract ook weer heel nieuwe vragen en dynamiek oplevert.

PART 1 Lessons from abroad

1. Introduction

In June 2020, the Dutch government presented an outline for a new pension contract (NPC) for the second pillar. This contract represents a significant change from existing pension contracts, which are dominated by DB-like systems that focus on accrual of pension rights relative to income level. Instead, NPC focuses on accumulation of capital. The designers of the new system did have to meet several predetermined requirements, such as abolition of the uniform contribution and accrual system and limited risk sharing across generations, while at the same time maintaining collective investments.

The agreement, which is broadly supported in parliament as well as by labor unions and employer organizations, provides us with a "dot on the horizon." The next step is to determine how to transition toward the NPC. This is a major technical challenge, but it will also depend on support in society and legal constraints. The speed with which we can meet these challenges will depend on the circumstances during the transition period, the exact goal we want to reach, and the time we give ourselves to reach that goal.

This paper looks at the transition process toward NPC by involving experts from abroad. Clearly, an important first question is which countries to include in the analysis. The main criterion for selecting countries is their history of pension reforms: have there been major reforms, and was the funded second pillar an essential part of them? As a result, countries like Denmark, the UK, the US, Chile, Australia and Israel qualify as good candidates. Canada and Sweden are interesting and relevant as well: the first pillar went through an important reform process, but this had important offshoots to the second pillar. And of course Belgium, where the second pillar plays an entirely different role than in the Netherlands, making it a fascinating mirror. Countries like Germany, France and Austria are less relevant, as the first-pillar pay-as-you-go funding is too dominant and capital-funded second-pillar pensions are very limited.

This document is organized as follows. In Section 2, we summarize the main observations and key lessons from this study. Section 3 describes the current second-pillar pension system in the Netherlands. Section 4 provides an overview of relevant details of the proposed NPC. Part 2 contains nine country studies.

2. Main observations and key lessons

The pension systems reviewed in this paper provide important observations and lessons for countries that plan to reform their pension systems. This chapter incorporates the lessons from the country studies in Part 2 and extensive discussions with international experts. After a general introduction on the types of lessons we can learn from other countries and a number of definitions, we group these lessons and observations into two main categories: (1) lessons regarding the reform process and (2) lessons regarding pension design.

a. Introduction

What are we doing?

We are transforming the current pension system in the Netherlands based on actuarial accrual into a system based on capital accumulation.[1] In specific ways, the change is limited. In others, it represents a paradigm shift. A group of Dutch pension experts indicated that they considered the reforms very significant, but they disagreed on their central purpose.[2] Initially, 4 options were given as the main purpose of Dutch pension reform. Participants were asked to indicate whether they agreed or not (1=totally disagree and 5=totally agree).

Central purpose	*Average score*
(1) individualizing the consequences of all kinds of risks	3.2
(2) a change in pension thinking from annuity to capital	2.6
(3) a combination of an individual contract and collective implementation	3.4
(4) moving from unfulfilling promises to tailored risk sharing	3.9

In addition, participants were requested to formulate their view on the main purpose of Dutch pension reform. The main answers were: (a) increased transparency and clarity, (b) more appropriate risk sharing, (c) abolition of the risk-free discount rate, (d) abolition of the average contribution average accrual system ("doorsnee-systematiek"), (e) simplification, and (f) less dependency on politics. Appendix 1 contains all answers.

1 The current and the new Dutch contract are described in detail in Chapters 3 and 4.

2 A seminar was organized by Netspar on March 30, 2021 to collect feedback from around 30 Dutch pension experts.

What lessons can we learn from other countries?

The question quickly arose whether pensions are not pre-eminently a national affair, so we cannot learn too much from each other. Is not the development of pension systems mainly determined by national socio-economic history; are pensions not embedded in national economic, social and cultural institutions? The predominant view in Europe is that pensions belong to the national domain.

This has led us to make a distinction between pension design and reform implementation. The idea behind this distinction is that the design of a new system or new contract has many national features and characteristics, but that the implementation—the reform process—may have more universal characteristics. As a result, there may be more lessons learned concerning the process than the design. Therefore, we divide this chapter into two main parts: (1) lessons and recommendations regarding process and (2) lessons and recommendations regarding design.

Definitions

In discussions about pensions, the terms *DB*, *DC* and *Collective DC* are frequently used, as are the terms *first*, *second* and *third pillar*. These terms provide a taxonomy to identify, describe and compare national pension systems and pension contracts. However, in many cases, the taxonomy needs to be expanded or made more specific because, in country A, the DB- or DC- or CDC-contract works slightly differently from that in country B or C.

Foreign experts strongly recommended stopping the use of these terms. The reform process in the Netherlands is sometimes summarized as a gradual process "from collective DB to individual DC." However, all the other countries under consideration already did that a long time ago, so in this terminology, the current reform process is not very unusual. However, it gradually became clear that our starting point is not a classic DB, and the end point is not a pure individual DC.

The terms DB and DC will appear as little as possible in this chapter, which implies that we need more words to describe the starting point, the intended end point, and the transition path in the Netherlands. The upside of this should be greater international understanding of the reforms in the Netherlands.

b. Lessons regarding the reform process

Lesson 1

The reform process is not a straight road "from A to Better," but *a journey on a long and winding road*.

Pension reforms are long-term processes and they are political in nature. Moreover, they are particularly about the confidence of the participant in the successful outcome of the reform process, because pensions are about trust, and pension payments stretch over many decades. The process will not be kept on track simply by having a political decision as a starting point, a dot on the horizon as an end point, and a technocratic implementation plan. A great deal of political energy must be invested in maintaining political and social support, in maintaining trust in the reform process. We must realize that circumstances are constantly changing, and views on what is best may change as well. Stubbornly sticking to previous choices is not always optimal. Stubbornness is often the policy response when agreement is based on a fragile compromise.

Lesson 2

Make clear what the reform objective is. There are always winners, losers and trade-offs. Therefore, communication is crucial.

The objective of pension reform must be crystal clear, and the perspectives of all stakeholders—consumers, employers, government, industry—must be addressed. Making changes behind a veil of ignorance is not likely to bring lasting success. Do not rely on technical solutions: something that is hard to understand is also likely to be hard to accept. Clarify in layman's terms why the reform is necessary and why it is good for individuals personally as well as for society as a whole. In the process, consider hiring a number of 'talking heads' representing the pension sector.
There should be differentiation between types of plan participants, and some steps can be taken more quickly than others. Also, participants may be more involved if reforms take a step-by-step approach instead of a big-bang reform. Explore possibilities to allow the old and new systems to coexist for a while. Late-movers can learn from first-movers' experiences. And again: open communication and creating participant involvement are crucial. Plan participants should always be treated as adults, and only honest, continuous and complete communication can make pension reform successful. The experience from Sweden is that plan participants do understand the financial reality. The most vocal objections came from various special interest organizations.

Offering new choice options can play an important role in creating support for the reform effort and making it successful (e.g., Denmark). These options offer participants ways to handle their future retirement income, especially if accompanied by objective information on the various outcomes at an individual level. Otherwise, funds are limited to communicating expected pension benefits and benefits in good- and bad-weather scenarios.

Lesson 3

Pension reforms represent realization of the possible. Implementation then yields unexpected and undesirable side effects. These side effects must be addressed.

The question of when a reform effort can be considered successful is a difficult one to answer. Is a reform a success when the end point is reached? Is it possible to define an "end of history" point regarding pension reforms? Or are pension reforms successful when they allow a country to take the next step in the reform process and not get stuck? The conclusion is that pension reforms are always a work-in-progress: the reform process never ends.

Lesson 4

Pension reforms come in all shapes and forms

A distinction can be made between parameter reforms and structural reforms. Parameter reforms are, for example, raising or lowering contribution rates or accrual rates. The current reform efforts in the Netherlands represent a structural reform. Structural reforms are more complex in many ways: politically, socially, implementation-wise, time-wise. Complications tend to pile up or multiply, comparable to the experience with large infrastructure projects in many countries: they are finished at a later date than initially planned, they are more expensive, and the end result is often disappointing. Implementation of structural reforms, therefore, needs to be planned exceptionally well.

Lesson 5

Economic conditions matter

Pension reforms are often costly. Denmark is an example where timely action was taken to prevent shortfalls in the existing system. Chile had the opportunity—through budget surpluses and privatization—to set aside financial resources to honor old entitlements. In this sense, the reforms in the Netherlands are taking place in unfortunate economic circumstances: deficits are looming, now or in the future, and there

seems to be no money available to solve bottlenecks. According to foreign experts, this may prove to be a stumbling block.

In conclusion

Our aftertaste from the foreign lessons and recommendations is that the Netherlands initially viewed the pension reform process too little as a work-in-progress. In practice, the process requires constant adjustment to new circumstances and constant work on political and social support to gain and maintain trust among participants. Given the fact that the Netherlands is going through structural reforms, the necessity to generate abundant and continuous support from all stakeholders cannot be overestimated.

c. Lessons regarding pension design

Preliminary comment

Many countries have gone through the process of moving from an entitlement contract (annual accrual of pension entitlements) to a capital accumulation contract. There is something to be learned from this transition, but each country indeed has its own version of entitlement contracts, its own capital accumulation contract, and its own method of terminating an entitlement contract. Moreover, countries with capital accumulation contracts have often learned additional lessons following from their experience with DC contracts. This report does not sufficiently reflect on these experiences, but we will return to this issue in due course.

Lesson 1

What is happening in the Netherlands?

Foreign experts were asked to describe what they think we are up to in the Netherlands. There were two narratives. In Shiller's terminology, stories about reality drive reality by influencing the behavior and beliefs of participants.[3]

The first narrative is as follows. The current entitlement contract is one in which the risks lie collectively with the participants. The employer has withdrawn as risk bearer. The pension fund no longer has buffers, so shocks are transmitted to participant entitlements. The current FTK-contract, therefore, is a (C)DC-contract, with DB accounting and an insurance-based supervisory framework. Thus, the reform process eliminates

3 Shiller, R.J., 2019, *Narrative Economics: How Stories Go Viral and Drive Major Economic Events*, Princeton: Princeton University Press

these discrepancies by putting contract, accounting and supervision on the same footing. In other words, we have already "crossed the Rubicon" toward DC. What we are doing now is to better coordinate and integrate the different parts of the system. The second narrative is as follows. In an entitlement contract, the focus is on annuities during retirement. Retirement requires a lifetime benefit that protects from many risks, such as inflation and longevity. In a capital accumulation contract, the focus shifts to accumulation of capital at retirement. This changes the mindset of the participant. As Bill Sharpe explains,[4] the transformation of pension savings into a lifelong income stream is "the nastiest, hardest problem in finance." Historically, defined benefit schemes provided workers with a complete contract, solving this nasty problem for them. However, this contract became too expensive and risky for employers. In this narrative, we therefore, have yet to cross the Rubicon, because the pension problem is simply thrown over the fence to the participant, who has to deal with it. This is often complemented by the fact that plan members are not interested and know nothing about pensions, and pension advice tends to focus on the advisers' interests.[5] Of course, the Dutch situation is slightly different, and it could well be that the perspectives of participants, employers, politicians and regulators on the proposed reforms do not coincide.

Foreign experts highlight a few observations: the starting point is not sharply described, nor is the ultimate end point, leaving the transition path vague as well. They see no alternative but to openly tell the multidimensional story. Otherwise, backing from participants on a long-term trajectory will be lacking.

Foreign experts concluded that the principle step for the Netherlands is to individualize pension risks and communication. There will be less risk sharing and there will be a direct link between contribution paid and capital accumulated. In the transition towards this new system, there will be a redistribution of existing pension wealth if the average accrual and contribution system is abolished, while contribution rates and asset allocation remain unchanged and no additional funding will be provided by the government. In a process towards greater transparency, this reality needs to be shared with participants.

4 Ritholtz, B. "Tackling the 'Nastiest, Hardest Problem in Finance.'" Bloomberg, June 5, 2017. Retrieved from *http://www.bloomberg.com*. Quoted from country study on Sweden in Part 2 of this report.

5 There are two opposite narratives on the involvement of plan members: one is that the plan participant should be treated as an adult in order to accept the reform, but the other is that the plan participant is not interested in the issue and does not really understand what is going on, however much effort is made.

Lesson 2

How to close a DB contract?

In other countries, there have been two main ways to close a DB contract. The first is a *soft freeze*, in which the DB contract is closed to new participants going forward. Existing participants continue to accrue rights in the old contract. The second is a *hard freeze*, where the entitlement contract is closed to new and existing participants going forward. Employers, therefore, remain tied to entitlements accrued in the past. The most common solution is that these contracts are simply served out until the last participant passes away. In other words, the fact that entitlement contracts were closed in many countries does not imply that there is no capital tied up in these contracts.

The Netherlands chose a *total freeze*: we change not only future pension accumulation for everyone but also past accumulation for existing participants. Such a transition would be impossible in almost all countries. Only Denmark has done something similar, but several factors that played a favorable role cannot all be copied to the Netherlands: (a) the system was fully funded, (b) everyone had to approve the transfer to the new system formally, and the vast majority of plan members did, (c) unlike the Dutch situation, a partial transfer of Danish participants did not make the old and/or the new system unfeasible, (d) choice options were offered to incentivize people to move to the new system, and (e) the transformation was framed as a move from an old-fashioned system to a modern system.

Foreign experts view individual consent as an important tool to organize support for structural reforms. Not all experts were in favor of transforming accrued rights into capital ("invaren"). Those in favor mainly view lower administrative costs as an essential advantage.

Lesson 3

Calculation rules must be transparent

In Chile, the Chilean state pension was closed to new workers. Existing workers were given a choice: either stay in the old state pension system or switch to the new individual capital accumulation contract (see the country study on Chile, Part 2, Section 7). For those who switched, the old state pension rights were respected. Implicit public debt was converted into explicit public debt. Switchers received individual bonds with the maturity date being the date of retirement; transition costs were thereby spread over time. Bond proceeds were added to the individual pension account on retirement and used to buy an annuity. The calculation rules used here were very transparent.

International experts stress that these calculation rules must be crystal clear. Otherwise, participants will lose trust in the transition. This will be more difficult in the Netherlands because the transition has more than one objective: transforming entitlements into capital and redistributing this capital due to the effects of abolishing the average contribution and accrual system. In short, the transition in the Netherlands is rather complex in the eyes of foreigners.

Lesson 4

Challenges of a more individual contract

The challenges of individual contracts have thus far not been discussed extensively with foreign experts. Some consider this the most forward-looking question, starting from the premise that the transition to the new contract is successful. Many countries have had experience with an individual capital accumulation contract and questions regarding the capacity of individuals to manage and oversee their pensions, the organization of professional advice, and the dynamics of the market for these products. However, the Dutch situation is different and therefore less easily comparable: the contract in which the individual participant bears the risk is organized collectively. An important piece of advice is to always to stick to communication in terms of income streams after retirement. Do not communicate capital accumulation, as this is less relevant.

The transition to a more individualized contract may trigger consolidation. There is an institutional market for individual DC, which requires careful attention by the legislator and regulator to protect members' interests. The Swedish experience shows that introducing some sort of institutional competition for implementing mandatory industry-wide pension contracts can benefit members in terms of lower costs, unless too many choice options are offered, which would drive up costs (as in Chile).

In conclusion

Foreign experts eventually came to understand what the Dutch are planning to do. It is a unique trajectory, and they expect further developments after the intended goal is reached. They expect the reform to be an intermediate step toward further individualization and choice options. In order to have a well-balanced view regarding reforms, the advice is to look at the *total* retirement income system.

3. Current second-pillar pension system in the Netherlands

Collective pension funds

According to recent figures from the Dutch Central Bank (DNB, 2020), nearly 80% of employment-based pensions are a form of DB plan, the large majority of which are career-average-salary DB plans, which manage assets amounting to around €1600 billion as of year-end 2020.[6] Dutch pillar 2 pension plans are essentially collective, or cooperative, structures "owned" by their members (active employees and retirees) and are operated independently of employers or the government, although they are regulated by the pension law and a Financial Assessment Framework (FTK). As such, the risk of shortfalls is entirely borne by the members, who, in the face of projected insolvency, must ultimately either raise active members' contributions, organize a deposit by the plan sponsor, lower retired members' benefits or implement a combination of these measures. On the upside, all pension fund members are eligible for annual cost of living adjustments (COLAs) for price and wage inflation if, and only if, the funding level of the fund meets certain thresholds set in the FTK. This method of providing COLAs is known as "conditional indexation." In times of low funding ratios due to financial headwinds, pension benefits can forgo providing conditional indexation and even reduce nominal benefit levels.

Ultimately, risk-sharing features reveal that pillar 2 pensions should more accurately be described as what in North America is known as Target Benefit plans than as traditional DB plans. Specifically, in a traditional DB plan, participants accrue a guaranteed benefit amount over the course of their employment. However, Dutch pillar II pensions guarantee access only to an income stream and not a specific income level. In practice, this means that retirees receive a benefit that can change based on conditional indexation and potential benefit reductions.

Regulatory requirements

The risk-sharing components of these plans are executed via a series of regulatory requirements, including funded-level thresholds and a mix of permissible discretionary and mandatory recovery actions for funds that reach these thresholds. Accounting standards and regulatory rules prescribe that assets as well as liabilities be appraised at market value. This is straightforward for the asset side, but liabilities are required to be discounted at a modified term structure of risk-free interest rates. Based on

6 *https://statistiek.dnb.nl/statistiek/index.aspx*

Box 1 Solvency rules

Funding Ratio (end of year):

< around 130%	Recovery plan must be submitted, showing the fund is able to recover within 10 years.
< 100%	If the FR remains below 100% for 6 consecutive years, funds must cut rights and benefits to bring FR back to 100%.
< 110%	No indexation for benefits.
> 110% < 130%	Partial indexation can be granted.
> 130%	Indexation can be made permanent.

these rules, a funding ratio is calculated; this lies at the center of pension fund supervision. The thresholds plans must meet are presented in Box 1.

Recovery plans, if activated, may span a fixed 10-year period and can incorporate a variety of elements to achieve recovery above 130%, including an increase in employee contributions (without raising the accrual rate) and/or benefit reductions. Finally, if funds do not achieve recovery to a 105% funded level within 5 years, benefit reductions become a mandatory component of the recovery plan. These mandatory cuts can be smoothed out over 10 years for retirees.

Challenges

The system worked well when high returns were realized, demographics were manageable, and interest rates were substantially higher than they are currently. Risk buffers still worked well: high funding ratios implied significant risk buffers, and the contribution rate could serve as an instrument to involve the employer as bearer of part of the risks. In other words, funds were able to deliver on their promises, and retirement benefits were basically annuities.

However, the system began to show its weaknesses: returns were still reasonable, but the aging trend continued, and interest rates fell further, especially after major economic and financial shocks. As a result, risk buffers vanished. Funds had to solve problems by themselves, as employers had withdrawn as bearers of risk. Plan participants collectively carried the risk when interest rates and benefits were increasingly difficult to predict.

These developments had two effects:

1. In name, funds still employ a DB system, but in practice, they increasingly look like DC: participants jointly carry risk, the promise of inflation compensation has not been met for many years, and a number of funds have had to curtail rights and benefits as solvency was insufficiently strong.

2. Distribution of risk and return across different groups of participants has become a significant new challenge. The risk-free interest rate plays a central role here, as interest rate sensitivity for younger generations is much higher than that of older generations.

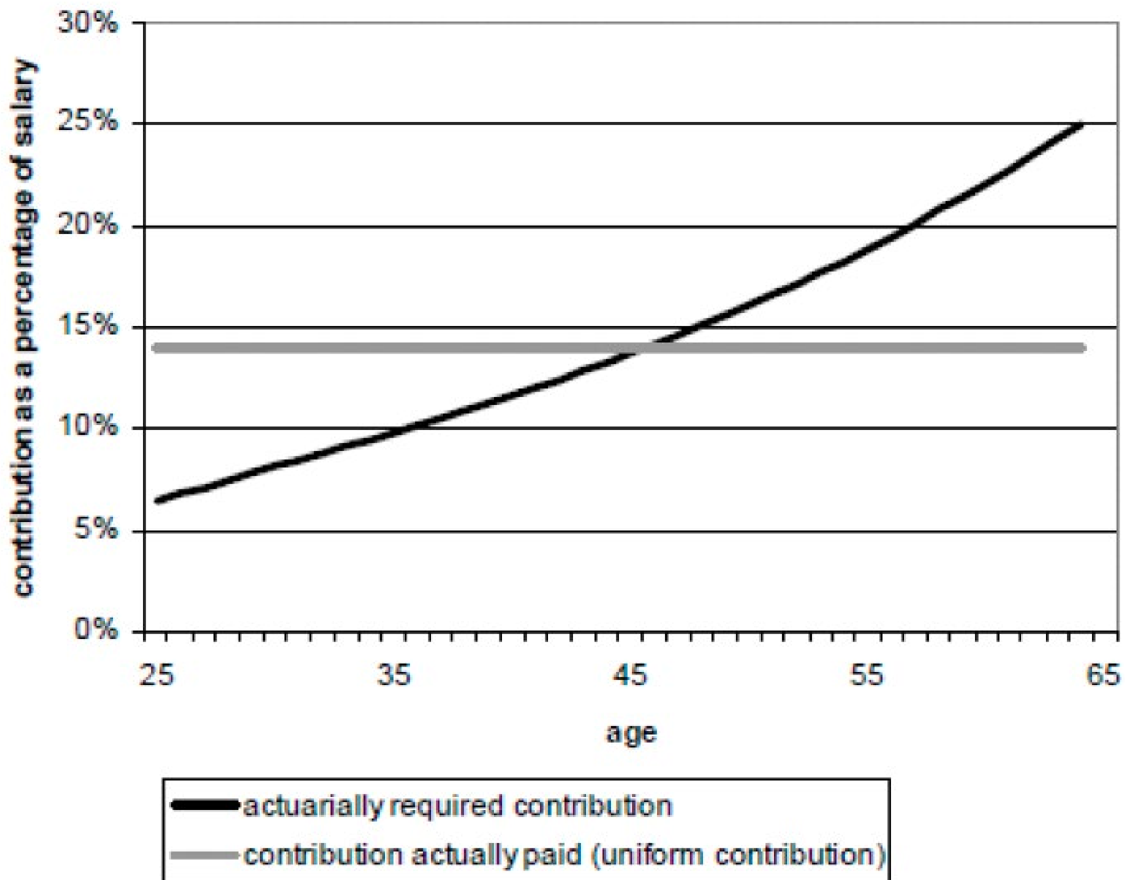
As a result, DB-like systems with a central role for a funding ratio based on risk-free rates became untenable. The objective of the initial reform discussions was to evaluate the elements that worked and remove the ones that lead to disagreements, thereby gradually moving to a more DC-like system.

Additional reform challenge: The uniform accrual system
A key element in the collective funds is the uniform contribution and accrual system. In this system, each active plan member receives the same rights for the same price, irrespective of age. At the maximum accrual rate of 1.875% per year, a worker will accumulate 65% accrual over a career of 35 years (1.875% * 35 years) of the career average pensionable[7] salary as a benefit. Employee contributions are uniform across each employment-based pension and are calculated annually by pension funds to meet the cost of new accrual.
Figure 1 illustrates the uniform contribution and accrual system and shows that younger workers temporarily pay a greater contribution rate than is actuarially required, and older participants pay less. This intergenerational transfer system relies on the belief that when younger workers are older, new workers will be there to subsidize them. In economic terms, workers in their mid-forties have built up a substantial implicit claim on the system—after contributing for about 20 years on (economically) unfavorable terms, they can look forward to 20 years with better terms. Over an entire career, deficits and surpluses will average out, but workers moving in and out of regular employment will sample the curve randomly and will—eventually—get very dispersed pension outcomes.

Earlier reform efforts
After benefit cuts became necessary following the Global Financial Crisis (GFC), the FTK amendments above were incorporated into pillar 2 pensions. Initially, the reforms were enacted with the goal of stabilizing pension fund finances while recognizing the need to address participant concerns regarding intergenerational fairness and eroding retirement security. The reforms carried out in 2015 affected both recovery

7 Pensionable salary is defined as nominal salary minus a threshold of -on average- €10,000.

Figure 1 The uniform contribution and accrual system



plan rules and benefit payment rules. Recovery plan timeframes were extended from 3 years to 10 (with mandatory benefit cuts enacted at the 5-year point if necessary). Simultaneously, stronger restrictions were enacted to limit conditional indexation below a 110% funded level.

Although reforms to the FTK were enacted in 2015, the general consensus was that they did not address long-term challenges in the Dutch pillar II pension system. An important cause for these long-term concerns stems from the continued fall of interest rates and falling expected investment returns. Also, the number of people in the labor force not covered by a pension arrangement is growing. Younger workers in today's labor market are more transient and are less likely to spend their entire career in one sector or one company. A growing number of workers no longer save systematically for retirement, resulting in a growing blank spot on the Dutch welfare map.

4. The new pension contract

After many years of discussions with a large group of stakeholders, the Dutch Minister of Social Affairs, who is responsible for pension legislation, presented an NPC.[8] Many important details are still missing, but the main characteristics are as follows.

What DOES NOT change:

- Social partners are in charge of the pension arrangement.
- Participation is mandatory.
- Monthly pension payments for the life of each participant.
- The ambition of the system remains provision of pensions that allow retirees to continue the lifestyle they are used to.
- Asset management remains collective, and plan members have no say in the asset allocation of their individual accounts.
- A relatively small "solidarity reserve" helps to share certain risks and smooth benefits.

What DOES change:

- The contract moves from accrual of rights to accumulation of capital.
- The funding ratio will disappear.
- Predefined distribution rules determine how collective investment returns are distributed across all plan members; there is no *direct* link between the collective asset mix and the investment return on an individual account.
- Risk appetite needs to be determined for different age groups. Risk appetite, asset mix and distribution rules determine the riskiness of the individual pension pot in every age cohort.
- There is more room for choice options, e.g., a lump sum payment on retirement.

8 There will be two alternatives in the new regime. The first is referred to as the New Pension Contract (NPC), where assets are invested collectively for all plan members and investment returns are distributed following clear rules, but there is no direct link between the individual pension pot and the collective portfolio. The second is an improved individual DC system (WVP+), where assets are invested according to a lifecycle and a collective buffer may help to smooth benefits. Individuals can see how their individual pot is invested, but the pension fund remains responsible for asset allocation. On retirement, participants may choose between a variable benefit similar to NPC or a fixed annuity provided by an insurer. In this paper, we focus on NPC.

To create a new pension system, a double transition problem needs to be tackled:

1. A transformation from DB to DC: from accrual to capital accumulation, from significant risk sharing to largely individual-participant risk.
2. From uniform contribution and accrual system to a fixed premium and volatile benefits; accumulating capital is the intermediate objective, derived from a defined ambition and expected investment returns.

PART 2 Reforms around the world

1. Introduction

Pension reforms worldwide are being discussed and executed amid accelerating population aging and a complex combination of ultra-low interest rates and technological disruptions in labor markets. The case studies in this report are no exception. By 2050, people 65 and over will constitute approximately between one-third in Israel to slightly more than half the working-age population of OECD countries.

A concern for policymakers in this context is long-term sustainability. Most countries in the case study sample have legislated significant future target retirement age increases, with the notable exceptions of Chile and Canada. How sufficient these measures are varies in the case studies. Gross replacement rates and income levels are progressive in all countries, but this characteristic is lost after accounting for taxation in Sweden, Australia and Chile. For these countries, replacement rates gravitate toward 40–50%, with outliers that range from 30% in Australia and Chile up to over 70% for Denmark and the Netherlands.

A common characteristic for these countries is high levels of pension coverage, close to 90% on average, a trait of more developed industrial economies. Income in old age is also high, as most retirees receive more than 90% of the average income of the total population. In many countries, primarily those outside the euro-area,

Statistics of Pension Variables

Country	Pension Replacement Rate (%)	Pensions Assets/GDP (%)	Retirement ages		Demographic old-age to working-age ratio		Projections of public expenditure on pensions	Incomes of older people
			Current	Future	2020	2050	2050	% of average income of total population
Australia	31	148	65	67	28	42	4	66
Belgium	61	11	65	67	33	51	15	74
Canada	64	184	65	65	30	45	7	94
Chile	31	75	65	65	20	45	4	102
Denmark	74	199	65	74	35	45	8	71
Israel	50	57			24	31	6	81
Netherlands	71	173	66	71	34	53	8	84
Sweden	54	117	65	65	36	46	7	86
United Kingdom	51	104	65	68	32	47	8	76
United States	70	149	66	67	28	40	6	90
OECD	40				31	53	9	
EU28	46				34	56	11	

Source: UN (2020), OECD - PAG (2019).

income for the elderly comes primarily from work. Also, old-age income poverty is on par with poverty in all age cohorts, and women experience poverty more often than men in all countries.

Data that is comparable across different countries is very difficult to find: systems and definitions tend to differ significantly. In the following pages, we use data from multiple sources and are as updated as possible. The basic economic data is provided by the OECD.

The remainder of this document sets forth nine country studies, presented in the following order: United Kingdom, United States, Canada, Denmark, Sweden, Chile, Australia, Israel and Belgium.

2. United Kingdom

Pension System in 2020

The UK pension system has been under revision in the past decades. It comprises three tiers for people born before 2016. An income-related benefit (Pension Credit) targets extra spending on the poorest pensioners.

Tier 1 is provided by the state and consists of a basic level of pension to which almost everyone either contributes or has access, providing a minimum level of retirement income. Tier 2 is also administered by the state and aims to provide pension income that is more closely related to employees' earnings levels. Tier 2 is less redistributive (from higher-income to lower-income) than Tier 1. Tier 1 and Tier 2 operate on an unfunded 'pay-as-you-go' contributory basis through the National Insurance system, though people can no longer accrue entitlement to Tier 2. That scheme was revamped into a single-tier state pension for workers retiring on or after April 6, 2016, providing a full flat-rate benefit at the state pension age with at least 35 years of paid or credited contributions; a partial benefit is paid with at least 10 years but less than 35 years of contributions.

Tier 3 is voluntary (private) pension arrangements that are not directly funded by the state. Private pension contributions from the employer and/or the designated pensions for the individual. The primary aim of private pensions is to redistribute income across an individual's lifetime and not redistribute income from higher-income to lower-income people. Tier 3 includes pensions arising from automatic enrolment, a policy requiring employers to enroll eligible employees into a qualifying workplace pension scheme.

Overall pension assets in the UK totaled US$3.5trn in 2019, equivalent to about 126% of annual GDP, according to Willis Towers Watson, the second-highest global pension savings stock, below the US (US$29.2trn) and just above Japan (US$3.4trn). The UK's asset/GDP ratio is relatively high in global terms but is below US ratios (136% respectively) and some way below the Netherlands' ratio of 187%. Growth in UK pension assets (in US dollar terms) in this period has been similar to the global average, with the UK's share of global pension assets edging up from 6.9% in 2008 to 7.4% in 2019.

The Mercer Index ranks the United KIngdom in number 15th out of a sample of 39 pension systems in the 2020 report. According to the analysis, the overall index value could be increased by: (i) restoring the requirement to take part of retirement savings as an income stream; (ii) raising the minimum pension for low-income pensioners, (iii) further increasing the coverage of employees and the self-employed in pension schemes, (iv) increasing the level of contributions to occupational pension schemes, and (v) raising the level of household saving and reducing the level of household debt.

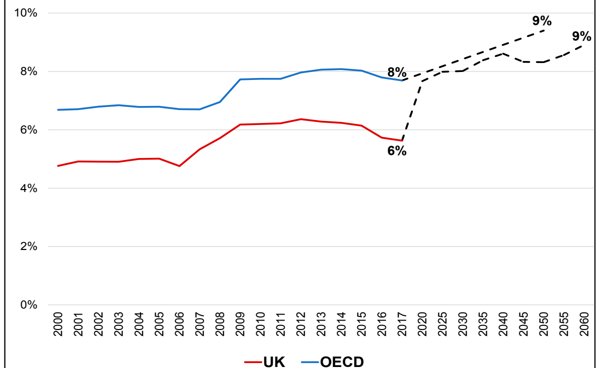
The Global Pension Transparency Benchmark (GPTB) provides a rank based on 4 key value-generation elements for the 5 largest pension fund organizations in each of 15 countries included in the first edition. The elements are Governance and Organization, Performance, Costs, and Responsible Investing. The overall rank for the United Kingdom is 6th. The authors interpret these results as testament to the robust governance and disclosure standards of corporate pension schemes in the UK. More information on the rank of each category in the next page.

The UK Pension System: key statistics

Key indicators

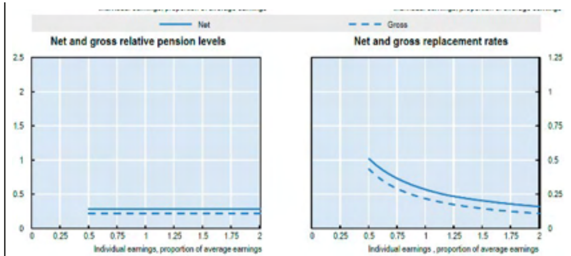
		United Kingdom	OECD
GDP per capita	USD	39 952	55 657
Population	Thousands	63 700	41 584
Dependency ratio	%	18	20
Average worker earnings (AW)	GBP	39 328	31 171
	USD	52 467	41 584
Public pension spending	% of GDP	6,2	8,0
Life expectancy	at birth	81,1	80,7
	at age 65	19,8	19,7
Population over age 65	% of working- age population	32,0	31,2

Pension Spending evolution and projection to 2050 (OECD) *(% of GDP)*

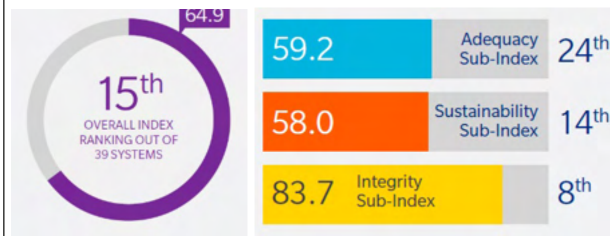


Replacement Rate Indicators

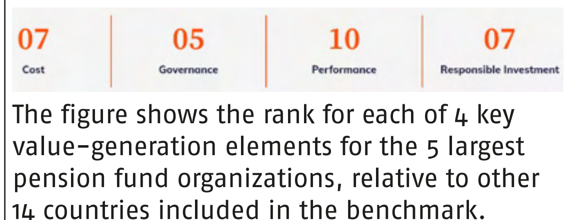
Men	Individual earnings, multiple of average					
Women (where different)	0.5	0.75	1	1.5	2	3
Gross relative pension level	21.7	21.7	21.7	21.7	21.7	21.7
(% average gross earnings)						
Net relative pension level	28.4	28.4	28.4	28.4	28.4	28.4
(% net average earnings)						
Gross replacement rate	43.5	29.0	21.7	14.5	10.9	7.2
(% individual gross earnings)						
Net replacement rate	51.0	36.5	28.4	20.2	15.9	11.7
(% individual net earnings)						
Gross pension wealth	8.2	5.5	4.1	2.7	2.1	1.4
(multiple of individual gross earnings)	*9.2*	*6.2*	*4.6*	*3.1*	*2.3*	*1.5*
Net pension wealth	9.7	6.9	5.4	3.8	3.0	2.2
(multiple of individual net earnings)	*10.8*	*7.7*	*6.0*	*4.3*	*3.4*	*2.5*



Mercer CFA Institute Global Pension Index



Global Pension Transparency Benchmark



The figure shows the rank for each of 4 key value-generation elements for the 5 largest pension fund organizations, relative to other 14 countries included in the benchmark.

Note: Data that is comparable across different countries is very difficult to find, as pension systems and definitions tend to differ significantly. We use data from multiple sources, which are as recent as possible. The basic economic data is provided by the OECD.

Pension reform in the United Kingdom

by Chris Curry[9]

Significant reforms to workplace pensions in the Netherlands will see all schemes transfer to defined contribution (DC) by 1st January 2026. As employers prepare for this transition, is there anything from recent UK reforms that might inform the Dutch pension system?

The UK pension system seems to be in a state of constant change. Since the final report of the Pensions Commission in 2005[10] that highlighted many of the short-comings in UK pensions there have been a series of reforms that have affected every aspect of both pension saving and state pensions. On the state side, a new state pension was introduced for those reaching state pension age from April 2016, with the intention of eventually paying nearly all retirees the same flat rate state pension (although as with most UK pension reform there is a long transitional period before the desired outcomes happen in practice). State pension ages have increased over recent years, and further rises may yet occur.

In private pensions, the changes have been even more dramatic. Since 2012, employers have begun to automatically enroll all qualifying workers[11] into a work-place pension scheme, significantly increasing the number of people contributing to a workplace pension—with 10.4 million additional people enrolled as of March 2021[12].

In March 2014, another major reform was announced. From April 2015, individuals with DC schemes have had much more freedom and choice as to how they use their pension funds. Whereas historically individuals have had to use at least 75% of such funds to purchase an annuity (a guaranteed income for life), they now have complete flexibility as to how they take their funds (once they have reached the minimum withdrawal age of 55) and what they then do with it.

Further changes can also be expected. The government continues to refine pensions legislation as the market matures. Recent consultations and legislation have touched on issues such as the taxation of pensions savings, tighter regulation

9 Chris Curry is the Director of the Pensions Policy Institute, an independent research institute with no political affiliation specializing in research into UK retirement issues.

10 The Pensions Commission (2005) A New Pension Settlement for the Twenty-First Century: The Second Report of the Pensions Commission.

11 Generally employees aged between 22 and state pension age, earning more than £10,000 per year.

12 *https://www.thepensionsregulator.gov.uk/en/document-library/research-and-analysis/automatic-enrolment-declaration-of-compliance-report* Accessed 14.04.2021.

of pensions schemes and the constitution of charges within multi-employer master trusts.

With all of these major changes occurring almost simultaneously, it may be some time before the UK will have sorted out its pension system. As the UK system evolves it provides the opportunity for international observers—including the Netherlands—to learn some useful lessons.

The first important lesson is that *pension reform takes time*. The Pensions Commission first recommended automatic enrolment into workplace pensions in 2005. The process began in 2012. Because of the way it was introduced to the largest employers before the smallest, and contributions being introduced at a low level before increasing to the agreed minimum level, it was not until April 2019 that the policy was finally fully in place—almost a decade and a half later. So, if the Netherlands is facing similar problems to those identified in the UK related to higher life expectancy and lower expected investment returns leading to higher costs, starting to deal with the issues sooner rather than later could make any reform less severe than it might otherwise need to be.

The next lesson from the UK is that *reforms can be easier to implement where there is a degree of consensus* around what needs to be done. A good example of this is automatic enrolment, which had a very high degree of consensus not only across political boundaries, but also with employers and representatives of employees (such as charities and trades unions). This has meant that there is still widespread support for the principle of automatic enrolment despite the lengthy introduction period and the changes in the economic climate that have happened since the idea was first proposed.

There remains less consensus around some of the other changes in private pensions, such as freedom and choice in DC pensions, which were introduced much more quickly and without prior consultation. Consequently, there is still a lot of uncertainty as to how people will respond to the changes in future, and what the implications might be for long-term levels of pensioner income, and potentially government expenditure. In the short term the government might benefit by collecting more income tax as individuals withdraw money from their pensions more quickly than before, but in the longer term if people run out of money they may fall further back onto state support. Consensus does not, however, guarantee that things will always work smoothly. Even though there is widespread support for automatic enrolment, the original idea has led to much wider reform than originally envisaged.

Part of this can be ascribed to another lesson—*know what you are ultimately trying to achieve*. The concept of auto-enrolling workers into schemes has been

accepted, but it soon became clear that it might not make sense to enroll people into schemes that were not good quality—with good quality meaning well administered, well governed and without excessive charges. Therefore, it is important to look beyond the tools you are planning to use to see what the outcomes are that you would view as successful. In the UK, there have been numerous attempts to improve regulation, increase standards and lower costs—in fact even to discover what the costs are—that are still going on even though people are now being placed into schemes. The UK Government has recently announced a consultation into costs and charges within the 38 multi-employer master trusts that have been accredited since 2020[13] This is where the Netherlands already has a comparative advantage. The very characteristics that the UK has sought to build into the pension system, such as economies of scale, and efficiencies and transparency of investment costs, are strengths of the Dutch system. So, the next lesson is to *build on what you have that already works well*.

Scale and transparency are just two of the areas in which the UK has looked to the Netherlands for examples of best practice. A number of UK reports have suggested that the way in which the investment industry operates in the Netherlands has significant advantages over the UK,[14] not least in terms of the efficiency and low cost arising from investing with scale. And while the UK has placed a charge cap on costs for the funds used as default investments for automatic enrolment, the government is still struggling to even identify the levels of costs involved with running and investing pension scheme assets. The Netherlands appears to be leading the way in transparency too.

The other area where the UK has been looking to the Netherlands is in the allocation of risk between pension sponsors and scheme members. In the UK there has been a straightforward move away from DB schemes—with the majority of risks being taken by the scheme sponsor—to DC schemes with the risks being faced by the scheme member. This has led to some concern that the scheme members who do not understand, for example, investment, inflation and longevity risk, will be unable to adequately manage their income and assets throughout their retirement (perhaps not universal concern however, as the introduction of more freedom and choice at retirement has increased the exposure to these risks).

The UK Government was so concerned that it began to explore different types of "risk sharing" pension schemes which could allocate risks either between the scheme

13 *https://www.gov.uk/government/consultations/review-of-the-default-fund-charge-cap-and-standardised-cost-disclosure/review-of-the-default-fund-charge-cap-and-standardised-cost-disclosure* Accessed 14.04.2021.

14 See for example Pitt-Watson, D. (2013) Collective Pensions in the UK II: Now is the time to act.

sponsor and the member, or between different groups of members, in ways between the extremes of DB and DC. Recent developments in the Netherlands—such as the use of conditional indexation—were used as examples of how this might work in practice. Despite an initial lack of enthusiasm from scheme sponsors, the government has this year introduced legislation that outlines a framework for collective defined contribution (CDC) schemes to be established in the UK[15]. This was a result of UK employer Royal Mail and the Communication Workers Union seeking to create a CDC scheme to replace the Royal Mail's existing DB scheme, which closed to future accruals in March of 2018.

Prior to this new legislation, the UK Government commissioned the PPI[16] to look at how "risk sharing" schemes, and in particular CDC schemes might improve member outcomes compared to the traditional DC approaches used in the UK—individual accounts, life styled and then used to purchase a lifetime annuity from a provider. There were some interesting findings.

In the long term, once the scheme is mature and the scheme population is stable, the CDC schemes modeled (with a 10% contribution rate) produced better outcomes than the traditional DC scheme based on the same contribution and used to purchase an annuity—providing a replacement rate (of pension compared to earnings) of between 27% and 30% in CDC compared to between 12% and 21% in DC. However, these results were heavily driven by the assumption of scale, and assuming that there was an element of pre-funding in the CDC schemes (so they start off well-funded). And the traditional DC results were lowered by the requirement to purchase an annuity in the marketplace (with associated costs for risk management and assumed lower investment returns compared to a CDC scheme where the annuity is paid from the scheme that can remain invested on a collective basis).

But even without these advantages, the CDC scheme performed as well as the best perform DC alternative, was less likely to run out of money, and had a more certain, narrower range of outcomes.

Although this research was narrowly defined, and set very much in UK context, it does highlight one of the strengths of the Dutch pension system, the ability to share risks. This is not painless and does not always work well if it is not well defined or well understood, but from an individual perspective might be preferable to the uncertainty offered by pure DC arrangements.

15 *https://www.legislation.gov.uk/ukpga/2021/1/contents/enacted* Accessed 14.04.21.

16 Pensions Policy Institute (2015) Modelling Collective Defined Contribution Schemes.

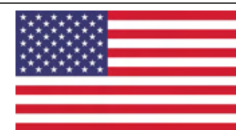
The PPI research looking at CDC schemes set the contribution rate at 10%, and the resulting replacement rates were still quite low. That is not at all unusual for DC in the UK and is in fact above the minimum default contribution required (which will undoubtedly become the most common).[17] This is another area in which the Dutch system starts from a position of strength. Not only are contributions considerably higher in the Netherlands, there is (or so it appears to the UK) little concern that these contributions are not affordable. Whereas in the UK we have had to introduce a system based on inertia so that many people will not even realize they are saving into a pension scheme, the Netherlands population appears to have a savings culture based around agreement from the government, employers and employees. Perhaps the greatest challenge facing the UK system is how to increase contribution levels. The Netherlands does not have the same problem—and this is a real advantage.

So, what can the Dutch learn from a view from the UK? Firstly, hang on to the strengths in the system—scale, transparency, efficiency, and buy-in from the members. Secondly, if risks need to be reallocated (typically towards members), make sure those bearing the risks are aware of them, can manage them, or have them managed on their behalf (for example through defaults). If you are starting on a journey of reforms, know where it is you want to go—in terms of what the system should deliver—from the outset. Get as much consensus as is possible along the way—if everyone is on the journey together, and you all know where you are going, there is more chance you will arrive.

And finally, be aware that once you have started, it can be very difficult to go back to where you started. Once sponsors have shed risk, they can be loath to take it back.

17 Currently automatically enrolled individuals must contribute a minimum of 2% of earnings between £5,824 and £43,000, of which at least 1% must be an employer contribution. By April 2019 this will rise to 8% of earnings in this band, of which at least 3% must come from the employer.

3. United States



Pension System in 2020

The United States pension system comprises three tiers. Tier 1, the Social Security system is a pay-as-you-go scheme financed through payroll taxes paid by employers and employees and partially funded by a sovereign pension reserve fund. The benefit has a progressive formula. There is also a means-tested top-up payment available for low-income pensioners. Tier 2 is comprised of voluntary private workplace pensions, occupational or company DB, DC, or hybrid schemes in a variety of forms, including 401(k) (for-profit employers); 403(b) (non-profit and public schools); 457(b) (state and local governments); Federal Employees Retirement System including the Thrift Savings Plan (Federal public employees); and the 'Roth' versions with a different tax treatment. Tier 3 is comprised of individual voluntary saving arrangements. The most common are individual retirement accounts (IRAs), but others like Keogh, SEP, SAR-SEP, SIMPLE plans, and their 'Roth' denominations.

The pension sector is vast, but coverage is low (around 40% of employees). As of the end of 2020, more than 700,000 private-sector workplace retirement plans were covering 136 million participants – workers and retirees – and around 6,000 state and local public sector plans serving 14.5 million workers and 10.3 million retirees. These plans hold up to $33 trillion in assets under management as of September 2020. This makes the US the largest retirement market worldwide. The IMF estimates that by the end of 2019, the US's total financial sector assets were close to $110 trillion (5.5 times GDP). The total assets in public and private pension funds represent 24% of the entire financial sector assets and 130% of GDP (IMF, 2020). The Pension Benefit Guaranty Corporation (PBGC) guarantees basic pension benefits for more than 35m private-sector workers and retirees in 25,000 plans.

The Mercer Index ranks the United States in number 18th out of a sample of 39 pension systems in the 2020 report. According to the analysis, the overall index value could be increased by: (i) raising the minimum pension for low-income pensioners; (ii) improving the vesting of benefits for all plan members and maintaining the real value of retained benefits through to retirement, (iii) reducing pre-retirement leakage by further limiting the access to funds before retirement, (iv) introducing a requirement that part of the retirement benefit must be taken as an income stream, (v) increasing the funding level of the social security program, and (vi) expanding coverage by providing access to retirement plans on an institutional group basis for workers who do not have access to an employer-sponsored plan.

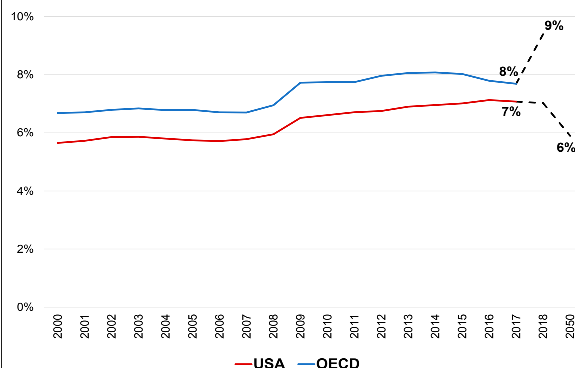
The Global Pension Transparency Benchmark (GPTB) provides a rank based on 4 key value-generation elements for the 5 largest pension fund organizations in each of 15 countries included in the first edition. The elements are Governance and Organization, Performance, Costs, and Responsible Investing. The overall rank for the United States is 9th. Disclosures of American public pension funds are heavily influenced by GASB standards, and the disclosures required as part of their Comprehensive Annual Financial Reports. American systems scored first overall in performance disclosures but did less well in other areas, 9th in responsible investing, 10th for cost, and 11th for governance disclosures. More information on the rank of each category in the next page.

The US Pension system: key statistics

Key indicators

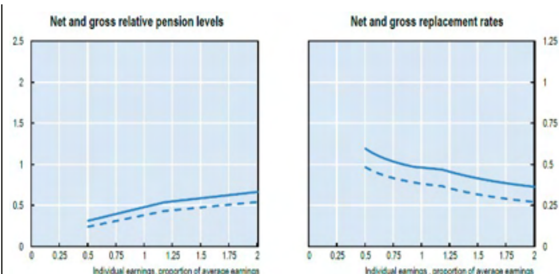
		United States	OECD
GDP per capita	USD	57 467	55 657
Population	Thousands	323 127	41 584
Dependency ratio	%	31	20
Average worker earnings (AW)	USD	54 951	41 584
	USD	54 951	41 584
Public pension spending	% of GDP	7,1	8,0
Life expectancy	at birth	78,8	80,7
	at age 65	19,7	19,7
Population over age 65	% of working- age population	28,4	31,2

Pension Spending evolution and projection to 2050 (OECD) *(% of GDP)*

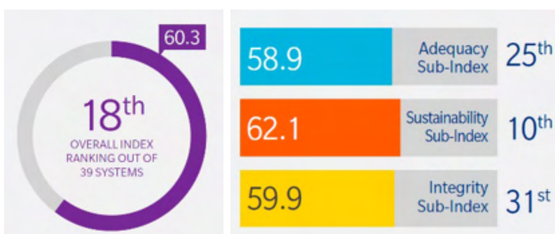


Replacement Rate Indicators

Men / *Women (where different)*	0.5	0.75	1	1.5	2	3
	Individual earnings, multiple of average					
Gross relative pension level	24.1	31.2	38.3	47.6	54.2	58.6
(% average gross earnings)						
Net relative pension level	31.4	39.7	48.0	58.8	66.4	71.6
(% net average earnings)						
Gross replacement rate	48.3	41.6	38.3	31.7	27.1	19.5
(% individual gross earnings)						
Net replacement rate	59.5	51.7	48.0	41.5	36.3	26.6
(% individual net earnings)						
Gross pension wealth	8.4	7.3	6.7	5.5	4.7	3.4
(multiple of individual gross earnings)	*8.9*	*7.7*	*7.1*	*5.8*	*5.0*	*3.6*
Net pension wealth	10.4	9.0	8.4	7.2	6.3	4.6
(multiple of individual net earnings)	*11.0*	*9.5*	*8.9*	*7.6*	*6.7*	*4.9*



Mercer CFA Institute Global Pension Index



Global Pension Transparency Benchmark

The figure shows the rank for each of 4 key value-generation elements for the 5 largest pension fund organizations, relative to other 14 countries included in the benchmark.

Note: Data that is comparable across different countries is very difficult to find, as pension systems and definitions tend to differ significantly. We use data from multiple sources, which are as recent as possible. The basic economic data is provided by the OECD.

Pension reform in the United States

By Zina Lekniute and Eduard Ponds[18]

a. Introduction

The US pension system went through many changes in the past decades. Public and private pension plans followed different ways of reform. The pension reforms in the public sector almost always affect only the new hires, as there is nobody to negotiate for them, making it politically easy to do. The private sector pension reforms typically affect the new accrual of all plan members. Employer in general pays the whole contribution, making the reforms less noticeable, especially when strong labor unions are not present. The next two sections will go into the public and private sector experiences in more detail.

b. Public sector

Public pension plans in the US are still predominantly traditional DB plans that have not changed much since their inception

Public sector: Typical reforms

Whereas the pension system in the Netherlands over the years went through a series of gradual changes that moved it from a traditional DB to a collective DC (moving from final salary to average salary, introducing conditional indexation and the possibility of benefit cuts, and linking the retirement age to longevity automatically), in the US state public pension plans such measures have been implemented on an ad hoc basis, if at all. Pension reforms of state plans are usually only parametric and typically entail contribution rate adjustments, cost of living adjustment changes, and changes in other parameters such as tenure requirements, average salary period and benefit factors (Munnell et al. 2013).

Since state legislature in many states treats pension promises as hard guarantees, the reforms predominantly are applicable only to new hires, except for contribution and indexation adjustments which are more likely to be applicable to current employees as well. This results in multi-tiered pension systems with the most tenured employees in the oldest and most generous tiers and the newest hires in the newest more modest tiers, leading to inequality among employees.

18 Eduard Ponds is senior researcher at APG Asset Management and professor Economics of Pensions at Tilburg University. Zina Lekniute is senior strategist at APG Asset Management. The analysis for US public pension funds is based on the PhD thesis by Zina Lekniute (2020, co-supervised by Eduard Ponds) and for US private sector pension plans on a selection of papers.

The reforms are also predominantly motivated by very poor funding situations and no longer acceptable pressure on the state budgets, contrary to the reforms in the Netherlands that tend to be more of a preventative nature and are meant to avoid problems in the future and often also to bring the system more in line with the changing participant preferences and behavior, such as labor market mobility.

Public sector: The case of Rhode Island

There are just a handful of examples where significant reforms were implemented for all existing plan participants. Rhode Island is one such example. The state pension plans in Rhode Island were among the worst funded in the US. The poor funding situation and the budgetary pressures this created in times of a weak state economy were the driving force behind the reform. The state treasurer commissioned an independent actuarial study to estimate the size of the problem. The chosen path for reform was to move all plan members from a traditional defined benefit plan to a hybrid system, which consisted of a considerably less generous DB plan and an individual DC component. The state governor and treasurer worked together with the state legislature and engaged stakeholders in planning the reform, holding town halls and educating the public throughout the process. Public employee unions challenged the reforms in court, but the judge ordered talks of the two sides and a settlement was reached that preserved the reforms for the most part. It also seems the reforms did not affect the employee retention much, though it is not clear yet how it will affect attracting new talent and the quality of the labor force in the longer run.

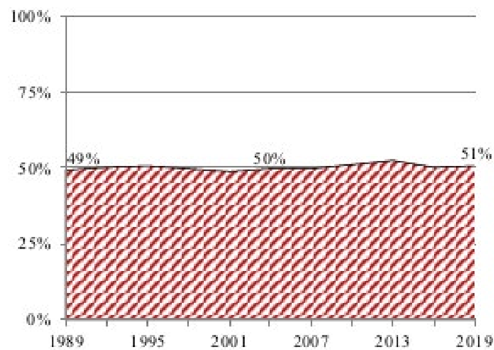
The dire financial outlook of the state helped in reaching the settlement, as otherwise public employee layoffs would be unavoidable, and salary increases in the foreseeable future not feasible. However, strong leadership, clear communication and involving stakeholders along the way were also crucial in the success of the reform.

c. Private sector

From DB to DC

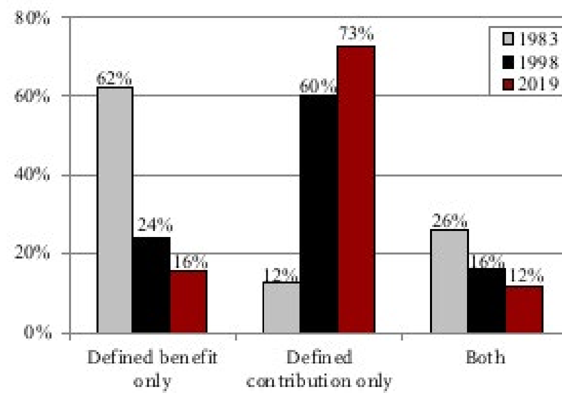
Traditional DB plans have been implemented on a large scale since the fifties, but after 1975 new pension plans are predominantly of the DC type with few plans starting up as a DB plan (Baily & Kirkegaard 2018, chapter 7). Employers with running DB plans restricted the entrance of their plans for new hires (soft freeze) or even for all workers (hard freeze) and favored DC arrangements. Rauh et al. (2010) report that between 1998 and 2017 US companies in the Fortune 500 offering a DB plan to new hires dropped from 58% to 16%. Of this 42-percentage point fall, 25 percentage points is

FIGURE 2. PERCENTAGE OF WORKERS AGES 25-64 PARTICIPATING IN AN EMPLOYER-SPONSORED RETIREMENT PLAN, 1989-2019



Source: Authors' calculations based on U.S. Board of Governors of the Federal Reserve System, *Survey of Consumer Finances* (SCF) (1989-2019).

FIGURE 3. WORKERS WITH COVERAGE BY TYPE OF RETIREMENT PLAN, 1983, 1998, AND 2019



Source: Authors' calculations based on the 1983-2019 SCF.

Source: Munnell and Chen, 2020

from a hard freeze, 15 points from a soft freeze and the remaining 2 points were plan terminations due to bankruptcy of the sponsoring company.

The soft and hard freezes had an enormous impact on the coverage of employees by retirement plan type. While the fraction of the working population participating in a plan remained fairly constant since the 80s, around 50%, the composition changed dramatically. In 1983 62% were in a DB plan, and 16% in a DC plan. In 2019, only 12% participate in a DB plan with 73% covered by a DC plan (cf. Munnell and Chen, 2020).

Broadly, three main reasons can be discerned as driving forces behind this switch from DB to DC (cf. Rauh et al. 2020). First, fair valuation accounting principles prescribe companies as the ultimate risk bearer of their DB plans to integrate any surplus or deficit of the pension fund position on the balance sheet of the company. Stepping over to DC plans freed companies from the exposure to volatile equity markets via their pension fund. Second, DB plans witnessed a continual increase in the economic burden of their pension liabilities due to increasing longevity risk and the steady decline in nominal and real interest rates since the early 80. A third reason might be changes in consumer preferences, such as an increased desire for more flexibility and control over retirement wealth and spending decisions. A DB plan converts wealth into annuities, whereas a DC plan allows participants to choose their own retirement income profile.

Transition issues

The transition burden due to the switch from DB to DC plans is potentially big. Traditional DB plans in the past were attractive tools to build up and retain

firm-specific human capital. They were set up as final salary plans, rewarding workers with a long-term career at the same company, and so were extremely backloaded. In many plans, the employer mostly pays the whole contribution and takes up any surplus or deficit in the funding plans. Theoretically, the transition burden therefore would be equal to the difference between the foregone future accrual by the workforce in the DB plan minus the contribution sum paid by the employer funds into the individual DC plans. Using this formula, Rauh et al. (2020) estimate the net cost saving for employers to be 13.5% of the future payroll of the workforce involved in any transition. They find no evidence of compensating salary increases of this order. This has three potential explanations. The first is that employees with generous DB plan are overpaid compared to their productivity, especially the older workers with their high backloading pension rights. The second is that the involved employees value the structure, choice options, flexibility and portability features of DC plans (relative to DB plans) so much that this provides enough welfare compensation for the economic losses due to the freeze of DB plans. Thirdly, it is often not difficult to reform when there is at best a weak worker force representation or no union at all.

d. Conclusions

The US public sector pension reforms are usually motivated by severe underfunding, budgetary pressures and desired fairness to both old and young participants rather than the system not meeting the modern-day requirements. There is not much space for compensation.

Typical reform characteristics	US public sector	US private sector	The Netherlands
Main motivation for reform	Pressure on the state's budget caused by high underfunding	Too much risk on the company balance sheet	Long-term sustainability and adequacy in the current day context
Participants affected	New hires only	New accrual of all participants	New accrual all participants and potentially also the existing accrual of all participants
Engaged stakeholders in the reform process	Labor unions, state and legislature representatives, plan members	Corporate	Leading role for social partners, but also involvement of government agencies (legislation, supervision, and fiscal impact)
What made reform feasible?	Involvement of diverse stakeholders and unsustainable financial situation	No strong labor unions and limited transparency	Nationwide consultation with all stakeholders to reach broad consensus

A main motive for the US private sector DB plan reforms is to reduce or to eliminate the impact on the company's balance sheet of their pension fund (underfunding and volatile pension fund assets). Workers usually get no compensation as the employer usually pays the full contribution sum.
US reforms are typically more gradual in terms of members they affect, as they apply to new hires or new accrual only. In the Netherlands, reforms are more gradual over time but generally apply to all members.

4. Canada

Pension System in 2020

Canada's pension system consists of the Old Age Security (OAS) / Guaranteed Income Supplement (GIS) program, the earnings-related Canada Pension Plan (CPP), and voluntary tax-advantaged private savings and employer-sponsored pension plans. The province of Quebec opted out of the CPP, but it has a similar earnings-related plan called the Quebec Pension Plan. OAS is a nearly universal pension paid to persons aged 65 or older and is financed through general revenue. To be eligible for an OAS pension, a person must be a legal resident of Canada for at least 10 years after age 18. The income-tested Allowance is paid to individuals aged 60 to 64 who meet the residency requirements for an OAS pension and are the spouse or common-law partner of a GIS beneficiary. Occupational DB plans are migrating towards hybrid DC-DB solutions. Salient are the cases of The New Brunswick Pension Plan and the University of British Columbia Variable Payout Life Annuity. There are also Defined Ambition Plans, Target Benefit Plans as well as Collective DC plans.

Canada's US$1.92trn in assets constituted the world's fifth-leading pension fund investment market in 2019, behind the US, Japan, the UK, and Australia, according to Willis Towers Watson, a consultancy. At 111% of GDP, Canada's pension fund assets ranked sixth, after the Netherlands, Australia, Switzerland, the US, and the UK. The largest funds in terms of assets under management are the Canada Pension Plan Reserve Fund administered by the Canada Pension Plan Investment Board, also known as CPP Investments (all provinces except Quebec), and a province-specific Quebec plan. Others serve public-sector employees, including those for Ontario's teachers, municipal employees and healthcare workers, the Quebec government employee plan, and similar funds in British Columbia and Alberta. According to Statistics Canada, more than 6.4 million Canadian workers were members of pension plans at end-2019. The independent Office of the Superintendent of Financial Institutions (OSFI), a federal agency, is the primary supervisor of banks, insurance companies, and private pension plans. The provinces also have some regulatory powers.

The Mercer Index ranks Canada in number 9th out of a sample of 39 pension systems in the 2020 report. According to the analysis, the overall index value could be increased by: (i) increasing the coverage of employees in occupational pension schemes through the development of an attractive product for those without an employer-sponsored scheme; (ii) Increasing the level of household savings and reducing the level of household debt, (iii) Reducing government debt as a percentage of GDP, and (iv) increasing the labor force participation rate at older ages as life expectancies rise.

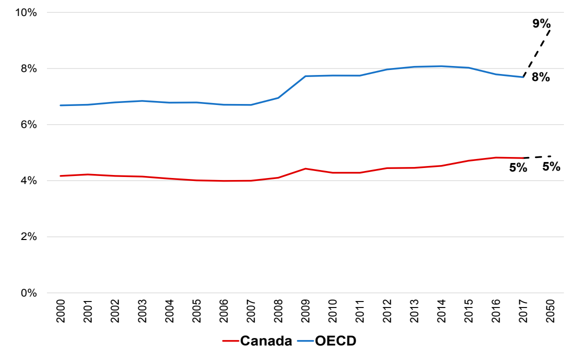
The Global Pension Transparency Benchmark (GPTB) provides a rank based on 4 key value-generation elements for the 5 largest pension fund organizations in each of 15 countries included in the first edition. The elements are Governance and Organization, Performance, Costs, and Responsible Investing. Canada ranked 1st globally. According to the authors, Canadian funds had impressive public disclosures. Canada's score of 86 is materially higher than the second place (Australia with a score of 72). This outcome is consistent with the global reputation for good governance earned by the Canadian Pension Model. More information on the rank of each category in the next page.

The Canadian pension system: key statistics

Key indicators

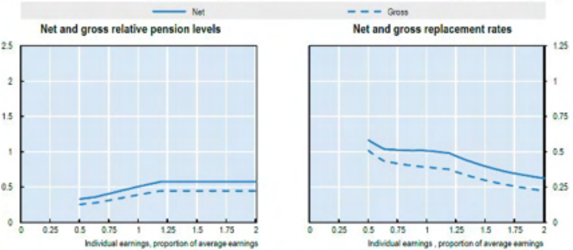
		Canada	OECD
GDP per capita	USD	51 342	55 657
Population	Thousands	38 067	41 584
Dependency ratio	%	64	20
Average worker earnings (AW)	CAD	53 550	53 883
	USD	41 327	41 584
Public pension spending	% of GDP	4,7	8,0
Life expectancy	at birth	82,2	80,7
	at age 65	20,7	19,7
Population over age 65	% of working- age population	29,8	31,2

Pension Spending evolution and projection to 2050 (OECD) *(% of GDP)*

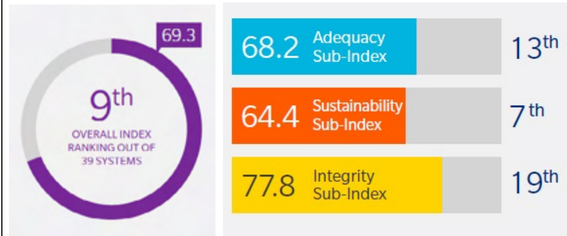


Replacement Rate Indicators

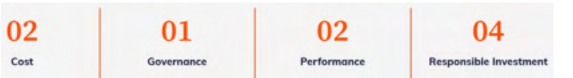
Men *Women (where different)*	Individual earnings, multiple of average 0.5	0.75	1	1.5	2	3
Gross relative pension level *(% average gross earnings)*	25.4	31.2	39.0	44.6	44.6	44.6
Net relative pension level *(% net average earnings)*	33.1	40.6	50.7	57.5	57.5	57.5
Gross replacement rate *(% individual gross earnings)*	50.9	41.6	39.0	29.8	22.3	14.9
Net replacement rate *(% individual net earnings)*	58.3	51.2	50.7	39.7	31.2	22.4
Gross pension wealth	9.6	7.8	7.3	5.6	4.2	2.8
(multiple of individual gross earnings)	*10.4*	*8.5*	*8.0*	*6.1*	*4.6*	*3.0*
Net pension wealth	10.9	9.6	9.5	7.4	5.9	4.2
(multiple of individual net earnings)	*11.9*	*10.4*	*10.3*	*8.1*	*6.4*	*4.6*



Mercer CFA Institute Global Pension Index



Global Pension Transparency Benchmark



The figure shows the rank for each of 4 key value-generation elements for the 5 largest pension fund organizations, relative to other 14 countries included in the benchmark.

Note: Data that is comparable across different countries is very difficult to find, as pension systems and definitions tend to differ significantly. We use data from multiple sources, which are as recent as possible. The basic economic data is provided by the OECD.

Pension reform in Canada

By Keith Ambachtsheer and Bernard Morency[19]

a. Introduction

In 2020, Canada's National Institute on Aging (NIA) published a policy paper titled "Improving Canada's Retirement Income System". I was a co-author of that paper and summarize its key findings and recommendations here.[20] I conclude with some thoughts on 'lessons learned' from efforts to improve Canada's RIS through time.

The logical place to start is with a sketch of Canada's RIS using the World Bank's 3-pillar taxonomy. For context, Canada is a G7 country with a population of 37 million. It has a federal government structure, with responsibilities for pension finance, policy, and regulation split between the national and provincial governments.

Pillar 1: has two parts: 1. a modest pay-go universal age pension (OAS) with a means-tested income supplement for low-income retirees (GIS), and 2. a modest partially-prefunded, compulsory, labor income-related pension (Canada/Quebec Pension Plans or CPP/QPP for short). Together, full OAS+CPP/QPP pensions today generate close to CAD$20K/yr., which is about a 1/3rd replacement rate on an average annual salary of CAD$60K.

Pillar 2: is voluntary, with public sector employees largely covered by defined benefit or Target Benefit Plans……with the employees of large private sector employers having largely been switched out of these types of plans, and into DC or Group Retirement Savings arrangements……and with the employees of many smaller employers left to fend for themselves in Pillar 3.

Pillar 3: given that offering a Pillar 2 arrangement in Canada is voluntary, its Pillar 3 component (based on individual tax-deferred retirement savings plans such as RRSPs, TFSAs, and RRIFs) is large, involving millions of accounts with an aggregate asset value in excess of CAD$1trillion.

So why and how can Canada's RIS be improved?

19 Keith Ambachtsheer is Director Emeritus of the International Centre for Pension Management (ICPM) and Senior Fellow at the National Institute on Aging. He is also Founder of KPA Advisory Services and Co-Founder of CEM Benchmarking Inc. Bernard Morency was Executive Vice-President, Depositors, Strategy and Chief Operations Officer at La Caisse de dépôt du Québec. Adjunct Professor at HEC Montréal where he collaborates with the Retirement and Savings Institute. He currently is a Senior Fellow of the Global Risk Institute and Senior Fellow at the C.D. Howe Institute.

20 Ambachtsheer and Nicin (2020), "Improving Canada's Retirement Income System", National Institute on Aging.

b. Three reasons why Canada's RIS needs improvement

Last year's NIA paper offered three reasons for improving Canada's RIS:

1. Demographic dynamics: the dual drivers of declining fertility rates and increasing longevity are changing the demographic makeup of Canada. Over the last 50 years, the average age of the population has increased from 30 to over 40.....and this upward trend will continue in the decades ahead.
2. Pillar 2 pension coverage has declined from 40% to 30% of the workforce over the last 40 years, with all of the decline occurring in the private sector workforce.
3. The relatively high investment returns on retirement savings in the post-World War II era are unlikely to continue in the decades ahead.

The paper noted that Canada's RIS received a 'B' ranking from the Mercer CFA Institute Global Pension Index. The MCGPI made three recommendations to raise Canada's RIS ranking to an 'A'.

The three MCGPI improvement recommendations for Canada follow logically from the three NIA problems set out above:

1. Increase Pillar 2 pension coverage in the private sector with new, innovative pension offerings.
2. Increase savings rates for middle-income workers.
3. Increase labor force participation by older workers.

Studies by Canadian researchers elaborated on Recommendation #1 by noting that Canada's large 'do-it-yourself' Pillar 3 pension sector is too complex and too expensive for most participants to navigate successfully.

c. Some improvements already occurring

The NIA paper notes that some of the suggested RIS improvements are already occurring. Six examples are:

1. OAS and CPP/QPP Benefit Increases: OAS is to be increased by 10%.....CPP/OAS target pension to increase from 25% of average earnings to 33%, with the increase to be prefunded and phased in slowly. Together, the OAS and CPP/QPP pension increases will slowly raise the target replacement rate from Pillar 1 pensions from 33% to 45% of the average wage.
2. New Pillar 2 Initiatives: two Canadian public sector pension plans with Target Benefit designs have been inviting private sector employers to close their own pension plans and shift their assets and liabilities to those of the public sector plan. These initiatives are meeting with some success. Another initiative by an

entrepreneurial pension management firm is to organize collective retirement savings arrangements for workers who currently don't have this option. This initiative too is meeting with some success.

3. Longevity Risk Pooling: yet another new Canadian initiative about to launch is a mutual fund with a longevity risk pooling mechanism. This offering will be relevant to both collective Pillar 2 arrangements without longevity risk pooling mechanisms and to individuals with retirement savings housed in a Pillar 3 arrangement who wish to ensure they do not outlive their money.
4. Canadians Working Longer: over 20% of Canadians aged 65 and up are still in the workforce today...the highest proportion ever. There are financial incentives to delay OAS and CPP/QAPP until age 71.
5. DB Plan Design Evolution: there has been a steady move in the public sector away from guaranteed DB plans to more flexible shared-risk Target Benefit (TB) plans. This move has been facilitated by regulators interested maintaining collective risk-sharing arrangements that are both fair and sustainable in the long term.
6. Organizational Evolution: there has also been a steady move towards more effective organization designs in the Canadian public sector pensions sector....now internationally acknowledged as the 'Canadian Pension Model'. The key features of the Model are scale, good governance, insourcing the investment function, and material engagement in private markets investing. Empirically, the Model has been shown to deliver more 'value for money' than the alternatives.[21]

While these initiatives are all promising, more remains to be done before Canada gets an 'A' grade from the MCGPI.

Specifically, the #1 remaining Canada RIS challenge can be reduced to the single statistic of 65%: the percentage of Canada's 20 million-strong workforce who are not yet members of a cost-effective Pillar 2 pension plan today. In this regard, Canada should be closely studying how the UK has been successfully addressing this challenge for some time now with its auto-enrolment requirement.

21 Ambachtsheer (2021), "The Canadian Pension Model: Past, Present, and Future", *Journal of Portfolio Management*.

d. Lessons learned

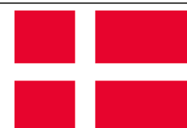
Four lessons from Canadian RIS design challenges and the responses to them come to mind:

1. Strong, knowledgeable leadership is a key success ingredient in reforming retirement income systems. I have two personal stories here. Story #1 started with the Treasurer of Ontario Robert Nixon deciding in 1986 that public sector pensions in the Province needed to be modernized. He struck a Task Force to study the problem and make recommendations (I was principal adviser to the Task Force Chair). A year later the Task Force produced a report titled "In Whose Interest?", which was thoroughly discussed and debated by all relevant stakeholder groups in the Province. Importantly, the President of the Ontario Teachers' Federation (OTF) Margaret Wilson stepped forward and declared that OTF wanted to partner with the Province and create a new Ontario Teachers' Pension Plan (OTPP), based on the report's recommendations. And so what many consider to be the best Pillar 2 pension plan in the world today was born in 1990. Story #2 started in the early 1990s with studies showing that the contribution rates of the pay-go Canada Pension Plan and the parallel Quebec Pension Plan were going to rise indefinitely without quickly doubling the contribution rate and creating a large reserve fund. In a federal system like Canada's, this requires having to reach consensus between the federal government and 10 provincial governments. With this reality in mind, a Fed-Prov Working Group was created to address the problem. Its two key recommendations were to 1. Double the CPP/QPP contribution rates, and 2. Create an arms-length Investment Board to manage the resulting CPP financial reserves. Against considerable odds, federal Finance Minister Paul Martin persuaded his provincial counterparts to go along with both recommendations. Twenty years later (2016), due to a high national trust level in the CPP, federal Finance Minister Bill Morneau was able to achieve agreement to materially expand CPP/QPP benefits and contributions over the coming decades. CPPIB assets will exceed CAD$1T within a decade. Reaching these agreements was no easy task.....especially in a federal system requiring high degrees of consensus between the federal and provincial governments before any changes can be made.
2. Implementable recommendations are essential. Both the Ontario "In Whose Interest?" recommendations in the 1980s and the federal "Fixing the CPP Future" recommendations in the 1990s and again in the 2010s were assessed not just by theoretical/logical validity standards, but also by practical implementability standards (e.g., Who are the key players? What are their interests and are they being

met? Are the decisions explainable to a broad lay audience? Are they technically feasible?).

3. Innovation and thought-leadership can come from different places. It was the CEOs of the two public sector TB plans who thought of offering to take over DB/TB plans from private sector employers. It was private sector entrepreneurs who thought of creating and implementing collective Pillar 2 pension arrangements were none existed, and of creating longevity risk pooling arrangements were none existed. It was the OTPP Board of Directors who persuaded the Ontario government, the Ontario Teachers' Federation, and the pension regulator to move the OTPP pension contract to a more flexible Target Benefit formula. It was OTPP's inaugural management team that first implemented the Canadian pension model from Peter Drucker management principles.
4. Well-thought-out Incentives and Nudges work. A good example is the fading away of the historical 'age 65 and out' rule. As already noted, a good example from the UK was the legal requirement for employers not already offering a qualifying Pillar 2 pension plan to their employees to auto-enroll them in one. Employees can opt out if they wish. Providing people with the right mix of choices and defaults makes everyone better off.

5. Denmark



Pension System in 2020

The Danish pension system can be divided into three tiers: Tier 1 consists of a means-tested public old-age pension and ATP – a mandatory pension scheme; Tier 2 consists of collectively negotiated occupation pensions; and Tier 3 is voluntary savings.

- Tier 1: The old-age pension consists of a base pension and a means-tested pension supplement roughly doubling the base pension for the financially most disadvantaged pensioners; both are funded from general revenue. The public pension cannot be claimed early, but it can be deferred for up to 10 years after the normal retirement age. The retirement age is currently 65 but will increase to 68 by 2031 and – following political negotiations – will most likely increase further. ATP (the Labor Market Supplementary Pension Fund) is a mandatory pension scheme funded 2/3 by employers and 1/3 by employees. Contributions are linked to work time, i.e., if a person works is less than full-time, the contribution is reduced accordingly. Together Tier 1 delivers more than half of total pension income.
- Tier 2: Occupational pensions in Denmark are relatively large compared to other countries. Occupational pensions are almost exclusively DC and increasingly in the form of individual accounts. Pension contracts are negotiated as part of collective agreements or similar and cover about 90% of the employed workforce. The contribution rate is typically 15% but varies in a range between 12% to 18%. Pension funds are in most cases linked either directly to unions or to specific industries, but commercial providers also exist. They are either fully or co-owned by members and profitability is tightly regulated in favor of members.
- Tier 3: Voluntary (individual) pension savings are very small in Denmark compared to Tier 1 and 2. They are provided by banks or commercial asset managers almost exclusively, but some insurance products also exist.

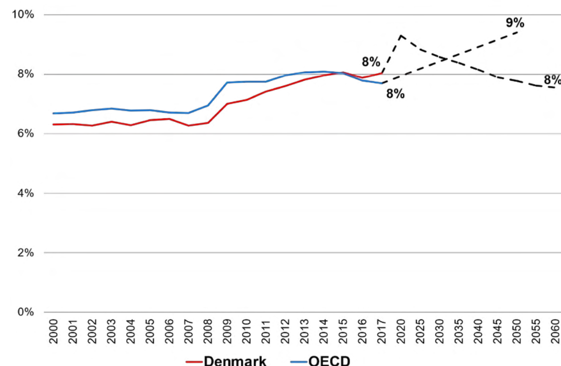
Aside Tier 1 there exists a public early retirement option (‘efterløn’) for workers meeting strict criteria for (long) labor market participation, but access is becoming more restrictive.
Total pension assets was about Dkr1.9trn (US$292bn) at end-2019 – or more than 83% of GDP.
The Mercer Index ranks Denmark number 2nd out of a sample of 39 pension systems in the 2020 report. According to the analysis, the overall index value could be increased by: (i) Raising the level of household saving and reducing household debt; (ii) Providing greater transparency of pension plans through annual public reports, and (iii) introducing arrangements to protect all the pension interests of both parties in a divorce.
The Global Pension Transparency Benchmark (GPTB) provides a rank based on 4 key value-generation elements for the 5 largest pension fund organizations in each of 15 countries included in the first edition. The elements are Governance and Organization, Performance, Costs, and Responsible Investing. Denmark ranked 5th globally. The results by category show some dispersion, with Denmark raking very well in responsible investing, and less well in performance. The high ranking in responsible investing is since corporate responsibility and ESG figures are front-and-center or only a click away on many of the websites. Performance and cost disclosures were somewhat lacking compared to global peers. More information on the rank of each category in the next page.

The Danish pension system: key statistics

Key indicators

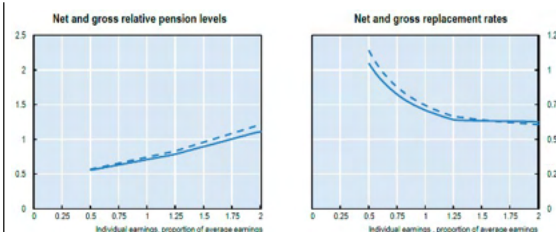
		Denmark	OECD
GDP per capita	USD	59 135	55 657
Population	Thousands	5 819	41 584
Dependency ratio	%	30	20
Average worker earnings (AW)	DKK	421 547	262 590
	USD	66 757	41 584
Public pension spending	% of GDP	8,1	8,0
Life expectancy	at birth	80,7	80,7
	at age 65	19,2	19,7
Population over age 65	% of working- age population	34,9	31,2

Pension Spending evolution and projection to 2050 (OECD) *(% of GDP)*

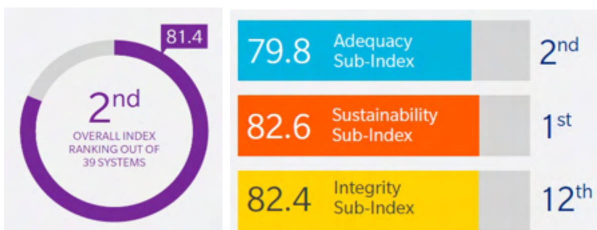


Replacement Rate Indicators

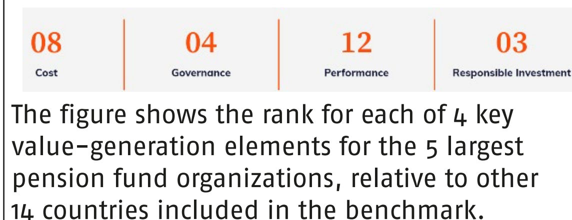
Men *Women (where different)*	Individual earnings, multiple of average 0.5	0.75	1	1.5	2	3
Gross relative pension level	56.9	65.6	74.4	96.0	121.3	172.0
(% average gross earnings)						
Net relative pension level	55.6	63.2	70.9	89.6	111.0	144.8
(% net average earnings)						
Gross replacement rate	113.8	87.5	74.4	64.0	60.7	57.3
(% individual gross earnings)						
Net replacement rate	104.5	82.3	70.9	63.3	62.5	57.9
(% individual net earnings)						
Gross pension wealth	15.7	12.0	10.1	8.6	8.1	7.7
(multiple of individual gross earnings)	*17.2*	*13.1*	*11.1*	*9.4*	*8.9*	*8.4*
Net pension wealth	14.4	11.3	9.6	8.5	8.4	7.8
(multiple of individual net earnings)	*15.8*	*12.3*	*10.5*	*9.3*	*9.2*	*8.5*



Mercer CFA Institute Global Pension Index



Global Pension Transparency Benchmark



The figure shows the rank for each of 4 key value-generation elements for the 5 largest pension fund organizations, relative to other 14 countries included in the benchmark.

Note: Data that is comparable across different countries is very difficult to find, as pension systems and definitions tend to differ significantly. We use data from multiple sources, which are as recent as possible. The basic economic data is provided by the OECD.

Labor market pensions in Denmark—Two decades of transformation

By Michael Preisel[22]

a. Introduction

The Danish pension system has undergone significant transformation the past two decades. The key word to understand these changes is 'transformation' rather than 'reform'. For labor market pensions, the pension contract is negotiated between employers and unions at *industry* level, sometimes even at the company level: Contrary to Holland, the pension contract is not negotiated centrally for the entire labor market and changes to the terms must therefore be negotiated pension plan by pension plan.

Inspired by each other, pension funds have at their individual initiative adapted existing—and developed new—pension products in response to changes in regulation but also to increased competition and changes in the labor market.

Since the Millennium, three distinct waves can be identified transforming the Danish pension system:

First Wave	Introduction of Market Valuation of liabilities[23];
Second Wave	Voluntary shift from guaranteed to conditional annuities;
Third Wave	Move from (collective) average return to (individual) market return.

Each wave is concentrated in relatively short periods of time over which the majority of pension plans were revised in a decentralized process driven by material change to their operating conditions.

b. Background

Up until the end of the 1990's, the typical Danish pension contract was a with-profits contract negotiated industry by industry between employers and unions, respectively. The pension contribution is mandatory and (still is) collectively negotiated as part of labor agreement between employers and employees.

The pension contract was a nominal whole-life annuity, i.e., a life-long certain minimal income stream in retirement. The contract was guaranteed up front for current but also for future contributions, hence, all parameters of the contract were determined when the individual entered the labor market. Parameters therefore were deliberately set to what was perceived to be very conservative so the contract (from the point of the pension fund) would expectedly generate a profit.

22 Preisel Research (previously UN Pension Fund and ATP) – *michael@preisel-research.com*.

23 Following introduction of Market Valuation of assets in the late 90's

The profit would by law belong to the collective of members of each particular pension plan and should be returned to the collective in the form of an indexation of the guaranteed benefits, hence the term ‘with-profits’. The decision if—and how much—to index pensions is entirely at the discretion of the pension fund although within certain regulatory requirements (the so-called *contribution principle*) to ensure that profits are distributed “reasonably” both within the member collective as well as between member’s and owner’s capital. Over time, individual members would receive an averaged investment return, and the contract is therefore still referred to as the ‘average return environment’ within the Danish pension sector.

Similar to the current Dutch pension contract, pension accrual was computed from a technical rate determining how much benefit would be earned per contributed krone except that in the Danish contract, the benefit was age dependent. The technical rate also served as the discount rate for computing the pension liability providing full symmetry between contributions, pension accrual, and liabilities.

In summary, there are many similarities between the (former) Danish DC pension contract and the current Dutch *Defined Ambition* pension contract:

- The nominal pension is (implicitly) guaranteed by the fund;
- Indexation is conditional on funded status;
- Investment and mortality risks are shared within the member collective;

The main difference between the Dutch and the Danish system is pension accrual, which in the Danish system is dependent on age, hence, absent the ‘Doorsnee’ (level premium) principle.

c. First wave—The move to market value

Following changes in regulation of banks and mortgage institutions—as well as technical advances in mathematical finance—the (then) new principle of market value was applied to Danish pension funds. First stocks—and later bonds—moved to market value during the 90’es and in 2001, market value was eventually introduced for pension liabilities too.

With this new principle, guaranteed benefit cashflows were now considered to be ‘fixed-income like’, and liabilities were to be computed as the present value of these cashflows. The discount rate was published daily by the Danish Financial Supervisory Authority (DFSA) in the form of a term structure derived from bond prices.

At the time of the transition to market value, bond rates were still significantly higher than the average technical rates in the industry and many pension funds experienced an increase in funding levels upon switching to the new discount

curve—to some a welcome cushion following the collapse in stock prices during the Dot Com crisis. Subsequent to the switch to market value, liability duration-risk was widely hedged throughout the industry strongly encouraged by the DFSA that introduced a 'Red Light' system highlighting unhedged interest rate risks. Hence, contrary to the Dutch transition to market value years later, the Danish pension sector benefitted materially from the following year's steady decline in interest rates.

d. Second wave – Response to Solvency II

Contrary to most other members of the European Union, Denmark decided early that also Danish labor market pension funds would be subjected to Solvency II. Following the successful transition to market value, Danish pension funds generally held strong balance sheets and when Danish pension funds participated in the preparatory *Quantitative Impact Study 5* (QIS5) in 2010-11, the DFSA could conclude that Danish pension funds "virtually are ready" for Solvency II.

It is one thing, though, to hold the necessary capital to comply with Solvency II yet another thing, if such compliance provides an adequate pension outcome for members. Longevity risk was a central component in the coming Solvency Capital Requirement (SCR) and—given the guaranteed nature of the Danish pension contract—a potential burden on Danish pension fund's capital structure.

Danish pension funds were already well ahead in managing and reserving for longevity risk. This was partially inspired by a "longevity benchmark" also introduced by the DFSA in 2010 to test longevity resilience, but when the prescription for calculating the capital requirement under Solvency II was published, there was no reduction for these initiatives. On the contrary, Solvency II imposed higher capital requirements on funds that had already reserved for longevity than those that did not. Furthermore, holding significant allocations to, say, stocks or other risky assets, required even more capital.

As already stated, the Danish pension contract is negotiated individually. Changing the contract was therefore not a question of central negotiations or grand 'reform' but instead a matter of individual decision industry by industry, pension plan by pension plan.

The response almost universally adopted by Danish labor market pension funds to Solvency II was to change the pension contract from being 'guaranteed' to become 'provisional.' Simply put, all computational elements of the pension contract remained, but the distributional parameters (technical rate & mortality) were no longer immutable but subject to change *at the discretion of the pension fund*. In principle, nothing was changed: If investment returns and longevity materialized

within assumptions, benefits would still be delivered as expected ... but the Solvency II capital requirement (almost) disappeared since the guarantee was no longer manifest.

The big question was: Who can make the decision? From the outset it was clear that individual pension contracts (Tier 3) were subjected to contract law, hence, they could not be altered without individual consent by—and possible compensation of—the customer.

Individual contracts are rare whereas the main bulk are collectively negotiated (Tier 2). A small group of pension funds renegotiated the pension contract directly with the respective unions and made the guarantee conditional on behalf of the collective of members. The legality if such a "third party" could renegotiate the pension contract on behalf of members, potentially weakening their protection in the process, was widely discussed. Eventually it boiled down to two questions:

1. Did the contract explicitly state that it could be changed (or rather, did the contract *not* explicitly state that it could *not* be changed);
2. Were members, through marketing material, member communication and the like, *made to believe* the contract was guaranteed, hence, immutable. In particular, to what extent the technical rate was marketed as a return guarantee.

A few funds followed through along this path, but most funds—maybe influenced by the at times high-pitched public debate and media interest—chose instead to ask members individually to voluntarily opt out of the guarantee. Subsequent to member's choices, the funds would split members in two groups to continue the current investment strategy for the (new) group of now conditional contracts whereas the 'old' group of (still) guaranteed contracts would be hedged and then essentially left to run off. New members would only be offered the conditional product.

In preparation of the decision, pension funds launched information campaigns to their members on the pros and cons of staying with the guarantee or to opt out. Following a series of complaints, the information material produced by some of the first pension funds made the DFSA step in. General Good provisions obligated pension funds (any financial intermediary) to provide objective and balanced information to clients to ensure that they make financial choices in their best self-interest.

The DFSA found that the material provided to members by some first-mover pension funds was not sufficiently balanced which eventually sparked a set of relatively detailed rules as to how the information material should be presented. This included rules to ensure that, visually, pros and cons would be displayed to members at the same time when browsing through printed material or on the web.

As new and modified campaigns were rolled out, it was clear that members by and large accepted the arguments for voluntarily opting out of the guarantees and opt-out rates were generally high. Over the next short period of years, the Danish pension sector transformed away from highly regulated, guaranteed annuities to conditional annuities posing little capital strain on pension funds—although in many ways, nothing had really changed.

It is important to stress that the pension contract remained *collective*. Members would still pool and share investment and longevity risks but the *distributive parameters* (technical rate and mortality table) could be changed. To limit wealth transfer between member segments, they had already in the transition to market value been divided into so-called *contribution groups*, that is—within the collective—members with the same technical rate were grouped together to only share risks among themselves.

e. Third wave—Market Rate Products (Today)

The move away from guarantees highlighted the role of investments to the pension outcome and sparked a wave of innovation in the Danish pension sector. The Danish labor market is very dynamic, and workers display significant mobility. If for nothing else, the system had become very complex, and some workers were building up pension pots over several contribution groups both across and within pension funds. To address these challenges, a simpler model providing transparent and simple transfer of pensions between providers was called for.

Many pension funds therefore moved on to offer what is known as ‘market rate’ products. *Market rate* moves the investment return out of the *average return environment* provided by the (now) conditional with-profits contract and instead collects all individual benefits from the contribution groups into *one* individual account per member. Here, members are offered various investment options to choose from: Most often, the pension fund will offer 3-5 investment profiles, each with a different risk level, and younger members is advised to select more aggressive options whereas older members less risky profiles. In some cases, members can actively manage their portfolio themselves although within certain limits. The investment outcome of the portfolio—negative or positive—is attributed directly to the account, hence the term *market* rate.

A typical structure is to divide the decumulation phase into two periods: The First Period is usually 20-30 years followed by a Second Period lasting until death.

In the First Period the contract is pure individual DC with no collective elements: The account is paid out in predefined, monthly installments adjusted for intermittent

investment return providing an increasing benefit during retirement on average. In case of death, the remaining account is paid to the estate.

The Second Period is structured as a whole-life annuity; hence, the retiree is ensured a life-long income stream. The annuity is conditional, i.e., *not* guaranteed, and mortality risk is shared collectively within the pension fund. The annuity can be variable, i.e., the member has individual investment options, or nominal, i.e., investment risk is shared with the collective as well. There is no bequest. Danish tax law requires that, in order to obtain full tax exemption for pension contributions, at least 10% of the value of the contract is life insurance and is eventually what determines the duration of the First Period[24].

In most cases, annuity accounts were converted into market rate accounts by their technical value, in essence, the present value of the expected cashflow discounted by the technical rate plus a proportional share of any further surplus held collectively by that particular contribution-group. For conditional annuities, this is the only value associated with the annuity, and hence conversion was straightforward.

For guaranteed annuities, the market value, i.e., the expected cashflow discounted by market rates, in some cases exceeded the technical value. The guarantee was already hedged (the fund was fully funded) but as the annuity contract was still within its original parameters and the hedge was a temporary measure to meet intermittent regulatory requirements, who should receive the surplus?

After prolonged discussions, it was decided that the account holder was entitled to the larger of the two, hence, the annuities were converted at their market value if higher than the original technical value; the surplus to the member is known as the *opt-out bonus*.

24 This is an example of a broader policy strategy to disincentivize early retirement: Tax-deductibility of pension products with front-loaded payout properties (for example lump sum payments) is reduced—or removed—to favor pension products with life-long payment streams. Here payments are spread over a longer time-horizon and, therefore, lessen the incentive to retire early.

6. Sweden

Pension System in 2020

The Swedish pension system consists of three tiers: a national public pension from the state, an occupational pension, and individual savings. Sweden's first-tier public pension system is unique in that it is partly funded and partly pay-as-you-go (PAYG). The PAYG component is financed by employee and employer contributions of 16% of earnings. Contributions are mandatory and are noted in individual notional accounts. An additional 2.5% of earnings are paid into a funded government-sponsored, DC "premium pension" (PPM). Reserves backing the income pension are divided evenly between four state-run buffer funds, AP1, AP2, AP3, and AP4. Under the government sponsored DC system members hold individual account and can choose between a wide range of different mutual funds. The default fund is state-run fund, AP Fund 7.

In addition to public pensions, permanent employees secure second-pillar occupational pensions through collective bargaining agreements. There are four main pension collective agreements: SAF-LO, for privately employed white-collar workers; ITP, for privately employed blue-collar workers; KAP-KL/AKAP-KL, for local government employees; and PA 16, for Swedish civil servants. Other employers offer voluntary plans. These may be DB or DC schemes. There are also special programs for the self-employed.

According to the OECD, pension funds in Sweden held assets equivalent to 107.7% of GDP. The Mercer Index ranks Sweden number 6th out of a sample of 39 pension systems in the 2020 report. According to the analysis, the overall index value could be increased by: (i) further increasing the state pension age to reflect increasing life expectancy better, (ii) ensuring that all employees can make contributions into employer-sponsored plans, (iii) reintroducing tax incentives for individual contributions, and (iv) introducing arrangements to protect all the pension interests of both parties in a divorce.

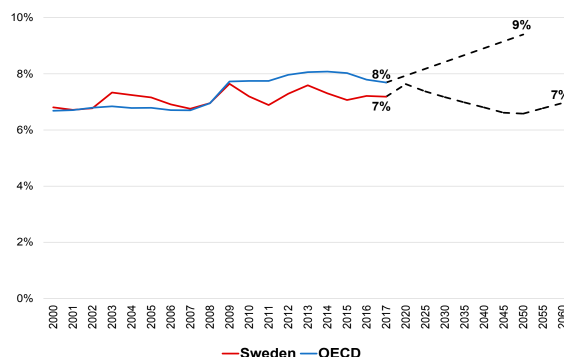
The Global Pension Transparency Benchmark (GPTB) provides a rank based on 4 key value-generation elements for the 5 largest pension fund organizations in each of 15 countries included in the first edition. The elements are Governance and Organization, Performance, Costs, and Responsible Investing. Sweden ranked 3rd globally. The results show balance within categories, with Sweden was one of only two countries to score in the top 5 on all four factors. Swedish pension funds have well organized websites and reports that effectively communicate material in a clear and concise manner. Sweden ranked 1st globally on Responsible investing. More information on the rank of each category in the next page.

The Swedish pension system: key statistics

Key indicators

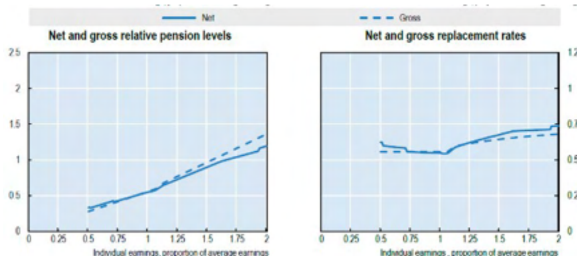
		Sweden	OECD
GDP per capita	USD	53 203	55 657
Population	Thousands	10 230	41 584
Dependency ratio	%	40	20
Average worker earnings (AW)	SEK	453 539	361 473
	USD	52 176	41 584
Public pension spending	% of GDP	7,2	8,0
Life expectancy	at birth	82,6	80,7
	at age 65	20,4	19,7
Population over age 65	% of working- age population	35,9	31,2

Pension Spending evolution and projection to 2050 (OECD) *(% of GDP)*

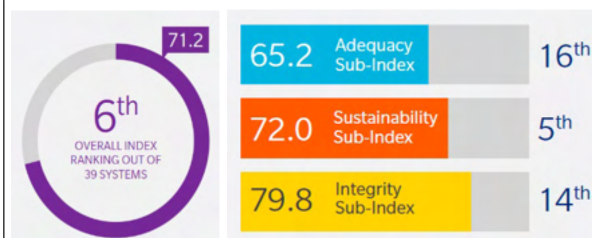


Replacement Rate Indicators

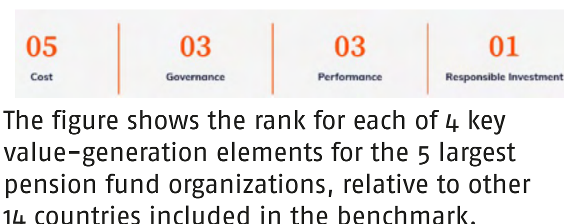
Men *Women (where different)*	Individual earnings, multiple of average					
	0.5	0.75	1	1.5	2	3
Gross relative pension level	27.9	41.8	55.8	96.7	136.2	215.1
(% average gross earnings)						
Net relative pension level	33.2	42.9	54.9	90.0	119.4	165.8
(% net average earnings)						
Gross replacement rate	55.8	55.8	55.8	64.5	68.1	71.7
(% individual gross earnings)						
Net replacement rate	62.4	55.7	54.9	67.6	73.9	75.9
(% individual net earnings)						
Gross pension wealth	10.4	10.4	10.4	12.2	12.9	13.7
(multiple of individual gross earnings)	*11.1*	*11.1*	*11.1*	*13.0*	*13.8*	*14.6*
Net pension wealth	11.7	10.4	10.3	12.8	14.0	14.5
(multiple of individual net earnings)	*12.4*	*11.1*	*10.9*	*13.6*	*15.0*	*15.4*



Mercer CFA Institute Global Pension Index



Global Pension Transparency Benchmark



The figure shows the rank for each of 4 key value-generation elements for the 5 largest pension fund organizations, relative to other 14 countries included in the benchmark.

Note: Data that is comparable across different countries is very difficult to find, as pension systems and definitions tend to differ significantly. We use data from multiple sources, which are as recent as possible. The basic economic data is provided by the OECD.

Workplace pension transition in Sweden: from DB to DC

By Marcus Karlsson and Stefan Lundbergh[25]

a. Introduction

Bill Sharpe described the transformation of pension savings into a life-long income stream as "the nastiest, hardest problem in finance". And that was even before considering the practical challenges of complicated agency issues and market imperfections. Historically, defined benefit schemes provided workers with a complete contract solving the "nastiest" problem for them, but this contract became too expensive and risky for employers.

In every country, workplace pension reforms are path dependent and bounded by what is, at the time, politically possible. It is easy to assume that pension reforms are based on rational thinking, but in reality reforms are heavily influenced by political ideology and stakeholder pressure. To make it even more complex, our societies are continuously evolving which makes it impossible to find a long-term solution that will remain 'optimal' over time. But some factors in the pension policy discussions seem to be universally applicable, for example that most individuals are disinterested in (quasi-) mandatory workplace pensions.

Sweden and the Netherlands have a lot in common, both countries are small open economies and from a cultural perspective the two countries are surprisingly similar. Some even refer to the Netherlands as a misplaced Scandinavian country. The labor markets are guided by collective agreements and the social partners (employer organizations and labor unions) are heavily involved in the implementation of workplace pensions. In Sweden, the transition from defined benefit pension to defined contribution began in the 1990s and there are some useful lessons to be learned from the Swedish transition, especially from the dynamics in the workplace pension market that slowly emerged after the transition to DC.

b. A brief summary of the Swedish pension journey

The state pension was introduced in 1913 and, around that time, workplace pension schemes were introduced for white-collar workers in the private sector. The first funded workplace pensions solutions were supported by the industrialists, to make it easier to move key white-collar workers between different companies in their

25 Marcus Karlsson is Founding Partner of the Third Act and Board member of the Swedish Pension Agency. Stefan Lundbergh is Director of Cardano Insights and former board member of AP4 pension fund.

conglomerates. Alecta (then named SPP) was founded in 1917 as the pension fund for white-collar workers in the private sector.

In the 1950s, there was an extensive political debate on how to provide workplace pensions for all workers. The chosen solution was a mandatory national DB scheme known as ATP (which freely translated stands for General Supplementary Pension). It was implemented in 1960 and replaced the previous state pension. The new state pension (ATP) was largely an unfunded DB scheme financed through a mandatory payroll tax. In addition to the new state pension, the social partners agreed on complementary DB pension solutions. In the late 60s, workplace pensions for all workers became part of the collective agreements. Each of the four dominant collective agreements, covering both private and public sector, had its own dedicated pension provider. As a result, there are hardly any company specific pension funds in Sweden.

In the 90s it became apparent that the Swedish DB pensions were not financially sustainable, prompting widespread reform of both the state pension (ATP) and the private workplace pension. The state pension system was replaced with a combination of the Income pension, a PAYG system with a buffer (Notional DC), and the Premium pension (individual DC), both providing a life-long retirement income. Within the collective agreements, the DB workplace pensions were replaced by both collective and individual DC solutions for new contributions.

An interesting observation that is relevant for the Dutch market, is that the different collective DC providers had a gentleman's agreement that pensions in payment would not be reduced. The collective DC providers decided to abandon this agreement and reduced pensions in payment for the first time in mid-2000. The pension cut was motivated by the intergenerational redistribution effects within the collective. When one of the larger collective DC providers implemented their first cut in pension in 2004, there were limited reactions. Some special interest organizations, representing the retired, were vocal in media, but there were surprisingly few reactions from the members.

The transition from DB to DC in workplace pensions

From the 1970s, DB pensions were implemented by a mandatory provider in each of the collective agreements. The providers 'only' promised a nominal guarantee with conditional inflation adjustment based on the provider's funding ratio. The mismatch between the actual DB promise and the conditional inflation indexation was borne by the employers and it could be both positive and negative.

In the transition, there were no retroactive changes of past pension rights. New contributions ended up in a collective DC pension product with a similar guaranteed

nominal floor. But the system with indexation was replaced with a bonus rate mechanism which can be both positive and negative. The bonus rate reflects the actual return of the underlying assets and is distributed to members with the bonus rate. Some providers also use a three year smoothing window to reduce the volatility of the bonus rate. The strengths and weaknesses of the Swedish collectively insured DC product is discussed in detail in Bovenberg, Cox and Lundbergh (2015).
Since both DB and DC contracts were based on the same accounting methodology, they were implemented side by side in the same legal vehicle. Using the same administrative processes and investment engine provided economies of scale for collective DC in the early days. The legally binding nominal guarantees were set at four percent at a time when the market rates were double digit, so the nominal guarantee did not impose a practical constraint from a solvency perspective. To deal with falling interest rates, the nominal guarantees for new contributions have been gradually reduced.

Since the guaranteed nominal floor in both DB and collective DC contracts are backed by the same legal entity, it is not clear what the consequences would be if the DB contract becomes insolvent. In such an event, collective DC members might be forced to 'bail-out' DB members. Although the employers own the mismatched risk between the actual DB promise and the conditional indexation, it might be problematic in practice since many employers of the past no longer exist.

The lesson from the Swedish transition is that when the old pension rights are not retroactively changed, it quickly becomes complicated to combine the old and the new rights in one legal entity. The strength of the Dutch pension reform is that it retroactively changes the pension rights for all members and that it changes the accounting framework from DB to DC. These two changes make the Dutch pension system fairer across the different generations in the collective, especially when we don't know which challenges the future hold for us.

Disinterested members

With the transition from DB to DC all financial risks were transferred from the employer to the member. The members had to fully bear the financial consequences of the trade-off between risk, expected return and costs. At the point of the transition, in the late 90s, there was a strong belief in Sweden that the members would engage with their DC pensions and actively make these trade-offs.

In practice, most members turned out to be not particularly engaged with their workplace pension savings. This is not unique for Sweden and there are several academic studies analyzing member choices in workplace pensions across the world.

Unfortunately, there is no aggregated data available for the choices that individuals have made within the Swedish workplace pensions. The data is held by each workplace pension provider and it is not publicly available. But for the state pension, the Swedish Pension Agency has collected data on the choices that each individual has made since the inception of the premium pension in 2000. This data set is unique since it covers the whole working population over two decades. International researchers were commissioned to look at this data as part of a pilot study of the Swedish premium pension in 2017.

Bruggen, Böhnke and Post (2019) conducted a survey covering the Swedish workforce. One of their key findings was that Swedes, in general, are financially literate and know what is important when selecting a mutual investment fund. Fees ranked as most important, just ahead of expected return and financial risk while the provider of the investment funds was ranked as least important. But, when asked about their own premium pension account, more than 50% of those who had made investment choices, did not know if they owned an index fund or not. On the other hand, most of them knew the name of their fund provider(s). This illustrates that just because we know what to do, it does not mean that we act accordingly.

Cronqvist, Thaler and Yu (2018) provides insight into the extreme inertia among savers in the premium pension. One example is the introduction of financial leverage in 2010 in the default choice (managed by AP7). The default fund increased its equity exposure from 100% to 150% using leverage (total return swaps). Assuming that the savers in the default fund were satisfied with 100% equity exposure, it would be fair to expect that a significant number of them would change away from the default as a response to the introduction of leverage. Data showed that the monthly number of sellers of the default fund, at the time of the change in equity exposure, was 300 per million savers. In other words, there was no appreciable change in the number of people opting out of the default as a result of a significant change in its risk profile.

The findings in these two research papers are not that different from what has been observed in other countries and illustrate that we cannot rely only on member engagement in the design and implementation of DC pensions.

c. The ecosystem of the Swedish workplace pensions

The workplace pension in Sweden is fiscally treated as Exempt-Taxed-Taxed (ETT), which means that contributions are exempt, but the return on investment and withdrawals are taxed.

For the state pension (income pension and premium pension) in the first pillar, the individual will earn state pension rights up to an annual salary of €50,400 (in

2020). The individual will get no additional state pension rights for the annual salary that is above this threshold, while the payroll tax is based on the employee's total annual salary.

For workplace pensions in the second pillar, the upper boundary for the tax-exempt workplace pension contribution is set to 35% of gross annual salary. This, in combination with a high marginal income tax, has made salary sacrifice popular among high income earners.

For private pension savings in the third pillar, the tax exemption has been lowered in steps. Since 2016, there is no tax exemption for private pension savings. The only exceptions are for self-employed individuals and employees that are not offered a workplace pension. These individuals can buy a tax-exempt third pillar pension solution in the retail market.

The pension payments from the state pension are life-long, but for the workplace pension the Swedish tax system requires a minimum 5 years drawdown period. This is a big contrast compared to the Dutch system where the workplace pension has to be life-long and includes mandatory pooling of longevity risk. For the workplace pensions, there are no national statistics on the choices that individuals have made for their retirement. Based on our industry experience, we approximate that one-third are choosing for a life-long income (pooling of the individual longevity risk). The majority choose an individual fixed-term drawdown over a 5 to 20 years period. If the member dies before the fixed term ends, the remaining payments will go to the estate.

Institutional market structure

In Sweden, workplace pensions are quasi-mandatory, which is not that different from the Dutch situation. This means that the workplace pension for an individual is a patchwork of their employment history.

The workplace pension within the collective agreements is implemented in two tiers. In the first tier, which covers an annual salary up to €50,400 (in 2020) and each of the four large collective agreements has a collective DC (historically DB) as the default solution. For the part of the annual salary that is above that level, there are separate individual DC agreements with higher contributions to compensate for the cap in the state pension rights. Since the 90s, the second tier have typically been collective or individual DC which were procured in the market by employers.
From 2007 the social partners decided to open up the first tier of the workplace pension for competition. To implement this, each collective agreement installed a pension hub ('valcentral') which was tasked with collecting the pension contributions,

administering the choice architecture and transferring the pension contribution to the different pension providers. Via the pension hub, employees can choose between individual and collective DC as well as different providers. Employees who do not make an active choice will enter the default provider (i.e., the previously mandatory provider).

Depending on the collective agreement, about two-thirds[26] of the members remain with the default choice. From an international perspective, it seems surprising that one-third of the employees are making a choice. This high degree of activity is to a large extent driven by retail banks which offer discounts on mortgages, if customers move their workplace pension savings to the bank's individual DC solution. The AMF (2020) report, produced by the default provider for blue-collar workers in the private sector, reveals that 40% of their members who had chosen to transfer their pension to another provider were not aware that they had transferred their workplace pension.

Employers not covered by the collective agreements, typically provide their employees with the same level of pension contributions as in the collective agreements. These employers need to procure a pension solution in the market, or they have, for historical reasons, their own pension scheme. There are also some employers who do not provide workplace pensions for their employees. In that case, the employee is in a similar situation as a self-employed person and can buy their own tax-exempt pension solution in the retail market.

There are advisory firms helping employers to deal with the procurement of pension solutions, but since there is no effective ban on commissions in Sweden the advice given is often not impartial. Some of the largest adviser firms also distribute their own investment funds via the DC platforms that they advise companies on. This clearly influences their advice, resulting in some employees having workplace DC plans with very high annual fees. There are examples where advised employees end up paying 2.6% per year in asset management fees. These advisers top the annual list of the worst pension savings products, in terms of value for money, published by Småspararguiden[27].

The pension ecosystem requires a strong legislator

A well-functioning competitive retail market is an excellent tool for price discovery, but this requires that both buyers and sellers are equally informed and engaged. When consumers are not acting as informed buyers, some form of public intervention

26 *https://collectum.se/om-oss/press-och-statistik/val--och-flyttstatistik*

27 *https://www.smaspararguiden.se/blogg/topp-fem-skitprodukterna-pa-finansmarknaden-2020/*

is necessary to restore market efficiency and to protect the consumers. This requires a strong legislator (and regulator) that actively intervenes against collusion, monopolies and mis-selling practices. The Swedish financial sector is influential and close to politics, which has not benefited end-consumers. This became apparent in two recent pension reforms where the intention was to protect the consumers.

During the last decade, there have been several legislative attempts to ban commissions. After extensive stakeholder pressure, Sweden did not introduce an effective ban on commissions, instead the legislation that was finally passed in 2017 only banned up-front commissions. The supervisor of the financial markets (Finansinspektionen) published a report in 2019, revealing that the vast majority of financial advisers are either sales branches (banks and insurance companies) or highly dependent on commissions.

Transfer rights were introduced in 2007 on all new pension contracts, but the rules did not limit the administrative charges on a transfer. Some pension providers included their sales commissions, which had been paid up front but not yet recovered, as an administrative charge. New legislation on transfer rights is expected to be introduced in 2021, despite strong opposition from parts of the industry. This will grant transfer rights retroactively for all individual DC contracts as well as restrictions on administrative charges.

Sweden offers a rich experience of both challenges and opportunities that need to be addressed when workplace pensions are opening up for competition. Although approximately 80% of the workforce in the Netherlands is covered by mandatory participation ('grote verplichtstelling') in industry-wide pension agreements, there is a competitive market for the rest of the workforce as well as the self-employed. The main lesson from Sweden highlights the importance of having a strong legislator that is looking after members' best interests and not giving in to lobbying from different stakeholder groups.

Transparency

Although most individuals are not particularly interested in their workplace pension, a minority are interested and want to engage with their pension savings. In Sweden, an individual can choose their workplace pension provider within the collective agreement and therefore it is important to be able to compare different alternatives. Since there is no effective ban on commissions in Sweden, seeking 'independent' financial advice may not result in the most cost-efficient solution for the member. There are heartbreaking stories of financial advisers who have recommended

individuals withdraw their pension savings from low-cost providers, over the statutory minimum five years, and invest in structured products with opaque fee structures.

The average person retiring today, in Sweden, is expected to have 8 to 10 pension policies. To help each individual get an overview, Insurance Sweden (the insurance companies association) has created a pension dashboard.[28] This pension dashboard provides an overview of the value of an individual's aggregated pension pot. The projections in the pension dashboard are purely deterministic and based on a unit return that is the same for all products and investment allocations. The fact that the Swedish pension dashboard does not provide any transparency on key aspects such as fees and investment risk, heavily reduces its value for an informed consumer who, for example, want to lower their cost and fees by consolidating their pension savings with fewer providers.

In 2012, Morningstar introduced the Norman-amount, named after Peter Norman, then a minister for the financial markets. The idea was to frame the costs of mutual funds in a way that makes it easier for consumers to compare. The Norman-amount is framed as the total cost (in SEK) that a saver will pay for saving 1000 SEK per month for 10 years. A refined version of this measure could be used to examine workplace pensions to help individuals, advisers and journalists to compare providers with different fee structures. In comparison, the Dutch pension industry is ahead of Sweden when it comes to fee transparency. But to make comparisons easier, it could be useful to introduce a cost measure that is framed in a similar way as the Norman-amount.

d. Framing—Do not force a choice between two bundled packages

An important lesson from Sweden is that we should not mix-up pension design with organizational design or how to organize the pension ecosystem ('market').

Individual or Collective DC?

The choice between individual or collective DC is central to most pension design discussions. individual DC is often described as a model with clear ownership rights since the member will typically hold a portfolio consisting of units in mutual investment funds. Collective DC is often described as an inflexible one-size-fits-all solution with unclear ownership rights since there is some redistribution based on pooling of non-diversifiable risks.

28 *http://www.minPension.se*

An observation from Sweden is that the legal framework around individual DC has a much wider definition than what has emerged as the common industry practice. There is nothing in Swedish law prohibiting a more intelligent approach than just offering mutual funds with daily liquidity. There are no legal constraints from offering an individual DC solution with quarterly liquidity based on a well-diversified portfolio, including illiquid assets, which is dynamically managed over time. The same holds for making collective DC more flexible along the framework illustrated in the Bovenberg and Nijman (2016) paper.

The lesson learned from Sweden is that it is possible to implement similar investment strategies in both individual and collective DC, but that the common industry conventions are much narrower. In implementing the new Dutch pension reform, there is definitely room for innovation in DC.

Mutual or for-profit?

The advantage with the mutual organization model is that all profits are returned to members and the organization can have a longer time horizon in their strategic decision making. A for-profit organization needs to pay dividends to its shareholders and it typically has a short-term focus mainly driven by volume and margin. On the other hand, there are no mechanisms for keeping the management of a mutual organization on their toes. Many large mutual organizations often lack execution power and operational efficiency compared to their for-profit counterparts.
It is difficult to say if one of the organizational models is clearly better than the other. The somewhat surprising experience from Sweden is that the context, in which the organizations operate, is more important than the organizational structure itself. The lesson learned from Sweden is that it is beneficial for the consumers to have both mutual and for-profit organizations operating in the same pension market. The for-profit organizations put pressure on the mutual organizations in terms of efficiency while the mutual organizations put pressure on the price that for-profit organizations can charge.

Monopoly or retail market?

The advantage with a monopoly solution is that it has no cost for acquiring members, but we know that large monopolies tend to become fat cats and that they are not typically known for their innovation power. On the other hand, the retail market doesn't work particularly well when it comes to financial services, most countries have had numerous mis-selling scandals, and the cost for retail distribution is very high.

In Sweden, the lesson learned is that institutional competition in the pension market resulted in better outcomes compared to both monopoly and retail markets. Collectum, the pension hub for white-collar workers in the private sector, reports that in their 2018 procurement they had reduced fund management fees in the individual DC solutions by 78%[29] (on average) compared to their first procurement in 2007.

The absolute fee levels the members face can be found on the Collectum website[30]. For collective DC, the total fee (including administration) varies between 0.11% and 0.20%. For individual DC, the corresponding numbers are between 0.08% and 0.27% depending on investment choices and pension provider.

e. Summary

Overall, the Dutch workplace system is very strong, and it is ranked as the best system in the world by the Mercer CFA Institute Global Pension Index 2020. The Dutch workplace system is well-funded mainly due to a combination of high contribution levels and broad coverage. The Dutch pension reform is an important step towards a more resilient pension system that will be more adaptive to future changes in society and the economy. We have highlighted some aspects of what the Dutch could learn from the Swedish transition from DB to DC in the 90s and the institutional market that emerged after the transition.

Strong features of the Dutch pension reform

- That the reform includes a transition of old pension rights to new pension units. This eliminates the problem of having to manage two contracts within one pension scheme and it makes the new system fairer across all members in the collective.
- The change in accounting methodology from pension rights ('uitkeringsovereen-komst') to a unit-based accounting framework ('premieovereenkomst') solves the typical legacy issues and allows for lower administration costs in the future.
- That the reform did not attempt to change the mandatory pooling of individual longevity risk for both collective and individual DC. The example from Sweden, with a minimum 5 year withdrawal period, supports this standpoint.

29 *https://collectum.se/om-oss/om-collectum/itp-upphandlingarna*
30 *https://collectum.se/privat/gor-val-for-din-tjanstepension/avgifter*

Some areas of attention

- Pension funds should view the pension reform as an opportunity to choose the pension design that is best for their members. This will help guiding their choice between collective DC ('Het Nieuwe Pensioencontract') and individual DC ('Wet Verbeterde Premieregeling'), keeping in mind that both offers a great deal of flexibility.
- A clear lesson from the academic research on the Premium Pension in Sweden is that we can't rely on member engagement as a key element in the design and implementation of DC pensions.
- In communicating the transition from old to new, it is recommended to treat members as adults and explain the consequences in an honest and transparent way. The experience from Sweden is that scheme members accept the financial reality.
- The transition from old to new is likely to trigger a consolidation, therefore it is important to keep the regulatory burden down, to avoid that well-managed smaller pension funds are forced into consolidation.
- The Swedish experience shows that introducing some form of institutional competition for the implementation of the mandatory industry-wide pension contracts may benefit members in terms of lower costs.
- Fee levels need to be made transparent and comparable between all different types of pension solutions. Framing the costs in a way that is similar to the Norman-amount for mutual funds, might help explain the effect of compounding fees and help both members and the general public to compare workplace pension solutions with different fee structures.

7. Chile

Pension System in 2020

The pension system in Chile has three tiers: a redistributive first tier, the second tier of mandatory individual accounts, and a voluntary third tier. The first tier or solidarity pillar consists of a non-contributory pension called the Basic Solidarity Pension (PBS), and a complement to the contributory pension called the Solidarity Pension Payment (APS). The PBS is a public pension targeted to individuals that belong to the 60 percent poorest of the population. The APS is equal to the PBS but subject to a clawback provision of 29.4 percent of the private pension. The APS is exhausted when the private pension equals 3.4 times the PBS in a steady state. This level is known as the maximum pension with solidarity support (PMAS). The second tier is a nationwide DC fully-funded mandatory individual accounts scheme managed by single-purpose, for-profit firms called Pension Fund Administrators (AFP). The mandatory contribution to individual accounts is 10 percent of earnings. A ceiling on contributions applies equal to almost three times average earnings. Administrative fees are levied on top of this contribution. The voluntary savings tier 3 provides tax incentives to encourage people to make voluntary contributions through various financial instruments: voluntary pension savings accounts managed by the AFPs, mutual funds, life insurance products with savings, etc.

Chile's seven AFP held the equivalent of US$215bn or 81% of GDP at end-2019 under management. The Mercer Index ranks Chile in number 13th out of a sample of 39 pension systems in the 2020 report. According to the analysis, the overall index value could be increased by: (i) increasing the minimum level of support for the poorest aged individuals; (ii) increasing the retirement age for women, (iii) introducing a minimum age for access to retirement benefits from private pensions, and (iv) requiring annual reports of pension plans to be made available to all members.

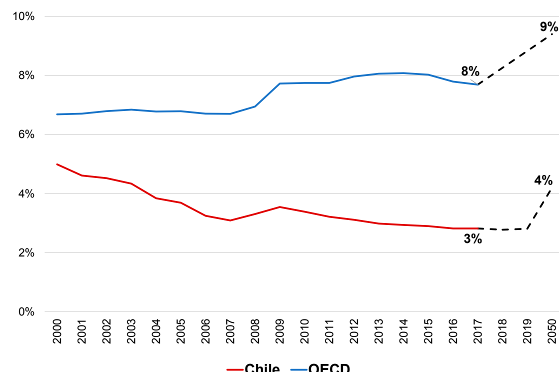
The Global Pension Transparency Benchmark (GPTB) provides a rank based on 4 key value-generation elements for the 5 largest pension fund organizations in each of 15 countries included in the first edition. The elements are Governance and Organization, Performance, Costs, and Responsible Investing. Chile ranked second to last at 14th globally. Chilean AFPs scored in the bottom quartile of countries overall and on three of the four factors. AFP websites were focused on engaging with members and attracting new business. However, disclosures for many of the transparency elements in the benchmark were often missing or minimal. More information on the rank of each category in the next page.

The Chilean pension system: key statistics

Key indicators

		Chile	OECD
GDP per capita	USD	24 635	55 657
Population	Thousands	17 763	41 584
Average worker earnings (AW)	CLP (million)	10	27
	USD	15077,8	41584,4
Public pension spending	% of GDP	3	8
Life expectancy	at birth	79,9	80,7
	at age 65	20	20
Population over age 65	% of working- age population	19,7	31,2

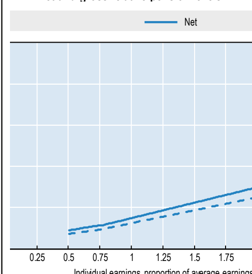
Pension Spending evolution and projection to 2050 (OECD) *(% of GDP)*

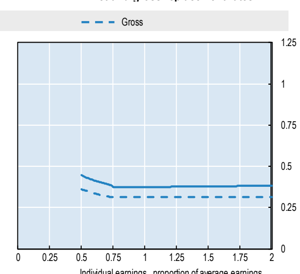


Replacement Rate Indicators

Men	Individual earnings, multiple of average					
Women (where different)	0.5	0.75	1	1.5	2	3
Gross relative pension level	18.1	23.4	31.2	46.9	62.5	83.8
(% average gross earnings)	*17.3*	*22.1*	*28.8*	*43.2*	*57.6*	*77.2*
Net relative pension level	22.3	27.9	37.3	56.0	74.8	100.1
(% net average earnings)	*21.3*	*27.2*	*34.4*	*51.6*	*68.9*	*92.3*
Gross replacement rate	36.2	31.2	31.2	31.2	31.3	27.9
(% individual gross earnings)	*34.6*	*29.4*	*28.8*	*28.8*	*28.8*	*25.7*
Net replacement rate	44.6	37.2	37.3	37.9	38.1	33.8
(% individual net earnings)	*42.6*	*36.2*	*34.4*	*34.9*	*35.2*	*31.2*
Gross pension wealth	6.7	5.7	5.7	5.8	5.8	5.1
(multiple of individual gross earnings)	*6.9*	*5.9*	*5.7*	*5.8*	*5.8*	*5.1*
Net pension wealth	8.2	6.9	6.9	7.0	7.0	6.2
(multiple of individual net earnings)	*8.5*	*7.2*	*6.9*	*7.0*	*7.0*	*6.2*

Assumptions: Real rate of return 3%, real earnings growth 1.25%, inflation 2%, and real discount rate 2%. All systems are modelled and indexed according to what is legislated. Transitional rules apply where relevant. DC conversion rate equals 90%. Labour market entry occurs at age 22 in 2018. Tax system latest available: 2018.





Mercer CFA Institute Global Pension Index

Global Pension Transparency Benchmark

The figure shows the rank for each of 4 key value-generation elements for the 5 largest pension fund organizations, relative to other 14 countries included in the benchmark.

Note: Data that is comparable across different countries is very difficult to find, as pension systems and definitions tend to differ significantly. We use data from multiple sources, which are as recent as possible. The basic economic data is provided by the OECD.

Pension reform in Chile

By Manuel Garcia-Huitron[31] [32]

a. Introduction

In the early 1920s, Chile was the first country in the Western Hemisphere to establish a *comprehensive* social security program. Sixty years later, Chile captured the world's imagination again when it became the first country to replace several public DB pay-as-you-go pension schemes with a single nationwide mandatory program.

The reform introduced a fully funded individual DC scheme administered by private providers freely chosen by individuals. Each worker has an individual account, where 10 percent of her pensionable salary is deposited every month[33]; these savings are administered by single-purpose, for-profit providers called Pension Fund Administrators ("AFP").[34] The pure DC nature precludes risk-sharing among participants, but the state induces a minimum risk-sharing level by providing guarantees backed with general revenues[35]. This way, the reform split the redistributive and old-age saving functions into what the World Bank later would call "pillars" (Schmidt-Hebel, 2001; Valdés 2002). The original reform introduced a second pillar with a minimum pension guarantee. The zero pillar was not introduced until 2008. Two differences with the Dutch AOW are that the Chilean zero pillar is not universal but targeted and integrated into the second pillar rather than on top of it.[36]

The "Chilean pension reform" of 1981 became an unavoidable international reference for subsequent reforms worldwide for at least three reasons. First, it was one of the first attempts to face traditional social security programs' problems not only by parametric adjustments but also by changing fundamentals. Second, as initial

31 Manuel Garcia Huitron was Senior Consultant, Pensions Team at the Inter-American Development Bank in Santiago until recently, Chile. He is Co-Founder of Nuovalo, which develops modern longevity risk sharing architecture and technology.

32 The author thanks excellent comments from Richard Fullmer, Stefan Lundbergh, and Fernando Larraín.

33 Pension contributions and returns on investments are exempt from income tax, while pension benefits are taxed.

34 AFPs own assets are legally separated from the assets under management. Pension fund owners are required not to have any stake in the banking or insurance industry, and non-for-profit pension funds are for all practical purposes banned by law.

35 There are four types of guarantees embedded in the system. The first two apply to the accumulation phase and include a minimum relative return guarantee and a guarantee of coverage against disability and death risks. The third and fourth guarantees apply to the decumulation phase and encompass a recently introduced solidarity pension tier (since 2008) and a partial guarantee against annuity providers' bankruptcy.

assessments of the reform were favorable, many countries from Latin America, Eastern Europe as well as Australia, Hong Kong, Israel, New Zealand, and Sweden, among others, found Chile's pension reform to be a reference model. Finally, the World Bank promoted it as a role model in its flagship publication *Averting the Old Crisis* (World-Bank, 1994)[37]. The Chilean model faces important challenges currently under discussion.

This chapter is organized around seven sets of lessons from the Chilean experience to the New Pension Contract transition in the Netherlands, as explained in Popta and Steenbeek (2021). It is not a complete list of lessons but a focused account of certain aspects of Chile's pension reform history that may help Dutch policymakers design a transition strategy. Selected references are cited for the reader interested in digging deeper into specific areas.

b. Lesson 1: transition rules reflect the political economy.

According to historical records, there was a certain degree of consensus in Chile that a pension reform was due as early as the 1960s (Hernan, 2018). The general perception was that the prevailing schemes were unfair, with a few privileged groups getting extraordinary early benefits at the expense of a large majority of workers who retired at later ages, with low replacement rates and limited protection against inflation. In 1964, President Jorge Alessandri set up the *Prat Social Security Reform Commission*. The final report concluded that the social security system was "condemned to collapse because it was unjust, oligarchic, discriminatory and ineffectually onerous, both for wage and salary earners and for national production" (Prat, 1964). In 1972, in his second presidential address, the socialist President Salvador Allende argued that it was necessary to "gradually replace the existing unfair social security system" (Iglesias, 2009).

According to Queisser (1999), despite generous defined benefit formulae, payouts were effectively low since they were only partially indexed to inflation. By the late

36 Individuals who do not make contributions over their lifetime have the right to collect an old-age pension (PBS) after turning 65 years old and if they meet the eligibility criteria for income level and residency. Those who made contributions, but fund a pension falling below a defined threshold called maximum welfare pension (PMAS), have the right to receive n subsidy (APS) if they comply with the same income and residency requirements. The APS subsidy is progressive—the amount gradually diminishes as the value of the self-funded pension increases until the cap is reached for those whose pensions are equal to or greater than the PMAS.

37 Some top-notch Chilean economists contributed to the *Averting the Old Age* report, such as Patricio Arrau, Klaus Schmidt-Hebel, and Salvador Valdes. See World Bank (1994) pages 17 and 19.

1970s, seventy percent of all pensioners were receiving the minimum pension. There were also fiscal sustainability concerns. Estimates by the Budget Office at the time of the reform set the unreformed pension system's budgetary burden at 7.1 percent of GDP by 2000 (Melguizo and Vial, 2006).

Despite widely shared diagnostics of the problem, it did not prove easy to build a broad political agreement. The existing pension system remained substantially unchanged until the reform in 1981 (Iglesias, 2009). It is fair to say that the military regime facilitated implementing a sweeping change that may not have been possible otherwise, at least in such a comprehensive, one-off manner. It may also be safe to say that the political conditions were friendly to implementing other structural reforms that paved the way to the pension reform and aided its transition, such as tax and trade reforms, privatization, as well as labor and financial markets reforms[38].

For instance, the transition financing was aided by a fiscal surplus resulting from state-owned enterprises' extensive privatization program in the second half of the 1970s, which continued through the 1980s[39]. The initial transition costs were also financed by a temporary wage tax set at 3% that was phased out in the next few years. This strategy was feasible because the new system decreased contribution rates considerably, so even with the new tax, the take-home pay was not reduced (Valdes, 1998). Finally, and particularly relevant to the Netherlands, Chile has a long tradition with price indexation that goes back to capital market reforms introduced in the years before the pension reform. As of today, Chile is an indexed economy with a robust inflation-linked long-term bond market. Annuity, mortgage, labor, and house rental contracts are all indexed to inflation.

Now, make no mistake: political economy considerations are still relevant in the Chilean pension reform of 1981. An area where this is clear is in the design of *transition rules*. A salient example is that the Army and the Police were excluded from the new system. According to the IMF, these special regimes' deficits are currently close to 0.8 percent of GDP and are expected to grow to close to 3 percent of GDP by 2100 (Figliuoli et al., 2018). Secondly, the AFP system was only mandatory for young workers joining the workforce after 1983. For individuals with acquired rights at the time of the reform, a choice was offered to stay under old rules[40] or switch to the

38 Credit where credit is due: these reforms, including the pension reform, were crafted by a highly professional group of economists (the famous "Chicago Boys") over the 1970s and 1980s (Valdes, 1998).

39 A budget surplus of 5.5% of GDP was built by 1980 to finance the transition (Diamond and Valdes, 1994).

40 They are administered under a consolidated scheme. A public social security entity (Instituto de Normalización Previsional) was created for that purpose.

new scheme. Switchers had to pay pension contributions to the new system from their own pockets, but the new law required employers to transfer the gains of lower contributions to salaries in full.[41] Finally, and of the utmost importance in terms of political economy, the Chilean reform was explicit in honoring *acquired* pension entitlements. Pensions of workers who choose to remain in the old scheme were financed with current contributions and the general budget. The government offered off-market recognition bonds for the workers who chose the new system (more on this below).

In sum, many experts say that pension reform is the art of the possible. In the Chilean case, transition rules reflect an enabling political environment and sound economics, a much as an explicit consideration of the political equilibrium of the time.

c. Lesson 2: transition costs are unavoidable and potentially long-lived.

The recognition bonds are calculated as the present value of a pension replacing 80 percent of earnings for a full contribution period (35 years), carrying a real return rate of four percent annually. The bond value is calculated *at the moment of transfer* to the new system and mature at *retirement age* when the national treasury deposits the amount into the worker's personal account. Henceforth, fiscal costs are back-loaded and spread over many generations (Bennet and Schmidt-Hebbel, 2001; Arenas and Gana, 2005; Valdés, 2006). Bravo (2015) reports that the 1981 reform's transition costs' present value was estimated at 136% of the GDP in 1981[42]. In cash-flow terms, transition costs have represented close to 5% of GDP at their peak in 1984.

According to Kotlikoff (2008), an economic analysis of the impact of the reform in the Chilean economy would require "disentangling its effects in the level of government consumption, the distribution of resources across generations, the distribution of resources within generations, and the structure of incentives to work, save, and make other economic decisions." No such granular analysis exists, but there is a relatively strong consensus of positive macroeconomic and capital market effects in Chile (Diamond and Valdes, 1994; Corbo and Schmidt-Hebbel, 2003; Gill, Packard,

41 Most schemes pre-reform were financed by contributions from both the employees and the employers. Pre-reform, contributions varied from 33% to 41% depending on the plan, and most of it was paid by the employer (Bravo, 2015). With the reform, contributions were reduced across the board to 10% of pensionable salary and assigned entirely to the employee. Employer contributions were reduced to zero, but employers were asked to provide a salary increase to compensate for their lower overhead costs, as mentioned in the text.

42 See also Kotlikoff (2008), Diamond and Valdes (1994), Corbo and Schmidt-Hebel (2003) and Cerda (2008).

and Yermo, 2005, Cerda 2008). Gill et al. (2004) produced aggregated estimates of the implicit pension debt (IPD) as GDP percentage with and without reforms for 2001 to 2050. With the reform, the IPD fell from close to 130 percent to 40 percent in 2001, from 170 percent to 10 percent in 2020, and from over 200 percent to almost zero in 2050. The pension reform improved the pension system's long-term fiscal sustainability by reducing the projected public pension debt from 90 percent of GDP to 60 percent in 2030 and from 175 percent of GDP to 70 percent in 2050[43].

In sum, pension reforms carry transition costs as implicit liabilities are made explicit. The government must come up with a financing mechanism to repay these transition costs. In the Chilean case, the costs were aided by short-term budget surpluses, and most of it was spread out over many generations, including those not born at the time of the reform.

d. Lesson 3: replication to other countries is not straightforward.

The unique combination of enabling political environment, economic policy prowess, and careful consideration of the reform's political economy left other countries with a very high bar in terms of replication. The reforms that followed the Chilean model in Latin America and probably elsewhere landed in different equilibriums, reflecting their starting conditions and the local political economy. For example, in Colombia and Peru, reformers could not close the old scheme but introduced the new and, strangely enough, allowed people to choose between the DB and DC regimes in their labor careers under certain conditions (Altamirano et al., 2019; Queisser, 1997). In Mexico, an extensive reform following the Chilean design was enacted in 1995, but only for private-sector workers. Public-sector workers joined in 2007, and more recently, two special regimes onerous to the national budget were also reformed. However, there are still many unreformed provincial, municipal, and public university schemes (Azuara et al., 2019).

Pension reforms are more adaptive than a one-off event, with a clear start and an endpoint. Countries that replicated the Chilean model dealt with their path dependence in different ways. In that sense, the Chilean model is a blueprint and not a detailed roadmap.

43 It is also interesting to note that the International Monetary Fund opposed the Chilean pension reform on the grounds that it posed a danger to sound public finances (Valdes, 1998). The IMF was referring to the transition costs of the reform.

e. Lesson 4: Expectations and communication with members are crucial.
Another lesson is that setting the right expectations and communication with members is relevant to the reform's long-term success. As mentioned in the previous section, the reformers set up clear transition rules and communicated the benefits for workers to move into the new system in the short term, explaining that over 75 percent of the members moved to the new scheme in the years immediately following the reform.

However, when it comes to long-term expectations, there is a lesson to learn. In Chile's case, a figure of at least 70% replacement rate at the end of a working life settled at a societal level. Even in the 1990s and 2000s, there were articles in prominent newspapers projecting replacement rates for Chileans between 70 to 100%. Recent information from the Superintendence of Pensions shows that the average replacement rate is 44% of the last salary (56% for men and 31% for women) and that 78% of women and 55% of men receive pensions below the poverty line[44]. Therefore, this was a case of overpromising and underdelivering, and eventually, expectations clashed with reality. In the second half of 2016, thousands of Chileans filled the streets in peaceful demonstrations against the pension system and its visible face, the AFPs.[45]

f. Lesson 5: Pension reforms are a journey.
It was not until almost 30 years later that the next significant reform was introduced to the Chilean pension system in 2008. It could even be said that the same political environment that facilitated a sweeping reform in the 1980s also provided a less than desirable stability in the system, but that would only account for half of that period with no reforms[46]. To put some perspective on this, consider that the pension system parameters such as retirement age and contributions have remained unchanged since 1981. Such institutional stickiness collides upfront with fundamental trends that impact the size of the pension benefit. For example, life expectancy at the legal retirement age has increased by 4.7 years (35%) for men and 5.1 (25%) for women since the 1980s. However, the legal retirement age has remained fixed at 60 for women and 65 for men since the system's outset.

President Michelle Bachelet launched two institutionalized reform efforts in her first and second presidential terms correspondingly, but only one resulted in an actual

44 Average for the period 2007–2017.
45 Lopez and Nuñez (2021e) show that the massive protests affect the market value of AFPs through an increase in regulatory risk.
46 Augusto Pinochet´s dictatorship came to an end in the early 1990s.

reform.[47] In 2006, she established the *Marcel Commission* to address three perennial concerns: infrequent contributions over the working life[48], unhealthy competition in the AFP market, and inadequate benefits for low-wage and female workers. In 2008 a reform was passed in Congress, taking most but not all the commission's recommendations. It redesigned the first pillar, set up Demsetz auctions to enhance competitive outcomes in the second pillar (AFP market), and reinforced institutional governance[49]. These measures were considered across the board a step in the right direction, but not enough. At its heart, the 2008 reforms tackled low pensions at the lower end of the income distribution with the new "Solidarity Pillar." Average replacement rates for those in the solidarity pillar are close to 100% (but on average lower than the urban poverty line). However, as mentioned before, low pensions at the middle of the income distribution persisted.

In 2014 Michelle Bachelet set up the *Bravo Commission* to deal with "lower-than-expected replacement rates amid declining investment returns[50] and rising life expectancy" (Bravo, 2015), but this time around, the commission´s report was not translated into law. The government coalition failed to produce a consensus in time before the presidential elections in 2017, amid the massive social unrest questioning the AFP system's legitimacy mentioned before. Interestingly, there were evident public disagreements in the government coalition and within the government, with the Ministry of Finance and the Ministry of Labor supporting different reform approaches. The debate carried over and is still ongoing under the presidency of Sebastian Piñera.

A broad lesson from the Chilean experience is that no pension system can be "socially sustainable" if its main parameters do not follow, in one way or another, the underlying determinants of the system's outcomes. Pension reform should better be approached as a dynamic, incremental process rather than a one-off event. Automatic or semi-automatic boundary-straddling adjustment rules and institutions that timely review pension systems' fundamental parameters may help delinking

47 See Borzutsky (2019) for a fascinating analysis of why Michelle Bachelet "won one and lose one."

48 Called "low density of contributions in the Latin American DC jargon.

49 There is no space in this chapter to delve into these measures, but the reader is referred to Berstein (2010) and Berstein et al. (2009).

50 Real average return rates have fallen from 12% in the 1980s to 5.1% in the 2010s (Superintendence of Pensions) and are expected to decline further (McKinsey, 2016). An area where there have been continued developments is that of the investment regime. Since its inception, there has been a gradual liberalization of investments away from local fixed income. The introduction in 2002 of a family of funds that differ concerning the quantitative investment limits defined by asset class is also salient. For more, see Impavido et al. (2010).

the pension reform discussion from short-term political considerations as well as diminish the dependence of future pension reforms on crises or politicians with solid convening power (Bosch et al. 2020b and Bosch et al. 2021).

g. Lesson 6: Freedom of choice is valuable but should be handled appropriately[51]

A former head of the Inter-American Conference on Social Security once said that "after the dust on the reforms in the nineties has settled, it is hard to think about a good design for a national pension system without an individual account component. The defined contribution pension component...creates gains for social protection but has also created new problems" (Martínez, 2012).

The Chilean pension reform established property rights over individual savings, and there are no collective components (at least not yet). The individual account embodies a strong legal definition of property rights. The individual pot cannot be used as collateral and cannot be seized upon personal bankruptcy; nor can it be nationalized by Executive decree (i.e., a constitutional change would be needed, involving a Legislative branch supermajority). Before COVID-19 times, savings were also locked until retirement, but that changed dramatically in the past few months (Bosch et al. 2020a).

Once property rights are established, freedom of choice becomes an issue that needs to be handled properly. Freedom of choice is highly valued by individual participants but has created challenges for policymakers and regulators across all instances where such space exists (Barr and Diamond, 2008; Impavido et al., 2010; Garcia-Huitrón and van Leuvensteijn, 2015)[52].

A first instance is the choice of *pension providers*. Members' decisions seem to be heavily influenced by AFP´s competing in the market with proprietary sales agents. This feature has most likely led to a redistribution against all participants–*including partially against AFPs*–by promoting high average prices due to excessive marketing expenditures (Impavido et al., 2010). Chileans are not satisfied with the outcomes of such an industrial environment. As Nicholas Barr and Peter Diamond emphasize, "the criticism is *not of pension funds*, but of the choice and competition model in pensions." (Barr and Diamond, 2008). Indeed, high fees, wasteful commercial

51 I understand that this lesson might be more relevant for the Enhanced Contribution Scheme (WVP) option for the time being.

52 Garcia-Huitrón and Leuvensteijn (2015) and Impavido et al. (2010) provide a thorough review of these challenges and potential solutions.

competition combined with high AFP profits have been the subject of recurrent criticisms to the system. [53]

A lesson is that the information asymmetry between the individual consumer and the financial service providers is substantial. Individual consumers do not have the negotiation power to push the prices down to an institutional price level. As mentioned before, Chileans have been exploring competition for the market on a wholesale basis rather than at the retail level, with promising results. An agent, in this case, the government, carries over a procurement role (Impavido et al., 2010). The second instance of choice is that of *investment options*. Freedom to move out of the investment default glidepath has led to pro-cyclical behavior among consumers ("selling cheap" and "buying high")[54]. The Superintendence of Pensions has pointed out that a shadow market for financial advice has been created. Around 15% of participants every year follow advice to 'time' changes from one fund to another (within the same AFP) from 'pension advisors,' in exchange for a fee[55] (Superintendence of Pensions, 2013 and 2020). Even assuming that the advice direction is correct,[56] transfers in bulk usually create price-pressures that also affect those that do not move, have the potential to destabilize financial markets, and force pension funds to hold less illiquid assets. The discussion on how to tackle this issue is going on in Chile as of today[57].

The third space of choice is about *decumulation products*. Even though retirees can compare products via an electronic quotation system (SCOMP), designed to promote fairness and transparency, many distortions have been identified by the antitrust authority[58]. A lesson from Chile is that, even against compact and well-structured

53 Current fees are currently in the range of 50 to 80 basis points of AUM and have decreased over time, pushed down by the auctions program implemented by the regulator since 2008. Also, ROEs of AFPs have been consistently above other financial sector companies (Impavido et al., 2010).

54 Recall that AFPs manage a family of five investment funds. Within the same AFP, workers can choose up to two funds, and they can switch to riskier funds, except for participants close to retirement, who cannot select the most aggressive fund. Inactive workers are assigned to a default glide path following a lifecycle structure geared at de-risking savings using stepwise deterministic rules towards the retirement age.

55 It is a shadow market because these companies are not under the Superintendence of Pensions' regulatory oversight.

56 It is not. According to the Superintendence reports, 80% of people who move do worse than if they had stayed in the default.

57 See also Central Bank of Chile (2020), Ceballos and Romero (2020), Alcalde and Vial (2016), and Illanes and Padi (2015).

58 See also Da et. al., (2016), Fuentes et. al, (2021a), Pedraza et. al. (2017) and Ceballos and Romero (2020) for more details and evidence.

options, the freedom to choose a suitable pension payout can become stressful and very difficult to execute for individuals. On the one hand, the secular decreasing trend in interest rates and the increasing life expectancy pose a monumental challenge to any product offering a guarantee, such as annuities. On the other hand, there are concerns about the growing uptake of "programmed withdrawals," which provide a decreasing payment schedule and do not protect against longevity risks. Some proposals have been put forward, including longevity insurance (Berstein et al., 2015) and modern tontines (Fuentes et al., 2021b).

Chile's lesson is very clear: you cannot have your cake and eat it too when it comes to freedom of choice. Henceforth, choice architecture must be taken very seriously. Policymakers should use carrots, sticks, sermons, nudges, gadgets, and networks in combinations that make sense in the local institutional context.[59] Salient in the toolbox is automatic enrollment, default design, and support for individuals who may want to move away from the default, the role of independent advice, technology, and financial education to back these decisions and networks and communities to leverage or reinforce behaviors[60].

h. Lesson 7: a labor market reform is sometimes also a good pension reform[61]

Although less pervasive than in other emerging market countries, there is a high degree of labor market informality in Chile, defined as workers or self-employed that do not pay social security contributions. Workers exhibit long transitions between formality (when they contribute to their individual account) and informality (when they do not) over their careers, decreasing their average density of contributions drastically. Indeed, approximately 11 million individuals participate in the Chilean pension system, out of which somewhat more than 5.5 million contribute in any given month to their individual account. Furthermore, these five million are not necessarily the same individuals every month. On average, a Chilean saver contributes to its individual account nearly half of the time over their working lifetimes.

A pause to reflect on these features of the Chilean labor market is advised for the reader. Picture the effect that such reality would have on Dutch pensions and how it would change the debate priorities. The low density of contributions is the primary

59 These names were inspired by Bemelmans-Videc et al. (1998) and Blake (2020). I added gadgets to reflect technological developments enhancing choice architecture.

60 The social partners' role belongs in the realm of "networks," as well as the idea of "solidarity circles" put forward by Garcia-Huitron and Ponds (2016). There are no counterparts to such figures in Chile.

61 Heading inspired by Bosch et al. (2013). The authors review many other examples of labor reforms solving pension challenges.

driver of low replacement rates[62] in Chile and, more generally, in the Latin American region (Altamirano et al., 2018). Tackling this is the Mother of All Battles in the Latin American pension policy realm (Bosch et al., 2013; Frölich et al., 2014).

In the Netherlands, workforce informality and contribution density are not such significant problems. Still, the lessons from Chile and, in general, from Latin America may be relevant in the context of expected labor market disruptions amid the advent of new technologies and the gig economy. In a nutshell, the self-employed are bound to increase in importance because such disruptions to labor markets are expected to disintegrate traditional salaried relationships (Bosch et al., 2018; OECD, 2019). These trends are essential to consider, particularly in a long-transition design phase such as that set in the Netherlands for the current reform. Five years may not be such a long time when measured against labor market transformations' current speed. A labor market reform that offers protection to workers immersed in the digital economy and gig work through platforms would also go a long way in terms of coverage and adequacy of pensions for the self-employed (Bosch et al., 2018).

Based on the Chilean and, more in general, Latin American experience, it seems that the only effective way to incorporate the self-employed is by ultimately mandating participation. A mandatory approach may not be enforced overnight, and therefore, a transition assisted by a behavioral design under an experimental approach could be helpful. The 2008 reform introduced automatic enrollment for a limited time --initially three years—for self-employed workers in a specific tax category. This temporary automatic enrollment program was supposed to become mandatory in 2015, but this was postponed until the 2020 annual tax filing process. The lower-than-expected coverage in the soft compulsion stage was probably related to weak design, particularly poor communication about the benefits of social security contributions. A central lesson is that the Internal Revenue Service authority must be involved in the process. Otherwise, the effort may become superfluous at some point. The good news is that contribution collection and enforcement may also be enhanced by new technologies, big data, and predictive analytics.

i. Final thoughts

A universal design as to the ideal pension system, applicable to all countries or even within a country, at all times, is not realistic, as countries differ in terms of culture, history, and existing institutions; and these features evolve. Pension reforms are an adaptive and dynamic process, rather than a one-off event with a clear start and an

62 See Ribe et al. (2012), Bosch et al., (2014) and Altamirano et. al (2018).

endpoint. The pension reform journey in Chile is not complete. Reaching a political agreement on the pension system's future direction has proved elusive in the past decade-plus. Nevertheless, there are valuable lessons to be learned from the international experience, and Chile, for all its rights and wrongs, is a relevant case study for any serious reform effort.

8. Australia

Pension System in 2020

Australia's retirement income system has three tiers: a means-tested Age Pension funded through general taxation revenue; the superannuation guarantee, a compulsory employer contribution to private superannuation savings; and voluntary superannuation contributions and other private savings. Superannuation savings are encouraged through taxation concessions.

The Age Pension (AP) tier is a public non-contributory scheme paid on a PAYG basis from general revenues to qualifying residents. Overall expenses on the zero pillar represent little more than 3 percent of GDP. The AP is a flat benefit indexed to the greater growth of average male earnings, the consumer price index, and a pension and beneficiary living cost index. The benefit level is revised every two years. Eligibility criteria include a qualifying age, currently 65 years independently of gender, ten years of continuous residence, and a means test– which includes both an asset and an income test subject to a claw-back rate of 40 percent.

The Superannuation Guarantee (SG) tier is a fully-funded individual accounts system with mandatory participation. More than 90 percent of the private sector occupational schemes operate under DC principles. There are currently more than 300 registered funds. Superannuation funds are privately managed trusts that fall either under the Australian Prudential Regulatory Authority (APRA) jurisdiction or the Australian Taxation Office (ATO). Pension funds under ATO are known as self-managed superannuation funds (SMSF). There are currently more than 500 thousand SMSFs. The Voluntary Superannuation tier also works through the infrastructure of superannuation funds. There is a fully deductible annual limit irrespective of age for tax-advantaged contributions. Some employers have access to the so-called "salary sacrifice" arrangements under which their (employee) contributions are treated as employer contributions for tax purposes and are therefore taxed at 15 percent instead of their marginal tax rate.

According to the 2020 edition of the Melbourne Mercer Global Pension Index, only the Netherlands, Denmark, and Israel have higher-rated systems for pension provision than that of Australia. Recommendations for improving the country's score include (i) moderating the asset test on its means-tested age pensions, (ii) raising household savings (and reducing household debt), (iii) obliging beneficiaries to take part of their pay-out as an income stream, (iv) boosting the labor force participation of older workers, and (v) adopting a measure to increase pension ages as life expectancies increase.

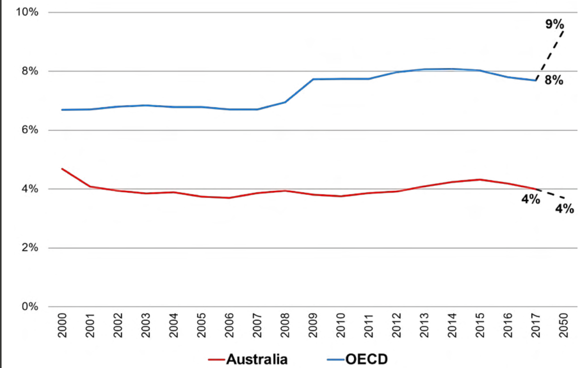
The Global Pension Transparency Benchmark (GPTB) provides a rank based on 4 key value-generation elements for the 5 largest pension fund organizations in each of 15 countries included in the first edition. The elements are Governance and Organization, Performance, Costs, and Responsible Investing. Australia ranked 4th globally. According to the authors of the benchmark, some of the Australian funds did a very good job of including all transaction costs (including implicit ones like market impact, buy and sell spreads, etc.) and quantifying and disclosing this to members. More information on the rank of each category in the next page.

The Australian pension system: key statistics

Key indicators

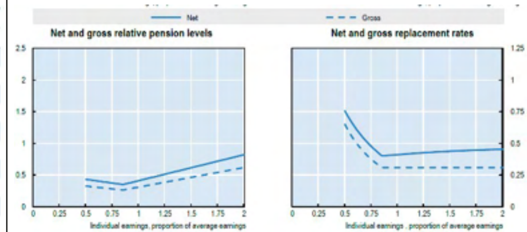
		Australia	OECD
GDP per capita	USD	85 778	55 657
Population	Thousands	64 089	41 584
Dependency ratio	%	21	20
Average worker earnings (AW)	AUD	85 778	55 657
Public pension spending	% of GDP	4,3	8,0
Life expectancy	At birth	83,2	80,7
Population over age 65	% of working- age population	27,7	31,2

Pension Spending evolution and projection to 2050 (OECD) *(% of GDP)*

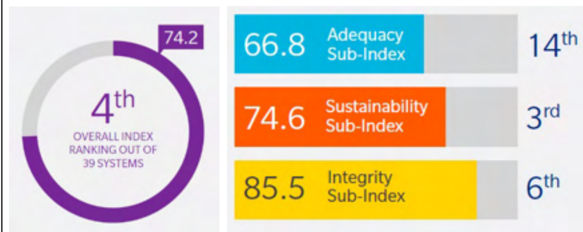


Replacement Rate Indicators

Men *Women (where different)*	Individual earnings, multiple of average 0.5	0.75	1	1.5	2	3
Gross relative pension level	32.5	28.1	30.9	46.4	61.8	77.9
(% average gross earnings)	*31.1*	*26.0*	*28.1*	*42.1*	*56.2*	*70.8*
Net relative pension level	43.1	37.3	41.0	61.5	82.0	103.3
(% net average earnings)	*41.2*	*34.5*	*37.3*	*55.9*	*74.5*	*93.9*
Gross replacement rate	64.9	37.5	30.9	30.9	30.9	26.0
(% individual gross earnings)	*62.1*	*34.6*	*28.1*	*28.1*	*28.1*	*23.6*
Net replacement rate	75.5	47.6	41.0	43.8	45.3	40.9
(% individual net earnings)	*72.2*	*44.0*	*37.3*	*39.8*	*41.2*	*37.2*
Gross pension wealth	11.7	6.8	5.6	5.6	5.6	4.7
(multiple of individual gross earnings)	*12.4*	*6.9*	*5.6*	*5.6*	*5.6*	*4.7*
Net pension wealth	13.6	8.6	7.4	7.9	8.2	7.4
(multiple of individual net earnings)	*14.4*	*8.8*	*7.4*	*7.9*	*8.2*	*7.4*



Mercer CFA Institute Global Pension Index



Global Pension Transparency Benchmark

The figure shows the rank for each of 4 key value-generation elements for the 5 largest pension fund organizations, relative to other 14 countries included in the benchmark.

Note: Data that is comparable across different countries is very difficult to find, as pension systems and definitions tend to differ significantly. We use data from multiple sources, which are as recent as possible. The basic economic data is provided by the OECD.

Pension reform in Australia

By Alwin Oerlemans[63]

The Australian system has a means-tested state pension on income and assets. Above a maximum income or assets you will not receive a state pension. The asset test includes household composition and owner-occupied home. A capital-funded individual pension (2nd pillar) was created in early 1990s by the Labor Keating Ministry. State pension is received from age 66 (since July 1, 2019,66.5 by July 1, 2021, and 67 by July 1, 2023).

Participation is mandatory for employees, but the choice for a fund is free, with competition and opportunities to transfer between funds. MySuper offers participants who do not want to make choices a good default pension solution. Mandatory pension contribution is 9.5% of income paid by employer (contribution increases to 10.0% by July 1, 2021 and then an additional 0.5% per year to 12.0% by July 1, 2025). There is an option for additional voluntary contributions by employers and employees.

There are four types of superannuation funds:

- Industry 'profit for member' funds
- Retail 'profit for shareholder' funds
- Self-managed superannuation funds (SMSF)
- Public sector and corporate funds

The tax system is TTE ("Taxed-Taxed-Exempt"): reduced tax on deposit and accrual, tax-free on distribution, with the caveat that assets do count toward the means-tested first-pillar pension. The accrued pension capital can be freely withdrawn at retirement (from age 60).

Minimum annuity market

Total pension capital amounted to AUD 2900 billion (€1800 billion) or 135% GDP as of Q3 2020. An amount of AUD 750 billion is covered by MySuper accounts (€460 billion). Australia has scored highly in the Mercer CFA Institute Global Pension Index for many years. In the 2020 edition, the country is ranked 4th. Areas for improvement include

63 Alwin Oerlemans is Head of Product Management at APG Asset Management in Amsterdam, the Netherlands. He was a member of the ICPM Working Group analyzing the Australian Pension System in 2018.

adjusting asset tests on Pillar 1 pensions, focusing on income in the pay-out phase and raising the retirement age as life expectancy increases.

Transition in system in response to commissions set up by government
Reform of the pension system in Australia has been politically complex due to a traditional split on the issue of pensions between Labor and Liberals. Labor favors a mandatory pension system, while the Liberals stand for freedom of choice. Alternating governments have pursued varying pension policies as a result. The pension system lacks a clear objective; it is an individual wealth accumulation system in which, in recent years, attention to the income character of pensions has gained wider support. The Retirement Income Review (2020) mentions that the government's setting of a clear objective for the system is desirable.

Major reviews by government commissions
Government commissions are instrumental in reforms to the system. In addition, the pension regulator APRA has been more active since 2020, which increases the focus on cost transparency and promotes consolidation in the sector.

- **Super System Review (Cooper Commission, 2009)**
  Proposing a new choice architecture and establishing MySuper as a simple, low-cost and well-designed default pension solution for most participants. MySuper should provide post-retirement retirement income in addition to this. Other items included the removal of commissions on supplementary insurance products, transparency of costs through publication on websites and improving the governance and execution (scale) of superannuation funds.
- **Royal Commission (2019)**
  Review of execution in the financial sector including superannuation. Criticism of mediocre outcomes of retail ("profit to shareholder") superannuation funds and conversely positive assessment of sector/industry ("profit to member") superannuation funds. Attention to costs and governance. Highly critical of costs, malpractice and advice from financial advisors.
- **Productivity Commission (2019)**
  Study of efficiency and competition in the superannuation sector. Observation of structural deficiencies related to participants having multiple superannuation accounts and being "trapped" in poorly performing funds. Insufficient participant engagement and only limited competition. Proposal to publish a top 10 ("best in show") system to which participants are automatically directed. Default to a

MySuper fund in which participant remains when changing jobs (unless other own choice).

- **Retirement Income Review (November 2020)**
  As a follow-up to the Productivity Commission, this review looks at the effects of longevity and aging on the superannuation system. The review confirms the effectiveness, soundness and cost sustainability of the system, but points to areas for improvement. These relate to participants' inadequate utilization of the system's potential due to complexity, misconceptions, low financial literacy, and consistency with health care and tax systems. Pensions must be sufficient, equitable, sustainable and coherent. An income replacement ratio of 65-75% is targeted. The report is critical of increasing the pension contribution rate and sees other opportunities to make better use of accumulated pension assets. The report is critical of the system's tax benefits and finds that they are not fair.

9. Israel

Pension System in 2020

The Israeli pension system is comprised of two tiers. Tier 1 is the state pension, a universal insurance pension combined with means-tested income support. The National Insurance old age allowance – combines criteria of residency and years of insurance. The residency component is applied when individuals reach retirement age and is contingent on the condition that the retirees have no additional income (aside from pension income) over a pre-determined amount. After the age of 70 (for men) or 65-70 (for women, depending on their year of birth), the additional income stipulation is dropped, and all retirees receive an old-age allowance regardless of additional revenues. In addition to the residency-based old age, allowance is the "seniority supplement" based on the number of insurance years (i.e., years in which the individual worked and paid National Insurance taxes) accrued before retirement. The size of this supplement is based on 2% of the old age allowance per full insurance year after the first 10 insurance years and can reach a cap of 50% for individuals who have paid into National Insurance for at least 25 years.

Tier two is the private pension system, established as DB system in 1954 with the trade unions. In 2003 it became a pure DC system and it is on a mandatory basis since 2008 for all employed persons, and since 2011 it is mandatory also for the self-employed. Members may choose to invest their pension savings in a new pension fund, (most of them choose it) a provident fund, or a whole life insurance policy. Tier two is supervised and regulated by the Capital Market Insurance and Savings Authority (the CMISD), an independent authority within Israel's Ministry of Finance.

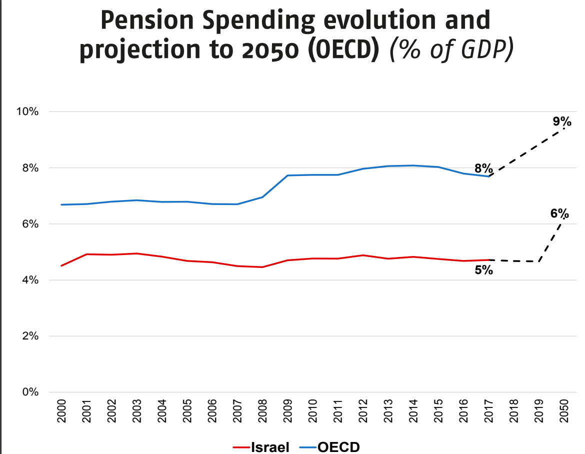
The Mercer Index included Israel for the first time in their 2020 report, ranking 3 out of a sample of 39 pension systems. According to the analysis, the overall index value could be increased by: (i) increasing the level of assets held in private pension arrangements, lowering the reliance on the public system, (ii) reducing government debt as a percentage of GDP, and (iii) Introducing protection for members of private pension plans in the event of mismanagement or fraud.

The Israeli pension system: key statistics

Key indicators

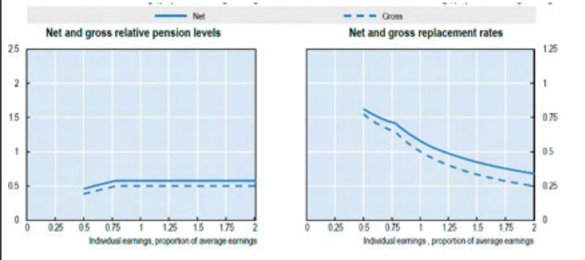
		Israel	OECD
GDP per capita	USD	48 562	55 657
Population	Thousands	9 140	41 584
Dependency ratio	%	24	20
Average worker earnings (AW)	ILS	129 384	149 311
	USD	40 432	41 584
Public pension spending	% of GDP	4,8	8,0
Life expectancy	at birth	82,7	80,7
	at age 65	20,6	19,7
Population over age 65	% of working- age population	23,9	31,2

Pension Spending evolution and projection to 2050 (OECD) *(% of GDP)*

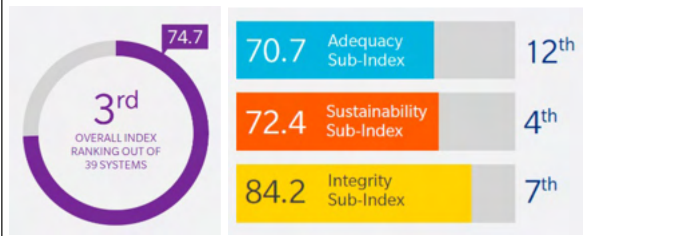


Replacement Rate Indicators

Men	Individual earnings, multiple of average					
Women (where different)	0.5	0.75	1	1.5	2	3
Gross relative pension level	38.7	49.0	50.1	50.1	50.1	50.1
(% average gross earnings)	*33.4*	*41.0*	*41.8*	*41.8*	*41.8*	*41.8*
Net relative pension level	46.2	56.7	57.8	57.8	57.8	57.8
(% net average earnings)	*39.5*	*48.2*	*49.0*	*49.0*	*49.0*	*49.0*
Gross replacement rate	77.4	65.4	50.1	33.4	25.0	16.7
(% individual gross earnings)	*66.7*	*54.7*	*41.8*	*27.9*	*20.9*	*13.9*
Net replacement rate	81.1	71.5	57.8	42.4	34.0	24.5
(% individual net earnings)	*69.2*	*60.8*	*49.0*	*35.9*	*29.0*	*21.0*
Gross pension wealth	13.9	11.8	9.0	6.0	4.5	3.0
(multiple of individual gross earnings)	*14.6*	*12.0*	*9.2*	*6.1*	*4.6*	*3.1*
Net pension wealth	14.6	12.9	10.4	7.6	6.1	4.4
(multiple of individual net earnings)	*15.2*	*13.3*	*10.8*	*7.9*	*6.4*	*4.6*



Mercer CFA Institute Global Pension Index



Global Pension Transparency Benchmark

Not available for Israel

Note: Data that is comparable across different countries is very difficult to find, as pension systems and definitions tend to differ significantly. We use data from multiple sources, which are as recent as possible. The basic economic data is provided by the OECD.

Pension reforms in Israel

By Avia Spivak and David Leiser64

a. Introduction

The pension system in Israel consists of a first pillar -National Insurance- and second pillar-occupational pension. The first pillar is a meager state pay-as-you-go pension, consisting of a flat pension that includes seniority increases up to 50 percent. It totals 20 percent of the average wage (October 2020 figures[65]). The formal retirement age is 67 for men and 62 for women. This is an income-tested pension until age 70, and universal after that age. The first pillar includes an actuarial increase of 5% per year of postponing retirement. The first pillar focuses on preventing poverty among retirees. It is a progressive system up to a point, since benefits are fixed but taxes are increasing with income up to a ceiling.[66] There were no paradigmatic reforms in the first pillar in the recent decades.

The major reforms in the Israeli system concentrated on the second pillar, hence we concentrate on it in this paper. This is also the aspect that may contain lessons for the Dutch reform.

b. A short sketch of the reforms concerning the second pillar

Pension funds were established in Israel in the early 1950s mainly by the Labor Union. **Employers' role ended with their contribution to the fund.** They were DB funds, where the structure of benefits was vindicated by Swiss actuaries. There was no government guarantee of the benefits, even though some people assumed that there was an implicit one. As life expectancy increased, steps were taken to increase the contributions, but not enough to meet the increase in the actuarial deficits. The Finance Ministry started to demand actuarial reports that showed the mounting problem.[67]

There were two reforms: an intermediate one, in 1995 and a final one in 2003. The *Histadrut* (Labor Union) wanted the government to rescue the funds. Eventually they will pay the price that they will no longer own the funds.

64 Center for Pensions, Insurance and Economic Psychology, Ben-Gurion University of the Negev, Israel

65 A year ago, the ratio was 22.3% since average wage increased by more that 10% in the current crisis.

66 Recently it was pointed out that since longevity is positively correlated with income, the system is less progressive than assumed.

67 Some of the hard liners in the *Histadrut*, the Labour Union, claimed that the correct model was pay-as-you-go, because one generation is responsible for the other, and held that running the system this way precluded deficits.

In 1995, the Histadrut and the government came to an agreement to close the existing funds (called from then on ‘veteran funds’) to new participants, while ‘new funds’ were established, on DC lines.

In 2003, the pension revolution was completed: The veteran funds were declared bankrupt; a special manager was appointed by the Finance Ministry. A law enacted in 2003 established the new system: veteran funds were to be run as collective DC, and if actuarial accounting shows a deficit, benefits must be reduced.

In 2004 the new funds—now completely DC—were sold to large insurance corporations in Israel and from that point on are managed so as to maximize their profits. There are nine such new funds owned by different corporations, and jointly they hold 157.9 billion dollars in total retirement savings.

Both veteran funds and the new funds share a distinctive feature. Special designated indexed bonds that they receive from the government, and cover 30% of their investment portfolio and have a yield of 4.8% indexed to inflation per year. (As we'll see below, earmarked bonds existed before the reform, and their weight was much higher, as was their yield.).

In 2008, Israel took a policy U-turn: collective agreement with the trade unions led to a situation where participation became mandatory for all employees, three years later extended to self-employed and small entrepreneurs. This U-turn was strongly supported by Ministry of Finance. The agreement stipulated that the pension funds must offer three social insurance elements: old age, survivors, and disability insurance. That same year, the pension tax law was modified to require a mandatory minimum annuity during the retirement phase.

c. The political and ideological background

The watershed in Israeli economic policy is the successful fight against inflation, that in 1984 reached 440 percent. This stabilization plan of July 1985 endowed new powers to the Finance Ministry, the prime minister's office and the Central Bank of Israel. By balancing the budget and preventing money printing, the Finance Ministry fought successfully against open-ended governmental commitments. The economic ideology that was adopted was that of the World Bank and the IMF known as the Washington Consensus, that stressed smaller governments, privatization of public economic activities, a functioning private capital market and more broadly, a belief in the advantages of the free market.

The pension funds were a natural target for reform. They meant open-ended commitment, being a DB system without self-adjusting mechanism for the increase in life expectancy; They were public — belonging to the Histadrut trade union and an

impediment to the creation of a free private capital market; and they enjoyed special designated bonds for no less than 93% of their assets.

Political power alternated between left and right since the victory of Menahem Begin's Likud party in 1977, but the Labor Union had been losing ground constantly due to internal crises. In 1985 it was a national unity government that supported the stabilization plan. In 1995, the first part of the pension reform was conducted as an agreement between the Histadrut and the Itzhak Rabin government that was controlled by the Labor Party. This reform still stipulated that 70% of the assets remain covered by the government's designated bonds, and did not go all the way to DC. The Finance Ministry officials waited for the opportune moment to complete the reform. That moment came in 2003.

In 2002 the Israeli economy suffered from a deep crisis, that involved a balance of payment crisis, loss of trust in the banking system, the second intifada (widespread Palestinian terrorism), loss in the value of high-tech shares and a short-term eruption of inflation. In 2003, Premier Sharon nominated Benjamin Netanyahu as Finance Minister. An important part of his economic plan to rescue the economy was the pension reform second part—the new truly DC system. And the total disenfranchising of the labor union of owning pension funds.

As we saw, in 2008 there was a paternalistic U-turn in policy, with the introduction of mandatory retirement savings.

To sum up: The second pillar underwent major changes between 1995 and 2008: from an unsustainable DB system, governed by the unions, to a DC system, organized by the market. The governance shifted from trade unions to professional directors. There are several paternalistic elements, such as: mandatory participation, high contributions, and a mandatory minimum annuity during the retirement phase. The old DB funds were closed for new entry, but this was done differently from the UK and the US, as the remaining risk fell on the participants after the government bail out. The system can be characterized as collective defined contribution, with features of an Anglo-Saxon system (individual, market, risk with the participant) and European paternalistic features. This combination of elements can be viewed as a middle ground between straightforward individual DC (USA, UK) and adaptable DB (NL). Total pension assets in Israel amount to more than 100% of GDP. All these elements contributed to Israel's third place in the Mercer ranking in 2020, which was the first year it was included in the list.

At the time of the reform, DB funds had an actuarial deficit, which could be offset by reducing benefits and increasing contributions. In addition, the government made a significant contribution of about 80 billion Shekels, spread out over 35 years.

A mutual (joint management) is no longer legally possible; pension funds are now for-profit legal entities under professional, independent management. The old DB rights were supported by the government and reduction of rights; thereafter all the risk of not being able to meet the DB promises rests on the shoulders of the participants.

d. Success of the reform

It is difficult to determine whether the reforms produced the desired results. That takes a certain amount of time and you need to have the results of the reform monitored independently, based on relevant and objective data. One factor here is that the OECD calculates the replacement ratio on a theoretical basis (people remain in the labor market from the start until retirement). That and other assumptions do not hold in practice, and the actual replacement ratio may be much lower. A study we performed at the Center for Pensions, Insurance and Economic Psychology in 2018 found that accumulation in the pension funds was lacking. The projected replacement rate we calculated ranged between a mere 35 – 40 percent of the last wage. (The data for the study were furnished by the Finance Ministry, that also supported the study financially.)

Among the reasons for that situation is that young people do not start saving for retirement early. They move from job to job, sometimes with free time in between, do not always pay contributions, and sometimes even withdraw money from their pension account.

Reform always has unexpected and/or unintended effects. Better educated people understand the system better than less educated people. The implicit assumption in the reform is that the individual can understand and manage risk. This is rarely the case. Participation of lower income quintile is 64.6%. One of the problems is that income tax advantages that apply for higher quintiles do not work here—as their incomes are below the income tax floor.

A good system of financial counseling coupled with tax incentives should therefore be set up. It should be independent, involve a fair revenue model, subsidized if necessary.

e. Lessons from the Israeli reform

The public must be convinced that the reform is necessary to handle a crisis if it is to support it. Interestingly, Actually, it was not the truth in 2002–3: the pension problem was long-run and did not require immediate attention. The problem with the Israeli economy was a short-run macro one. Still, the rhetoric worked.

The unanimity of the professional elite—at the Bank of Israel, the Finance Ministry and Academia proved an important support. The media too supported the reform. The Minister of Finance at the time, Benjamin Netanyahu was—and still is—a very able politician and highly intelligent. He was central to the success of the reform. It fit well his ideological agenda, which is 1980s U.S. republican. Netanyahu managed to paint the reform as the way to save the pension funds. The prime minister, Ariel Sharon, gave him full support.

A lesson mentioned often by Finance Ministry veterans is that radical, paradigmatic reforms should be done swiftly and decisively, and one needs to wait for the opportune moment. The attitude of Finance Ministry officials is that if you are not satisfied with the results of negotiations, try to modify them later. They did not like the 1995 reform, which did not go all the way to DC, and eventually obtained what they wanted in 2003.

When drawing parallels with other countries, the Netherlands in particular, one must remember that the Israeli reform of 2003 was done with the benefit of much political power, as major legislation replaced labor negotiation, while the Labor Union was so weak that it could not resist the reform.[68] This legislation declared the pension funds bankrupt, and appointed a special manager to oversee their recovery. Naturally, any reform must be open to changes as one learns along the way. Indeed, 2008 saw significant changes with the introduction of mandatory pension and minimal annuity distribution.

One important lesson from Israel and other countries is that management fees are rarely reduced due to competition itself. The regulator must help in this matter. In Israel, the regulator –The Capital Market Authority—has substantial power over the pension funds, and uses that power to promote competition between the funds so as to reduce the management fees.

68 Some negotiations followed, which led to some modifications in the arrangement, but not the general concept.

10. Belgium

Pension System in 2020

Belgium's retirement income system comprises public, occupational, and private pension schemes. The public pension scheme is earnings-related and has a means-tested safety net. Insurance companies typically operate voluntary private pension arrangements.

The employed, self-employed, and civil servants are compulsorily insured under the statutory pension scheme. Contributions amount to 7.5% for employees and 8.86% paid by the employer. The pension income depends on preceding earnings, current income level, and marital status. The maximum pension benefit equals 60% of pensionable income (adjusted career average earnings) for singles and 75% for married individuals. There is also a means-tested 'minimum guaranteed income for elderly people,' obtained by every person older than 65 whose pension and other income are below a certain threshold. In order to qualify for a full pension, the individual has to have a contribution record of 45 years at the age of 65 (this includes time on unemployment or disability benefits). Retirement benefits are indexed to changes in the consumer price index.

There are three types of occupational pension plans in the second tier, most DB, although DC is increasing: company schemes, industry-wide schemes, and individual pension arrangements. Contribution rates to occupational pension plans are usually laid down in the plan rules. Most plans are predominantly employer-financed, with contribution rates ranging from 0.5% to 1% for employees with income below the social security ceiling and 4% to 5% for income above that ceiling. Benefits can be paid out as annuities or as lump-sum payments.

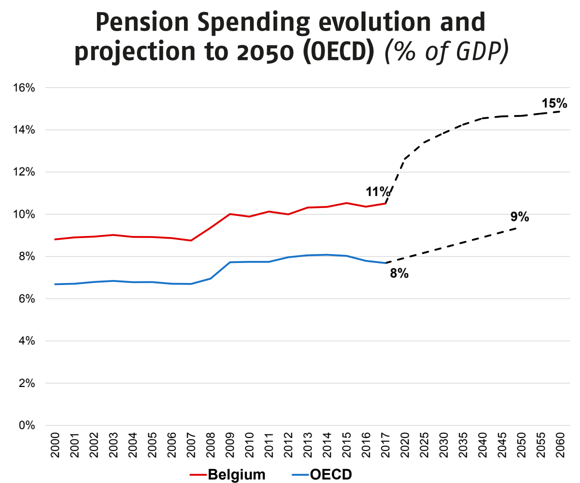
The Mercer Index ranked Belgium number 16th out of a sample of 39 pension systems in 2020. According to the analysis, the overall index value could be increased by: (i) Increasing the level of household savings and reducing the level of household debt, (ii) introducing a requirement that part of the retirement benefit must be taken as an income stream, (iii) Increasing coverage of the private pension arrangements, (iv) introducing a minimum level of mandatory contributions into a retirement savings fund, and (v) Increasing the labor force participation rate at older ages as life expectancies rise.

The Belgian pension system: key statistics

Key indicators

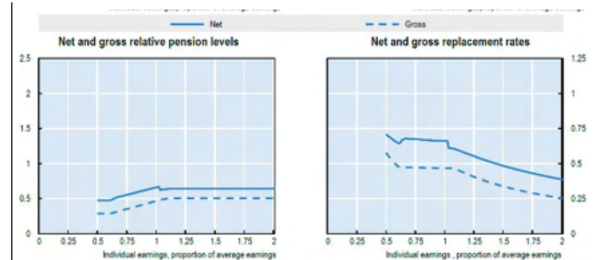
		Belgium	OECD
GDP per capita	USD	43 582	55 657
Population	Thousands	11 322	41 584
Dependency ratio	%	55	20
Average worker earnings (AW)	EUR	48 455	53 883
	USD	57 196	41 584
Public pension spending	% of GDP	10,7	8,0
Life expectancy	at birth	81,4	80,7
	at age 65	20,0	19,7
Population over age 65	% of working- age population	33,1	31,2

Pension Spending evolution and projection to 2050 (OECD) *(% of GDP)*

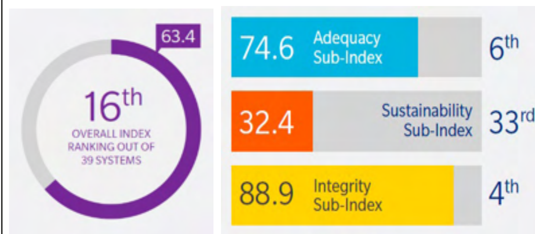


Replacement Rate Indicators

Men *Women (where different)*	Individual earnings, multiple of average 0.5	0.75	1	1.5	2	3
Gross relative pension level	28.7	35.3	46.8	50.5	50.5	50.5
(% average gross earnings)						
Net relative pension level	47.4	55.5	66.2	64.1	64.1	64.1
(% net average earnings)						
Gross replacement rate	57.3	47.1	46.8	33.7	25.3	16.8
(% individual gross earnings)						
Net replacement rate	70.7	67.4	66.2	48.3	38.7	27.5
(% individual net earnings)						
Gross pension wealth	10.1	8.3	8.2	5.9	4.4	3.0
(multiple of individual gross earnings)	*11.0*	*9.1*	*9.0*	*6.5*	*4.9*	*3.2*
Net pension wealth	12.4	11.9	11.6	8.5	6.8	4.8
(multiple of individual net earnings)	*13.6*	*13.0*	*12.8*	*9.3*	*7.4*	*5.3*



Mercer CFA Institute Global Pension Index



Global Pension Transparency Benchmark

Not available for Belgium

Note: Data that is comparable across different countries is very difficult to find, as pension systems and definitions tend to differ significantly. We use data from multiple sources, which are as recent as possible. The basic economic data is provided by the OECD.

Pension reform in Belgium

By Yves Stevens and Emma Suzanne van Aggelen[69]

The Belgian pension system differs immensely from the Dutch pension system. Although we are neighboring countries, there are quasi no similarities. The Belgian first pillar is not based on citizenship as the Dutch AOW but is composed of three different public pension schemes, i.e., for employees, self-employed and civil servants. These three systems do not only deliver very different pensions going from low for self-employed to high for civil servants but they also operate on other principles going from an average wage calculation ("middelloonregeling") for employees to last wage systems ("eindloonregeling) for civil servants. Compared to the Dutch second pillar, the Belgian second pillar seems small if not trivial. In 2020 the total accumulated capital in Belgian occupational pensions was (only) 91,5 billion Euro.[70] This amount refers to all accumulated capital by employees and self-employed. Civil Servants only have a statutory pension. The second pillar covers around 85% of the Belgian working population but with limited average acquired rights (less than €20.000 for employees and less than €10.000 for self-employed).

It is well known that it is very difficult to compare pension systems due to the historical, cultural, political and ideological embedding. Comparisons tend to overestimate certain parameters and even stretch conclusions too far by actually ignoring the true "pension identity" of a country. This makes it also very difficult to draw general lessons from other countries. Nonetheless, the following table gives a comparative fact sheet between Belgium and the Netherlands. The table is a mere comparison and serves to show how different both countries truly are.

When asked to give an insight into the Dutch pension agreement from a Belgian perspective than the first item that comes to mind is the "structural" aspect of the (proposed) reform. Many Member States of the European Union have continually altered and tried to better their pension systems. These reforms have mainly been parametric instead of structural. Structural reforms such as in Hungary and Poland have led to a loss of trust in their pension systems by the population at large. The only continental European Member state that has truly been able to alter their pension system structurally was Sweden in times of (relative) economic growth. The mere fact that structural pension reforms are a tedious affaire makes the Dutch Pension agreement a very interesting exercise. How far can the system be stretched?

69 University of Leuven

70 *http://www.fsma.be/sites/default/files/public/content/NL/Pensioenen/sectoroverzicht_2020.pdf*

	Belgium	Netherlands
In principle obligatory for employers in branches of industry	+	+
Voluntary for employers as sponsoring companies	+	+
Important role for the social partners at all levels including governance	–	+
Obligatory for employees	+	+
Only collective plans within branches of industry or companies	+	–
Coverage possible in collective plans for self-employed	–	+
Individual funding (individual capitalization)	+	–
Fixed guaranteed return for the employee (1,75% in 2021)	+	–
Employee bears the investment risk	–	–
Solely the employer or branch of industry chooses the provider	+	+
Personal investment choice of the employee	–	–
Legal possibility of shorting rights	–	+
Pay-out in lump sum	+	–
Pay-out indexed	–	+
Wage philosophy	+	–
Social protection philosophy	–	+

The second element that draws the attention is the true and well considered shift from the more classical DB approach to a DC approach. Belgium has undergone a similar evolution over the last three decades. However it was a very gradual change in the pension policy by sponsoring companies or the branches of industry. The legislator never intervened. The only thing the legislator installed was a guaranteed return (infra). However the shift from DB to DC was slow and people weren't shortened. All DB rights have remained in place and still remain. The structural change from DB to DC happened in Belgium slowly and was led by a "bottom up" approach instead of a governmental dictate.

The move in Belgium from DB to DC took place at company level. Apart from a few small exceptions there were and still are no real DB schemes at the level of branches of industry. Companies that shifted from DB to DC however had to respect the existing rights of members. This is called "grandfathering". Hence those who were affiliated to the DB schemes never lost their rights. The reasons for grandfathering are twofold. On the one hand the occupational company plans are part of the individual labor contract. Reducing or changing benefits is in principle legally not possible unless there is a collective labor agreement. Secondly a full freeze of the existing rights would be considered as a breach of property by many members. This could lead to internal conflicts within the company. Grandfathering is the principle. The consequences are mainly to be found in the administrative follow-up. Many old DB schemes are still "up and running" for ever fewer members.

The third item that draws the attention from a Belgian perspective is the disappearance of the funding ratio. It will not come as a surprise that such an idea would be impossible in Belgium given the fact that we have a fixed minimum guaranteed return on all schemes (infra). Abandoning the funding ratio would lead to a de facto cancellation of the guaranteed return. The classical Dutch approach and its' adjacent heated debates on the funding ratio has never existed in Belgium. There are several reasons for this lack of a similar debate. The main reason is however the pay-out in lump sums. Belgian providers don't have to pay out in annuities and thus the longevity risk, the investment risk and inflation risk (indexation) after retirement are solely in the hands of the individual.

Belgium is one of the only countries in the world (together with Switzerland) where the occupational pensions have a guaranteed return. If the accumulated reserves do not cover this guaranteed return at retirement, resignation, withdrawal or even abolition of the pension commitment, the "organizer" is obliged to make up the deficit.[71] This "organizer" is either the sponsoring company for company plans or the social partners for sectoral plans. In 2021 the minimum rate of return in DC schemes is 1.75%. A plan participant is always covered by this guaranteed return and he will not bear any risk of losing principal. It goes without saying that the instalment of this guaranteed return has a long history of heated debates. The guarantee was installed in 2003 by the Belgian legislator. At that time the minimal guarantee was fixed at 3,75%. In simple terms the debate was about the level of social protection required. Many argued against the guarantee stating that in the long turn the instalment of a guaranteed return will have adverse effects because pension providers will be very risk averse. Defendants of the guarantee argued that occupational pensions should not be seen as an investment tool but as social protection. Given the fact that the pay-out is in lump sums in Belgium the guarantee should prevent the loss of pension by the pensioner at the moment of retirement when the investments crash. Pension experts from both sides of this debate were continually contradicting each other. Today, this opposition is still present but less strong. The main debate is on the level of the guarantee not on the mere fact that the guarantee exists. In 20 years time the guaranteed return has attained a certain level of sanctity whereby it is impossible to question it. The debate would immediately turn on other debated issues such as the high level of subsidies given to occupational premiums or the fact that pay-out in annuities should not be made possible. The best way to describe the current debate in Belgium on this topic is by referring to the British rock band "Status Quo".

71 Article 24 OPL

In the last decades Belgium underwent several parametric reforms. A major structural reform was prepared in 2014 by a specialized commission.[72] This preparation did not lead to the proposed reform. The failure of this reform was due to many reasons. There was definitely a certain political dread. The reform altered the entire structure of the first pillar by installing a pension system based on points that could be earned throughout the career. This new system wasn't welcomed by many stakeholders. The new system was often duly misrepresented creating chaos amongst the population at large. The effect was clear: many stakeholders feared that the new system would touch on the existing rights and structures. There are two main lessons learned from this failure. The first is that the structural reform needs political engagement in educating both the population and the stakeholders. If there is no political backbone for this learning process, then the chances to success are slim. Secondly although a long transition period was foreseen and documented, the fear of citizens to lose rights should not be underestimated. Various stakeholders easily organizes large scale opposition based on this fear.

From a political point of view parametric reforms are easier to explain, to defend and to find allies for. Structural reforms do not only require long preparations such as in the Netherlands but also require a long-term political engagement whereby a new cabinet cannot just change the ongoing reforms.

The Dutch Pension agreement is thus a very interesting experiment from a Belgian perspective. Will they succeed in reforming where the Belgians only did parametric reforms in the end? The cards are good. The Netherlands do not compare with the continental Belgian social protection model. When it comes to occupational pensions the Dutch belong in the Anglo-Saxon world.

72 *https://www.academischeraadpensioenen.be/documenten#points*

Literature

Baily Martin N. and Jacob F. Kirkegard, *US Pension Reform—Lessons from other countries*, Peterson Institute for international economics, 2008.
Holzmann Robert, Palmer Edward, Palacios Robert and Sacchi Stefano (eds), Progress and Challenges of Nonfinancial Defined Contribution Pension Schemes, vol I and vol II, 2020.
Lekniute Zina (2020) '*Essays in Pension Underfunding: The Case of the U.S. State Pension Funds*'.
Lever Marcel, Eduard Ponds, Ryanne Cox, Manuel Garcia-Huitron (2015): *Internationale vergelijking van pensioenstelsels: keuzevrijheid kan ruimer, maar niet onbegrensd*, Netspar Brief #3.
Munnell Alicia and Sass Steven A., 2006, *Social Security and the Stock Market*, Upjohn Institution.
Munnell Alicia H., Jean-Pierre Aubry, Anek Belbase, and Joshua Hurwitz, 2013, *State and local pension costs: pre-crisis, post-crisis, and post-reform*, Center of Retirement Research Boston, February 2013.
Munnell Alicia H. and Anqi Chen, 2020, *401(k)/IRA Holdings in 2019: An Update from the SCF, issue in brief*, Center of Retirement Research Boston, November 2020.
Rauh Joshua D., Irina Stefanescu and Stephen P. Zeldes, 2020, Cost saving and the freezing of corporate pension plans, *Journal of Public Economics*, vol. 188, 2020.
The Orange Report, *Annual Report of the Swedish Pension System*, 2019.

References Sweden

AMF (2020). "AMFs Flyttrapport 2020: Fler flyttar sin tjänstepension men många är fortsatt omedvetna".
Bovenberg, L., Cox, R. and S. Lundbergh (2015). "Lessons from the Swedish occupational pension system", Netspar Design Paper, 45. Netspar Industry Series.
Bovenberg, L. and T. Nijman (2016). "Personal pensions with risk sharing", Journal of Pension Economics and Finance, 1-17.
Brüggen, E., Böhnke, M. and T Post (2019). "Appreciated but complicated pension choices? Insights from the Swedish Premium Pension System", Netspar Design Paper, 116. Netspar Industry Series.
Cronqvist, H., Thaler, R. and Frank Yu (2018). "When Nudges are Forever: Inertia in the Swedish Premium Pension Plan". AEA Papers and Proceedings, Vol. 108 May 2018.
Finansinspektionen (2019). Konsumentskyddsrapport 2019.
Mercer CFA Institute Global Pension Index 2020
Regeringskansliet (2017). "Förstudie om möjliga strukturella förändringar för ett tryggare och mer effektivt premiepensionssystem". S2017/03516/SF

References Chile

Alcalde, P., and B. Vial. (2017) "Intermediary Commissions in a Regulated Market with Heterogeneous Customers." Working paper. The Catholic University of Chile.
Altamirano, A., S. Berstein, M. Bosch, G. Caballero, M. García-Huitrón, and M. Silva (2019). "The Peruvian Pension System: Diagnostic and Reform Avenues." IDB Technical Note 1776. DOI: http://dx.doi.org/10.18235/0002051
Altamirano, A., M. Bosch, S. Berstein, M. García-Huitrón, M.L. Oliveri. (2018). *Presente y Futuro de las Pensiones en América Latina y el Caribe*. Monografía, Inter-American Development Bank.

Arenas, A., and P. Gana (2005): "Proyecciones del gasto fiscal previsional en Chile, Bonos de reconocimiento 2005-2038", Estudios de Finanzas Públicas, n.6, Budget Office.

Azuara, A., M. Bosch, M. García-Huitrón, D. Kaplan, and M. Silva (2019). "The Mexican Pension System: Diagnostic and Reform Proposal." IDB Technical Note 1651. Inter-American Development Bank.

Central Bank of Chile (2020). "Regulación de Asesores Previsionales y Estabilidad Financiera" (Box V.1) in Financial Stability Report First Half 2020.

Bemelmans-Videc, M.-L., Rist, R. C., and Vedung, E. (1998). *Carrots, sticks and sermons: Policy instruments and their evaluation*. Transaction Publishers, New Brunswick, N.J., U.S.A.

Bennet, H., and K. Schmidt-Hebbel (2001): "Déficit previsional del sector público y garantía de pensión mínima", *Economía Chilena*, vol.4, n.3, pp.87-95.

Barr, N. y P. Diamond (2008). *Reforming Pensions: Principles and Policy Choices*. Oxford University Press.

Berstein, S., M. Morales y A. Puente. (2015). "Rol de un seguro de longevidad en América Latina: casos de Chile, Colombia, México y Perú." Documento presentado en el XIII Seminario Internacional de la FIAP.

Berstein, S. (2010). *The Chilean Pension System*. Superintendence of Pensions, Chile.

Berstein, S., Castaneda, P., Fajnzylber, E., and Reyes, G. (2009). *Chile 2008: A Second-Generation Pension Reform*. Superintendence of Pensions, Chile.

Blake, D. (2020). "Nudges and Networks: How to use behavioural economics to improve the life cycle savings-consumption balance." The Pensions Institute, Discussion Paper WP2009.

Bosch, M., Felix, C., García-Huitrón, M. (2021). "Better Pensions Institutions for a post-COVID-19 era: Lessons from Pension Advisory Boards around the World." Social Policy Note. Inter-American Development Bank.

Bosch, M., Felix, C., García-Huitrón, M., Silva-Porto, M.T., (2020a). "Acceso al ahorro obligatorio para el retiro en tiempos de covid-19: consideraciones de política pública." *Social Policy Note*. Inter-American Developing Bank. http://dx.doi.org/10.18235/0002379.

Bosch, M., Felix, C., García-Huitrón, M. (2020b). "Better Pensions Institutions for a post-COVID-19 era: The Role of Automatic and Semi-automatic Parametric Adjustments." *Social Policy Note*. Inter-American Development Bank.

Bosch, M., M. Garcia-Huitron, C. Pages, L. Ripani, and G. Rucci (2018). "The Future of Work and Pensions in Latin America." Chapter 5 in *The Future of Work: Regional Perspectives*. Inter-American Development Bank, African Development Bank, Asian Development Bank, and European Bank for Reconstruction and Development.

Bosch, M., Melguizo, A., and Pages, C. (2013). *Better Pensions, Better Jobs: Towards Universal Coverage in Latin America and the Caribbean*. Inter-American Development Bank.

Bravo, D. (2015). Final Report. Chile Presidential Advisory Council on The Pension System.

Ceballos, L., and D. Romero, (2020) "Price Pressure in the Government Bond Market: Long-term Impact of Short-term Advice." Available at http://dx.doi.org/10.2139/ssrn.3513739

Cerda, R. (2008) "The Chilean pension reform: A model to follow?" Journal of Policy Modeling, Volume 30, Issue 3, ISSN 0161-8938, https://doi.org/10.1016/j.jpolmod.2006.12.008.

Corbo, V. y K. Schmidt-Hebbel (2003). "Efectos macroeconómicos de la reforma de pensiones en Chile, en Resultados y Desafíos de las Reformas a las Pensiones," págs. 259-351. FIAP. Santiago de Chile.

Da, Z., B. Larraín, C. Sialm, J. Tessada (2016). "Destabilizing financial advice: Evidence from pension fund reallocations." *The Review of Financial Studies*, vol 31 (10).

Diamond, P., and S. Valdés (1994). "Social Security Reforms," in B. Bosworth (ed.), *Chilean Economy: Policy Lessons and Challenges*, Washington: Brookings Institution.

Edwards, Sebastian (1998), "The Chilean Pension Reform: A Pioneering Programo" In *Privatizing Social Security*, edited by Martin S. Feldstein, 33–62. A National Bureau of Economic Research Project Report. Chicago: University of Chicago Press.

Figliuoli, L., V. Flamini, M. Galdamez, F. Lambert, M. Li, L. Bogdan, R. Mowatt, J. Puig. A. Klemm, M. Soto, S. Thomas, C. Freudenberg, A. Orthofer (2018). "Growing Pains: Is Latin America Prepared for Population Aging?" Departmental Paper No. 18/05, International Monetary Fund.

Frölich, M., Kaplan, D., Pagés, C., Rigolini, J., and Robalino, D. (2014). *Social insurance, informality, and labour markets: how to protect workers while creating good jobs* (No. 7879). Oxford University Press.

Fuentes, O. F. Villatoro, and J. Ruitort (2021a). "Mislearning and (Poor) Performance of Individual Investors." Mimeo.

Fuentes, O., R. Fullmer, M. García-Huitrón (2021b). "A Tontine Solution for Chile." Forthcoming. Working Paper. Superintendence of Pensions, Chile.

García-Huitrón, M. y E.H.M. Ponds (2016). "Participation and Choice in Funded Pension Plans: Guidance for the Netherlands from worldwide diversity" Netspar Design Paper. Netspar Industry Series.

Garcia-Huitrón, M., and M. van Leuvensteijn (2015). "International Pension Reform Diffusion: A Tale About Chile and the Netherlands." *Het Verzekerings-Archief* (4).

Gill, I. S., Packard, T., and Yermo., J. (2004). Keeping the promise of social security in Latin America. The World Bank.

Iglesias, A. (2009). Pension reform in Chile revisited: what has been learned? Social, Employment and Migration Working Papers 86, OECD.

Illanes, G., and M. Padi (2015) "Competition, asymmetric information and the annuity puzzle: Evidence from a government-run exchange in Chile." Working paper.

Impavido, G., Lasagabaster, E., and Garcia-Huitron, M. (2010). *New Policies for Mandatory Defined Contribution Pensions: Industrial Organization Models and Investment Products*. The World Bank and Palgrave McMillan.

Kay, S. J. (2014). "Political Risk and Pension Reform in Latin America and Central and Eastern Europe." Paper prepared for the ISA/FLACSO meeting, Buenos Aires, July 23–25, 2014.

Kotlikoff, L. (2008). "Pension Reform as the Triumph of Form over Substance." *Economists´Voice*, Berkeley Electronic Press.

Lopez, F, and K. Nuñez (2021e). "Social protests and the stock prices of financial institutions: Evidence from Chilean No+AFP." Mimeo. Universidad Alberto Hurtado.

Marcel, M. (2006). Final Report. Chile Presidential Advisory Council.

Martínez, G. (2012). Review of Impavido, G., Lasagabaster, E., and Garcia-Huitron, M. (2010). New Policies for Mandatory Defined Contribution Pensions: Industrial Organization Models and Investment Products. *Inter-American Conference on Social Security*.

McKinsey (2016). "Diminishing Returns: Why Investors Need to Lower Their Expectations." McKinsey Global Institute.

Morales, A., O. Fuentes, P. Searle, F. Stewart (2017). "Pension Funds and the Impact of Switching Regulation on Long-Term Investment." World Bank Policy Research Working Paper No. 8143.

OECD (2019), OECD Employment Outlook 2019: The Future of Work, OECD Publishing, Paris, https://doi.org/10.1787/9ee00155-en.

Prat E., J. (1964). "Informe sobre la reforma de la seguridad social chilena", Editorial Jurídica de Chile.

Queisser, M. (1999). "Pension Reform: Lessons from Latin America," OECD Development Centre Policy Briefs 15, OECD Publishing.

Queisser, M. (1997). "Pension reform and private pension funds in Peru and Colombia," Policy Research Working Paper Series 1853, The World Bank.

Ribe, H., Robalino, D., and Walker, I. (2012). *Incentives, Labor Markets, and the Challenge of Universal Social Protection in Latin America and the Caribbean*. The World Bank Group.

Sinha, Tapen (2000) *Pension Reform in Latin America and Its Lessons for International Policymakers*. Boston, MA: Kluwer Academic Publishers.

Schmidt-Hebbel, K. (2001). "Chile's Pension Revolution Coming of Age," Chapter 6 in *Pension Reform in Six Countries: What Can We Learn From Each Other?* Axel H. Börsch-Supan and Meinhard Miegel editors. Springer-Verlag Berlin Heidelberg.

Superintendence of Pensions (2013 and 2020). Technical Note No. 4 and Technical Note No. 6.

Valdés, S. (2006). "Política fiscal y gasto en pensiones mínimas y asistenciales," *Estudios Públicos*, n. 103, pp. 44-110.

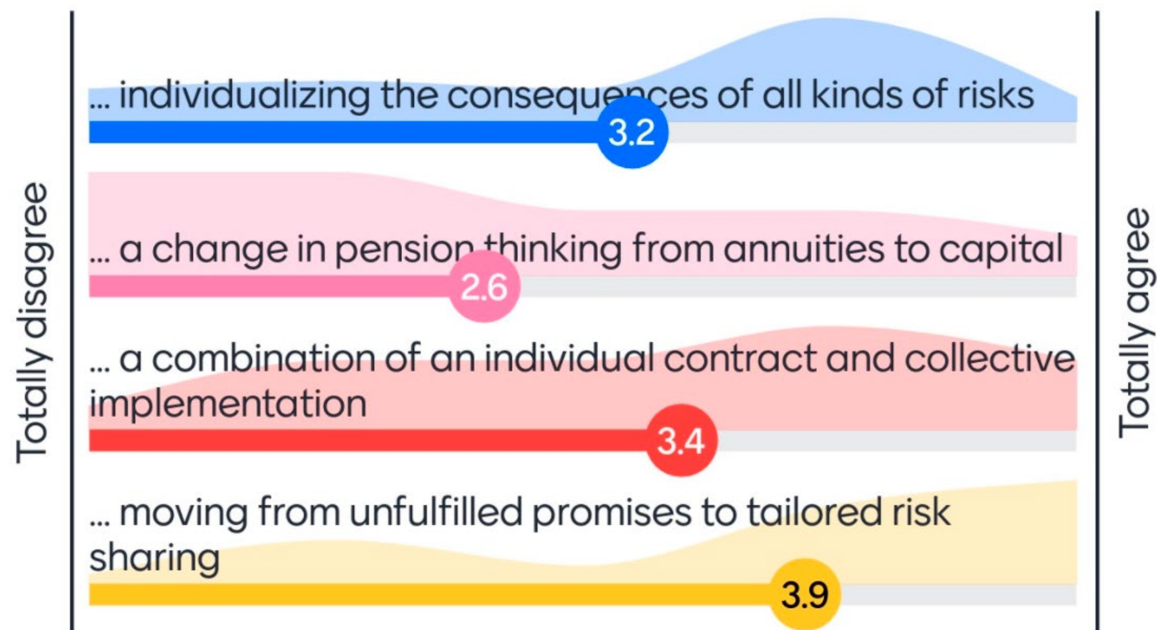
Valdes, S. (2002). *Pension policies and pensions markets: a university textbook for Latin America*. Ediciones Universidad Catolica.

Valdés, S. (1998). "The Latin American Experience with Pension Reform," *Annals of Public and Cooperative Economics*, Wiley Blackwell, vol. 69(4), pages 483-516, December. World -Bank (1994). Averting the Old Age Crisis. World Bank Group.

World Bank (1994). *Averting the Old Age Crisis*. Oxford University Press.

Appendix 1: Results Mentimeter Netspar seminar 30 March 2021

Question: what is the central purpose of the Dutch pension reform?



Additional suggestions by seminar participants:

Abolition of the "doorsneesystem"
Abolition of the actuarial interest rate
Fear of having to cut benefits
Better explanation
Better link between economic and financial developments
Better risk sharing
Collective risk sharing, personal accrual
Conversion of a more or less "guaranteed" pension to a more flexible pension
Participants to bear an explicit risk, to be able to make choices and to be accountable for them
Clarity
A more transparent and more appropriate allocation of risks and returns
Creating a pension system that fits the current spirit and culture. More individual and more flexible
Finding a better system that combines adequate pensions for retirees which are also affordable
Formal move away from nominal entitlements
Equal pay for young and old
Hopefully more realistic expectations
Current system no longer sustainable
More link between contributions and benefits
Promise less, deliver more
Less politically dependent
Less subsidization between groups of participants
Towards capital accumulation
Taking and sharing the pain
Shifting risk to participants
Partitions between cohorts
Make more transparent and fair
Be more transparent about risks. Not a promise you can't keep
Transparency
From untenable promises to 'fair' distribution of risks
Simplify
Trust
Do away with the actuarial interest rate

Network for Studies on Pensions, Aging and Retirement

This is a publication of:
Netspar
Phone +31 13 466 2109
E-mail info@netspar.nl
www.netspar.nl

June 2021