Swiss Pension Fund Industry Dynamics and Challenges: Is imprinting at founding responsible for a slow rate of change in asset allocation?

KREMETH, STEFAN,MARKUS

Swiss Pension Fund Industry Dynamics and Challenges

Is imprinting at founding responsible for a slow rate of change in asset allocation?

Stefan Markus Kremeth

000584827

Doctor of Business Administration

Durham University Business School

Durham University

Durham 2025

I have been intrigued by the movements in financial markets during my entire adult life.

Abstract

Solid pension funds are crucial for both individuals and society. They play a vital role in ensuring the financial well-being of retirees, reducing the burden on public resources, contributing to economic stability, and acting as significant investors in the financial markets. This research analysed whether the initial economic conditions during the introduction of the Swiss Federal Occupational Pensions Act (BVG) in 1985, marking the beginning of the modern Swiss pension fund era, led to an imprinting effect on Swiss pension funds and collective foundations, potentially negatively influencing the rate of change and returns on invested capital. While the underlying theory of imprinting in the context of corporate demography has been supported by various research in different industries, it has yet to be applied to Swiss pension funds and collective foundations.

The author of this project first conducted a preliminary study with professionals from the Swiss pension fund industry in 2018. The pilot study can be found at the end of this research paper (Appendix 5). As the study progressed, he was inspired to examine the pension fund consulting industry's influence on asset allocation in Swiss-based pension schemes. When working through the final "Investment Consultants Market Investigation" report by the U.K. Competition & Market Authority, U.K.[1] was immediately captivated by the potential impact of pension fund consulting firms on pension funds' investment processes.

He then expressed confidence in the feasibility of accessing elite senior pension policy leaders by strategically refining the research questions and prioritising the acquisition of valuable insights. Leveraging personal contacts within the industry helped facilitate access to a select cohort of prominent participants. The interview program was designed to examine the roles of 14 distinguished industry experts within the Swiss pension industry, with the data collection process structured in two distinct stages. The first stage consisted of a pilot study conducted in the second half of 2018. The second stage involved semi-structured interviews with leading pension fund management experts within Switzerland and Liechtenstein.

[1] Competition & Market Authority. (2018).

This research endeavours to offer a novel exploration of the intricate dynamics inherent in Swiss pension fund management. The findings of this thesis indicate that a considerable number of elite pension fund experts engaged in this study demonstrate a pronounced inclination to affirm established institutional asset allocation paradigms. This tendency is exacerbated by a shortsighted outlook, which seems largely influenced by existing regulatory frameworks and external and internal reporting guidelines. These factors may significantly influence their decision-making processes and overall investment strategies. Consequently, and due to their conservative asset allocation strategies, the earnings potential in their pension funds is not fully exploited.

This dissertation offers five strategic recommendations to significantly enhance the long-term performance of pension assets in Switzerland and strengthen policyholders' trust. These recommendations include adjusting the current asset allocation to align with prevailing market conditions, utilising the existing regulatory framework, and professionalising the boards of trustees in pension funds and collective foundations.

Table of Contents

List of Tables

List of Abbreviations

AHV/IV	Old-age and survivors' insurance and disability insurance	23, 40, 112, 117
ASIP	Swiss Pension Fund Association	38, 65, 69, 112
AUM	Assets under Management	20, 76, 77, 92, 158
BPVV	Ordinance 20.12.05 on the Law on Occupational Pension Provision	44, 45, 117
BVG	Federal Law on Occupational Retirement, Survivors and Disability Pension Plans, dated June 25, 1982	4, 13, 18, 21, 24, 34, 35, 36, 37, 38, 39, 47, 48, 52, 59, 73, 75, 76, 79, 81, 99, 105, 112, 117, 133, 134, 135, 139, 147, 151, 153, 156, 163, 171
BVV2	Ordinance of 18 April 1984 (as of 1 January 2024) on Occupational Retirement, Survivors, and Disability Pension Plans	117
CH	Confoederatio Helvetica, i.e. Switzerland	43
CFO	Chief Financial Officer	149, 156, 157
DB	Defined Benefit Pension Plan	7, 54, 55, 57, 58, 137, 138, 152, 154, 155
DC	Defined Contribution Pension Plan	7, 53, 54, 58, 59, 137, 138, 153, 155, 156
DJIA	Dow Jones Industrial Average	77, 162
FMA	Financial Markets Authority, Liechtenstein	114
GDP	Gross Domestic Product	46, 157
GFC	Great Financial Crisis (2008)	39, 149, 150, 152
LI	Principality of Liechtenstein	43
LOB	Sicherheitsfonds BVG (Guarantee Fund)	41
MiFID	Markets in Financial Instruments Directive, introduced in 2008	117
MiFID II	Markets in Financial Instruments Directive II, introduced in 2018	117
OECD	Organisation for Economic Co-operation and Development	10, 24, 50, 51, 52, 53, 65, 69,

		120, 121, 154, 158
OAKBV	Oberaufsichtskommission Berufliche Vorsorge	155
OPSC	Occupational Pension Supervisory Commission	40, 41, 99, 113
PAYG	Pay as you go	56
SMI	Swiss Market Index	58, 161, 162
USD	US Dollar	24

Declaration

“I hereby affirm that I am the legitimate author of this thesis, which constitutes my original scholarly work. No portion of this thesis has been submitted to support an application for any other degree or qualification at this or any other university or institution of higher learning. Furthermore, I acknowledge my responsibility to indemnify the University of Durham against any claims from third parties pertaining to copyright infringement, breaches of confidentiality, defamation, or any other violations of third-party rights.”

Statement of Copyright

Acknowledgements

This thesis represents the culmination of seven years of part-time research. Multiple individuals' assistance and guidance were instrumental in successfully completing this project.

I would like to express my profound gratitude to my supervisors, Professor Anna Tilba, BA, PhD, who holds the position of Professor of Strategy and Governance at Durham University Business School, and Professor Emeritus László Pólos, MSc, PhD, of Organizational Theory at Durham University Business School. Their unwavering support, patience, and expert direction throughout this research were invaluable. Their extensive knowledge of organisational theory, strategy, and governance significantly informed the formulation of this research and the methodologies employed. I particularly appreciate their encouragement during the challenging moments when my motivation waned, as this journey was arduous.

I would like to thank Mr. Andreas Häberli for generously sharing his extensive industry knowledge with me and discussing this topic over the past few years.

I extend special thanks to Ms. Anne Bailey for her enduring friendship and exceptional assistance during my tenure at Durham University. Her contributions were pivotal in shaping my experience. Many thanks also to Ms. Vikki J. Mooney, Assistant Learning and Teaching Manager at Durham University, for organising my Viva and supporting me with the formalities surrounding the handing in of my dissertation.

Furthermore, I wish to recognise my fellow students, who have become friends and collaborators during this academic venture. The numerous shared experiences and mutual help we provided one another contributed significantly to our collective success.

Lastly, I would like to express my heartfelt gratitude to my partner, Maria, and the four children of our patchwork family for their love, consistent support, and understanding. I especially appreciate their patience during times when I struggled with my Office Word skills, as Linda patiently guided me through the problem-solving process. I am also thankful for my family’s support during periods when my commitment to my studies overshadowed other aspects of my life.

Dedication

I dedicate this dissertation to my dear parents, whose consistent love, support and guidance shaped me into the individual I am today; their love was truly immeasurable. I am confident that they would have taken great pride in witnessing the completion of this research. I also want to express my profound gratitude to my family, M, L, L, L, M, for their unrestricted love, patience and support throughout this journey.

Chapter 1 Introduction

1.1 Introduction to Chapter 1

Chapter 1 articulates the research question and outlines the significance of this study for individuals, society, and academic research, drawing upon existing analyses. Additionally, it establishes the theoretical framework for this thesis. For example, it examines the average performance of Swiss pension funds in relation to the MSCI World Index during a period marked by the decline of 10-year Swiss government bond yields from positive to negative, with these negative yields persisting for seven consecutive years. The summary at the end of Chapter 1 provides the essence of this thesis's structure, highlighting the subsequent chapter's key topics.

1.2 Research Question

This research endeavour aims to critically examine the ongoing issue of suboptimal pension investment performance in Switzerland or the Swiss franc currency area, which includes Liechtenstein. It seeks to illuminate the trends and empirical evidence that highlight this concern within the context of Swiss pension systems. This study's central research question is whether an imprinting effect can explain this phenomenon. Specifically, it investigates whether the imprinting effect that arose around the introduction of the Federal Occupational Pensions Act (BVG) in 1985, marking the beginning of the modern Swiss pension fund era, significantly contributes to the slow rate of change in asset allocation within Swiss pension funds. This question holds immense importance in understanding the dynamics of Swiss pension funds and their long-term investment strategies.

1.3 The Motivation Behind this Study?

Firstly, the author of this dissertation aims to examine the underlying factors contributing to the underperformance of Swiss pension funds and collective foundations. The Swiss Franc (CHF) is widely recognised for its economic stability and resilience, making it a haven during periods of global financial volatility. Switzerland's robust economic framework is characterised by low inflation rates, appealing to businesses and investors looking to mitigate risk. Additionally, the country boasts a prominent financial

services ecosystem, offering access to a sophisticated infrastructure that supports reliable financial transactions and investment activities. Investors are further attracted by the diverse opportunities within the Swiss economy, which thrives on key sectors such as pharmaceuticals, finance, and advanced manufacturing technologies. Participation in the CHF area allows pathways into these flourishing industries, potentially yielding favorable returns. Switzerland's extensive network of trade agreements, particularly with the European Union, enhances trade relations and promotes stability in transactional processes for businesses involved in import and export activities. Switzerland's political neutrality and effective governance structures provide a secure environment for investors and businesses, making it a desirable location for operational bases. Moreover, the Swiss National Bank (SNB) has a proven track record of effective inflation management, ensuring price stability crucial for financial and investment endeavors.

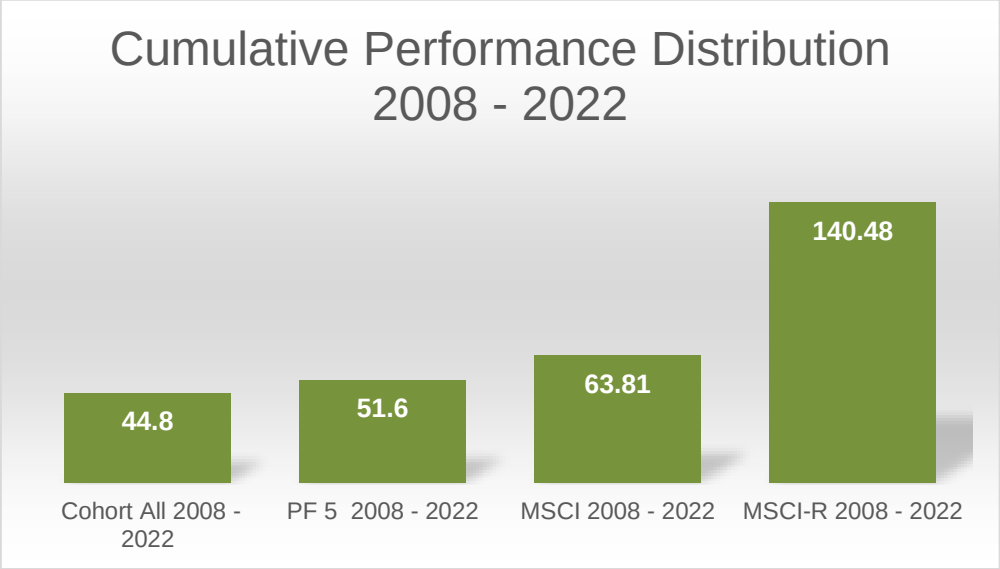
Despite the Swiss Franc currency area's tendency to be influenced by those positive elements that promote economic stability and strategic advantages, statistical evidence presented in “Chapter 3: Research Context” indicates that the asset allocation of Swiss pension funds continues to yield suboptimal financial returns. This situation raises genuine concerns about the implications for the financial well-being of beneficiaries and the broader economic environment, driving the focus of this study.

Table 1, “Cumulative Performance Distribution 2008 – 2022 in %”, illustrates the average performance of pension funds and collective foundations in Switzerland from 2008 until 2022. The data stems from Swisscanto’s yearly Swiss Pension Fund Report, which has covered roughly 70% of all pension funds in Switzerland for over twenty years. It has become an industry standard and the most important research report in the Swiss pension fund industry.

Table 1 illustrates the underperformance of Swiss pension funds and collective foundations (Cohort All 2008 - 2022) compared to PF 5 (PF 5 2008 - 2022), a Swiss-based collective foundation that optimises its asset allocation within the regulatory limits for equity investments and compared to the average annual returns of the MSCI World Index (MSCI 2008 - 2022), a recognised benchmark for global equity investments during the same period. The MSCI World Index was selected for comparative purposes due to its prominence as a widely recognised benchmark. Its performance chart, Table 2, “Performance Chart MSCI World 2008 – 2022”, illustrates that, even over a relatively

brief period of 14 years (particularly in the context of pension schemes), global equity investments have consistently managed to rebound, despite being impacted by various global financial market crises.

Table 1: Cumulative Performance Distribution 2008 – 2022 in %



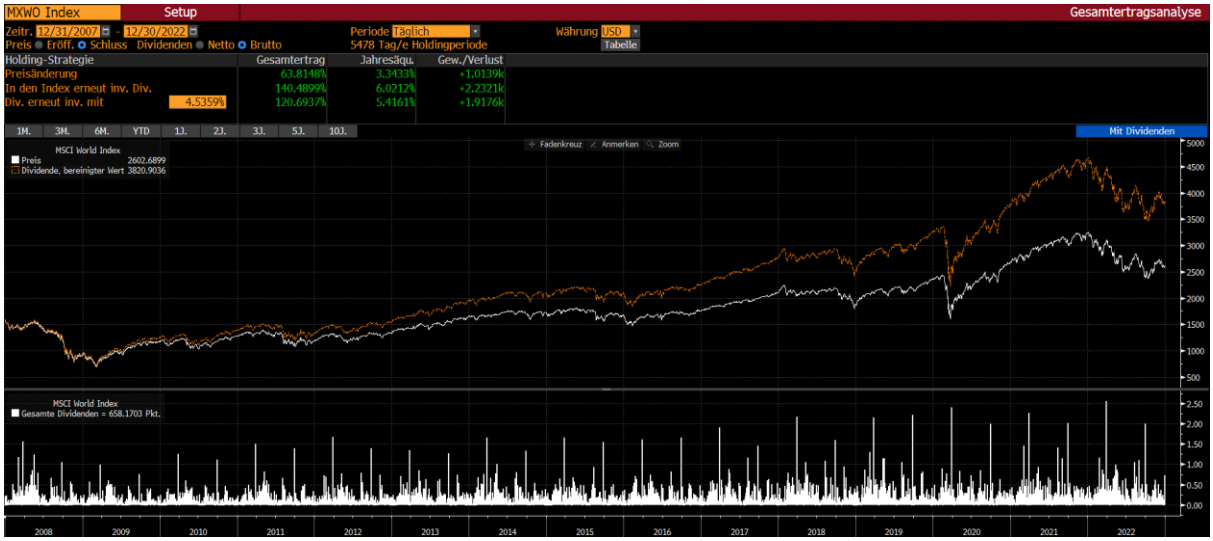
PF 5 is a Swiss-based collective foundation (AUM > CHF 15bn) that outperforms the average Swiss pension fund and collective foundation by 6.82 percentage points over the 15 years examined. The MSCI World Index outperforms the average Swiss pension fund and collective foundation by 19.01 percentage points over the same time. The MSCI-R World Index with reinvested dividends outperforms the average Swiss pension fund and collective foundation by 95.68 percentage points over the selected 15-year period from the beginning of 2008 until the end of 2022

The distinction between "MSCI 2008 - 2022" and "MSCI-R 2008 - 2022" lies in how dividends are treated within the index. When dividends are consistently reinvested (R) into the index, the performance growth can become exponential due to the compounding effect. This concept is further detailed and explained in Chapter 5, particularly in section 5.4.5, titled "The Effect of Compounding".

The performance information for PF 5 can be accessed on the official homepage of the PF 5 Collective Foundation (Appendix 6; List of Interview Participants / Asset Size), while the performance metrics for the MSCI World Index are derived from Bloomberg and displayed under Table 2, “Performance Chart MSCI World 2008 – 2022”. The period from 2008 to 2022 was selected because it encompasses significant events,

including the Great Financial Crisis at the beginning, the global outbreak of COVID-19 in 2020, and the onset of the Russian invasion of Ukraine in February 2022, which led to an increase in global inflation and interest rates. During that period, 10-year Swiss government bond yields declined from a positive to a negative value, remaining negative for seven consecutive years and only turning positive again in 2022, coinciding with rising inflation rates and, consequently, increasing interest rates.

Table 2: Performance Chart MSCI World 2008 - 2022



Source: Bloomberg

Secondly, the underlying motivation for conducting this study is to explore the various factors, trends, existing evidence and influences that contribute to the phenomenon under investigation, the possible impact of the imprinting effect that arose around the introduction of the Federal Occupational Pensions Act (BVG) in 1985, marking the beginning of the modern Swiss pension fund era, to the slow rate of change in asset allocation within Swiss pension funds.

Thirdly, this research aims to provide a comprehensive understanding of Swiss pension funds and collective foundations by exploring the vast existing literature and identifying gaps in current knowledge. It aims ultimately to contribute to advancing the field, addressing pertinent questions that may have significant implications for practice and future research.

1.4 Why this Research Matters

This research holds significant importance as robust pension funds are vital for individuals and society. The pension fund sector within the Swiss franc currency environment represents a significant component of the financial landscape. It explores whether organisational imprinting, as in corporate demographic research, affects the investment behaviour of pension funds, similar to its influence in various other economic sectors. While the foundation of organisational imprinting theory originates from Stinchcombe's 1965 seminal work, ”more recent research has reinforced the idea that founders and founding conditions significantly affect new ventures and that these early influences persist throughout an organisation’s existence”[2].

Stable pension funds are critical for socioeconomic factors in safeguarding individuals' financial well-being during retirement and easing the burden on public resources. Furthermore, pension funds serve as key investors in financial markets, thereby contributing to a nation’s economic stability. For many individuals, a pension represents one of the largest and most significant investments they will ever make. However, a considerable number of Swiss pension funds continue to struggle with poor investment performance.

This prompts an essential question: What factors contribute to this underperformance, and why does it persist? Pension funds may face challenges in achieving optimal returns on their assets due to less-than-ideal incentives. These challenges can arise from regulatory mandates, internal policies, or other constraints that restrict their capacity to raise allocation ratios for riskier assets. Consequently, this causes the funds to become entrenched in lower-performing investments, in which case, pension funds and collective foundations may find it challenging to meet their obligations to insured individuals and society as a whole.

1.4.1 For Individuals

Pension funds provide individuals with a stable source of income during their retirement years, thus leading to income stability[3]. This helps retirees maintain their standard of living and cover essential expenses like housing, healthcare, and daily living

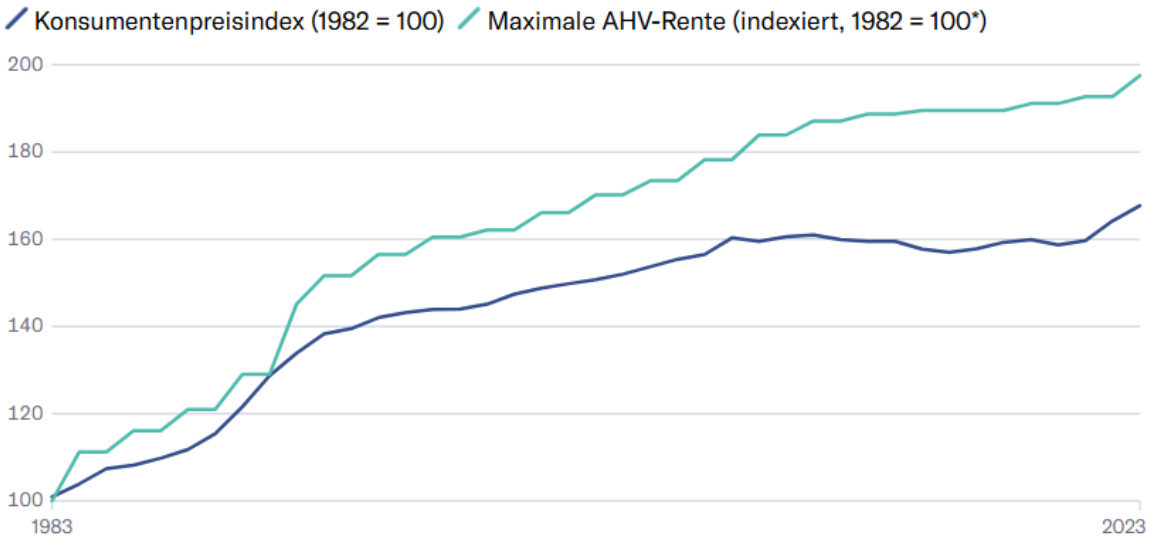
[2] De Cuyper, L., Phillips, B., C., N. (2020) Imprinting Beyond the Founding Phase: How Sedimented Imprints Develop over Time.
[3] Peksevim S., Ercan M. (2023). Do pension funds provide financial stability? Evidence from European Union countries.

costs. Solid pension funds allow individuals to plan for their retirement more confidently, make credible assumptions about their future income, and help them make informed decisions about when to retire and manage their finances. Thus, the sector plays a critical role in providing retirement security for individuals.

1.4.2 For Societies

Solid pension funds reduce the reliance on government-sponsored social welfare programs and can contribute to lower poverty rates among the retired. Its performance is closely tied to the broader economic conditions prevailing in the region. Individuals with sufficient retirement savings are less likely to depend on public assistance, reducing the overall burden on social support systems and helping governments manage their budgets more effectively, which leads to less strain on public resources.

Table 3: Long-term growth in purchasing power of AHV pensions in Switzerland



Source: Neue Zürcher Zeitung

Additionally, retirees with substantial pension funds are more likely to have disposable income, contributing to national consumer spending. Starting from January 1, 2025, the maximum retirement pension in Switzerland from the first pillar, which includes state pension and disability insurance (AHV/IV), will be CHF 2,520.00 per person or CHF 3,780.00 for married couples (equivalent to 150% of the maximum single pension). This, in turn, stimulates economic growth and helps maintain a stable economy. The purchasing power of AHV pensions in Switzerland has demonstrated a consistent long-term increase. This trend is illustrated through a comparative analysis of pension development and the consumer price index, as presented in Table 3: "Long-term

growth in purchasing power of AHV pensions in Switzerland". Furthermore, data derived from the wage index reveals that, on average, real wages have experienced an upward trajectory in seven out of the ten years since 1980[4].

Besides, pension funds are significant long-term institutional investors. They pool the savings of many individuals and invest them in different asset classes, i.e. various financial instruments such as equities, bonds, and real estate. In accordance with the OECD report titled “Pensions at a Glance”, published in November 2019[5], the total value of funded and private pension assets reached USD 42.5 trillion in 2018. According to the Boston Consulting Group's annual report, "Global Asset Management" (2023 edition), the total globally managed assets were valued at USD 76.3 trillion in 2018, with a notable increase to USD 87.5 trillion in 2019[6]. Such capital injection into capital markets can contribute to a nation’s economic development, and its stability helps counter short-term market fluctuations, which may contribute to the overall stability of financial markets. Pension funds also help enable the transfer of wealth across generations. Individuals can pass on accumulated assets to their heirs by saving for retirement, promoting inter-generational equity. Employers offering solid pension plans can attract and retain talent more effectively[7]. Employees often consider retirement benefits a crucial factor when evaluating job opportunities, and any competitive pension plan can be valuable to an overall employment contract.

1.4.3 For Academic Research

The author of this thesis emphasises the profound influence of imprinting on the development of the modern Swiss pension fund system, particularly with the enactment of the Federal Occupational Pensions Act (BVG) in 1985. The objective is to explore whether the established theory of imprinting, primarily studied in the context of corporate demography, can also be relevant to Swiss pension funds. To date, academic research has not investigated the potential effects of imprinting during the foundational stages on Swiss pension funds and collective foundations.

[4] Bundesamt für Sozialversicherungen BSV, Die wirtschaftliche Situation der Bevölkerung im Erwerbs- und Rentenalter.
[5] OECD Pensions at a Glance (2019).
[6] Boston Consulting Group, Global Asset Management, 21 edition. (2023).
[7] Preston S., Palumbo M., Tyson W., Clark J. W. (2023). Vanguard Viewpoints. The changing workforce environment: How employer plans can help attract and retain employees.

1.5 Theoretical Framework

The theoretical framework of this thesis draws upon the history of imprinting research, notably referencing Stinchcombe's work from 1965. Stinchcombe contends that organisations do not simply differ from one another due to their adaptation to shifting environmental conditions. Instead, these differences stem from the unique technological, economic, political, and cultural resources available in their founding contexts.[8] This is followed by examples of current corporate demography research examining if the imprinting perspective emphasises the persistence of environmental conditions during a brief sensitive period.

1.6 Summary

This thesis is structured as follows:

Chapter 1 articulates the research question and delineates the significance of this inquiry for individuals, societies, and the broader field of academic research.

Chapter 2 provides a comprehensive literature review and examines imprinting research's theoretical foundations, exploring its conceptual framework and historical development while highlighting relevant examples from contemporary studies.

Chapter 3 presents an extensive overview of the Swiss pension fund market and its history, specifically analysing the market conditions prevailing when enacting the Federal Law on Occupational Retirement, Survivors, and Disability Pension Plans in 1985.

Chapter 4 outlines the methodology employed in this dissertation. It employs a thematic approach using semi-structured interviews as the principal research method, supplemented by reliable secondary sources. This chapter also offers a detailed examination of the interviewee demographics and discusses the ethical considerations pertinent to the research process.

Chapter 5, designated as the Findings chapter, synthesises the theoretical frameworks with the empirical findings derived from a mixed-method research approach. This approach integrates survey data from semi-structured interviews with leading industry experts, observational data, and documentary analyses, including insights from the Swisscanto yearly pension fund study, annual reports from various Swiss pension

[8] Stinchombe A. L. (1965). Social structure and organisations.

funds, information from official pension fund websites, and reflections garnered during the interviews.

Chapter 6 of this dissertation discusses the contributions to existing literature. It proposes a pragmatic approach for Swiss pension funds to navigate the challenges posed by the prolonged low-interest rate environment within the Swiss Franc currency area. That chapter articulates five strategic recommendations designed to enhance current operational conditions and foster sustainable improvements in the long-term returns on pension assets.

The limitations of this study are primarily related to the number of respondents. The original goal was to collect 100 responses to the questionnaires. However, this was not achievable. As a result, the author had to adapt the approach. After careful deliberation with the study supervisors, the research methodology was revised from a purely quantitative approach to a mixed-methods approach, as detailed in Chapter 4.

Future studies should expand on this work and adopt a more focused approach to understanding why regulatory investment limits are often not followed. The growing complexity of regulatory requirements and the intricate nature of the investment process, which involves various stakeholders, underscore the need for further research. Given the increasing concerns about underperformance in the asset management processes of pension funds and collective foundations, addressing this question is crucial and demands thorough investigation. Another crucial question that falls outside the scope of this research yet is essential for a nuanced understanding of how psychological biases influence financial decision-making is whether trustees incorporate their individual risk preferences, particularly their possible tendency toward risk aversion, into their fiduciary roles[9]. Additionally, the analysis of emerging considerations related to the potential risks and opportunities presented by the increasing use of artificial intelligence (AI) in portfolio management, which also lies beyond the purview of this dissertation, may significantly impact the optimisation of investment portfolios in light of innovative technologies.

[9] Clark, G. L., Caerlewy-Smith, E., & Marshall, J. C. (2006). Pension fund trustee competence: decision making in problems relevant to investment practice

Chapter 2 Literature Review and Theoretical Underpinnings

2.1 Introduction

This chapter provides an overview of the concept and history of imprinting research and reviews existing literature. It also presents examples of current studies that investigate whether the imprinting perspective highlights the significance of environmental conditions during a brief, sensitive period.

Over the decades, numerous theories have emerged within the framework of organisational ecology, which emphasises how the initial founding conditions of an organisation influence its future development. The theoretical roots of this concept can be traced back to a study by Stinchcombe in 1965. Stinchcombe proposed that the social context in which an organisation is established leaves a lasting imprint on its original structures, not primarily because of adaptations to changing environments, but due to the specific resources available at the time of its founding and that such structures persist due to inertia and institutionalisation, even in the face of subsequent significant environmental changes[10].

Backed by prevailing research, the writer of this dissertation further elaborates that conditions at the founding period have a solid and lasting imprinting effect on organisations. Finally, by examining the conditions at the founding of the "modern Swiss pension fund era", as outlined in Chapter 5, he explores the question of what effect this has had on the behaviour of asset managers in Swiss pension systems, notably if the imprinting effect of an ideal environment was leading to inertia, explaining the slow change in asset allocation, in particular, the adherence to a very high proportion of fixed interest rate products during a multi-year period of negative interest rates.

2.2 The Time of Founding is a Critical and Sensitive Period

Corporate demography research has shown that the time of founding represents a critical and sensitive period for organisations and that organisational formation has been a central focus for organisational theorists since the inception of organisation theory. This includes the concept of old institutionalism, which explores how

[10] Tilcsik A., Marquis C. (2013). Punctuated Generosity: How Mega-events and Natural Disasters Affect Corporate Philanthropy in U.S. Communities.

organisations are created and emerge as coherent entities with unique characteristics[11]. Within this framework, the idea of organisational imprinting highlights the importance of the founding context. This concept explains why founders' initial conditions and decisions continue to influence organisations throughout their life cycles[12]. It is argued that organisations become institutionalised when they are valued by their members, customers, and other stakeholders "beyond the technical requirements at hand" As it evolves into an institution, an organisation acquires a sense of self and distinctive identity by adopting values, behaviours, and beliefs that are considered important for its own sake[13].

In 1965, Stinchcombe introduced a related concept, the idea of organisational imprinting[14], highlighting the importance of the founding context. Although the foundation of organisational imprinting theory originates from Stinchcombe's seminal work, “more recent research has reinforced the idea that founders and founding conditions significantly affect new ventures and that these early influences persist throughout an organisation’s existence”[15].

2.2.1 Early Stages of an Organisation

Organisational ecologists have since extended Stinchcombe's work. Various factors characterise the conditions at the founding, and the initial articulation of these elements can profoundly impact the organisation's trajectory. The factors include, among many others, establishing an organisational culture.

2.2.2 Organisational Culture

The early stages of an organisation set the tone for its culture. The founders significantly shape an organisation’s culture, influencing its core norms, identity, and legitimacy[16]. They also affect strategic decision-making by determining the content and range of strategic choices available. The founders' values, beliefs, and leadership style influence organisational culture and create and embed cultural elements likely to develop a distinctive culture[17]. Once established, this culture can be challenging to

[11] Stinchcombe A.L. (1965). Social structure and organisations.
[12] Stinchcombe A.L. (1997). On the virtues of the old institutionalism.
[13] Selznick P. (1957). Leadership in Administration: A Sociological Interpretation.
[14] Stinchcombe A.L. (1965). Social structure and organisations.
[15] De Cuyper, L., Phillips, B., C., N. (2020) Imprinting Beyond the Founding Phase: How Sedimented Imprints Develop over Time.
[16] Gioia, D., Patvardhan, S., Hamilton, A., Corley, K. (2013). Organizational Identity Formation and Change.
[17] Schein E.H. (1983). The role of the founder in creating organisational culture.

change, making the founding period crucial in shaping the organisational identity[18]. Another factor is the definition of mission and vision. The founders play an essential role in defining the mission and vision of the organisation. The mission and vision statements give the organisation a sense of purpose and direction, guiding its actions and decisions. A mission statement is defined further as an enduring statement of purpose that reveals an organisation's product or service, markets, customers, and philosophy. “The fundamental, unique purpose that sets a company apart from other companies of its kind and defines the scope of the company's operations in terms of product and market”[19]. It, therefore, is a mission statement that forms the basis for priorities, strategies, plans, and work tasks. It is the starting point for the design of management tasks and structures. It establishes the fundamental reason for an organisation's existence.[20]

2.2.3 Critical Relationships

A key factor shaping conditions during the founding period is the development and cultivation of relationships. During this stage, essential connections are often forged with a diverse array of various stakeholders, including investors, customers, suppliers, and others. These relationships, alongside the understanding of impact and causality, play a significant role in the entrepreneurial behaviours of founding teams. The success of these early relationships can significantly impact the organisation's long-term success[21].

2.2.4 Shared Core Values

The initial articulation and establishment of shared core values represent another element characterising the conditions at the founding. Core values are the fundamental principles that guide an organisation's behaviour. The founders' values and principles are usually reflected in the organisation's core values. Early imprinting research in corporate demography emphasises that organisations develop their internal logic for action and that the most important aspect of an organisation’s institutionalisation is the incorporation of values[22].

[18] Puiu S. (2021). Organisational Culture.
[19] Pearce J., David Fred. (1987). Corporate Mission Statements: The Bottom Line.
[20] Lynn T., Brady M. (2013). Corporate Mission, Vision and Values.
[21] Agraz-Boeneker, G.M., del Mar Fuentes-Fuentes, M. (2018). Heterogeneity and the Origin of the Founding Team: How the Concepts Relate and Affect Entrepreneurial Behaviour.
[22] Selznick P. (1957). Leadership in Administration: A Sociological Interpretation.

2.2.5 Organisation's Identity

These values shape the organisation's identity and can influence employee behaviour and decision-making[23]. The decisions made by founders in the early stages play a pivotal role in setting the strategic direction for any organisation. Creating a structure of meaning and an awareness of collective action and its purpose, as well as the networks of relationships between the main actors and the actions to be taken, are fundamental determinants of strategic leadership and represent another element in the conditions at the founding. Building a reality and raising awareness of the organisation's path from the past to the desired future are essential elements of strategic leadership. Building a reality and raising awareness of the organisation's path from the past to the desired future are crucial elements of strategic leadership.

Choices made early on, such as those defining the organisation's risk appetite and regarding products or services, target markets, and competitive positioning, will have long-lasting effects on the organisation's success[24]. The early days of an organisation can be crucial for building the organisation's reputation and for attracting top talent, and recruiting talent is vital to any organisation's success. The founders' culture, mission, and values can appeal to individuals who align with the organisation's vision. How the organisation conducts itself in the early stages can impact how it is perceived by customers, investors, employees and the public. A positive reputation is an invaluable asset; however, it is also crucial that strategies are in place to ensure that the next generation of talent is developed. In addition, entrepreneurial education must complement technical training and practical experience, which often is not the case[25]. Systems thinking is recognised as a quality approach for organisations.[26] In summary, the time of founding is a sensitive period because the decisions and actions taken during this time have a lasting impact on the organisation's identity, culture, and trajectory. The environment, including the legal and regulatory framework, the founders and their employees, and the founder's vision, fear and courage play a central role in shaping the

[23] Sai Manohar S., Pandit S.R. (2014). Core Values and Beliefs: A Study of Leading Innovative Organizations.
[24] Tipurić D. (2022). Strategic Direction.
[25] Haley C. 2023).The Value of the Right Tech Talent: Why Attracting the Right Talent is Important to Your Startup Ecosystem.
[26] Brønn C., Brønn P. (2015). A Systems Approach to Understanding How Reputation Contributes to Competitive Advantage.

organisation and its future; the choices made during this period can influence its success or challenges for years.

2.3 The Concept of Imprinting

The concept of imprinting was first identified over a century ago in studies of animal behaviour. In 1873, British amateur biologist Douglas Spalding observed that domestic birds tend to follow the first moving object they see. This behaviour was "stamped in their nature"[27] because of early experience. The German biologist Heinroth made analogous observations two decades later, and his protégé, the Austrian zoologist Konrad Lorenz, began to systematically analyse and conceptualise the phenomenon in the 1930s, coining the term "imprinting" (Prägung). Upon receiving the Nobel Prize for Physiology or Medicine in 1973, the official citation notably underscored Lorenz's substantial contributions to understanding imprinting in developmental biology[28].

As Lorenz insisted, this phenomenon, in which early experience determines subsequent social behaviour, was distinct from other learning processes. Although imprinting only occurred during a short critical period early in an animal's life, its effects persisted even after exposure to other moving objects and separation from the first object[29]. For example, even after being placed in a box to be separated from their mother and Lorenz, goslings would reliably follow their mother or Lorenz, depending on whom they first encountered after hatching. Lorenz's insights proved seminal among bioecologists, who have subsequently documented imprinting in various animal behaviours, including sexual and food preferences, aggression, and the selection of a home area[30].

2.3.1 The Imprinting Concept in Organisational Studies

The concept of imprinting in organisational studies traces its origins to Stinchcombe's seminal 1965 essay, "Social Structure and Organisations." In this work, Stinchcombe sought to develop a theoretical framework to elucidate the correlation between an organisation's age and structural characteristics. He investigated the reasons behind the

[27] Spalding D.A. (1872). On instinct. Nature.
[28] Encyclopedia Britannica
[29] Konrad L. (1935). Der Kumpan in der Umwelt des Vogels.
[30] Konrad L. (1935). Der Kumpan in der Umwelt des Vogels.

inherent similarities observed among organisations and the types of organisations established during a particular historical period. Stinchcombe underscored the critical influence of external environmental forces in shaping the initial structural configurations of corporate entities and the enduring nature of these patterns over time[31]. The concept of imprinting has gained significant attention across various fields, including organisational ecology, institutional theory, network analysis, and career research. It serves as an important perspective for understanding a range of phenomena at multiple levels of analysis. Few concepts in organisation theory have been as widely applied across different levels[32].

Another important aspect of the imprinting hypothesis is that the initial conditions at an organisation's founding exert an enduring (as opposed to temporary) effect on organisations[33]. In the context of Swiss pension funds and collective foundations, this phenomenon may result in inertia, thereby complicating the timely adjustment of asset allocation strategies.

2.4 Established Research

Current corporate demography research likewise suggests that the time of founding represents a critical, sensitive period for organisations. The foundational phase of an organisation is establishing its structural framework, cultural norms, and strategic directives. The core characteristics of the organisational environment at this inception stage profoundly impact the primary entity, shaping its trajectory and operational dynamics during this critical period. A "mapping of an environmental condition onto the organisation" occurs during that time.[34] The imprinting perspective emphasises the persistence of environmental conditions during a brief sensitive period[35]. There are general and well-documented processes regarding imprinting and early processes, as outlined in paragraph 2.5, “Structural Inertia in Corporate Demography”.

[31] Marquis Chr., Tilcsik A. (2013). Punctuated Generosity: How Mega-events and Natural Disasters Affect Corporate Philanthropy in U.S. Communities.
[32] Marquis Chr., Tilcsik A. (2013). Punctuated Generosity: How Mega-events and Natural Disasters Affect Corporate Philanthropy in U.S. Communities.
[33] De Cuyper, L., Phillips, B., C., N. (2020) Imprinting Beyond the Founding Phase.
[34] Carroll, G.R., Hannan, M.T. (2000). The Demography of Corporations and Industries.
[35] Marquis Chr., Tilcsik A. (2013). Punctuated Generosity: How Mega-events and Natural Disasters Affect Corporate Philanthropy in U.S. Communities.

2.5 Structural Inertia in Corporate Demography

Hannan, Pólos and Carroll defined inertia as a persistent organisational resistance to changing architectural features[36]. Hannan and Freeman's theory holds that structural inertia arises as an inadvertent by-product of a particular social selection process imposed on purposeful actors. Inertia derives from the characteristics that make formal organisations favour corporate actors in contemporary societies: reliability and accountability. Reliability means the capacity to achieve low variance in performance quality, including timeliness. Low variance in pension fund portfolios is critical; it is a key factor pension fund management boards are concerned about. Accountability means the ability to construct rational accounts for one's actions. Low variance and accountability, as we will see, play an essential role in the risk management of a pension fund.

2.5.1 Structural Inertia in Pension Funds

Considering such, structural inertia seems logical in any institution favouring low variance and accountability as a core feature in its organisational architecture. Or, as for this thesis, low volatility in the context of a pension fund. Corporate demography research suggests that age-related structural inertia plays a significant role in organisational theory. While various studies show the positive effect of organisational age on the failure hazard, it was also observed that older organisations tend to have more trouble adapting to changing environmental conditions[37]. The innovations of older organisations are more like their previous innovation efforts[38]. “As a result, the appeal to audiences begins to decline with age at some point. According to this argument, failure hazards increase with age for old organisations when inertial forces increase, and the category audiences’ tastes drift over time”[39].

[36] Hannan, M.T., Pólos, L., Carroll, G.R. (2004). The evolution of inertia. Industrial and Corporate Change.
[37] Le Mans G., Hannan M.T., Pólos L. (2015). G., Hannan, M. T., Pólos, L. (2011). Founding Conditions, Learning, and Organizational Life Chances: Age Dependence Revisited.
[38] Gilbert P. (2005). Compassion: Conceptualisations, research and use in psychotherapy.
[39] Le Mans G., Hannan, M. T., Pólos, L. (2011). Founding Conditions, Learning, and Organizational Life Chances: Age Dependence Revisited.

2.6 Summary Chapter 2

Numerous theories have been based on organisational ecology. This approach is based on assumptions about structural and functional organisational changes, emphasising the impact of an organisation's original founding conditions on its future development. Drawing from evolutionary theory, organisational ecology explains how natural selection within a population of organisations influences their social behaviour and structure, serving as the primary driver of change[40]. In essence, the business environment favours suitable companies and eliminates unsuitable ones. Various studies have tested this principle[41].

The theoretical roots of the imprinting concept can be traced back to a 1965 study by Stinchcombe, who suggested that the social context in which an organisation was founded leaves a lasting imprint on its original structures. These structures persist due to inertia and institutionalisation, even in the face of subsequent significant environmental changes[42]. Organisational ecologists have built upon Stinchcombe's work over the years.

The theoretical framework presented in Chapter 2 supports the argument that research on imprinting in relation to corporate demography applies to organisational theories concerning pension funds and collective foundations within the Swiss monetary sphere. Consequently, the introduction of the Swiss Federal Occupational Pensions Act (BVG) in 1985, which marked the beginning of the modern Swiss pension fund era, can be conceptualised as a critical or sensitive period.

[40] Hannan, M. T., Freeman, J. (1984). Structural Inertia and Organizational Change.
[41] Fuertes-Callén Y., Cuellar-Fernández B., Serrano-Cinca C. (2023). The role of organisational factors and environmental conditions on the success of newly founded firms.
[42] Marquis Chr., Tilcsik A. (2013). Punctuated Generosity: How Mega-events and Natural Disasters Affect Corporate Philanthropy in U.S. Communities.

Chapter 3 Research Context

3.1 Introduction

This chapter offers a comprehensive overview of the Swiss pension fund market since the introduction in 1985 of the "Bundesgesetz über die berufliche Alters-, Hinterlassenen und Invalidenvorsorge» (BVG), Federal Law on Occupational Retirement, Survivors and Disability Pension Plans of 1982. The writer of this research refers to that period as the "modern Swiss pension fund era". The chapter delves into the Swiss pension fund market's historical background, its positioning in the global environment, and its regulatory aspects. The focus, however, is on presenting the market condition at the time of the law's introduction and the slow rate of change of the Swiss pension fund's asset allocation mix over the past twenty years.

3.2 Switzerland’s 3-Pillar Principle of Pension Provision

The first pillar, the AHV, aims to provide an essential livelihood, while the third pillar offers additional protection and comfort in old age. The second pillar, occupational pension provision (BVG), bridges the gap between these two. Its primary purpose is to help maintain the previous standard of living, effectively closing the pension gap. This principle was born in 1985 with the introduction of the BVG. In its initial version, the BVG ensured equal funding from employees and employers, with each party contributing 50% of the required amounts. The final pension amount is based on these contributions and, unlike the AHV, does not automatically adjust in response to fluctuations in prices and wages. Additionally, unemployed individuals, part-time employees, and low-income earners are exempt from the mandatory BVG insurance requirement[43].

3.3 Historical Context of the Swiss Pension Scheme Market

Initially, pension funds in Switzerland were reserved for a small elite. Over the 20th century, they were continuously expanded and are considered the second pillar of the Swiss pension system. However, not all employees are still insured by a pension fund. The first pension funds were founded in the second half of the 19th century. Initially,

[43] Relevate by PensExpert. (2024). Geschichte-Schweizer-Sozialversicherungen.

insured police officers, teachers, and civil servants also contributed to the civil service structure. Between 1888 and 1914, most municipalities, larger cities and several Swiss cantons established employee pension funds. The largest pension fund insured the Swiss Federal Railways (SBB) workers and employees. However, other federal employees had to wait until the end of the First World War to benefit from a pension scheme. Except for a few pioneering companies, namely transportation companies (which followed the example of the SBB), banks and insurance companies (which wanted to ensure the loyalty of their employees) or even the large companies in the engineering industry, there were very few pension funds in the private sector before 1914. The development of old-age provisions was accelerated during the First World War. As part of the war profits tax, the federal government granted companies tax exemptions on payments into their own "welfare institutions".

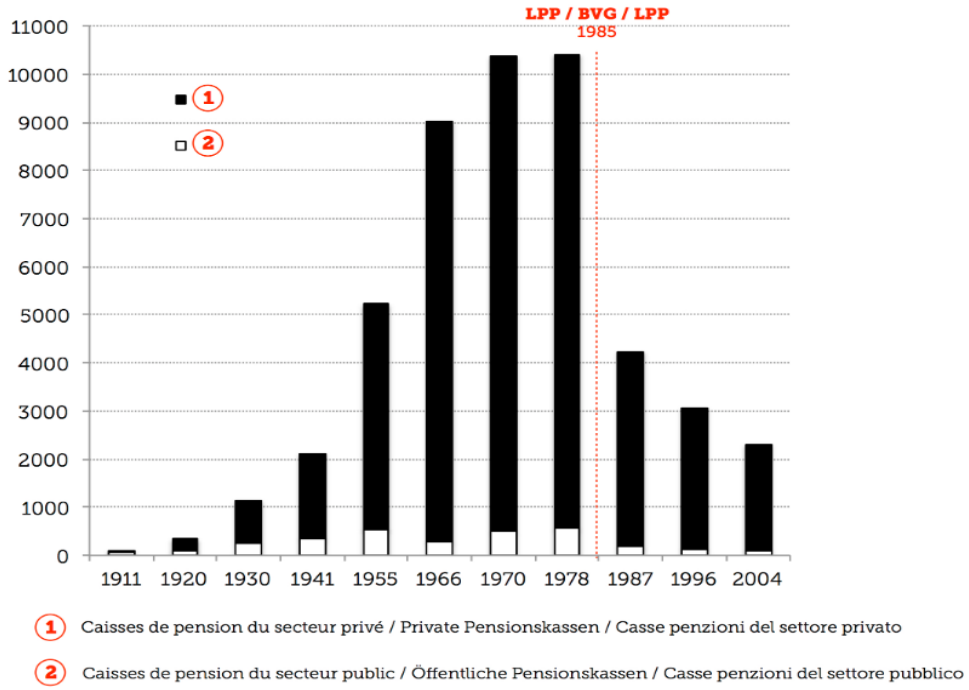
3.3.1 Boom Phase in the Swiss Pension Scheme Market

This measure resulted in a boom phase in the Swiss pension scheme market, and large companies established hundreds of pension funds. In addition to tax incentives, companies set up pension funds to retain their staff and reduce social tensions, culminating in the general strike of 1918. The funds' reserves were also used for self-financing. Since the 1920s, occupational pensions have also been a market for insurance companies in the life insurance business, which managed large companies' pension funds in group insurance. Throughout the 20th century and until the Federal Occupational Pensions Act (BVG) was established in 1985, various pension funds were in operation.

The autonomous funds offered coverage for employees of individual employers, including private companies, cantons, and municipalities. In contrast, life insurers catered to the workforce of multiple employers, primarily in the private sector. Additionally, occupational funds were specific to certain professions, such as doctors and artisans, union-affiliated funds, and funds created for employers within designated economic sectors. Among these pension institutions, only a limited number functioned as genuine insurance organisations, meaning they collected contributions and distributed benefits according to established regulations and actuarial principles. In addition to this somewhat limited circle, employers financed many "welfare funds" and other welfare institutions. This variety of funding sources explains the proliferation of new pension funds over the 20th century: 100 funds in 1903, over 5000 in 1955, and even over

10,000 in 1978.[44] Table 4, "Public and private pension funds in Switzerland between 1911 and 2004", shows an impressive decrease in Swiss pension funds due to tighter regulation with the introduction of the BVG.

Table 4: Public and private pension funds in Switzerland between 1911 and 2004



Source: Leimgruber 2008, Table A1,p-290 – 291, https://www.geschichtedersozialensicherheit.ch/

The regulatory changes and changes in policyholders' tastes led to an environmental shift that left smaller and ageing pension funds so incompatible with regulatory requirements and audience tastes that they had difficulties adapting their offer to match the regulatory obligations and policyholders' tastes.[45] With the entry into force of the BVG, only the institutions of an insurance nature remained, and the number of funds fell from over 10,000 to 1389 between 1987 and 2021.[46] Since the 1920s, the system has included approximately 200 independent funds managed by large companies, around 20 public funds at both federal and cantonal levels, and funds from major municipalities. Additionally, about six life insurance companies still operate within the group insurance market.

This structure has evolved during periods of solid growth as well as during times of significant consolidation. Since the interwar period, the Swiss Association for Private

[44] Leimgruber 2008, Table A1,p-290 – 291 https://www.geschichtedersozialensicherheit.ch/
[45] Le Mens, G., Hannan, M. T., Pólos, L. (2015). Age-Related Structural Inertia: A Distance-Based Approach.
[46] Swiss Federal Statistical Office. Pension fund statistics 2021. Definitive results and key figures.

Sector Employee Welfare has included the leading private sector funds and large life insurance companies. This lobby represented the interests of private pension provision in the context of the first debates on introducing federal old-age insurance (AHV), the first pillar. It advocated the retention of tax advantages and minimal regulation of pension funds. Before the advent of the so-called 3-pillar doctrine in the 1960s, this lobby for private pension provision was heavy in all pension debates. Today's Swiss Pension Fund Association (ASIP), founded in 1997, is a direct successor to this first association. Pension funds played many different roles throughout the 20th century. They formed an essential human resource management element, promoting employee stability and loyalty. The extensive implementation of pension funds within the civil service encouraged loyalty among civil servants and served as a safeguard against corruption.

Beyond their contribution to tax revenue, the reserves of these funds also enabled companies to engage in self-financing. In contrast to the AHV, which operates on a pay-as-you-go system, pension funds utilise a capitalisation approach. This indicates that their funding relies on accumulating reserves, which are then invested in the capital markets to generate income through interest and dividends or to achieve capital appreciation. The assets accumulated in this way very quickly reached considerable amounts. In 1941, they already accounted for one-third of Switzerland’s gross domestic product. The institutions' assets, henceforth called the second pillar, rose rapidly after introducing the BVG in 1985. In 2021, they amounted to 1'159 billion Swiss francs, i.e. 158.4% of that year's gross domestic product, which stood at 731.6 billion Swiss francs.[47] The pension funds are thus among the largest institutional investors in the country.

Managing their assets is also a source of income for banks, investment, consulting, insurance companies, and other experts. For about a century, pension funds were under minimal state regulation, and their mechanisms were rarely the focus of attention. Before the BVG came into force, there was no supervisory law on the funds, and the BVG was also limited to enacting a set of framework conditions to ensure the system's functioning. However, the situation changed at the beginning of the 21st century. Occupational pensions are now the subject of greater attention and provoke passionate

[47] Swiss Federal Statistical Office, Gross Domestic Product

political debates, as demonstrated by the 2017 vote on lowering the BVG conversion rate.[48]

3.3.2 Dominant Themes of the Swiss Pension Scheme Market's Past Decades

Since 1972, there have been a few dominant themes in the Swiss pension fund industry[49]. In 1972, the "three-pillar" principle of pension provision was embedded in the Swiss Constitution. In 1985, the modern Swiss pension fund era started with the first introduction of the Federal Law on Occupational Retirement, Survivors and Disability Pension Plans, dated June 25, 1982. This law introduced compulsory occupational pensions as funded schemes for the second pillar of the Swiss pension system. In 1987, 15'000 pension funds managed total assets of CHF 167 billion. This represented 74% of Switzerland's gross domestic product at that time. In 1995, funds from the second pillar were introduced to promote home ownership. From that point on, money from pension funds could be used either as a down payment or as collateral for a mortgage on an owner-occupied property. In the year 2000, a revision of the Swiss Civil Code was implemented, which specifies how the second pillar of pension funds should be divided in the event of a divorce.

By 2008, during the Great Financial Crisis (GFC), many pension funds experienced a drop in their coverage ratios, falling below 100%. This situation necessitated the restructuring of several funds. In 2010, just two years after the GFC, Swiss pension fund assets reached a new record high of CHF 621 billion. By 2011, the number of pension funds had decreased to 2,191. In 2015, the yield on 10-year Swiss Confederation bonds fell below 0% for the first time. In 2017, Swiss voters strongly rejected the BVG pension reform, with 72.7% opposing it. This reform sought to implement a lower conversion rate and increase women's retirement age. As of 2020, Swiss pension schemes provided coverage for 4.4 million insured individuals, managed by 1,434 pension funds with total assets of CHF 1,063 billion, representing 141% of the gross domestic product[50].

[48] The Federal Occupational Pensions Act (BVG), 1982.
[49] Swisscanto by Zürcher Kantonalbank – Swisscanto Pension Funds Study – development since 1985.
[50] Relevate by PensExpert. (2024), Geschichte-Schweizer-Sozialversicherungen.

3.4 Swiss Federal Law / The Legal Basis

The modern era of Swiss pension funds commenced in 1985, following the Swiss Federal Law on Occupational Retirement, Survivors, and Disability Pension Plans, which was initially adopted on June 25, 1982. This legislation provided a foundational legal framework for developing and regulating occupational pension schemes within the country. The goal of the Federal Law was for occupational benefit plans to comprise all measures on a collective basis that provide older persons, survivors and disabled persons in the event of an insured event (old age, death or disability) together with the benefits of the "eidgenössischen Alters-, Hinterlassenen- und Invalidenversicherung" (AHV/IV) Federal Old Age, Survivors and Disability Insurance allow them to continue their accustomed standard of living appropriately. The salary insurable under the occupational benefit scheme or the insurable income of self-employed persons was not to exceed the income subject to AHV contributions. Furthermore, the Federal Council was empowered to specify the principles of appropriateness, collectivity, equal treatment, regularity, and insurance principles and set a minimum age for early retirement[51].

3.5 Regulatory Environment

Pension funds play a crucial role in safeguarding the welfare of their beneficiaries through a diverse array of responsibilities and functions. This significance is elaborated upon in Chapter 1, Section 1.4, titled "Why This Research Matters," which provides an in-depth examination of pension funds' essential contributions to the financial security of individuals and society. Consequently, the governance and regulation of these matters represent significant public concerns that directly influence the interests of various stakeholders[52].

Eighteen years after the introduction of the Federal Law on Occupational Retirement, Survivors and Disability Pension Plans, in 2003, the Swiss Federal Council adopted an agenda aimed at securing the future of the occupational benefits system.[53] However, another nine years passed until the Occupational Pension Supervisory Commission (OPSC) commenced its activities on January 1, 2012.[54] The Supervisory

[51] Geschichte der beruflichen Vorsorge in der Schweiz | Pensionskassenvergleich (die-pensionskasse.ch).
[52] Clark, G. L. (2022).The problematic nature of UK pension fund regulation.
[53] Occupational Pension Supervisory Commission OPSC. Structural Reform. (2003).
[54] Organisations- und Geschäftsreglement der Oberaufsichtskommission für berufliche Vorsorge (2012).

Commission was created as an independent commission and as part of the structural reform of the occupational pension system, which the Swiss parliament approved on March 19, 2010[55]. Until the OPSC introduction, the 26 cantons enjoyed great freedom in regulating pension funds within their cantons; however, they were always within the boundaries of the Federal Law on Occupational Retirement, Survivors and Disability Pension Plans. The regulatory freedom on a cantonal level persists partially, and some eight cantons have their own regulatory body.

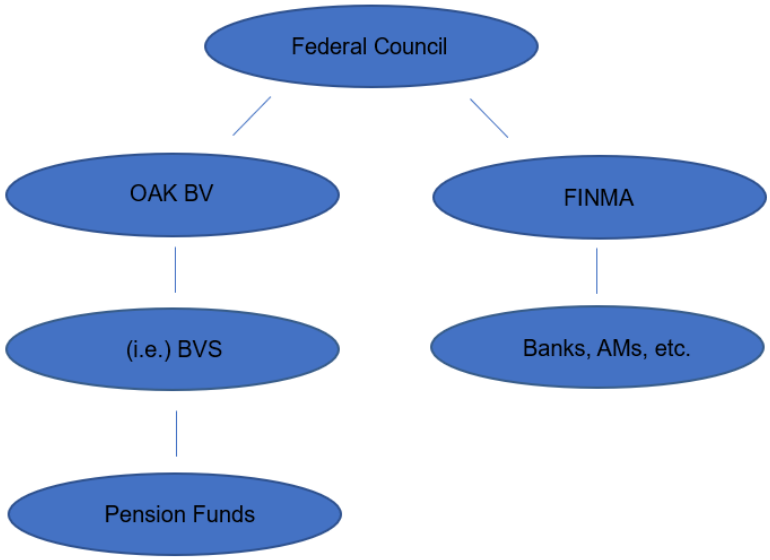
Therefore, the Occupational Pension Supervisory Commission (OPSC) is the highest supervisory authority for the eight regional or cantonal supervisory bodies that oversee the respective pension funds. The registered office of the pension fund determines the jurisdiction of these regional or cantonal supervisory authorities. Consequently, the OPSC cannot directly engage with individual pension funds. The OPSC directly oversees investment foundations, the LOB Guarantee Fund Foundation[56], a national occupational benefits institution whose primary purpose is to secure the retirement assets of all those insured under a pension plan in the event of its insolvency, and the LOB Substitute Occupational Benefit Institution Foundation, a national organisation which acts as a second pillar safety net on behalf of the federal government. It is the only pension fund in Switzerland that accepts any employer and any individual who wishes to join, without exception, provided they meet the statutory requirements[57]. Additionally, the OPSC functions as the licensing authority for occupational pension experts.

The following illustration, Table 5, "Organisational chart: current Swiss Pension Fund and Financial Markets Regulation", exemplifies the current hierarchy of pension fund supervision compared to financial market supervision. In Switzerland, all financial market participants except pension funds are directly subject to the Financial Market Supervisory Authority (FINMA). In contrast, Swiss pension funds are subject to the eight cantonal supervisory authorities. Only those eight supervisory authorities are subject to the Occupational Pension Supervisory Commission. The Swiss Federal Council elects the OPSC's members for four years. It may be composed of seven to nine independent subject-matter experts.[58] On one hand, various cantonal regulatory bodies may contribute to inconsistencies in regulation between the eight cantonal supervisory

[55] Occupational Pension Supervisory Commission OPSC, Structural Reform (2010).
[56] Occupational Pension Supervisory Commission OPSC, Guarantee Fund.
[57] Occupational Pension Supervisory Commission OPSC, Substitute Occupational Benefit Institution.
[58] Organisations- und Geschäftsreglement der Oberaufsichtskommission für berufliche Vorsorge (2012).

authorities, despite the Federal Occupational Pensions Act providing a legal framework for oversight. On the other hand, this system recognises the unique federalist, cultural, and linguistic nuances of Switzerland's direct democracy, encompassing four national languages and diverse cultural differences within a single nation.

Table 5: Organisational chart: Current Swiss Pension Fund and Financial Markets Regulation



Occasionally, there are political discussions in Switzerland asking for only one national regulatory body to supervise all Swiss pension funds, comparable to FINMA, the Financial Markets Authority that directly supervises all regulated financial market participants, i.e. banks, asset managers, brokers, and other financial institutions except the Swiss pension funds. Such a change would undoubtedly take some of the complexity out of today's structure as the cantonal authorities would move their power up to the national regulatory body. In step two, the cantonal regulatory bodies could be dissolved. However, in an environment like Switzerland, where cantons enjoy great individual political power and freedom, such a change may take years, if not decades, because Switzerland is a politically involved country and an essential element of the Swiss federal system is the non-centralised division of powers based on the federalist nation-building in the 19th century, which lies in the fact that Swiss society comprises different religious and linguistic groups and that federalism promised to combine

national unity with multicultural diversity[59]; however, it adds complexity to the decision-making process on the government or canton level.

3.6 Regulation: Swiss Pension Funds Investment Categories

The Ordinance of 18 April 1984 (as of 1 January 2024) on Occupational Retirement, Survivors, and Disability Pension Plans (BVV 2) (Verordnung vom 18. April 1984. (Stand am 1. Januar 2024) über die berufliche Alters-, Hinterlassenen- und Invalidenvorsorge (BVV 2)) regulates the limits for the individual investment categories that apply to total assets. Table 6, "Limits of individual investment categories about the total assets (CH)", lists the individual investment category limits for Swiss pension funds and collective foundations, as specified in the April 18, 1984, Ordinance on Occupational Retirement, Survivors, and Disability Pension Plans (BVV 2). The limits apply to the individual investment categories in % of total assets:

Table 6: Limits of individual investment categories about the total assets (CH)

Art. 55[201] Kategoriebegrenzungen

(Art. 71 Abs. 1 BVG)

Für die einzelnen Anlagekategorien gelten bezogen auf das Gesamtvermögen folgende Begrenzungen:

a.[202] 50 Prozent: für schweizerische Grundpfandtitel auf Immobilien, Bauten im Baurecht sowie Bauland; diese dürfen höchstens zu 80 Prozent des Verkehrswertes belehnt sein; Pfandbriefe werden wie Grundpfandtitel behandelt;

b. 50 Prozent: für Anlagen in Aktien;

c. 30 Prozent: für Anlagen in Immobilien, wovon maximal ein Drittel im Ausland;

d. 15 Prozent: für alternative Anlagen;

e. 30 Prozent: für Fremdwährungen ohne Währungssicherung;

f.[203] 10 Prozent: für Anlagen in Infrastruktur;

g.[204] 5 Prozent: für Anlagen nach Artikel 53 Absatz 1 Buchstabe d^{ter}.

Source: www.fedlex.admin.ch

- Up to 50% for Swiss mortgage bonds secured by real estate, buildings under building rights, and building land, not exceeding 80% of the market value.
- Up to 50% for investments in equities.

[59] Linder, Iff, 2010, p.3.

- Up to 30% for real estate investments, with a maximum of one-third allowed to be invested abroad.
- Up to 15% for alternative investments.
- Up to 30% for foreign currencies without currency hedging.
- Up to 10% for investments in infrastructure.
- 5% for investments by Article 53 paragraph 1 letter d (Investments in derivative financial instruments if there is no leverage effect on the pension fund's total assets).

3.7 Regulation: Liechtenstein Pension Fund Investment Categories

The investment limits for individual categories under Liechtenstein's jurisdiction differ from those applicable to Swiss pension funds. The limits for the investment categories specific to the Liechtenstein pension funds are shown in the Ordinance of 20 December 2005 on the Law on Occupational Pension Provision (BPVV)[60]. These limits are presented in Table 7, "Limits of individual investment categories about the total assets (LI)" The limits apply to the individual investment categories in % of total assets:

Table 7: Limits of individual investment categories about the total assets (LI)

Art. 25[25]

Kategoriebegrenzungen

Für die einzelnen Anlagekategorien gelten bezogen auf das Gesamtvermögen folgende Begrenzungen:

a) 10 %: für bei einem einzelnen Schuldner angelegte Forderungen nach Art. 24 Abs. 1 Bst. b, sofern es sich nicht um Forderungen gegenüber einem Mitgliedstaat des Europäischen Wirtschaftsraums (EWR), der Schweiz oder einer Bank oder einem Versicherungsunternehmen mit Sitz im EWR oder der Schweiz handelt;

b) 75 %: für Grundpfandtitel auf Grundstücken nach Art. 24 Abs. 1 Bst. c; diese dürfen bis höchstens 80 % des Marktwertes belehnt werden;

c) 30 %: für Anlagen in Grundstücke nach Art. 24 Abs. 1 Bst. c, wovon maximal ein Drittel ausserhalb des EWR und der Schweiz belegen sein dürfen;

d) 50 %: für Anlagen in Aktien, ähnliche Wertschriften sowie andere Beteiligungen an Gesellschaften, je Gesellschaft aber höchstens 5 %;

e) 10 %: für alternative Anlagen und realwirtschaftliche Anrechte;

f) 30 %: für Fremdwährungen ohne Währungsabsicherung.

Source: Liechtensteinisches Landesgesetzblatt, Jahrgang 2005, Nr. 288

- 10 %: for claims invested with an individual debtor under Art. 24 para. 1 let. b, provided these are not claims against a member state of the European Economic Area (EEA), Switzerland, or a bank or insurance company domiciled in the EEA or Switzerland.

[60] Ordinance on the Law on Occupational Pension Provision (BPVV), (2005).

- 75 %: for mortgages on real estate under Art. 24 para. 1 let. c: These may be mortgaged up to 80 % of the market value.
- 30 %: for investments in real estate under Art. 24 para. 1 let. c, of which a maximum of one-third may be located outside the EEA and Switzerland; version: 01.01.2021 13 831.401 BPVV.
- 50 %: for investments in shares, similar securities and other company interests, but no more than 5 % per company.
- 10 %: for alternative investments and natural economic entitlements.
- 30 %: for foreign currencies without currency hedging.

3.8 Regulation May Harm Pension Funds' Performance

The research paper titled "The Problematic Nature of UK Pension Fund Regulation: Performing Governance at the Expense of Innovation"[61] contends that the regulatory framework governing the management of pension funds has placed greater emphasis on the performance of governance rather than its substantive quality. This shift prioritises procedural elements and ritualised processes of collective decision-making, designed to uphold governance in UK pension funds, over the critical goal of ensuring sufficient pensions for beneficiaries. While the paper focuses primarily on the UK pension fund market, this critique is equally relevant to the Swiss pension scheme market.

3.9 Founding Conditions of the Modern Swiss Pension Fund Era

In 1985, market conditions for pension funds and collective foundations in Switzerland were exceptionally favourable for those seeking low-volatility and fixed-income opportunities. Investors achieved a risk-free return of 4.5% or higher during a period characterised by low inflation. In addition, Switzerland's population increased from 6.3 million in 1980 to 8.8 million in 2022 (see Attachment 4). This growth has contributed to a more extensive and constantly expanding Swiss pension scheme market. The combination of population growth, declining inflation rates, and relatively high interest rates

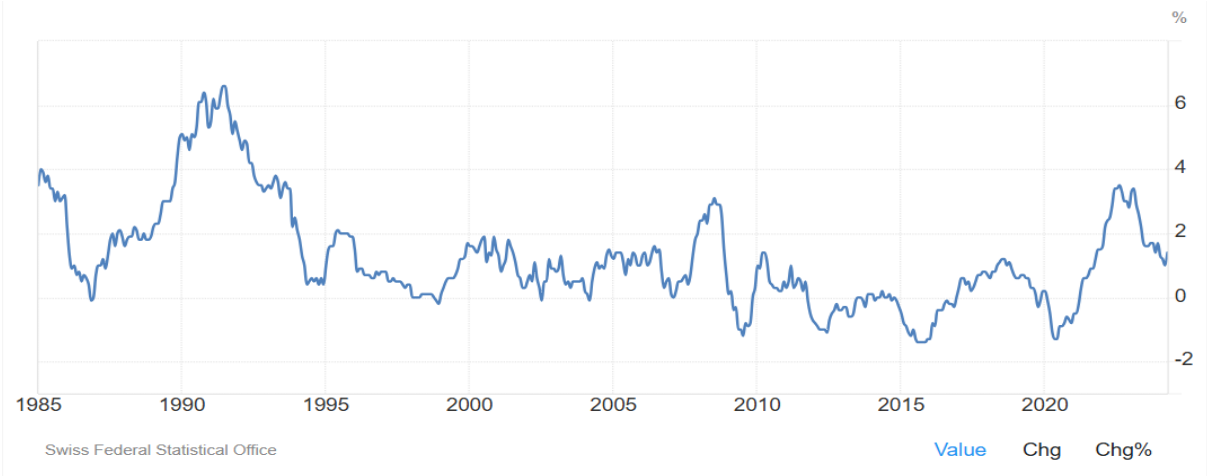
[61] Clark, G. L. (2022). The problematic nature of UK pension fund regulation.

by Swiss standards has created a favourable and low-risk investment environment for this market.

3.9.1 Switzerland's Inflation Rate from 1985 to Today

Switzerland has been known for its low inflation rates over the past decades, with the inflation rate dropping from 4% in 1985 to 0% by 1987, as shown in Table 8, "Switzerland's Inflation Rate from 1985 to Today."

Table 8: Switzerland's Inflation Rate from 1985 to Today



Between 1987 and 1992, inflation rates rose to just over 6% for a relatively short period. However, inflation dropped to nearly 0% in the following five years. From 1993 until now, inflation has fluctuated between 0% and 2%. Thanks to the low inflation rate and the relatively low government debt ratio, which includes all levels of public debts such as federal government (central government), cantons, municipalities and liabilities to the first pillar, the AHV, of just 27.1% of GDP in 2021[62], the Swiss National Bank (SNB) has been able to keep the base rate at a very low level over the past few decades, which is best represented in the market rates for financial futures on Swiss Confederation (government) bonds across various maturities as presented in table 9, "Spot interest rates on Swiss Government Bonds for selected maturities".

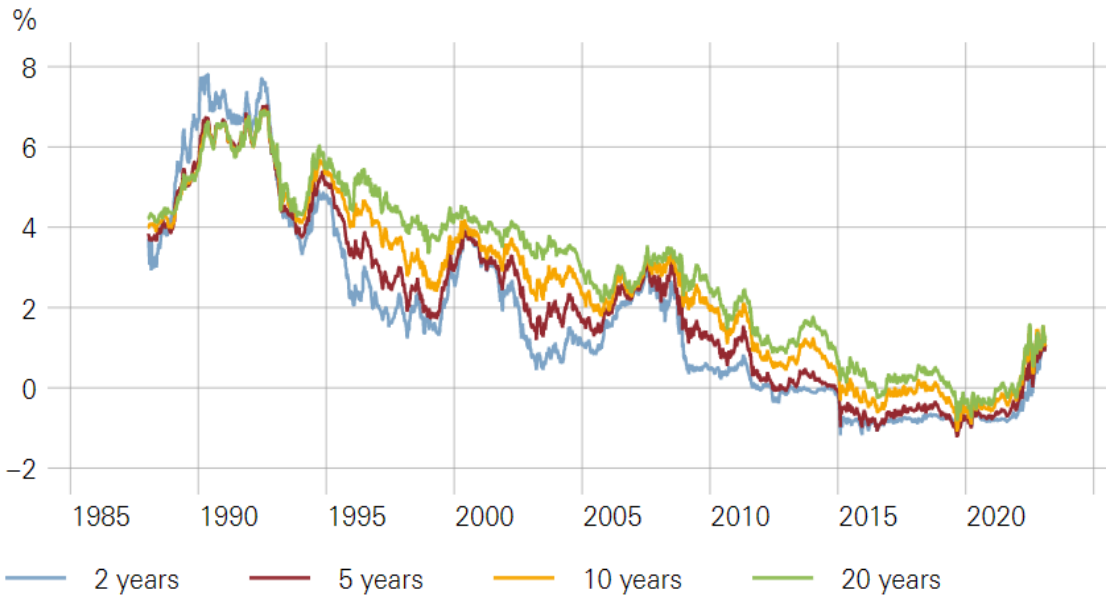
3.9.2 The Fixed Income Market Environment in 1985

When Switzerland introduced the Federal Law on Occupational Retirement, Survivors, and Disability Pension in 1985, the 10-year Swiss Government Bond yield was 4.5%, as indicated in Table 9, "Spot interest rates on Swiss Government Bonds for selected

[62] Statista: Staatsschuldenquote der Schweiz von 2001 bis 2021.

maturities". However, during the period that followed after 1995, interest rates for Swiss Confederation (government) bonds across all major (in the sense of financial markets trading) maturities, namely two, five, ten, and twenty years, fell into negative territory, leading to a significant shift in the Swiss Franc currency base interest rate landscape[63] as outlined in the following subchapter.

Table 9: Spot interest rates on Swiss Government Bonds for selected maturities



Source: Statistics by Swiss National Bank

3.9.3 Environmental Shift Significance

The introduction of the Federal Occupational Pensions Act, a pivotal moment in the history of Swiss pension funds, led, among other things, to a minimum and national regulation of pension funds' investment behaviour. The law was finalised in 1982. However, due to prolonged yet democratic processes in Switzerland, it was only introduced three years later.

When the BVG was finally introduced in 1985, the 10-year Swiss (CH) Government Bond yield stood at 4.5%. A risk-free return of 4.5% per annum was more than Swiss pension fund managers needed to meet the financial demands of policyholders. However, in 1990 and for the three years that followed, the yield for a 10-year Swiss Government Bond rose significantly, reaching over 6% at one point and even hitting 7% per annum for a brief period. This trend, as shown in Table 10, titled "Development of

[63] Spot interest rates on Swiss Confederation bond issues for selected maturities | SNB data portal.

Interest Rates for 10-Year Swiss Government Bonds 1985 - 2021," is essential for understanding the subsequent changes in the historical context of the market environment and their effects on Swiss pension fund investments.[64]

Table 10: Development of Interest Rate 10-Y CH Government Bond 1985 - 2021

Source: Bloomberg

The conditions when the Federal Occupational Pensions Act (BVG) was introduced in 1985 were perfect[65] for Swiss pension fund managers. At that time, bonds were mainly held until maturity and marked accordingly[66] in the portfolios.

This led to low-volatility portfolios with a steady income stream. However, between 1992 and 2014, the environment in which Swiss pension funds operated changed considerably, significantly impacting asset allocation needs. Interest rates for 10-year Swiss government bonds dropped from 7% to 0%, and from the end of 2014 onwards, 10-year Swiss government bonds yielded negatively until the end of 2021. This drastic shift in market conditions[67] forced a re-evaluation of the asset allocation strategy.

At the end of 2014, when the yield on a 10-year Swiss Government Bond dropped into negative territory, the bond ratio as part of the asset allocation in Swiss pension funds stood at 34.7%. Seven years later, after seven years of negative interest rates, the fixed income ratio stood still at 27.4%. The asset allocation of the three largest asset

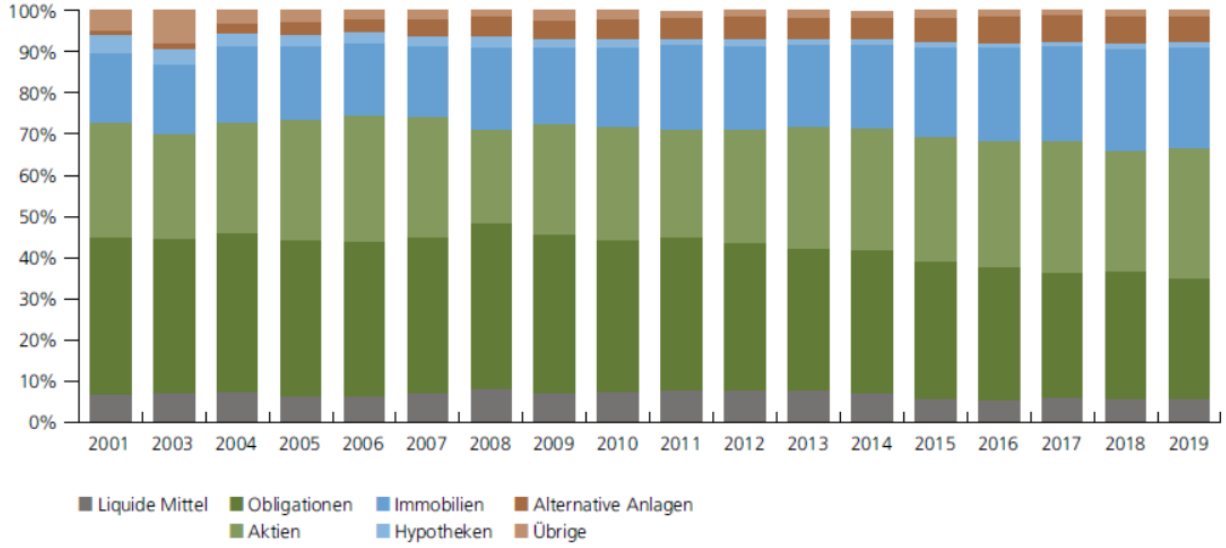
[64] Bloomberg, chart, SZORM Index.
[65] Bloomberg, chart, SZORM Index.
[66] OR 960ff.
[67] Bloomberg, chart, SZORM Index.

classes plus liquidity of the Swiss pension fund industry in 2014 amounted to fixed income at 34.7%, equities at 29.4%, real estate at 20.4%, and liquidity at 7%. In 2021, the asset allocation of the three largest asset classes plus liquidity of the Swiss pension fund industry amounted to fixed income, 27.4%; equities, 33.7%; real estate, 24.6%; and liquidity, 4.6%[68].

3.10 Asset Allocation of Swiss Pension Plans

Table 11, "Asset Allocation Swiss Pension Funds 2001 – 2019", illustrates the development of the three large asset classes, real estate (Immobilien), equities (Aktien) and bonds (Obligationen), in Swiss pension funds from 2001 until 2019.

Table 11: Asset Allocation Swiss Pension Funds 2001 - 2019



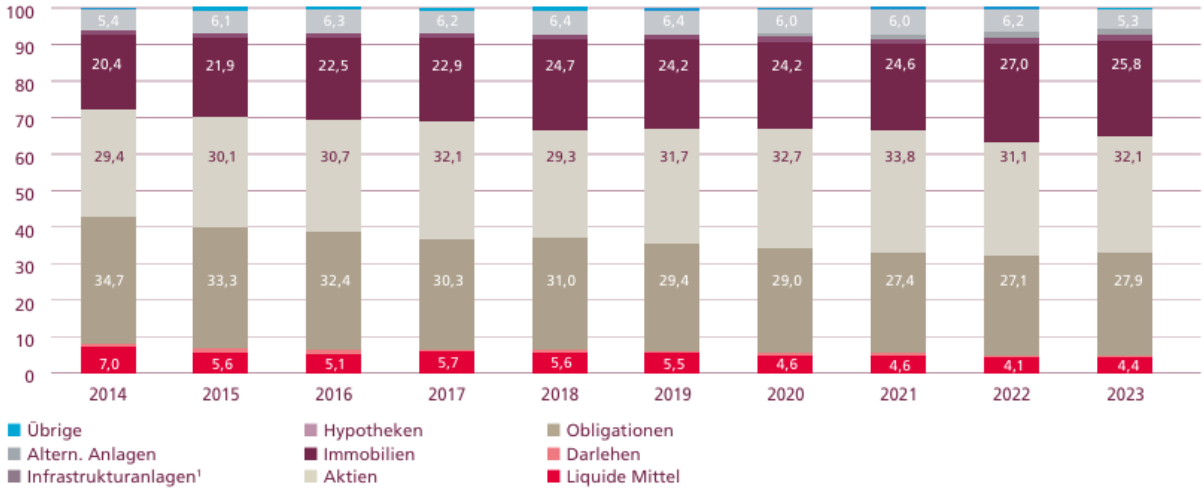
Source: Swisscanto

The so-called "stamp of the environment," i.e. the influence of conditions or core features during sensitive periods like the founding period of the new era of the Swiss pension fund industry, were imprinted to an extent into Swiss pension funds that led to a situation where for years, an asset class was and still is until these days, part of the three dominant asset classes within the Swiss pension fund industry, even though its theoretical calculable yield was minimal, even in negative territory for seven years. The most recent statistics from Swisscanto's Swiss Pension Fund Study 2024[69] indicate

[68] Asset Allocation, Swisscanto by Zürcher Kantonalbank – Schweizer Pensionskassenstudie (2022).
[69] Swisscanto by Zürcher Kantonalbank – Schweizer Pensionskassenstudie (2024).

that in 2021, the average bond asset allocation was 27.4%. The allocation for equities was 33.8%; for cash, it was 6%; and for real estate, it was 24.6%.

Table 12: Asset Allocation Swiss Pension Funds 2014 – 2023 in %

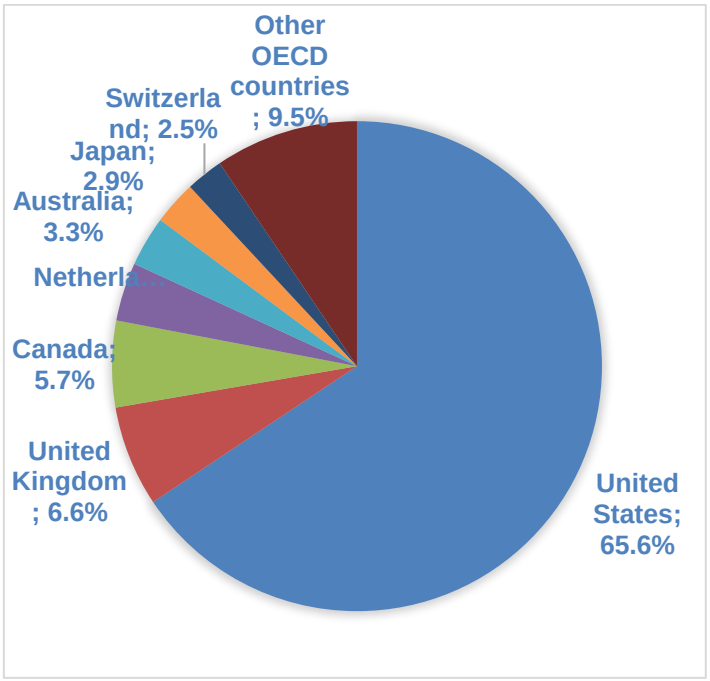


Source: Swisscanto

3.11 The Swiss Pension Scheme Market's Global Positioning

Due to its large asset size, the Swiss pension fund market is substantial and of global importance.

Table 13: Geographical distribution of pension assets in the OECD area, 2021



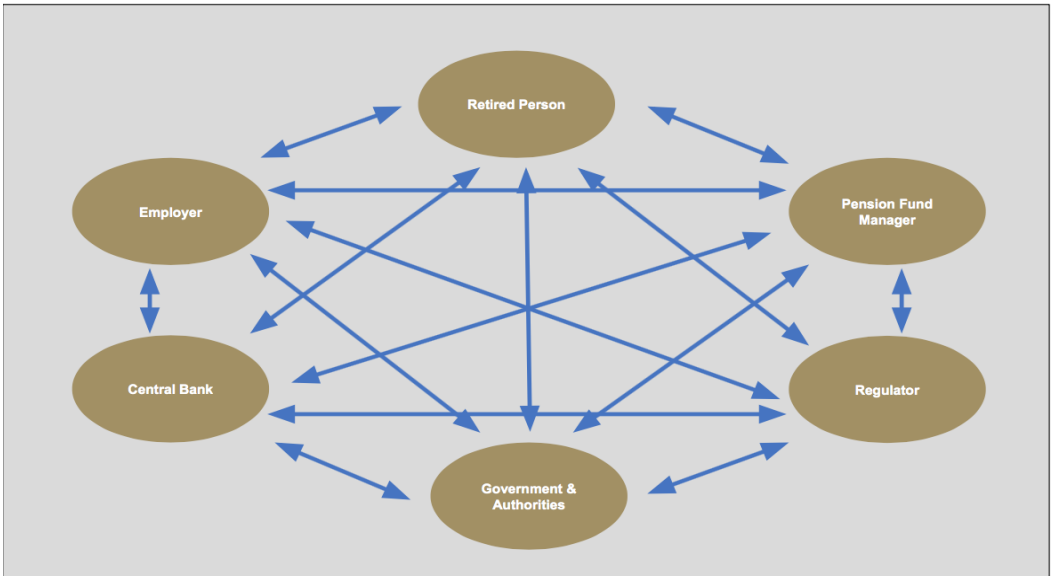
Source: OECD Global Pension Statistics

Table 13, "Geographical distribution of pension assets in the OECD area, 2021," highlights Switzerland's standing among its international peers in the pension scheme market. As a result, the Swiss pension scheme market has been widely diversified and ranked among the ten most considerable global pension scheme markets for decades[70]. It currently ranks seventh in the world, following the United States, United Kingdom, Canada, the Netherlands, Australia, and Japan, accounting for 2.5% of total pension assets in the area covered by the OECD report titled "Pension Market in Focus". Despite having a relatively small population of 8.7 million at the end of 2021, Switzerland plays a crucial role in the global private pension scheme industry.

3.12 The Swiss Pension Scheme Market Interdependence

The interdependence among pension scheme stakeholders in Switzerland is significant. As legal and regulatory boundaries within the “Regulator” field change from one Swiss canton to another, as outlined under section 3.5, “Regulatory Environment,” the complexity may increase. Table 14, “Pension Scheme Stakeholders' Interdependence,” illustrates this complex interdependence.

Table 14: Pension Scheme Stakeholders' Interdependence



Source: Incrementum AG, Liechtenstein

[70] Pension Markets in Focus (2019), OECD.

3.13 Various Types of Pension Plans

Many countries offer retirement-income vehicles that are not only pension funds but are more akin to tax-efficient savings accounts: products such as 401(k)s, SIPPs and other instruments. In the mid-1990s, the World Bank published a comprehensive study that outlined vital concepts and principles of restructuring for pension systems to avert a potential crisis. These concepts were solidified in the well-known document released in 2005 in which the World Bank outlined the "pillar" approach towards pensions,[71] proposing four such pillars: a mandatory first pillar that would be linked to earning degrees, a second compulsory pillar which would be similar to a savings account, a voluntary third pillar and a non-financial fourth pillar which would be informal support in the form of various social programmes. Some of the thinking was echoed in an earlier document produced by the United Nations,[72] which suggested three pillars: a basic pension, a pension from forced savings and a pension from non-forced savings. However, the ethos behind these proposals is similar to that of the World Bank: to avoid a potential retirement crisis in the years to come. These proposals resulted from a worldwide reform of the retirement system, which is ongoing today. Naturally, each country has approached this transformation differently, depending on its demographics, economic capabilities and political will. Consequently, nowadays, the pension sector is profoundly different from what it was a century ago and aims to bridge the long-term financial capital needs of the economy with the retirement needs of the population[73].

Switzerland's pension system consists of three pillars: state, occupational and private pension provision. The first pillar, the old-age, survivors and invalidity insurance (AHV), serves to secure the means of subsistence. The second pillar, the occupational benefit plan (BVG), is intended to maintain the accustomed standard of living in old age. Both the first and second pillars are compulsory. Finally, the voluntary third pillar allows building a private pension to be secure in old age, save taxes, and insure against risks such as financial strains after the death of a household’s primary income provider and occupational disability[74]. Besides the concept of the various pillars, private and public pension funds can be divided into two categories: defined benefit and defined

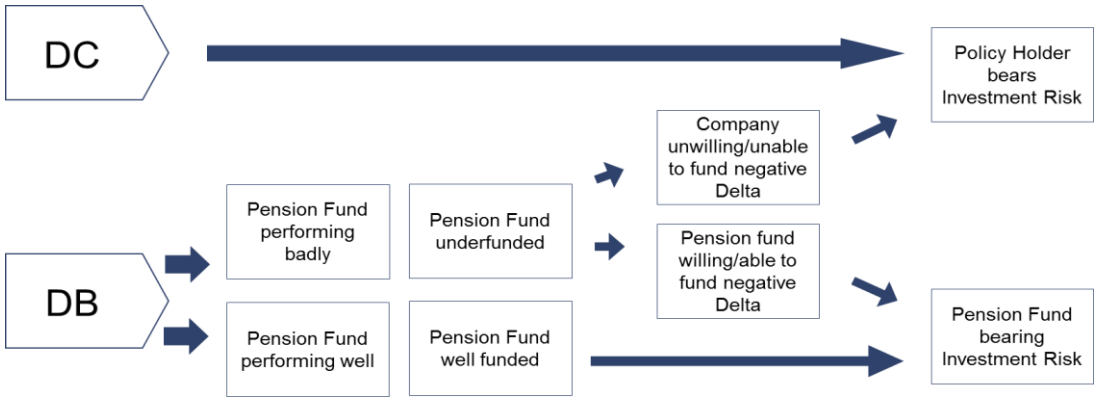
[71] “The World Bank Pension Conceptual Framework”, World Bank, (2005).
[72] “Three Pillars of Pensions? A proposal to End Mandatory Contributions”, L. Willmore, (2000).
[73] “OECD Pensions Outlook 2018”, OECD (2018).
[74] www.axa.ch/en/pension/pension-system.html.

contribution pension plans, depending on which balance sheet bears the investment risk and how the funds are paid.

3.13.1 Defined Benefit versus Defined Contribution Pension Plans

Most pension plans worldwide are defined benefit schemes. These vehicles involve beneficiaries paying into a scheme throughout their working lives in return for a guaranteed income when they retire. The key term here is "guaranteed." Such schemes must deliver the promised retirement income to their beneficiaries and have predetermined payout obligations, i.e. liabilities, for which they are responsible. However, with more people living longer, meeting liabilities has become an increasing concern for authorities. Indeed, the income received at retirement can be designed to achieve different objectives depending on a country's economic development and, ultimately, on everyone's financial situation. For example, the OECD identifies poverty relief, redistribution of wealth, and consumption-smoothing as potential objectives for policymakers to consider when designing or reforming a pension system.[75]

Table 15: Defined Benefit versus Defined Contribution Schemes



The scope of a pension has evolved throughout the years, but the type of pension products has also changed. For example, pensions are no longer only provided by the state, as they used to be. Public pensions sit alongside private pensions provided by companies and other market actors.[76] Moreover, the traditionally defined benefit pension schemes are slowly being replaced by defined contribution pension schemes, which do not guarantee an income during retirement. Instead, the pension benefits depend on the contributions made to the pension fund and the investment returns

[75] Ibid.
[76] "Evolution of employer-provided defined benefit pensions", P. W. Seburn, 1991.

generated.[77] However, every pension scheme is united by a common goal that has remained the same throughout centuries.

Whether it is a defined benefit scheme of a legacy company in the United Kingdom, one of Australia's giant defined contribution schemes, or even the 401(k) of the average American worker, a pension scheme is designed to provide income to a worker when they cease to be a worker and become a retiree. Divided along with the allocation of risk, a pension fund can be either a defined benefit (DB) or a defined contribution (DC). Traditionally, DB schemes have been the dominant form of pension scheme. These vehicles involve beneficiaries paying into a sponsored scheme throughout their working lives in return for a guaranteed income when they retire. These schemes thus have predetermined payout obligations, i.e. liabilities, for which the sponsoring organisation is liable. Given their fixed commitments, DB schemes can also become insolvent, as can be seen, for instance, in the case of several municipal pension schemes in the United States of America.

3.13.2 Shifting the Risk from Sponsors to Beneficiaries

DC schemes avoid this responsibility by shifting the responsibility and risk from the sponsoring organisation to the individual beneficiaries. In such schemes, a beneficiary is responsible for making payments into their pension fund. The sponsoring organisation matches those payments, and once the beneficiary retires, they can draw on the pension fund they have built up to provide a retirement income. However, note that beneficiaries are not guaranteed an income in retirement, nor is their sponsoring organisation liable for ensuring they have enough to survive. DC pension schemes are essentially private investment accounts in the policyholder's name. In recent years, they have become increasingly important relative to DB plans, shifting the investment risk from the sponsor to the policyholder. Some of the world's largest pension markets, like the United States, Switzerland and Canada, still hold a significant share of assets in defined benefit (DB) plans.

However, according to a recent Thinking Ahead Institute and Willis Towers Watson report, DC plan pension assets are growing faster than DB plan pension assets. Over the past 20 years in the seven largest pension markets (Australia, the United Kingdom,

[77] “The Shift from Defined Benefit to Defined Contribution Pension Plans - Implications for Asset Allocation and Risk Management”, J. Broadband, M. Palumbo and E. Woodman, 2006.

Canada, Japan, Netherlands, Switzerland and the United States), defined contribution plan assets grew at a rate of 7.6% per year, while defined benefit plans only grew by 3.2% annually[78]. However, this growth has been faster in recent years, with DC assets rising 8.9% per annum over the past decade to the end of 2018. DB assets posted a 4.6% annual growth over the same period[79]. DC plans now account for nearly 50% of total assets across the seven largest pension markets in the world[80] as these funds continue to experience positive net cash flows and relatively lower levels of benefit withdrawals compared to their DB plan counterparts. This global trend can be, at least in part, explained by the fact that companies switch their internal pension fund rules and regulations from DB plans to DC plans as they seek to avoid building up potential liabilities in the future (due to ultra-low interest rates and potentially insufficient returns on the invested pension fund capital). Therefore, as old plans begin to expire and new plans start under the novel regime, DC plans will explore the subtleties in how DB and DC pension schemes are structured, leading to very different investment goals and investment behaviour in the coming decades.

3.13.3 Investment Goals of DC versus DB Pension Schemes

On the surface, a DC scheme's investment goals are perhaps more traditional than DB schemes. For example, managing DB plans leads to liability-driven investment (LDI) strategies. Pension funds applying LDI strategies typically focus on the pension fund's assets side, i.e. on the assurances (defined benefits) made to policyholders, which become the liabilities that any LDI strategy must target. LDI is a concept, and there is no single LDI strategy – indeed, pension fund managers will generally apply various tactics to meet their targets. While a DB scheme's only objective is to meet its liabilities, a DC pension fund's goal is to maximise retirement savings. Typically, this manifests in a so-called 'lifestyle' default fund, which progressively de-risks as a beneficiary moves towards retirement. However, the very constitution of such funds is not merely driven by a desire to maximise returns; it is also shaped by a web of cultural and regulatory factors that collectively determine how DC schemes invest.

[78] Source: Global Pension Assets Study, Thinking Ahead Institute, (2019).
[79] Source: Global Pension Assets Study, Thinking Ahead Institute, (2019).
[80] Source: Global Pension Assets Study, Thinking Ahead Institute, (2019).

3.13.4 Hybrid Version of Defined Benefit and Defined Contribution Plan

Today, hybrid versions, i.e. the combination of defined benefit and contribution pension plans, are gaining popularity. Two-thirds of the Swiss pension funds already use this mixed approach, commonly known as the “Duoprimat.” In this model, pension benefits are determined based on defined contributions, whereas, for example, risk benefits for disability and death are calculated on a defined benefit basis.

3.13.5 Funded Versus Unfunded Pension Plans

The status of funded, fully funded, or overfunded pension assets refers to the extent to which underlying assets fund a pension plan's liabilities. It equals the pension plan's net liability or net asset of the pension plan, which in turn equals the fair value of total plan assets minus the projected defined benefit obligation. Plan assets are the investments of a pension fund. These may include investments in real estate, equities, other stocks listed on a stock exchange, exchange-traded funds, bonds and other assets. An underfunded pension plan is a company-sponsored retirement plan with more liabilities than assets.

Funded status = Fair value of plan assets − Projected defined benefit obligation

In other words, the funds needed to cover current and future retirements are not readily available. This means there is no assurance that future retirees will receive the proposed or even promised pensions or that current retirees will continue to get their previously established distribution amount. An underfunded pension may be contrasted with a fully-funded or overfunded pension. Divided along with funding, a pension system can be either funded or pay-as-you-go (PAYG). Contributions from current employees are redistributed and financed by a PAYG pension system, i.e., current employees pay for current retirees.

3.14 Theory and Practice of Pension Fund Management

Pension funds operate within stringent regulatory requirements[81]. While modifications in the regulatory landscape can significantly impact fund management strategies and escalate compliance costs, a diverse range of economic indicators, including inflation, interest rates, and market volatility, influence pension fund performance considerably.

[81] Hinz, R. (2014). Regulation and Supervision of Pension Funds. World Bank Group.

For example, an increase in interest rates can adversely affect bond valuations, while inflation can erode the actual value of future benefit disbursements. The administration of pension funds encompasses the comprehensive monitoring and management of pension funds' assets to ensure the fulfilment of its future obligations, predominantly comprising the disbursement of benefits to retirees. Effective pension fund management necessitates carefully balancing risk and return, maintaining liquidity, and adhering to a long-term investment horizon and, therefore, requires a multifaceted approach that incorporates rigorous strategies for asset-liability matching, diversification, risk management, and adaptability to prevailing economic conditions. As integral components of retirement planning, pension funds must be managed according to foundational principles that guide their operational strategies.

3.14.1 Long-Term Investment Horizon

Pension funds typically operate with a long-term investment horizon, often across multiple decades. This approach enables the funds to invest in assets that may exhibit short-term volatility but promise higher returns over extended periods. Historically, despite their inherent short-term fluctuations, equities have generated superior returns compared to bonds when evaluated over longer durations.

3.14.2 Risk Management

Integral to pension fund management is a robust risk management framework. Pension funds encounter a spectrum of risks, including market risk, interest rate risk, and longevity risk, the latter referring to the possibility that retirees may live longer than anticipated. Funds may employ strategies such as hedging, derivatives, and rigorous stress-testing protocols to manage these risks effectively. For instance, one method to hedge against interest rate risk is through interest rate swaps.

3.14.3 Diversification

Diversification is another essential principle, which involves distributing investments across various asset classes, including equities, bonds, real estate, and alternative investments, to reduce risk exposure. The underlying rationale for diversification is that poor performance in one asset class can be offset by strong performance in another, alleviating the impact of market volatility. Consequently, the investment strategy plays a significant role.

3.14.4 Investment Strategies

Pension funds may adopt passive or active management strategies. Passive management may involve replicating the performance of a market index, such as the Swiss Market Index (SMI), S&P 500, the MSCI Global, or a customised benchmark. Thereby aiming for cost efficiency and minimising the risk of deviating from market trends. Conversely, active management entails selective investment in individual securities to match or surpass market performance. Although this method offers the potential for greater returns, it is often associated with escalated costs and may have higher risks. The same is true for a dynamic asset allocation. Dynamic asset allocation refers to modifying the fund's investment composition in response to evolving market conditions. For instance, if projections indicate a downturn in equity markets, the fund could strategically increase its allocation to bonds or cash equivalents. This method necessitates vigilant monitoring and a profound understanding of market dynamics.

A fundamental principle in pension fund management is asset and liability matching[82], which involves aligning the fund's investment portfolio with its anticipated liabilities. For instance, if a pension fund must disburse benefits to pensioners over the next three decades, investing in assets that will yield returns over a similar timeframe is prudent. This alignment aims to mitigate the risk of under-funding through techniques such as duration matching, where the duration of the fund's assets is calibrated to correspond with the duration of its liabilities. Asset and liability matching may lead to an “Liability-Driven Investment” (LDI) strategy, as mentioned under paragraph 3.13.3 “Investment Goals of DC versus DB Pension Schemes” prioritises fulfilling future liabilities over maximising returns. This approach involves investing in assets meticulously aligned with the timing and magnitude of anticipated payouts. For example, a pension fund with substantial future liabilities might allocate resources to long-term bonds to ensure sufficient liquidity when required for disbursement.

3.15 Summary Chapter 3

Chapter 3 provided an overview of the historical development of the Swiss pension scheme industry and its current global positioning. It then discusses the legal and

[82] Arthur T. G., Randa, P. A., Actuaries, Pension Funds and Investments, 1991

regulatory environment since the introduction of the "Bundesgesetz über die berufliche Alters-, Hinterlassenen und Invalidenvorsorge" (BVG) in 1985, also known as the Federal Law on Occupational Retirement, Survivors, and Disability Pension Plans of 1982. The author of this research refers to that period as the "modern Swiss pension fund era." The chapter focuses on the market conditions at the founding, especially during the introduction of the Federal Occupational Pensions Act.

This chapter reveals evidence of a significant environmental shift in interest rates and the slow rate of change of the Swiss pension fund's asset allocation mix over the past twenty years. During this time, interest rates for Swiss Confederation bonds, also known as Swiss government bonds, with maturities of two, five, ten, and twenty years, have turned negative. This means investors would have to pay money to invest in these bonds. The environment in which Swiss pension funds operate has evolved significantly, especially after the impact of the Great Financial Crisis in 2008, which led to substantial changes in global government and central bank interventions. Notably, since the introduction of the federal BVG law in Switzerland, interest rates have fluctuated, impacting the comfort levels of Swiss pension funds. While nominal interest rates comfortably covered the yield needs and running costs of pension funds in the past, the situation changed drastically after the Great Financial Crisis, leading to a swift need for adaptation. The adaptation process occurred gradually and not immediately, prompting this dissertation to explore the research question of whether the imprinting effect resulting from the introduction of the Federal Occupational Pensions Act (BVG) in 1985, which marked the beginning of the modern Swiss pension fund era, significantly contributed to the slow rate of change in asset allocation within Swiss pension funds.

Chapter 3 also distinguishes between defined benefit (DB) and defined contribution (DC) pension schemes. It discusses the ongoing shift of risk from sponsors to beneficiaries that accompanies the transition from DB to DC pension schemes. This shift results in uncertainty for beneficiaries regarding their retirement income, as there is no guarantee of sufficient funds, and sponsoring organisations are not obligated to ensure their financial well-being. DC pension schemes primarily operate as private investment accounts registered in the policyholder's name. However, within the Swiss Franc currency area today, some hybrid models incorporate elements of both defined benefit and defined contribution plans. For example, risk benefits related to disability and

death are calculated based on a defined benefit framework. Finally, it elaborates on the theory and practice of pension fund management.

Chapter 4 Methodology

4.1 Introduction

In Chapter 4 of the dissertation, the research methodology is detailed. The chapter elucidates how pension funds operate as organisations, particularly regarding asset allocation and investment management. By doing so, the chapter establishes the groundwork for a discussion to explain the interconnected elements that shape Swiss pension fund managers' behaviour in the context of dynamically changing market conditions, including the regulatory environment and the potential influence of expert pension fund consulting companies. The study was conducted thoroughly, primarily utilising a mixed method consisting of a survey within semi-structured interviews with leading industry experts as the primary research approach. This technique was supported by observations and documentary analysis of the Swisscanto yearly pension fund study, annual reports from Swiss pension funds, information from official pension fund websites, and insights obtained during the interviews.

In particular, there is a potential correlation between the founding date of the interviewee's pension fund/collective foundation and the 1985 introduction of the Federal Law on Occupational Retirement, Survivors, and Disability Pension Plans of 1982. The writer of this dissertation mainly focused on how these elements relate to asset allocation within the Swiss pension fund industry, especially in light of a rapidly changing interest rate environment for Swiss Franc-based government bonds, and the underlying interest rate environment for Swiss Franc-based government bonds.

The literature review and the interviews revealed that Swiss pension funds show myopic behaviour when comparing the rate of change in interest rates on ten-year government bonds to the change in rate in the asset allocation of the whole Swiss pension fund cohort. This raised questions about the rationale of Swiss pension funds/collective foundations' investment managers. Additionally, the chapter investigated the potential influence of expert pension fund consulting companies on the asset allocation process of the examined pension funds/collective foundations. Where such influence was identified, the study explored whether there is a correlation between the founding date of the expert pension fund consulting company and the asset allocation of the advised pension fund/collective foundation. Moreover, it is crucial to emphasise the author's extensive industry experience, spanning over 30 years.

This wealth of experience and expertise facilitated insightful discussions with the interview partners and enriched the interview findings with firsthand observations. These observations were gleaned from in-depth conversations with the CIO of one of the largest collective foundations in Switzerland and semi-structured interviews for the initial pilot study. The semi-structured interviews involved a senior executive of one of the Cantonal regulatory bodies and a senior management member of one of the most influential expert pension fund consulting companies. These observations provided a valuable perspective, offering a unique vantage point from the direct research field. In addition to interviews, observations were a valuable source of information, providing insight into the implicit aspects of interviewees' practices concerning the regulatory environment and cooperation with expert pension fund consulting companies, illuminating the actions and interactions within the industry’s various stakeholders.

4.2 Research Methods Development: The Journey of the Initial Idea

When the writer of this dissertation embarked on the DBA program in 2015, he had a research project in mind. He anticipated that ageing populations would reduce net new money inflows into pension schemes due to age-related demographic change. Over the past few decades, global financial markets have, to some extent, relied on monthly net new investments from contributors to pension funds worldwide. Influenced by the paper "The Baby Boom, the Baby Bust, and the Housing Market" and the question of the asset meltdown hypothesis, the idea was that net new money inflows would eventually halt. The idea was that the retirement of large birth cohorts within the baby boomer generation would lead to global pension schemes experiencing net outflows of money until a new balance is reached between contributors and beneficiaries. As the largest and most stable group of investors in international financial markets, the worldwide pension scheme cohort holds significant influence. Any shift from net inflows to net outflows could impact financial market participants. The author aimed to find a way to predict when this tipping point might occur, leading to a possible sustained period of negative returns in financial markets due to the outflow of money.

The initial approach to this study aimed to examine whether the circumstances surrounding the formation of a pension fund could result in inertia in its asset management process. The original plan for this study was to conduct a comprehensive survey using

quantitative methods. At the end of 2020, 1’434 pension funds/collective foundations were registered in Switzerland, and CHF 1’063 billion in assets were managed[83]. One hundred pension fund managers in Switzerland were emailed questionnaires and explanatory letters outlining the project and providing instructions for using the collected data (Appendix 3). Unfortunately, only two responses were received despite sending 100 questionnaires and reminders.

4.2.1 Alternative Idea

Much of the data in this dissertation dates back 20 years or more and stems from the yearly Swisscanto publication. Thanks to access to the Swiss pension fund industry data through Swisscanto’s yearly pension fund reports and regular contacts with the study's authors, the idea grew to include the questionnaire in this dissertation in the questionnaires that Swisscanto sends out yearly to pension fund managers. First, the data gained would be available to Swisscanto and could be included in future report editions. Second, the reply rate to the questionnaire would probably be much higher than if the writer of this dissertation had sent it out.

However, the earliest possibility to include the questionnaire would have been for the report published in 2021, i.e., 2020's data, and if Swisscanto were ready to include the questionnaire, the Swisscanto management board would only decide at the end of Q4 2020. Nevertheless, waiting for months without the certainty of any positive answer did not seem very attractive.

As a result, after careful consideration by the study’s supervisors, the research approach shifted from a quantitative to a mixed approach, designed to provide a comprehensive understanding of the subject matter. The mixed-method framework allowed for a more nuanced exploration of complex issues within the pension funds field by leveraging each method's strengths.

The quantitative survey component aimed to gather broad data from diverse respondents, allowing for statistical analysis of trends and patterns in the industry's perceptions and practices. This quantitative data provided a framework for understanding general attitudes towards various aspects of pension fund management and performance. By

[83] Swisscanto by Zürcher Kantonalbank – Schweizer Pensionskassenstudie (2021).

employing a structured survey, the research ensured consistency across responses, enhancing the data's reliability.

Using semi-structured interviews with leading industry experts, the qualitative approach allowed for in-depth insights into the subjective experiences and expert opinions of professionals familiar with the pension fund landscape. This qualitative approach enabled the researchers to explore themes that emerged during discussions, uncovering nuanced perspectives that might not have been captured through a survey alone. The flexibility inherent in semi-structured interviews also allowed interviewers to probe deeper into specific areas of interest, yielding richer data.

The complementary thematic incorporation of observations and documentary analysis bolstered the findings from surveys and interviews. By analysing the Swisscanto yearly pension fund study and annual reports from various Swiss pension funds, researchers could contextualise their findings within existing literature and real-world performance metrics. Information from official pension fund websites provided a reliable data source on current practices and regulatory frameworks.

From an epistemological standpoint, this study reflects a pragmatic approach. It recognises that knowledge can be constructed by integrating various methods and perspectives. Pragmatism values the applicability of research findings in real-world contexts and underscores the importance of considering the experiences of those within the industry. By combining quantitative data with qualitative insights, the study acknowledges the complexity of human behaviour and institutional practices in the pension fund sector. This epistemological stance aligns with the understanding that knowledge is not absolute but somewhat shaped through various methods, contexts, and experiences. It is particularly relevant in a dynamic and multifaceted field like pension funds. In summary, the study's methodological approaches and underlying epistemology reflect a commitment to comprehensive, contextually informed research that seeks to capture the depth and breadth of the pension fund industry.

4.3 Data Collection

Due to the author's longstanding industry experience, the author was confident that it would be possible to gain access to elite senior pension policy leaders' participation by refining the research questions and emphasising the acquisition of valuable insights.

Personal contacts with industry leaders would help secure access to a select group of elite participants. One of the four types of research design in elite interviewing is known as "individual-based, one-off" interviews[84]. This approach often focuses on members of a specific group of business elites purposefully chosen based on their roles and positions at the highest levels of companies. This design is particularly suitable for uncovering common patterns of action, experience, and narratives within an elite group, making it appropriate for this research project. The author aimed to address the research questions from a qualitative perspective, seeking insights and experiences from several key industry leaders. Creswell[85] suggests conducting 20 to 30 interviews could be appropriate for gaining qualitative insights. This interview program covered the roles of 14 elite industry experts (see Appendix 6).

The interview data collection was divided into two stages. The first stage consisted of a pilot study in August 2018 with a senior executive of one of the Cantonal regulatory bodies (civil servant) and another semi-structured interview with a senior management member of one of the most influential expert pension fund consulting companies. The second stage of the data collection process included semi-structured interviews with industry expert leaders representing the pension fund management side, including one member of two pension fund boards of trustees and 11 pension fund CIOs or elite expert pension fund managers virtually via Zoom, "goto meeting," and Skype, taking place towards the end of 2020 and the first half of 2021. Furthermore, secondary data from credible sources such as the OECD, the World Bank, the Swiss Pension Fund Association (ASIP), and Swisscanto were used to provide context and offer a detailed overview of the pension fund landscape in Switzerland.

4.4 Conducting the Interviews

Before initiating interviews with senior pension executives, the author of this dissertation conducted an initial pilot study to test and refine the questionnaire. This study took place in 2018 and was facilitated with the assistance of the Chief Investment Officer (CIO) of one of Switzerland's largest collective foundations. The CIO showed a strong interest in the research project and contributed valuable insights through multiple

[84] Ma, S., Seidl, D., McNulty, T. (2021). Challenges and practices of interviewing business elites.
[85] Creswell, J. W. (2024). My 35 Years in Mixed Methods Research.

meetings and in-depth discussions. Two semi-structured elite interviews involved a senior executive of one of the Cantonal regulatory bodies and a senior management member of one of the most influential expert pension fund consulting companies. The observations from discussions after the interviews provided a valuable perspective, allowing some distance from the direct research field. In addition to interviews, those observations were a valuable source of information, offering insight into the implicit aspects of interviewees' practices concerning the regulatory environment and cooperation with expert pension fund consulting companies and, therefore, shedding light on the actions and interactions within the industry's various stakeholders.

The interviews with the senior executive of one of the Cantonal regulatory bodies and the senior management member of one of the most influential expert pension fund consulting companies were conducted in 2018 at their offices, well before the onset of the COVID-19 pandemic. These interviews were transcribed.

4.4.1 The COVID-19 Pandemic's Influence

Due to the pandemic, the interviews with the 11 elite industry expert leaders, covering 12 pension funds or collective foundations, initially scheduled for the end of Q1 2020, were postponed to Q2, Q3, and even Q4. Except for one, they were eventually conducted virtually via Zoom, Goto Meeting, and Skype, taking place towards the end of 2020 and the first half of 2021. The written transcripts from the audio files were shared electronically with each interviewee for feedback. The feedback process lasted for twelve months, sometimes requiring multiple requests for feedback. The interviews and feedback process provided an opportunity for informal conversations with the interviewees, sometimes leading to unprompted yet meaningful discussions on the research topic. This also allowed for following up on specific issues and emerging themes during subsequent conversations, enabling comparison of different opinions and perspectives and confirming initial thoughts on the developing themes. These emerging themes were discussed with the two supervisors, leading to a process of respondent feedback for a more robust triangulation of collected data[86]. The quantitative data analysis in Swisscanto's reports indicates that the COVID-19 pandemic had no discernible impact on the covered pension funds' asset allocation or data collection[87].

[86] Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., Kyngäs, H. (2014). Qualitative Content Analysis: A Focus on Trustworthiness.
[87] Swisscanto by Zürcher Kantonalbank – Schweizer Pensionskassenstudie (2022, 2023)

4.4.2 Translation of the Interview Questionnaires

The questionnaire was initially composed in German to prevent translation issues, and all interviews were conducted in that language. The translation of the responses into English commenced after the interview process was completed, following the incorporation of any changes requested by the interviewees into the transcripts.

4.5 Ethical Consideration

To protect the privacy and confidentiality of all research participants, this thesis refrains from revealing the identities of the interviewees and their affiliated organisations. However, this information is accessible in the original interview transcripts, which are securely stored by the thesis author following Durham University ethical guidelines. This dissertation focuses on Swiss pension funds and collective foundations, delving into their context, essential characteristics, and pivotal processes based on the data gathered for this study. To avoid immersing into excessive detail, the discussion primarily revolves around significant factors that influence the approach of Swiss pension funds and collective foundations to asset management. These factors encompass the regulatory framework, market conditions, and the potential impact of expert pension fund consulting firms on the investment strategies of individual pension funds.

4.6 How to Measure Structural Inertia in Pension Funds

This thesis intended initially to compare the rate of change in asset allocation since the Great Financial Crisis of 2007/2008 in the pension fund portfolios of the interview partners with the rate of change in asset allocation also since the Great Financial Crisis of 2007/2008 to the total of all pension fund portfolios from the annual pension fund study by Swisscanto. However, this was impossible to achieve because the interview partners either did not want to or could not share the data on the change in asset allocation since the Great Financial Crisis of 2007/2008. Since the interview partners were unable or unwilling to share their asset allocation numbers for the last fifteen years, the speed of change of the entire cohort of Swiss pension funds to the pension funds managed by the interview partners could not be assessed.

The overall aim remained as the writer of this thesis hoped to conclude from the comparison and obtain a statement on the level of inertia within the pension funds managed by the interview partners or, conversely, across the entire cohort of pension funds compared to the pension funds of the interview partners. Therefore, an alternative way had to be found to gain a meaningful statement about the possible level of structural inertia in pension funds and back it up with numbers. This thesis' writer, therefore, looked at the percentage change of the asset allocation numbers for the most significant asset classes in Swiss pension funds, i.e. fixed income, equities and real estate, the asset classes "alternative investments" and "infrastructure investments" of the Swiss pension scheme market ever since the Great Financial Crisis in 2008. This led to an overall number-based picture of change in asset allocation for those five asset classes and indicated its speed of change.

The focus was always on fixed-income investments, although for years, the entire yield curve was negatively affected in the category "Swiss government bonds". Comparing the rate of change in interest rates on ten-year government bonds to the change of rate in the asset allocation of the whole Swiss pension fund cohort gave a good picture of how inert structures are in the asset allocation processes of Swiss pension funds. While a change would have been rational, evidence from the interviews and Swisscanto's statistics show it was not happening in line with the considerable change in the investment environment, i.e. not fast enough.

4.7 Data Analysis

The author of this work has used a thematic form of analysis[88] to learn the interviewees' perspectives, opinions, knowledge, experiences, and, at times, even values from qualitative data, such as the responses from the interview transcripts. The interview questions were structured deductively with input from an industry expert, which led to the themes of the interview questions and, thus, of the analysis. The catalogue of questions was limited by the time the elite pension fund experts were prepared to spend on the interviews and the reviews of the interview transcripts. The data analysis process commenced following the interviews, spanning from the latter half of 2021 into the first

[88] Naeem, M., Ozuem, W., Howell, K., Ranfagni, S. (2023). A Step-by-Step Process of Thematic Analysis to Develop a Conceptual Model in Qualitative Research.

half of 2022. The evaluation of the interview data involved a thorough analysis of the recorded interview transcripts, which included a meticulously written account of the participants' statements and responses. The responses were triangulated with secondary data from credible sources, including the OECD, the World Bank, the Swiss Pension Fund Association (ASIP), and Swisscanto. They were integrated to contextualise the findings and provide an extensive overview of the pension fund landscape in Switzerland. To ensure objectivity, the author maintained detailed transcripts of the interviews and sought to enhance the accuracy of these documents by soliciting respondents' feedback via email.

The thematic analysis includes a review of the “imprinting” context within the organisational research discussed in Chapter 2 and a comparative examination of qualitative questions. This involves identifying and comparing the "three most important goals" of the respondents' pension schemes. Additionally, it incorporates quantitative data, such as asset categories and allocation details, based on the responses from the interview participants. Furthermore, the analysis incorporated a comparative assessment of performance data against relevant market performance metrics. To this end, the dissertation author extracted performance data representing the Swiss pension fund sector from Bloomberg and the annual Swisscanto Pension Fund report. This methodological approach was particularly advantageous, encompassing approximately 70% of all Swiss pension funds and collective foundations, yielding a substantial dataset. Consequently, this expansive performance comparison afforded greater analytical depth and significance than an examination limited solely to the pension funds and collective foundations that participated in the interviews.

4.8 Summary Chapter 4

Chapter 4 provides a detailed overview of the methodology used in this dissertation. This includes a mixed approach designed to understand the subject matter comprehensively. The mixed-method framework allowed for a more nuanced exploration of complex issues within the pension funds field by leveraging each method's strengths, using semi-structured interviews as the research method and extracting additional thematic information from credible secondary sources. Observations were also gathered during discussions and feedback loops after the interviews. Additionally, the chapter

provides in-depth insights into the interviewees and addresses the ethical considerations involved.

Chapter 5 Findings

5.1 Introduction

In Chapter 5 of this dissertation, the research findings are presented. It delves into the market environment for the Swiss Franc-based risk-free rate of return during the introduction of the Federal Law on Occupational Retirement, Survivors and Disability Pension, as well as the 36 years that followed. The chapter includes an in-depth analysis of a mixed method study, which consists of a survey within semi-structured interviews with twelve leading industry experts responsible for managing over CHF 65bn, 5.6% of the Swiss pension scheme market in 2021, from pension funds and collective foundations in Liechtenstein and Switzerland.

These interviews formed the basis of the thesis, focusing on the questions and direct answers that reveal whether there is a correlation between the founding date of the interviewee's pension fund/collective foundation, respectively the 1985 introduction of the Federal Law on Occupational Retirement, Survivors, and Disability Pension Plans of 1982 and the asset allocation within the Swiss pension fund industry.

The chapter also explores the potential influence of expert pension fund consulting companies on the asset allocation process of the examined pension funds/collective foundations. Where such influence was identified, it was investigated whether a correlation exists between the founding date of the pension fund consulting companies and the asset allocation of the advised pension fund/collective foundation. The complete list of all questions from the interviews' quantitative and qualitative parts, along with the corresponding answers, can be found in Appendix 7.

5.2 Data Analysis Findings

First, this study finds that, according to credible research sources, like Swisscanto’s yearly “Pensionskassenstudie” and key figures from the Swiss Federal Statistical Office, the Swiss pension fund industry exhibits adequate funding. However, this research also shows that most earnings potential is not fully exploited due to conservative asset allocation.

Second and significant, this study finds that many of the elite pension fund experts engaged in this study demonstrate a pronounced inclination to affirm established

institutional asset allocation paradigms. This tendency is exacerbated by a short-sighted outlook, which is largely influenced by existing regulatory frameworks and reporting guidelines. These factors may significantly influence their decision-making processes and overall investment strategies. Only a small number of pension funds do not follow this pattern. Specifically, this was observed due to the portfolio managers' failure to adapt quickly to the significant and lasting change in the Swiss interest rates environment. Except for one, none of the pension fund portfolio managers interviewed utilised the regulatory flexibility to aggressively reduce the allocation from low- or negatively-yielding fixed-interest products in favour of risk assets in their asset allocation strategies, despite having a long-term investment horizon spanning multiple decades.

Third, due to ever-tighter regulatory requirements, this study also finds that most interview participants seek guidance and rely increasingly on external investment consulting firms, such as expert pension fund consulting firms, to prepare or obtain approval for their asset allocation and other critical tasks.

Fourth, the interviews revealed that unrealised return potential on invested capital does not appear to be a cause for concern as long as the pension funds/collective foundation’s coverage ratio is above 100% and redistribution between active insured persons and beneficiaries can be avoided. The following sections of this chapter will elaborate on these findings in more detail.

5.3 The Questions and the Interview:

The interviews were complemented by a survey of seven quantitative and some qualitative questions. The questionnaire can be found at the end of this thesis in Appendix 1 (German) or the translated version in Appendix 2 (English). Of the quantitative questions, question six focused on asset allocation and included five sub-questions, bringing the total to eleven quantitative inquiries. Appendix 7 of the dissertation contains the complete transcript of all interview questions and their detailed answers.

The literature review served as the basis for the interview questions. These were further developed with the help of a pension fund expert responsible for managing a 15 bn Swiss Franc portfolio. The questions aimed at gathering fundamental information about the pension funds/collective foundations to evaluate their scale, focus, structure, and activities during specific timeframes. This encompassed details such as the

establishment dates of the pension funds/collective foundations, changes in the interest rate environment since their inception, modifications in asset allocation over time, and the investment horizon for policyholders, both in general and on average, within their current employer's pension fund/collective foundation. It was essential to ask these questions as part of this study because these questions allow conclusions to be drawn about an imprinting effect of the conditions at founding or at the time of the introduction of the BVG and possible myopic behaviour in the asset allocation process of pension funds/collective foundations examined in this dissertation ever since. Chapter 5.3 consists of five sub-sections, each with accompanying questions, answers from the interviewees, and supplementary comments to address the research question.

5.3.1 Introduction to Interview

At the start of each interview, the interviewer consistently asked about the 2019 edition of the "Swiss Pension Fund Study" published by Swisscanto Pension Ltd. One key conclusion from this esteemed annual analysis indicates that public-sector pension funds exhibited a higher return on assets under management than their private-sector counterparts for the fiscal year 2018. In the reported period, public-sector pensions exhibited an average performance of -2.59 %, whereas private-sector pension funds recorded an average financial return of -3.01 %. This data reflects the comparative performance dynamics between public and private-sector pension funds and allows the interview participants to get into the interview with an open warm-up question.

All interview participants were asked to explain and elaborate on this difference. Most answers were neutral and oscillated around the demographic structure of the individual pension scheme policyholder cohort. However, one answer stood out for two reasons.

> *"Theoretically, it could be that more people in the public sector pension funds are still safe in retirement age, which means that these pension funds should be conservatively invested in terms of structure alone. On the other hand, it could also be that public sector pension funds always have a quasi-governmental cover in the back of their heads and therefore invest conservatively by their very nature, i.e. a large part of their investments is safely invested in bonds".*

First, the answer from PF5 shows the exemplary mindset that bonds are safer than equities, as they generally exhibit lower short-term volatility. The writer of this

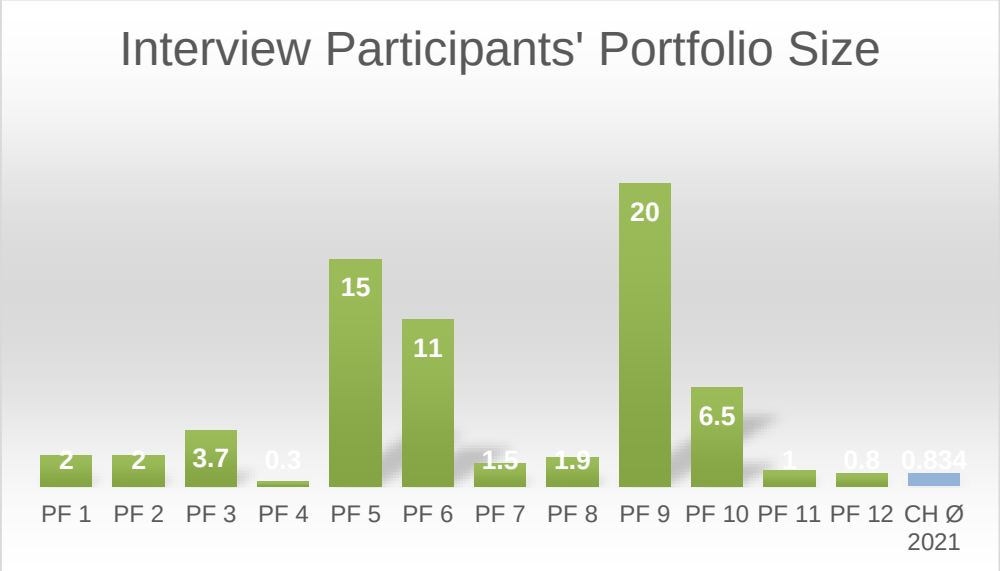
dissertation learned from the interviews that while volatility is seen as a risk, underperformance is not.

Suppose taxpayers effectively ensure the shortfall coverage between the returns generated by a state pension fund and the minimum required returns to meet proposed pension obligations. What incentive does the fund management have to pursue higher returns? Additionally, what rationale exists for them to accept the increased volatility associated with pursuing those elevated returns?

5.3.2 Portfolio Size

At the end of 2021, there were 1'389 registered pension funds/collective foundations in Switzerland, overseeing assets totalling CHF 1'159 billion[89]. The average portfolio size was CHF 834.4 million.

Table 16: Interview Participants' Portfolio Size



According to the data received from the interview participants, the range of assets under management of the pension funds and collective foundations covered by this research stretched from below CHF 300 million to over CHF 20 billion, with an average of CHF 5.4 billion per participant, which compares to the average pension fund portfolio size in Switzerland of CHF 834.4 million for the year 2021. This information is significant as it offers insight into the twelve elite industry experts' pension fund or collective foundation's scale relative to the average size of all pension funds in Switzerland. The

[89] Swiss Federal Statistical Office, Pension fund statistics (2021), definitive results and key figures.

information stems directly from the quantitative section of the interviews, precisely question number 2, which asked, "How many assets does your pension fund/collective foundation manage?"

The questionnaire's third quantitative question covered the size of the pension fund in terms of the number of policyholders/beneficiaries. It read: How many beneficiaries are affiliated with "your" pension fund/collective foundation? The pension funds/collective foundations covered with this research are insuring between 4,500 and over 60,000 policyholders, of which the active insured persons range between 61,1% and 66% and the pensioners between 34% and 38.9%. This question provided information about the pension fund size based on the number of insured persons. It also showed the ratio of working to retired insured persons, which allowed conclusions to be drawn about asset allocation.

5.3.3 Date of Foundation

The first quantitative question focused on when each of the twelve elite industry experts' pension fund or collective foundation was established. The answer to this question was relevant insofar as the date of foundation, provided it was not before the introduction of the "Bundesgesetz über die berufliche Alters-, Hinterlassenen und Invalidenvorsorge" (BVG) in 1985, also known as the Federal Law on Occupational Retirement, Survivors, and Disability Pension Plans of 1982, presented an opportunity to gain an impression of the economic environment at the time the pension fund was founded, particularly the situation regarding Swiss interest base rates. Therefore, this question and its corresponding answers aimed to explore the financial market environment when pension funds/collective foundations were founded.

The interest rate environment for 10-year government bonds in Swiss francs around the foundation of the pension funds/collective foundations was of particular interest. We were interested in the potential impact of economic conditions during that founding period or the time of the introduction of the "Bundesgesetz über die, berufliche Alters, Hinterlassenen und Invalidenvorsorge" (BVG) in 1985 and how these conditions could have had an imprinting effect and impacted asset allocation. The question was: When was "your" pension fund/collective foundation established? All the pension funds discussed during the interviews were established before the enactment of the Federal Act on Occupational Retirement, Survivors, and Disability Pension Plans (BVG),

introduced by Swiss legislators in 1985. As established in the literature review, the choices made during founding can significantly affect the long-term trajectory of an organisation.

Notably, the interest rates on 10-year Swiss government bonds significantly declined to less than 1%, even dipping into negative territory for several years starting in 2013. This information, presented in Table 10, labelled 'Development of Interest Rate 10-Y CH Government Bond 1985 - 2021,' underscores the potential influence of this event on the funds' investment strategies. Before this period, Switzerland's interest rate landscape was rather unexceptional. The imprinting effect is likely caused by a stable and favourable interest rate environment for more than 30 years since the introduction of the BVG.

5.3.4 Mismatching Time Horizons

Interview discussions explored the average investment period per policyholder. This question aimed to gather insights from both macro and micro perspectives. The macro perspective considers the entire investment period for a policyholder's pension investments, possibly across several employers, while the micro perspective focuses on the investments in the interviewee's pension scheme. This open-ended approach allowed the interviewees to choose which perspective to consider, thereby providing a comprehensive view of the investment horizons.

Most survey respondents indicated that the investment time horizons for a policyholder's pension investments in Switzerland, potentially spanning multiple employers, typically extend to around 60 years. This extended investment horizon is attributed to the fact that participants in pension schemes contribute to them for approximately 40 years as active participants during their working lives. Subsequently, after their retirement, the funds remain invested. For instance, one respondent, PF 7 (AUM > CHF 1.5 bn), elaborated in his macro view that:

> *"In Switzerland, this is currently around 60 years, a very long period. By law, from age 25 until retirement at 65, that is 40 years. At the moment, life expectancy would be another 20 years or 60 years in total, but that will increase in the future because there are endeavours to pay into the pension fund from the age of 20 and life expectancy is also tending to increase, say 25 years. We are already at 70 years of investment."*

Other respondents also appreciated the broad perspective provided by the experienced industry professional. However, they focused more on the specific investments in the interviewee's pension scheme. For instance, PF 3 (AUM > CHF 2bn) stated:

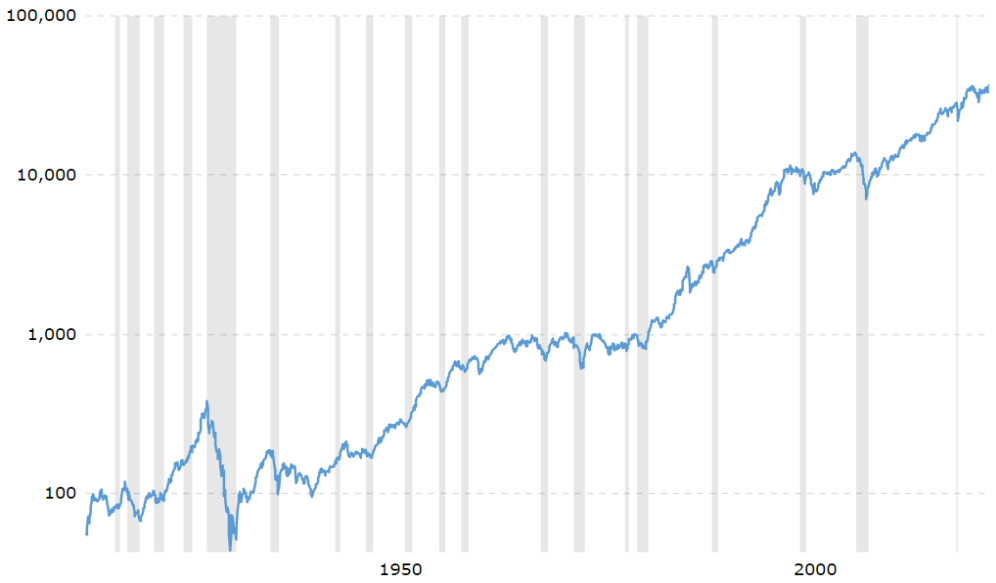
> *"Active policyholders are insured for an average of 9 years, while retired policyholders are insured for an average of 20 years."*

Similarly, PF 1(AUM > CHF 2bn) added that:

> *"We invest the capital in our pension fund for an average period of 22 years".*

These responses are also consistent with historical data, as outlined in Table 11, “Asset Allocation Swiss Pension Funds 2001 – 2019”. The answers vividly demonstrate the substantial investment timeline that pension fund managers navigate. The question and its corresponding response highlight the critical focus on the long-term nature of the underlying investment strategy. It is crucial to consider the investment horizon in asset management. Investors with a longer investment horizon can tolerate greater volatility or short-term risk, as the market has the potential to recover from setbacks. Therefore, individuals with an investment horizon spanning multiple decades can allocate more assets to "risk assets" such as equities.

Table 17: Historic Chart of the Dow Jones Industrial Average



Source: www.macrotrends.net

Over time, even significant setbacks can be overcome, which is demonstrated in Table 17, "Historic Chart of the Dow Jones Industrial Average," a logarithmic scale chart

displaying the performance of the Dow Jones Industrial Average (DJIA) from February 1915 to November 2023, covering 108 years. The grey vertical bars on the chart represent recessions in the U.S. economy. The diagram illustrates that the most significant risk of the last century was not short-term volatility but rather the risk of not being invested and missing out on financial upswings.

The fifth question in the quantitative section covered the average age of the policyholders and, therefore, indirectly, for how many years the capital still needs to be invested. It read: What is the average age of the beneficiaries of "your" pension fund/collective foundation? The average age of the interview partners' pension funds/collective foundation beneficiaries ranges between 34 and 44. The beneficiaries of the pension funds and collective foundations covered in the Interviews still have decades of investment horizon ahead of them. Again, this question and its corresponding response highlight the critical focus on the long-term nature of the underlying investment strategy.

5.3.5 Reporting Time Horizons

Time horizons for reporting do not correspond to the time horizons for investments. For internal and external regulatory considerations, pension fund managers must report regularly to their boards of trustees. Even if these reports are weekly or monthly, the long-term investment horizon of the invested funds in terms of volatility and return should always be retained in sight. On the other hand, it seems only natural that short-term events can impact members of boards of trustees and pension fund managers when adjusting a portfolio’s asset allocation.

5.4 Asset Allocation

Questions six to ten in the quantitative interview section were dedicated to the asset allocation mix. The answers to these questions are essential because they provide insight into the main asset classes in which the interviewees' portfolios are invested and the proportions of these investments. They also shed light on the extent to which the asset allocation options specified by the regulator were applied. While two participants in the interview hail from Liechtenstein, the core issue pertains not to the pension fund's location but to the currency area in which it operates. The interest rate environment is determined by the currency area of the pension fund's activity rather than by

its place of domicile. For this reason, the Swiss base is always used as the basis for comparison in the following tables.

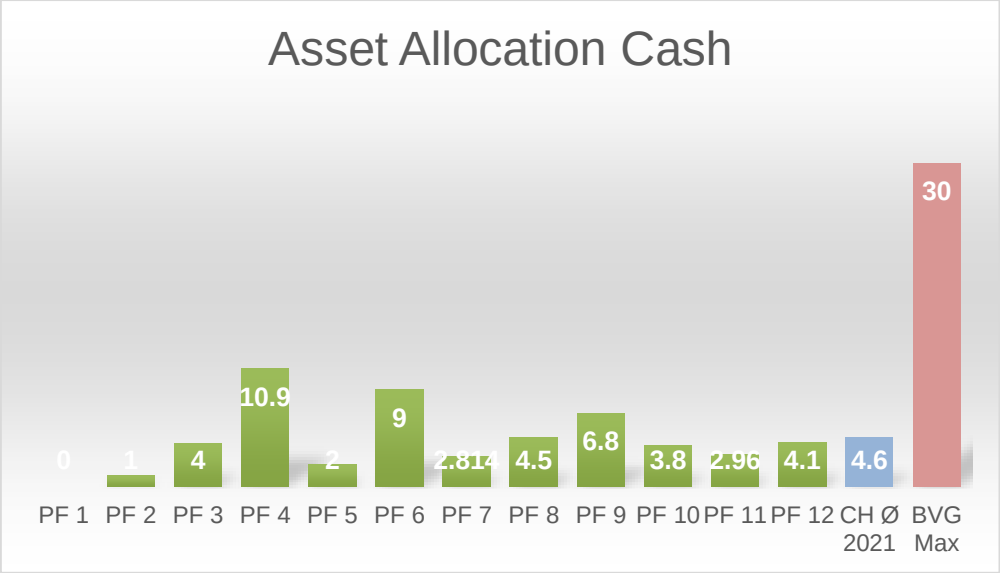
Therefore, the subsequent tables consistently show the results from the quantitative part of the interviews in comparison to the average of Switzerland's pension fund industry according to Swisscanto's "Pensionskassen-studie" for the year 2021 (CH Ø 2021) and to the allowed maximum allocation according to the current regulatory framework for Swiss pension funds and collective foundations (BVG Max). In Chapter 3, particularly in section 3.7, titled "Regulation: Liechtenstein Pension Fund Investment Categories", the permissible limits for various investment categories are detailed under the regulations of Liechtenstein. This section is presented in conjunction with the information provided in section 3.6, entitled "Regulation: Swiss Pension Fund Investment Categories".

5.4.1 Asset Allocation Cash

The sixth quantitative question in the quantitative interview section asked about the percentage of cash held by the interviewed pension fund/collective foundation.

The average cash position in the interview partners' pension funds/collective foundations ranged between zero and 10.9%. Swisscanto's Swiss Pension Fund Study 2024 shows that the average cash allocation was 4.6% in 2021.

Table 18: Asset Allocation Cash



The allocation of 10.9% of total assets to cash appears noteworthy, particularly in light of Switzerland's low-interest environment. If it did not yield a negative return, this cash

generated a return of, at best, 0%. Table 18, “Asset Allocation Cash“, illustrates the answers by all twelve industry experts in comparison to the average of Switzerland’s pension fund industry according to Swisscanto’s “Pensionskassenstudie” for the year 2021 (CH Ø 2021) and to the allowed maximum allocation according to the current regulatory framework for Swiss pension funds and collective foundations.

5.4.2 Asset Allocation Real Estate

The seventh question read: What percentage does "your" pension fund/collective foundation hold in real estate?

The average real estate position in the interview partners' pension funds/collective foundations ranges between 5% and 35.8%. According to Swisscanto's Swiss Pension Fund Study 2024, the average allocation for real estate was 24.6% in 2021.

Table 19: Asset Allocation Real Estate

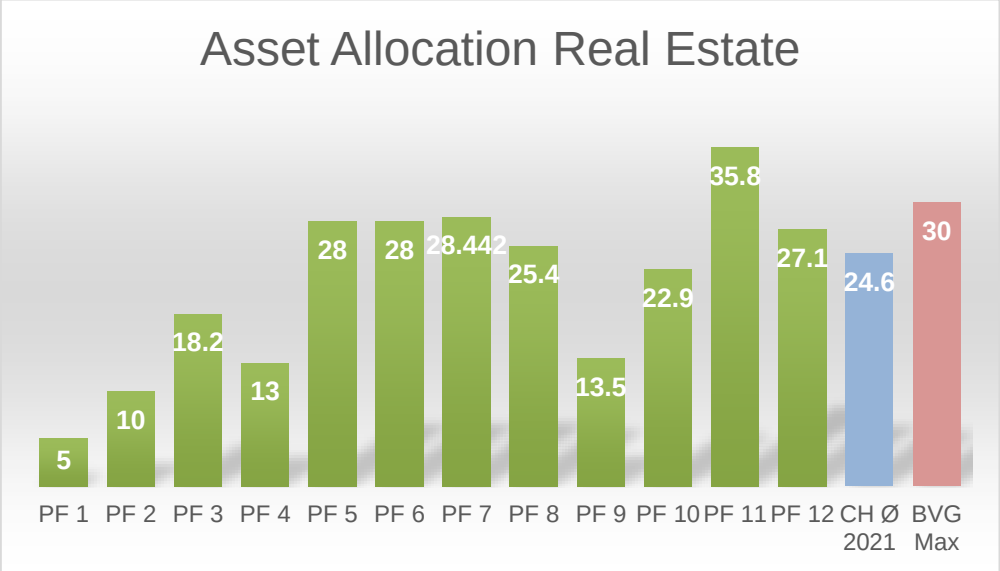


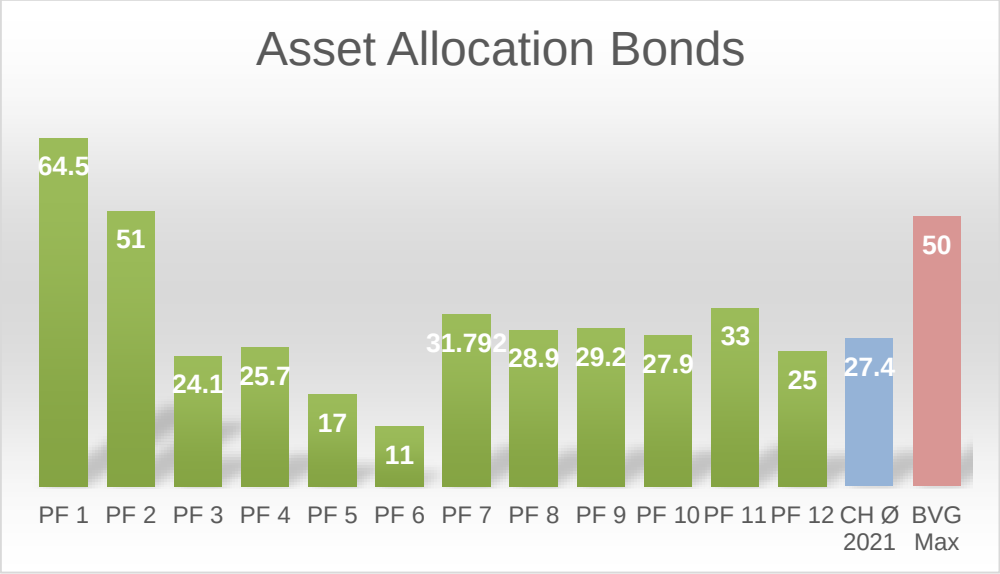
Table 19, “Asset Allocation Real Estate“, illustrates the answers by all twelve industry experts in comparison to the average of Switzerland’s pension fund industry according to Swisscanto’s “Pensionskassenstudie” for the year 2021 (CH Ø 2021) and to the allowed maximum allocation according to the current regulatory framework for Swiss pension funds and collective foundations.

5.4.3 Asset Allocation Bonds

The eighth question read: What percentage does "your" pension fund/collective foundation hold in bonds?

The average bond position in the interview partners' pension funds/collective foundations ranges between 11% and 51%. Swisscanto's Swiss Pension Fund Study 2024 estimated that the average bond allocation was 27.4% in 2021. Table 20, “Asset Allocation Bonds“, illustrates the answers by all twelve industry experts in comparison to the average of Switzerland’s pension fund industry according to Swisscanto’s “Pensionskassenstudie” for the year 2021 (CH Ø 2021) and to the allowed maximum allocation according to the current regulatory framework for Swiss pension funds and collective foundations.

Table 20: Asset Allocation Bonds



Portfolios PF 1 and PF 2 listed in the table above have allocations surpassing the maximum permitted by the BVG. These portfolios are established in Liechtenstein, and as outlined in Chapter 3, point 3.7, the maximum allocation for bonds according to Liechtenstein law is set at 75%.

Again, as for the cash position, an allocation of between 11% and 64.5% of total assets to fixed-income products appears remarkable, particularly in light of the Swiss franc currency zone's low-interest environment. If it did not yield a negative return, these bond portfolios generated a return of, at best, 0%. Why such a high proportion of the asset allocation was allocated to fixed-income products in such a drastically negative interest rate environment must be asked. Portfolio managers who are invested in non-yielding interest rate products held until maturity are unable to explore to the fullest extent the effect of compounding.

5.4.4 Asset Allocation Equities

Question number nine read: What percentage does "your" pension fund/collective foundation hold in equities?

The average equity position in the interview partners' pension funds/collective foundations ranges between 25.375% and 49%. Swisscanto's Swiss Pension Fund Study 2024 shows that the average allocation for equities was 33.8% in 2021.

Table 21: Asset Allocation Equities

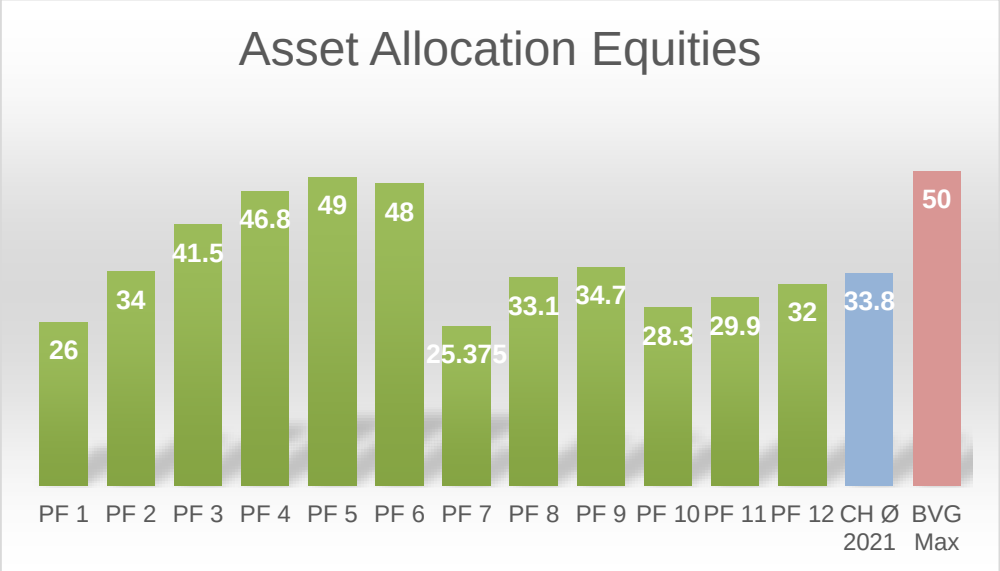


Table 21, “Asset Allocation Equities“, illustrates the answers by all twelve industry experts in comparison to the average of Switzerland’s pension fund industry according to Swisscanto’s “Pensionskassenstudie” for the year 2021 (CH Ø 2021) and to the allowed maximum allocation according to the current regulatory framework for Swiss pension funds and collective foundations.

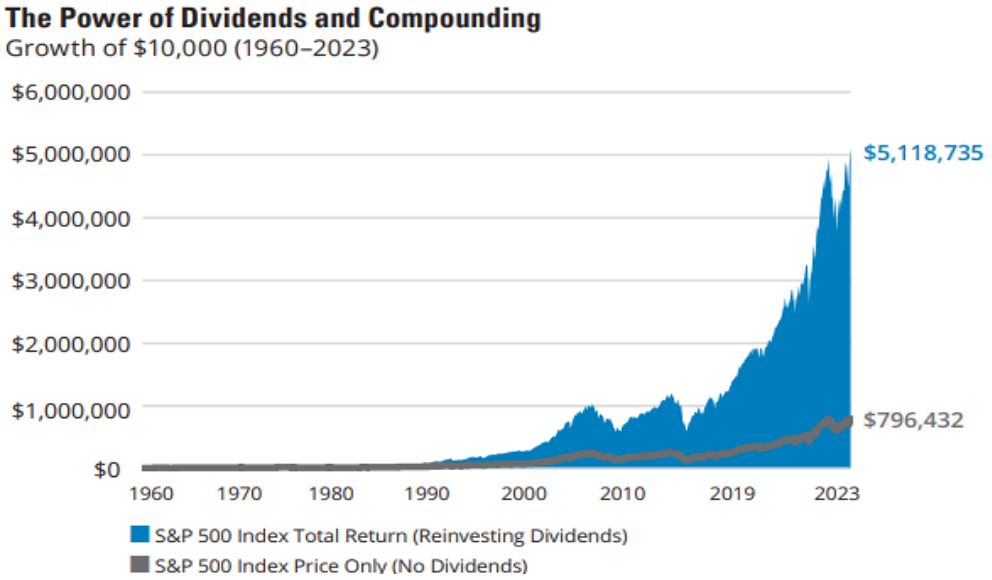
5.4.5 The Effect of Compounding

One proven asset allocation concept involves the impact of compounding. Even if it means accepting short-term volatility, compounding has been developed for long-term investment concepts, such as pension funds and collective foundations, as returns grow exponentially[90]. Table 22, “S&P 500 Total Return (reinvesting dividends) vs S&P 500 Price Index“, impressively illustrates the effect of compounding. Earning interest or dividends on invested capital is vital to harnessing the power of compound interest.

[90] Blake, D., Lehmann, B. N., Timmermann, A. (1999). Asset Allocation Dynamics and Pension Fund Performance.

However, the potential for accruing meaningful interest is limited in a zero or near-zero interest-rate bond environment. As a result, if a substantial portion of funds is allocated to low-interest fixed-income assets, the benefits of compound interest will not be fully realised. The interest rate/dividend strategy aims to build a passive cash flow through interest payments from interest-rate products and share dividends. In contrast to other investment strategies, the focus is not on maximum capital growth but on the highest possible interest or dividend payments.

Table 22: S&P 500 Total Return (reinvesting dividends) vs S&P 500 Price Index



Source: Hartfordfunds, 2024 Insight

Table 22, “S&P 500 Total Return (reinvesting dividends) vs S&P 500 Price Index”, illustrates more explicitly the effect of compounding on the S&P 500 with dividends reinvested versus dividends not reinvested. Additionally, when directly compared to the cohort of 700 Swiss pension funds and collective foundations that participate in the annual Swiss pension fund study conducted by Swisscanto, Table 1, titled "Cumulative Performance Distribution 2008 – 2022 in %," clearly illustrates the difference between the MSCI World Index and the MSCI World Index that includes constant reinvestments of dividends into the index itself.

Interestingly, only one interviewee showed a profound opinion on the effect of compounding.

The interest rate/dividend strategy aims to build a passive cash flow through interest payments from interest-rate products and share dividends. In contrast to other

investment strategies, the focus is not on maximum capital growth but on the highest possible interest or dividend payments. Table 22, “S&P 500 Total Return (reinvesting dividends) vs S&P 500 Price Index”, illustrates more explicitly the effect of compounding on the S&P 500 with dividends reinvested versus dividends not reinvested.

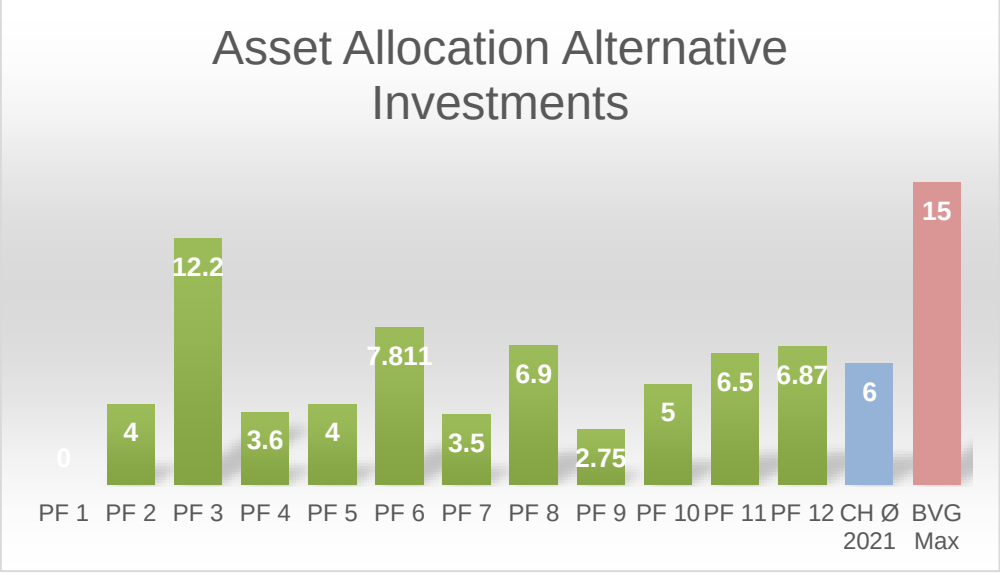
> *"Compound interest is the eighth wonder of the world. Those who understand it benefit from it, while those who do not end up paying it. This quote is attributed to Albert Einstein.”*
>
> *“It highlights the importance of savings in general and indirect investments through the second pillar of our pension system. Pension funds must earn as much interest (dividends) as possible, as the effect of compounding represents the ”vital third contributor” to our financial security.”*

This answer came from PF 5.

5.4.6 Asset Allocation Alternative Investments

The tenth question read: What percentage does "your" pension fund/collective foundation hold in alternative investments?

Table 23: Asset Allocation Alternative Investments



The average alternative investments position in the interview participants' pension funds/collective foundations ranges between 0% and 12.2%. Table 23, “Asset Allocation Alternative Investments“, illustrates the answers by all twelve industry experts in comparison to the average of Switzerland’s pension fund industry according to Swisscanto’s “Pensionskassenstudie” for the year 2021 (CH Ø 2021) and to the allowed

maximum allocation according to the current regulatory framework for Swiss pension funds and collective foundations.

5.5 Qualitative Questions within the Survey

The qualitative questions in the survey were crafted to encourage detailed explanations from the interviewees and often sparked in-depth discussions. However, several interview participants exhibited reluctance in offering comprehensive insights during the discourse. Throughout the course of this research, the author of this dissertation consistently observed a predominance of analogous responses to the inquiries formulated within the qualitative segment of the interview questions.

The extensive transcripts in Appendix 7 examine the questions and selected answers. Questions three to five of the interviews focused on the interplay between the pension fund/collective foundation and expert pension fund consulting firms, as well as their potential influence on asset allocation.

This is significant because the foundational circumstances of these expert pension fund consulting firms need to be explored. Suppose the pension fund experts exert influence over the asset allocation of a pension fund. In that case, the conditions at the time the pension fund was established and the circumstances at the time the expert pension fund consulting companies were established must be examined. Chapter 5.5 consists of three sub-chapters, each with accompanying questions, answers from the interviewees, and supplementary comments to address the research question.

5.5.1 Three Objectives

In the qualitative section, the second question comprised three distinct, but open sub-questions designed to address the three primary objectives of the Interview participants of the twelve pension funds. Consequently, this resulted in a comprehensive total of 36 answers. The open question in the questionnaire sought to illuminate these objectives in greater detail. The question read: "What are your pension fund's three most important objectives?"

> *“Our first objective is to establish a secure pension fund that is both stable for today and beneficial for the future. The second objective is to ensure the fund provides good returns based on factors such as age and*

> *contributions. Finally, we aim to clearly explain how the pension fund operates to employees and workers, highlighting what they should consider and how we can assist them. Additionally, we have considered various pieces of advice in areas such as navigating divorce and promoting home ownership."*

This answer came from PF 7.

What are the primary objectives of your pension fund?

> *"Firstly, I would like to mention the attractive interest rate for active insured persons. On average, over the last 10 years, we have been able to distribute over 2% per year to active insured persons in the two strategies and even increase or maintain the coverage ratio. However, it must be said that the past investment year was excellent, significantly increasing the foundation's cash component. So, at the end of 2019, the average coverage ratio was around 109%*

What is the second most important objective?

> *"Avoiding redistribution between active insured persons and pensioners. It is a major concern of the Board of Trustees to set the parameters so there is no redistribution. This is also easier for us in Liechtenstein than for pension fund managers in Switzerland, as we do not know a statutory minimum interest rate in Liechtenstein".*

And the third most important objective?

> *"The third most important objective is to provide optimal customer service, so we must ensure that our customers feel in good hands.*

PF 1 answered the above questions and works for the pension fund with the lowest equity exposure.

The following answer to question two in the quantitative section looks quite different.

> *"Our primary goal is to generate sustainably high returns, allowing us to benefit our stakeholders significantly.*

This response came from PF 5, the manager responsible for the collective foundation's portfolio, which exceeds CHF 15 billion and has the highest equity exposure among

the interview participants. PF 5 also outperformed the entire cohort of pension funds and collective foundations, which includes over 700 active entities, as presented in Swisscanto's annual pension fund study. The performance is illustrated in Table 1, titled "Cumulative Performance Distribution 2008 – 2022 in %".

> *Our second priority is digitalisation. We manage a substantial amount of data traffic with tens of thousands of beneficiaries in our collective foundation, as individuals constantly enter or leave the pension fund due to various changes, such as divorces or deaths. To reduce costs, we aim to digitise this process. Thirdly, and importantly, we focus on qualitative growth. We must address demographic challenges as our society and pension funds are ageing. Maintaining a healthy mix of younger members in the pension fund is crucial to balance the increasing number of retirees. If we have too many pensioners, we face different asset allocation challenges compared to a more balanced age demographic. Therefore, promoting qualitative growth is vital for our future success".*

Again, these answers came from PF 5, which is responsible for the portfolio with the highest equity exposure. This modern collective foundation is willing to utilise regulatory leeway, cultivating a contemporary approach to asset management, and is not averse to further technical development.

The responses to the pension fund's 36 questions on their three most considerable objectives exhibit a notable alignment with individual investment behaviours. This concordance is further substantiated by the tables and bar charts illustrating the individual asset classes and corresponding asset allocations for pension funds numbered PF 1 through PF 12. Only one of the interview participants' primary goals was to achieve "sustainably high returns", and only one interviewee mentioned as the second objective "to ensure the fund provides good returns based on factors such as age and contributions".

5.5.2 Pension Fund Consulting Companies

Question number three in the quantitative section read: Do "you" work together with pension fund consulting companies?

> *"Yes, we work together with consulting companies."*

This concise answer came from eleven interviewees.

> *"We do not work with any consulting companies."*

This answer came from PF 6 and was then relativised to the answers to questions five and six.

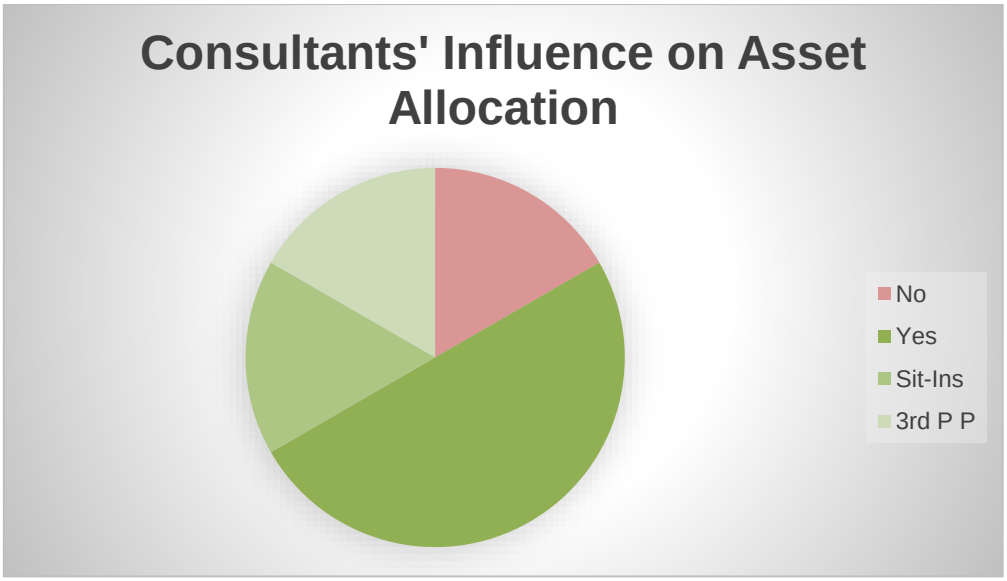
> *"Yes, we do that; for example, we once conducted an investment study with PPCmetrics AG."*

This answer came from PF1. The following answer came from PF 4, working for an established Swiss financial institution, and it is surprising because it can be assumed that any established Swiss financial institution is not reliant on purchasing asset allocation support from an external consultant. The author of this thesis assumes that, in this case, it is primarily a question of the consultant's monitoring function. Interestingly, despite the stated influence of a consultant, the proportion of fixed-income products is relatively low at 24.1%, while the proportion of equities is relatively high at 41.5%.

> *"Prevanto AG is a guest on the Investment Control Committee and provides the Investment Control Committee with technical support in defining and implementing the investment strategy."*

Question four in the quantitative section read: If "you" work with pension fund consulting companies, does the company advise "your" pension fund/collective foundation on asset allocation?

Table 24: Consultants' Influence on Asset Allocation



The responses to question four varied, ranging from 'no influence' to 'some influence', 'monitoring of the asset allocation process', 'suggestion on asset allocation by the

advisor', and 'yes'. This diversity of approaches underscores the industry's complexity. Table 24, “Consultants' Influence on Asset Allocation“, illustrates the answers by all twelve industry experts and compares these answers to the answers of the entire interviewees' cohort. While six of the industry experts, i.e. half of the cohort, replied that expert pension fund consultants had some influence on asset allocation (Yes), only two interview participants replied that consultants do not influence asset allocation (No). Another two interviewees replied that expert pension fund consultants helped, i.e., exercised some influence with selecting products from third-party providers (3rd P P). Last, within the organisation of two of the industry experts, expert pension fund consultants have a seat as guests on the investment committee meetings (Sit-Ins).

Question five in the quantitative section read: For which area do "you" obtain consulting services for "your" pension fund/collective foundation?

> *“Third-party products are used within the asset classes of the pension funds we manage and within mandates of our bank's asset management department, for example, in alternative investments. In such cases, we seek advice from those mandate recipients.”*
>
> *“There are, of course, consulting companies in the area of pensions, some of which have to be called in for legal reasons. For example, so-called qualified pension fund experts. These are experts who carry out so-called actuarial reports and, depending on the business we do, we may need a lawyer to advise us or most or almost all of the things we have in our investments are looked after and managed externally, i.e. the asset managers, the banks are also external or, for example, we also need external experts for IT.”*
>
> *“External specialists can be called in for legal clarifications. The experts also advise the Board of Trustees and the Executive Board on drafting regulations.”*

5.5.3 Responsibility for the Asset Allocation

The Ordinance of 18 April 1984 (as of 1 January 2024) on Occupational Retirement, Survivors, and Disability Pension Plans (BVV 2)[91] regulates the asset allocation limits

[91] www.fedlex.admin.ch

as outlined in Chapter 3 and Table 6, “Limits of individual investment categories about the total assets (CH)” and, under Art. 51a “Aufgaben des obersten Organs der Vorsorgeeinrichtung” (duties of the supreme body of the pension fund) covers the responsibilities of the Board of Trustees. The responsibilities include overseeing the management of the pension fund, ensuring compliance with statutory duties, and establishing the strategic objectives and principles of the pension fund, as well as the methods for achieving them. It also involves organising the pension fund, ensuring its financial stability, and monitoring its management.

Question six in the quantitative section asked: Who is responsible for the asset allocation in your pension fund/collective foundation? All interviewees responded to question six and stated that the Board of Trustees is responsible for asset allocation. Their answers were in full compliance with the existing law. Some interviewees added further explanations to their answers. The responses indicate a lack of standardisation in approaches, reflecting variations based on the number of assets under management and whether the pension fund operates within a group structure. Typically, as reflected in the interviews (see Appendix 7, “Additional List of Interview Questions and Answers”), larger pension funds tend to prefer insourcing solutions. In contrast, smaller funds are more inclined towards outsourcing. This observation is further supported by the PhD thesis titled “Pension Funds’ Investment Practice and Corporate Engagement,” which examines the U.K. pensions market[92].

Furthermore, pension funds that are part of group structures often outsource as much of the value chain activity as possible to that group structure, taking advantage of the associated fees for services rendered within the group’s organisational framework.

> *“The Investment Committee is a key player in determining strategic asset allocation. They prepare the decision-making basis, with the final determination made by the Board of Trustees.”*

This answer came from PF 3, who claimed that Prevanto AG was a guest on the Investment Control Committee and provided the Investment Control Committee with technical support in defining and implementing the investment strategy. When the members of the Board of Trustees of the pension fund of a well-established Swiss financial institution which serves a workforce comprising several thousand employees,

[92] Tilba, A. (2011) Pension Funds’ Investment Practice and Corporate Engagement.

extend an invitation to a representative from a pension fund consulting firm to participate as a regular guest in their investment committee meetings, it is plausible that the motivation extends beyond merely acquiring financial market expertise. Rather, this invitation may stem from an emphasis on governance considerations. This scenario effectively underscores the significant impact that escalating regulatory frameworks exert on both the board of trustees and the asset managers within pension funds.

> *"The Board of Trustees is primarily responsible for asset allocation, which is required by law. The Investment Committee, of course, advises it, and the Investment Committee has internal and external investment specialists from various areas, e.g. someone who specialises in real estate, someone in asset allocation, someone from Controlling, someone who specialises in alternative investments."*

This answer came from PF 6, who initially claimed not to work with consulting companies in question three.

Question seven read: Who implements "your" asset allocation?

> *"The pension fund's managing director and his team."*

This information comes from PF 10. The pension fund's asset base is larger than CHF 6.5 bn. For a pension fund of this magnitude, insourcing with the support of external specialists can be a prudent and cost-effective strategy. This approach enables the Board of Trustees to delegate specialised mandates to external providers in a cost-efficient manner, potentially enhancing portfolio diversification and promoting competition between both the organisation and the mandate providers.

> *"At our company, the investment committee implements the asset allocation, and the investment manager is responsible for day-to-day operations."*

This information comes from PF 5, a large collective foundation with more than CHF 15bn assets under management.

> *"The implementation of the specified targets is carried out via the asset management subsidiary of our mother company."*

This information originates from PF 2. The parent company operates as a bank. The described practice is relatively common in Switzerland and Liechtenstein. It suggests

that a considerable part of the value chain activities can be managed internally within the company's organisational framework. Consequently, the associated fees for administration, safekeeping, reporting, and other services related to the management of pension assets can be collected within that organisational framework.

> *"The external asset manager appointed by the Board of Trustees implements the strategic asset allocation."*

The information presented stems from PF 4. Given the pension fund's relatively modest size (AUM > 300mn), the Board of Trustees adheres to a streamlined organisational framework and opts to outsource many functions to external entities whenever feasible.

5.6 The Great Financial Crisis

Following the interviews, participants examined how the repercussions of the Great Financial Crisis have prompted a substantial consolidation within the Swiss pension fund industry. Consequently, pension fund consultants have accrued more significant influence, with board members increasingly depending on their expertise to tackle strategic issues, especially asset allocation-related issues. In light of increased accountability and regulatory requirements, the decision-making processes within Swiss pension funds and collective foundations have become more formalised and structured to ensure good governance is upheld.

> *"In the aftermath of the great financial crisis, regulations affecting our work have notably intensified and continue to evolve. In this increasingly stringent regulatory landscape, many boards of trustees seek to safeguard themselves by seeking endorsements from pension fund experts at well-regarded consulting firms for critical decisions, such as asset allocation."*

This quote stems from an email conversation with PF 5 after the interview and after verifying the written interview transcript.

5.7 Boards of Trustees

It is assumed that trustees are responsible for making and revising three types of decisions.

First, they must allocate assets among various asset classes, such as stocks, bonds, and real estate.

Second, they need to evaluate and select specific investment products, such as index funds or growth funds, that align with their needs within each asset class.

Third, they must assess and choose investment managers who will handle the allocated portion of assets in accordance with the goals and predetermined performance standards established by the trustees[93].

Therefore, contemporary discourse raises pertinent questions regarding the qualifications of the Boards of Trustees and whether their members possess the requisite expertise and foundational regulatory knowledge to execute their responsibilities effectively. A significant finding in the literature on pension fund trustee competence highlights an important aspect of risk propensity: individuals frequently demonstrate a preference for certainty over uncertainty. This preference can be illustrated quantitatively by comparing two sums. The first is a guaranteed lesser amount, and the second is a potentially greater amount, which depends on an unknown probability of occurrence[94]. Considering the concept of regret, where individuals tend to overemphasise losses while underemphasising potential gains, it becomes evident that many people systematically avoid risk. Psychologists and decision theorists have also noted that risk avoidance, and, by extension, risk-taking, may be linked to personality traits[95].

Further reinforcing this notion is the psychological concept of regret, where individuals are inclined to weigh potential losses while underestimating potential gains disproportionately. These behaviours indicate a systematic tendency among many individuals to avoid risk. Pension fund trustees rarely invest their personal capital. Rather, they are responsible for the management of the investments of their pension fund's policyholders, i.e. beneficiaries. This responsibility is delineated by the rules and regulations that govern pension funds and collective foundations. A critical question in this context

[93] Clark, G.L. (1998). Why Convention Dominates Pension Fund Trustee Investment Decision Making.
[94] Clark, G. L., Caerlewy-Smith, E., & Marshall, J. C. (2006).
[95] Kahneman D., Tversky A. (1979). Prospect Theory: An Analysis of Decision under Risk.

is whether trustees apply their individual risk preferences, including their potential inclination toward risk aversion, to their fiduciary roles[96].

The analyses conducted after the interviews revealed a clear trend towards low-risk investments characterised by low volatility. As detailed in subchapter 5.5.1, “Three Objectives,” the responses of the interview participants to the 36 questions about the pension funds and collective foundations’ three main objectives show a significant alignment with their investment behaviours. This alignment is supported by the tables and bar charts illustrating the individual asset classes and corresponding asset allocations for the pension funds and collective foundations numbered PF 1 through PF 12. Notably, only one interview participant identified achieving sustainably high returns as a primary goal.

> *“Our primary goal is to generate sustainably high returns, allowing us to benefit our stakeholders significantly.*

This response came from PF 5, the manager who oversees the collective foundation’s portfolio, which amounts to over CHF 15 billion and has the highest equity exposure among the interview participants.

Furthermore, there is a noticeable trend of delegating important investment strategy decisions and other key areas to external consultants.

> *“External specialists can be called in for legal clarifications. The experts also advise the Board of Trustees and the Executive Board on drafting regulations.”* (PF 3).

This trend can be largely attributed to the rising regulatory requirements faced by trustee board members. As outlined in section “5.5.2 Pension Fund Consulting Companies,” the responsibility is gradually shifting from board members to specialised pension fund consultants, and this shift is becoming more common. Furthermore, the existing body of research on corporate governance concerning pension funds as institutional investors in the United Kingdom indicates that trustees frequently exhibit a deficiency in investment expertise. “Their reliance on investment consultants and their perception of consultants’ recommendations as ‘endorsing’ in this way have huge

[96] Clark, G. L., Caerlewy-Smith, E., & Marshall, J. C. (2006). Pension fund trustee competence: decision making in problems relevant to investment practice.

implications for pension fund investment strategy, such as investing equity allocations via active investment fund managers and focusing fund mandates on producing short-term investment returns"[97]. It is important to recognise that, nevertheless, the ultimate regulatory and legal responsibility resides with the members of the board of trustees.

5.8 The Role of Expert Pension Fund Consulting Companies

All interview participants mentioned ever-increasing regulations as a real issue for pension funds and collective foundations. Thus, consultants are used as advisors and supervisors to ensure that regulatory and internal guidelines are not violated and that no accusations can be levelled against the management or boards of trustees. Depending on the pension funds/collective foundations' business and risk models, the pension funds/collective foundations perform tasks directly or indirectly.

In section 5.5.2, titled "Pension Fund Consulting Companies," detailed responses to the third question in the quantitative section of the interview are analysed. This question inquired whether the participants worked with pension fund consulting companies. Eleven of the twelve interview participants indicated they do indeed work with consulting firms.

"Yes, we work together with consulting companies."

Only one interviewee stated that they did not work with consultants. However, the responses to questions five and six later modified this claim.

In the discussions with the interviewees, the subjective sentiment emerged that, thanks to the quality seal of approval by the engaged consultants, their services are also utilised to mitigate the risks associated with increasingly complex regulations of Swiss pension scheme decision-makers. As mentioned in section 5.7, the final regulatory and legal responsibility lies with the members of the Board of Trustees. However, pension fund consultants appear to be gaining significant influence over the Swiss pension fund industry. They play a unique role, particularly when they impact, even if it is only through monitoring, the asset allocation of pension funds and, therefore, transfer the conditions imprinted on their company at its founding to the pension fund they consult.

[97] Tilba, A., McNulty, T. (2013). Engaged Versus Disengaged Ownership: The Case of Pension Funds in the UK.

Recent research shows a trend toward pension fund investment delegation[98]. The interviews show a clear trend that more considerable pension funds/collective foundations tend towards increased outsourcing, which allows them to manage significant assets with relatively lean structures. Outsourcing also helps to cope with increasing regulation.

Some of the most expert management consultants in the Swiss pension fund scene include Complementa AG[99], PPCmetrics AG[100], ECOFIN INVESTMENT CONSULTING AG[101] and c-alm AG[102].

5.8.1 Consultants' Founding Dates and Interest Rate Environment

Complementa AG was founded in 1984. In 1984, interest rates for the ten-year Swiss government bond oscillated between 4% and 5%. PPCmetrics AG is one of Switzerland's leading pension fund consulting companies. It was founded in 1991 when interest rates for the ten-year Swiss government bond oscillated between 5% and 6%. ECOFIN INVESTMENT CONSULTING AG was founded in 1996 when interest rates for the ten-year Swiss government bond oscillated between 3.5% and 4.5%. Finally, c-alm AG was founded in 2005 when interest rates for the ten-year Swiss government bond oscillated between 2% and 3%. These four companies were founded when the interest rate landscape in Switzerland was characterised by clearly favourable interest rates on ten-year government bonds. Prevanto AG[103], the expert pension fund consulting company consulted by the pension fund of the aforementioned private bank, was founded in 2015 when interest rates on ten-year Swiss government bonds turned negative. Illustration 10, "Development of Interest Rate 10-Y Swiss Government Bond 1985 – 2021", shows the development of interest rates on ten-year Swiss government bonds from 1985 - 2021. This study makes several essential observations concerning investment consultants.

First, unlike the first four expert pension fund consulting companies, Prevanto AG was incorporated when negative interest rates on ten-year Swiss government bonds became the new normal and prevailed. Based on current research outlined in the

[98] Tilba, A., McNulty, T. (2013). Engaged Versus Disengaged Ownership: The Case of Pension Funds in the UK.
[99] Complementa AG, Webpage, About us
[100] PPCmetrics AG, Webpage, About us
[101] ECOFIN INVESTMENT CONSULTING AG, Webpage, About ECOFIN
[102] c-alm AG, Webpage, About us
[103] Prevanto AG, Webpage, History

literature review of Chapter 2 of this thesis, it is reasonable to assume that those companies were imprinted with the economic conditions at the founding. Suppose such companies have a direct or indirect influence on the asset management of pension assets. In that case, it can be assumed, based on years of proven research on the subject across various sectors as outlined in Chapter 2 of this paper, that the conditions at the founding of the expert pension fund consulting company directly or indirectly influence the asset management of pension assets, too.

Second, the Ordinance of 18 April 1984 on Occupational Retirement, Survivors, and Disability Pension Plans (BVV 2) established the regulatory framework for the strategic allocation of assets permitted for investment by pension funds and collecting foundations. Those parameters were introduced to enhance financial stability and risk management.

The established asset allocation limits are outlined in Chapter 3, specifically in Table 6, titled "Limits of Individual Investment Categories Relative to Total Assets (CH)", and Table 7, titled "Limits of Individual Investment Categories Relative to Total Assets (LI)". For Switzerland, the following limits apply to bonds and equities: up to 50% for Swiss mortgage bonds and up to 50% for investments in equities. In Liechtenstein, the limits are set at up to 75% for mortgage bonds and up to 50% for equities.

At the end of each interview, the interviewer asked the participant about the reasoning behind the asset allocation used by their pension fund or collective foundation. This specifically included questions about the chosen percentages for interest-rate products, equities, and real estate. The responses could have been more insightful and mainly centred on the asset allocation strategy.

The following answer stems from PF 1, the pension fund with the lowest equity exposure.

> *“The investment strategy is based on the target return, risk capacity, and actuarial parameters of the foundation”.*

However, one statement stemming from PF 7 stood out as particularly significant and aligned with the author's subjective impressions at the end of the interviews.

> *“We took on much more risk in the past, but in recent years, we have reduced that risk and shifted towards more passive investments”.*

The regulatory framework's implementation in 1985 took place under particularly advantageous financial market conditions. These conditions were characterised by a favourable interest rate environment in Switzerland, marked by yields oscillating between 4% and 5% on Swiss Franc-based ten-year government bonds.

According to the research presented in Chapter 2 of this thesis, it is reasonable to assume that the prevailing conditions have left a lasting impact on Swiss-based pension funds and collecting foundations. Additionally, the research highlights the concept of historical continuity, which suggests that organisations are often constrained by their inherent nature and prior commitments. This phenomenon explains the slow pace of change in asset allocation, even in the face of significant shifts in environmental conditions.

5.9 Not Exploiting the Regulatory Scope

The governing bodies of the Swiss pension fund industry interpret strict thresholds for specific investment categories based on total assets, as outlined under Point 3.6, “Regulation: Swiss Pension Funds Investment Categories”, and Table 6: “Limits of individual investment categories about the total assets (CH)”. However, the investment opportunities are manifold, as the limits have been set generously. With the sole exception of one collective foundation and the pension fund, which has delegated advisory responsibilities to a specialised pension fund consulting firm (Prevanto AG), established in 2015 amid the low-interest rate environment, no other pension fund or collective foundation takes advantage of these thresholds.

After the interview, there was always a short or more extended discussion, which, in most cases, led to a final question regarding the asset allocation in equities. For PF 1, the lowest equity exposure, the question read: “Finally, I have a question about strategic asset allocation and your strategic equity allocation. Why is this 26% or 34% and not 12% or 46%?”

> *PF 1: "The investment strategy is based on the required return (target return), the risk capacity and the foundation's actuarial parameters. The Board of Trustees periodically reviews this with the help of an asset and liability study."*

For PF 5, the highest equity exposure, the question read: Finally, I have a question about strategic asset allocation and your strategic equity allocation. Why is this 49% and not 35% or 65%? Why is it precisely 49%?

> *PF 5: "According to the BVG, the maximum limit for equity investments for Swiss pension funds is 50%. If the equity ratio increases passively, i.e. for performance reasons, and rises above 50%, we can easily justify this, and it is not a problem. In the event of an active breach of the limit, we would also be in active breach of the BVG and have to expect consequences. We have therefore decided to utilise the equity ratio as much as possible without actively violating the applicable rules."*

5.10 Regulation and Competition

As detailed in Chapter 3, Section 3.5, “Regulatory Environment,” the OPSC is the licensing authority for occupational pension experts. Although the overarching federal responsibility for authorising these experts ensures uniform standards across the industry, it may be viewed as a barrier for potential occupational pension experts from non-Swiss jurisdictions seeking to establish themselves within this professional domain, thereby limiting the diversity of non-Swiss talent in the field.

5.10.1 Authorisation of Occupational Pension Experts

The professional requirements for natural people under Art. 52d para. 2 lit. a and b BVG are appropriate professional training, experience, and knowledge of the relevant legal provisions. The prerequisite for authorisation is the Swiss federal diploma as an expert for occupational benefit schemes. A further professional prerequisite for authorisation is that the Swiss Chamber of Pension Fund Experts (SKPE) requirements be fulfilled. The OAK BV may also apply other criteria not included in the ‘Continuing education guidelines for members of the Swiss Chamber of Pension Fund Experts’ to fulfil the requirements for continuing education. The requirements for continuous professional development must be met for the first time no later than the second calendar year following receipt of authorisation. The OPSC may review compliance with the continuous professional development requirements at any time. The experts must

provide OAK BV with the necessary information. To this end, the experts must retain the evidence of the continuing education programs completed for five years.[104]

While obtaining a Swiss federal diploma as an occupational pension fund expert provides a solid foundation, it also challenges foreign professionals, particularly those from Anglo-Saxon countries. Without this Swiss federal diploma, these experts may find working as pension fund consultants in Switzerland difficult. The language barrier inherent in the training program leading to the diploma can hinder foreign access to the market, thus creating an obstacle to best practices in the field.

Although the Swiss occupational pension institutions are generally allowed to utilise foreign advisory services, provided they comply with the relevant legal requirements, this increased barrier to market entry in a landscape dominated by domestic Swiss companies hinders the positive effects of heightened competition, typically driven by international players, which usually fosters competitive advantages over time.

5.11 Summary of Interview Findings

Alongside surveys, this study also benefited from in-depth semi-structured interviews with leading industry specialists. The main findings arising from the qualitative data are as follows:

First, this study finds that, according to documentary analysis of reliable key sources, like Swisscanto's yearly "Pensionskassenstudie" and key figures from the Swiss Federal Statistical Office, the Swiss pension fund industry exhibits adequate funding. However, this research also shows that the majority of earnings potential is not fully exploited due to conservative asset allocation.

Second and significant, this study finds that most elite pension fund experts interviewed for this thesis exhibited a narrow perspective, which may be shaped by current regulatory frameworks and external and internal reporting guidelines when developing their asset allocation, and only a small number of pension funds do not follow this pattern. Specifically, this was observed due to the portfolio managers' failure to adapt quickly to the significant and lasting change in the Swiss interest rate environment. Except for one, none of the pension fund portfolio managers interviewed utilised the regulatory flexibility to aggressively reduce the allocation from low- or negatively-

[104] Weisungen OAK BV W – 01/2012, Zulassung von Experten für berufliche Vorsorge

yielding fixed-interest products in favour of risk assets in their asset allocation strategies, despite having a long-term investment horizon spanning multiple decades.

Third, due to ever-tighter regulatory requirements, this study also finds that most interview participants seek guidance and rely increasingly on external investment consulting firms, such as expert pension fund consulting firms, to prepare or obtain approval for their asset allocation and other critical tasks.

Fourth, the interviews revealed that unrealised return potential on invested capital does not appear to be a cause for concern as long as the pension funds/collective foundation's coverage ratio is above 100% and redistribution between active insured persons and beneficiaries can be avoided. The following sections of this chapter will elaborate on these findings in more detail.

The analysis of interview data suggests that among the interviewees, low volatility in investment is considered more crucial than high investment returns. Of the interview participants, only one pension fund representative allocated 49.5% of manageable assets to equities, accepting higher short-term volatility in exchange for higher long-term investment returns on the portfolio. The data collected also reflects an environmental shift in base interest rates of the benchmark 10-year Swiss Government Bond, as illustrated in Table 10, "Development of Interest Rate 10-Y Swiss Government Bond 1985 – 2021", which aligns with the establishment timeline, alongside the introduction of the Federal Law on Occupational Retirement, Survivors and Disability Pension Plans in 1985.

During the interview process, responses from the interviewees were gathered. Combined with the statistical evidence from Swisscanto's annual studies mentioned in the literature review, this data provides strong evidence of resistance to change. The resistance to change asset allocation from a lower volatility portfolio with low investment returns to a higher volatility portfolio with the potential for higher investment returns appears particularly challenging to Swiss and Liechtenstein-based pension funds/collective foundations. Furthermore, the research also indicates that older pension funds, established during periods of higher interest rates, still resist change during periods of lower interest rates due to their historical structures and the stability offered by risk-free rates of return. A significant finding in the literature on pension fund engagement and disengagement is that "perceived realities of investment are unlikely to cause a

change in pension fund behaviour because participants seem to decouple their view of the world from their impact on the world”[105].

Finally, this dissertation seeks to deepen the understanding of the implications for policyholders resulting from the misalignment of time horizons. Additionally, it critically examines the cumulative effects associated with the incorporation of supplementary layers of security.

5.12 Conclusion Chapter 5

This chapter outlines the survey and interview results and summarises the conditions during the founding period of the modern Swiss pension fund era. Moreover, the question emerged regarding whether the managers of Swiss pension funds and collective foundations acted rationally in pursuing an investment return that corresponded to the existing economic conditions. Drawing on the statistical evidence discussed in this chapter, along with insights gained from the survey and interviews, it can be concluded that the answer to this inquiry is negative.

Additionally, another valuable insight derived from this dissertation is that the findings regarding the "imprinting of founding conditions" can be relevant and applicable to the financial sector, particularly within the pension fund sector in the Swiss currency area. It is noteworthy that an organisation's founding "date" is not the sole factor to consider; rather, the introduction of new laws, significant shifts in economic conditions, and similar events can also exert a formative, or imprinting, influence on organisations in general.

[105] Tilba. A. and Wilson, J.F. (2017). Vocabularies of Motive and Temporal Perspectives: Examples of Pension Fund Engagement and Disengagement.

Chapter 6 Discussion and Recommendations

6.1 Introduction

Chapter 6 of this dissertation discusses the contribution to the existing literature. It offers a practical and realisable approach for Swiss pension funds to succeed in the prolonged and persistently low-interest rate environment in the Swiss Franc currency area. The findings articulated in Chapter 2, among them Stinchcombe's emphasis on the substantial influence of external environmental forces in determining the foundational structural configurations of corporate entities[106], but also more recent research on “Imprinting Beyond the Founding Phase: How Sedimented Imprints Develop over Time”[107] underscores the enduring implications of these patterns over time. Moreover, the comprehensive quantitative and qualitative data presented in Chapter 5 provide compelling corroboration for established theories within corporate demography in organisational theory. This analysis allows for the conclusion that pension fund managers in the Swiss Franc currency area frequently exhibit a narrow perspective, which may be shaped by current regulatory frameworks and external and internal reporting guidelines and demonstrate resistance to change.

Table 25: Development of Interest Rate 10-Y CH Government Bond 2007 - 2021

Source: Bloomberg

Interest rates in Switzerland decreased by only 1% over 20 years, from 4.5% in 1985 to 3.5% in 2007/2008, as shown in Chapter 3, Table 10, titled “Development of Interest

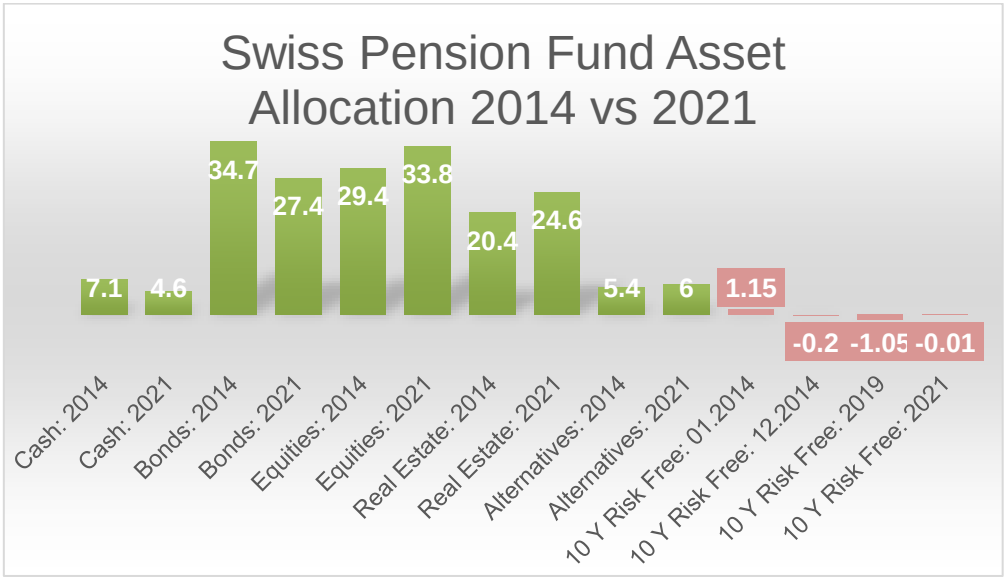
[106] Stinchcombe A.L. (2000). Social Structure and Organizations.
[107] De Cuyper, L., Phillips, B., C., N. (2020). Imprinting Beyond the Founding Phase: How Sedimented Imprints Develop over Time.

Rate for 10-Y CH Government Bonds from 1985 to 2021." Table 25, an excerpt from Table 10, highlights the accelerating trend in decreasing interest rates for 10-year Swiss government bonds in a smaller 14-year window before dropping from 1.15% to -0.2% within a single year before interest rates fluctuated between 0% and -1% for seven consecutive years from early 2014 to the end of 2021.

The following Table 26, titled "Swiss Pension Fund Asset Allocation 2014 vs 2021," highlights the changes in asset allocation among the five most significant asset classes held by Swiss pension funds and collective foundations from 2014 versus 2021. This information is based on data from Swisscanto's Pension Fund Study 2024[108], as detailed in Table 12, "Asset Allocation of Swiss Pension Funds 2014 – 2023 in %", in the literature review in Chapter 2.

Table 26 compares asset allocation changes from 2014 to 2021 alongside the interest rates of 10-year Swiss government bonds (risk-free) at the start of 2014, the end of 2014, 2019, and 2021. The comparison indicates that the portfolio adjustment process needed to be faster, especially considering the significant changes in the local Swiss Franc currency-based interest rate environment.

Table 26: Swiss Pension Fund Asset Allocation 2014 vs 2021



Despite a notable decrease in bond ratios from 34.7% in 2014 to 27.4% in 2021, Swiss pension funds continue to demonstrate a substantial allocation to bonds. This trend

[108] Swisscanto by Zürcher Kantonalbank – Schweizer Pensionskassenstudie 2024

merits further examination, particularly considering the prevailing negative interest rate environment that has characterised the financial landscape during those seven years and which today, in 2024, will soon be reached again. 10-year Swiss government bonds in Swiss francs are trading at 0.34%.

The author of this dissertation does not believe that the myopic behaviour of pension fund managers can be attributed solely to the imprinting effect. Far more, this thesis demonstrates that the behaviour of pension fund managers is not only significantly influenced by the imprinting effect associated with the introduction of the BVG in 1985, thanks to the advantageous circumstances for pension funds prevailing at that time, but also by the risk aversion exhibited by individuals responsible for asset allocation. As pointed out under section 5.5.1, “Three Objectives”, the responses to the pension fund's 36 questions on their three most considerable objectives exhibit a notable alignment with individual investment behaviour. Only one of the interview participants’ primary goals was to achieve “sustainably high returns”. This concordance is further substantiated by the tables and bar charts illustrating the individual asset classes and corresponding asset allocations for pension funds numbered PF 1 through PF 12. Research on pension fund trustees’ competence concluded that trustees’ individual risk preferences show an inclination toward risk aversion, which also applies to their fiduciary roles[109].

During the interviews, as well as in the discussions that followed, participants were generally cautious in their comments. Nevertheless, all interviewees expressed a consensus that increasing regulation was compelling them to undertake fewer risks, favouring expanding risk aversion and, to some extent, prioritising self-preservation. These insights align with contemporary research on the U.K. pension market, as discussed in Chapter 5, specifically in section 5.7, titled "Boards of Trustees." This section explores the psychological concept of regret, which indicates that individuals often weigh potential losses more heavily and disproportionately underestimate potential gains. These behaviours suggest that many people, not just those in the Swiss pension fund landscape, need to pay more attention to the balance between risk and reward. Therefore, irrespective of the underlying explanation for the myopic behaviour of Swiss pension fund managers, it must be noted that the non-utilisation of the regulatory

[109] Clark, G. L., Caerlewy-Smith, E., & Marshall, J. C. (2006). Pension fund trustee competence: decision making in problems relevant to investment practice.

bandwidths for risk assets leads to a significantly lower long-term return, as shown in Chapter 1, Table 1: “Cumulative Performance Distribution 2008 – 2022 in %”.

Finally, the objective of this study was to determine whether the conditions present during the establishment of the modern Swiss pension fund era significantly influenced Swiss pension funds, collective foundations, and expert pension fund consulting companies during that critical period and, consequently, whether there was an imprinting of environmental conditions onto the organisation during that time. The results drawing on the existing statistical evidence discussed in this chapter, along with insights gained from the literature review, survey and interviews, affirm the thesis.

The circumstances revealed in this thesis, therefore, agree with the existing imprinting theory of corporate demography research. This theory shows that the main characteristics of the organisational environment during this initial phase significantly impact an organisation by determining its direction during this critical period. Therefore, a “mapping of an environmental condition onto the organisation” takes place during this time[110].

Table 27, “Fixed Income Exposure with Consultant's Influence on Asset Allocation,” shows evidence confirming the theory. Additional confirmation is provided by the asset allocation within one pension fund, which is advised by a consultant founded during a phase of low interest rates and which, therefore, has a lower level of investment in fixed-income products and a significantly higher level of investment in equities.

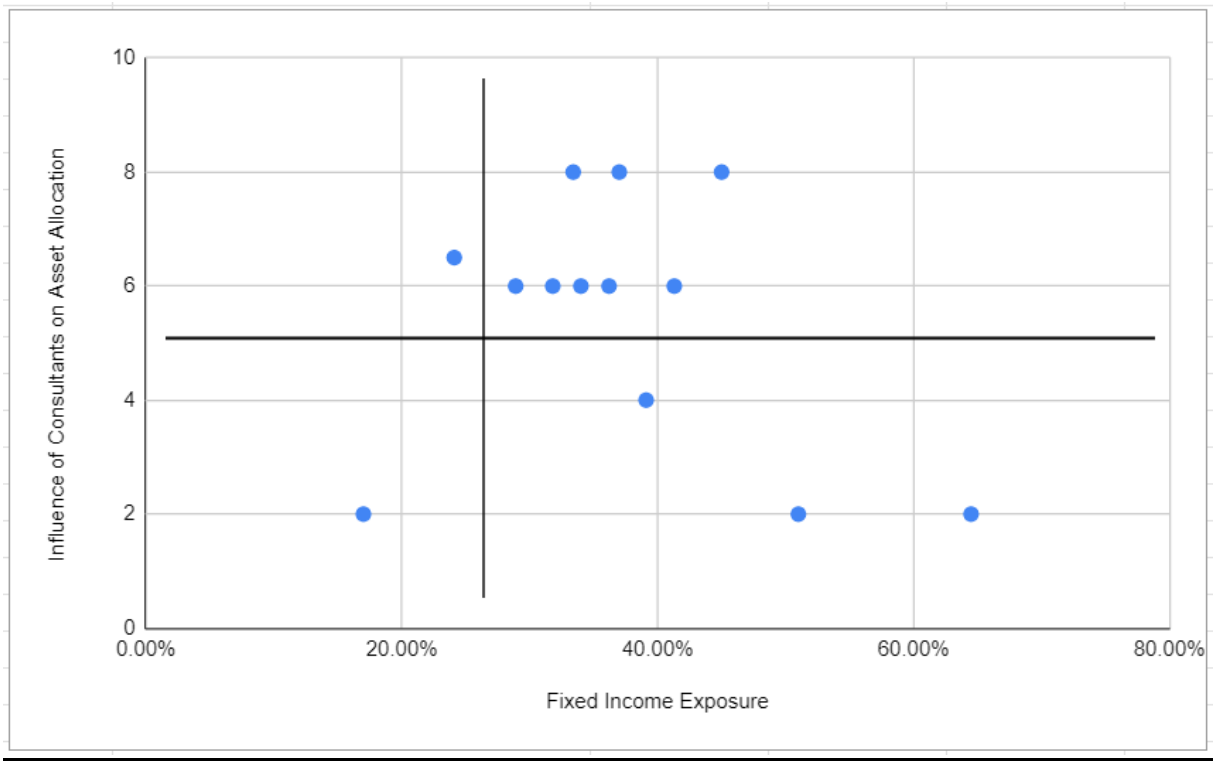
The observations from this dissertation suggest that Swiss pension funds exhibit myopic behaviour and exhibit resistance to change. Despite existing in a prolonged environment characterised by ultra-low, and at times negative, interest rates in the Swiss Francs currency area, these funds have demonstrated a sluggish pace in reallocating their assets from bonds to equities by failing to leverage the regulatory flexibilities available to them. The theoretical framework of organisational studies substantiates the imprinting hypothesis, positing that the foundational conditions present at the inception of an organisation exert a lasting influence on its subsequent development rather than a transient one. This phenomenon can explain the protracted adjustment period in

[110] Carroll, G.R., Hannan, M.T. (2000). The Demography of Corporations and Industries.

asset allocation strategies, particularly in response to the dynamic and rapidly evolving conditions of financial markets.

The aftermath of the 2008 Great Financial Crisis has revealed a significant environmental shift in interest rates, accompanied by a slow-moving adjustment in the asset allocation mix of Swiss pension funds over the past two decades. The interviews with elite industry representatives indicate a reluctance to acknowledge the necessity of adapting investment strategies to this substantial change in the investment landscape. An optimal and rational approach to managing pension funds in Switzerland would necessitate a corresponding adjustment in asset allocation in response to the evolving investment environment.

Table 27: Fixed Income Exposure with Consultant's Influence on Asset Allocation



In a low or adverse interest rate scenario, a viable strategy for policyholders would involve increasing the strategic allocation towards equities or other risk assets while reducing the allocation of fixed-income products within the bounds of permissible regulatory limits. Drawing on Hannan and Freeman's theory[111] of structural inertia in corporate demography, it can be presumed that similar inertia exists in the asset

[111] Hannan, M. T., & Freeman, J. (1984). Structural Inertia and Organisational Change.

management domain of the analysed pension schemes. Unlike the technological inertia observed in a research paper on the U.S. car industry[112], the prevailing challenge in Pension funds in the Swiss Franc currency area lies in organisational culture and attitudes.

Notably, historical environmental shifts have rendered previously successful strategies impractical. Across various industries, organisations with a strong historical track record are less inclined to modify their underlying norms and institutionalised practices, leading to irrational behaviour.

Furthermore, the interviews have indicated a substantial correlation between the influence of expert pension fund consulting firms established during favourable or high interest rates on the ten-year Swiss government bond and the prevalence of fixed-income products in pension fund asset allocations. As evidenced by a chart depicting four distinct data points, it is apparent that pension funds working in conjunction with consulting firms established during periods of varying interest rate dynamics display different asset allocation patterns, thus reinforcing the impact of consulting firms on investment decisions.

Based on the thesis, it seems obvious that both the analysed pension funds/collective foundations and the expert pension fund consulting companies working for them were and still are influenced by the economic framework conditions at the time of the founding of the modern Swiss pension fund era. The fact that Prevanto AG was established in an environment of low or negative interest rates on ten-year Swiss government bonds and that the pension fund it advises, therefore, has a relatively low allocation to fixed-income products and, in turn, a relatively high equity allocation, supports Carroll/Hannan's view[113] that the conditions at the founding substantially influence the principal entity during the sensitive period, and a "mapping of an environmental condition onto the organisation" takes place during that time.

[112] Dobrev St. D., Tai-Young K., Carroll G., R. (2002). The Evolution of Organizational Niches: U.S. Automobile Manufacturers, 1885-1981.
[113] Carroll G.R., Hannan M.T. (2004). The Demography of Corporations and Industries.

6.2 Superfluous Additional Layer of Security

A review of the organisational structure of the Swiss pension fund supervisory authorities would be beneficial, but this task presents significant challenges in Switzerland due to Switzerland's federalist cantonal structures. As discussed in Chapter 3, Section 3.5, titled "Regulatory Environment," there are seven distinct cantonal supervisory authorities, each with potentially divergent interests that may not always align. Also, in Chapter 3, under 3.8, “Regulation May Harm Pension Funds’ Performance”

Subsequent to the discussions conducted after the interviews, it was revealed that the members of the boards of trustees and portfolio managers of pension funds and collective foundations who participated in the interviews are committed to the responsible management of the assets entrusted to them. Because of this and in light of the ever-increasing regulatory requirements, these individuals opt to only partially utilise the limits established by regulatory bodies. Rather, they implement an additional layer of security to enhance the safeguarding of these assets, which results in lower allocations to risk assets such as equities. While this may reduce portfolio volatility, it also leads to lower net returns in the low-interest-rate Swiss Franc currency environment.

6.3 Recommendations

The recommended measures are straightforward and seamlessly integrated within the regulatory framework for the strategic allocation of assets permitted for investment by pension funds and collecting foundations, the Ordinance of 18 April 1984 on Occupational Retirement, Survivors, and Disability Pension Plans (BVV 2)[114]. However, it is essential to note that the challenge of the mismatch between the policyholder's long-term investment horizon and the asset manager's narrow perspective, which seems shaped by current regulatory frameworks and reporting guidelines, cannot be eliminated with the following proposal, but this was separate from the scope of this dissertation.

Recommendation 1 is modelled after a strategy that has proven successful for one of the collective foundations examined in this dissertation and could be implemented within the competence of the Board of Trustees for any of the Swiss or Liechtenstein

[114] www.fedlex.admin.ch

pension funds or collective foundations while adhering to regulatory constraints. With recommendation 2, the author sought a pragmatic solution by increasing the equity component in asset allocation. This approach aimed to harmonise the augmented equity component, resulting in a shift in asset allocation over time without incurring significant costs, and could also be implemented within the competence of the Board of Trustees for any of the Swiss pension funds or collective foundations while again adhering to regulatory constraints. Recommendation 3 asks for a professionalisation of the Board of Trustees. While this may be an unpopular recommendation among the members of the Board of Trustees, it could be implemented quickly and with little effort. The final recommendations, recommendations 4 and 5, would involve systematic changes and thus lead to political controversy and, most probably, political referendums. Such changes can be very time-consuming to achieve in Switzerland due to the direct democratic processes and the right to hold a referendum on any topic as long as 100,000 proven supporters back the referendum.

6.3.1 Recommendation 1: Exploiting the Regulatory Scope

Although the governing bodies set strict but quite generous limits for the specific investment categories based on total assets, except for one collective foundation and the pension fund, which has delegated advisory responsibilities to a specialised pension fund consulting firm (Prevanto AG), established in 2015 amid the low-interest rate environment, no other pension fund or collective foundation takes advantage of these thresholds. The initial recommendation is to leverage the regulatory framework and boost the equity allocation under the Ordinance of 18 April 1984 on Occupational Retirement, Survivors, and Disability Pension Plans (BVV 2) (Ordinance of 18 April 1984 (as of 1 January 2024) on Occupational Retirement, Survivors, and Disability Pension Plans (BVV 2)), see "3.6 Regulation: Swiss Pension Fund Investment Categories”. Adapting the current asset allocation to the prevailing market conditions is essential, taking advantage of the regulatory framework. However, it is vital to thoroughly grasp the individual internal strategy, specific needs, and circumstances of the respective pension funds or collective foundations. These adjustments could be executed under the auspices and within the competencies of the Board of Trustees for the individual Swiss pension fund or collective foundation while adhering to regulatory limitations.

6.3.2 Recommendation 2: Strategic Asset Allocation

The immediate adjusting of portfolios by selling fixed-income products and replacing them with equity investments is not essential. Instead, to save cost, it is possible to allocate new investments from the policyholder's monthly premiums or funds from bond maturities to the equity portion of the pension fund's or collective foundation's portfolio. Over time, this approach will result in a shift in asset allocation to adapt the current asset allocation to the prevailing market conditions without incurring significant costs. As well as for recommendation 1, adjustments in the strategic asset allocation can also be applied under the authority and within the expertise of the Board of Trustees for the individual Swiss pension fund or collective foundation while adhering to regulations.

6.3.3 Recommendation 3: Professionalisation of the Board of Trustees

The author of this dissertation recommends that the boards of trustees in Swiss pension funds and collective foundations professionalise to enhance the quality of decisions and bolster policyholders' trust. Many of these board members lack expertise in pension fund regulation and asset management, which is particularly critical given the discrepancy between the pension fund manager’s short-term reporting horizon and the policyholder's long-term investment horizon. While many trustees serve voluntarily, the call for professionalism is growing. This issue has gained increasing public attention in Switzerland and is regularly discussed in the Swiss media.

A toolkit offering online learning programs exists for UK-based members of boards of trustees. The "Trustee Toolkit" comprises a series of online learning modules and downloadable resources aimed at assisting trustees in attaining the minimum standard of knowledge and understanding mandated by the U.K. Pensions Act of 2004. The development and introduction of a comparable toolkit, specifically designed to address Swiss needs and comply with local regulatory requirements, by the Occupational Pension Supervisory Commission (OPSC), the supervisory authority overseeing the seven cantonal authorities, would represent a commendable strategy for the continual education of trustees and for ensuring their awareness of regulatory changes.

Serving on a board of trustees necessitates continuous training and acquiring the requisite knowledge and skills to fulfil the corresponding duties effectively. Given the high level of responsibility in managing pension assets within legal and statutory frameworks, it also seems essential for trustees to safeguard themselves appropriately, for

instance, through liability insurance, especially in light of the mentioned increasing regulatory requirements.

6.3.4 Recommendation 4: Free choice of pension fund

The freedom for individuals to choose a pension fund in Switzerland is a highly debated political issue. Andri Silberschmidt, a National Council of Switzerland member, raised the critical issue during the autumn session on September 14, 2023. He pointed out a significant deficiency in the current system regarding the control individuals have over managing their assets as insured persons unless they are elected to the pension fund Board of Trustees their monthly contributions go to. Because this board consists of only a few individuals, the majority of people have little influence on the management of their assets. Silberschmidt emphasised the significance of having the freedom to choose one's pension fund. He envisioned a future where individuals can select a fund that aligns with their preferred investment strategies, sustainability focus, contribution rates, interest rates, and coverage ratios to best suit their needs.[115] A system like this is designed to encompass the individual pension biography of any policyholder more effectively and would lead to additional transparency and comparability. In addition, free choice could create competition, leading to the professionalisation of the board of trustees and potentially the entire Swiss pension fund industry. However, the Swiss Pension Fund Association (ASIP) shares a different view. In a recent interview with the esteemed Swiss financial news platform "Cash", Hanspeter Konrad, a distinguished lawyer born in 1958, was featured.[116] He formerly served as the Director of the Swiss Pension Fund Association (ASIP), representing the interests of over 900 Swiss pension funds from April 1, 2004, to August 31, 2023. Additionally, he was a longstanding member of the Federal AHV/IV Commission and the BVG Commission. In the interview with "Cash", he was asked the following question by the interviewer:

> *“From a market-liberal point of view, the idea of free choice of pension fund is also repeatedly put forward to create competition, reduce the number of funds and cut costs. A viable path for the future?”*

His response reflected the perspectives and interests of more than 900 Swiss pension funds he previously represented because competition would probably lead to

[115] Silberschmidt A., National Council of Switzerland, 2023
[116] Hügli D., cash interview, 2023

concentration and thus to a massive reduction of pension funds among members of his former organisation:

> *"Some economists keep repeating this almost like a prayer wheel. The fact is that concentration among pension funds is underway, which is particularly evident in the growth of collective and joint institutions. Smaller, autonomous pension funds are increasingly joining these organisations. However, is that why we are calling for a free choice of pension fund? No. We at the Pension Fund Association have always been against this in recent years. This is tricky in terms of pension law and social policy. It ultimately leads to a lack of solidarity in the system and shifts the risk of retirement provision entirely onto the individual insured persons. I am talking about financial market risks in particular."*

A referendum would be required to change the current system, in which employers choose the pension funds for their employees, to one in which individuals are allowed to choose a pension fund in Switzerland according to their preferences.

However, if the free choice of pension funds were suddenly authorised in Switzerland, the appeal to policyholder's taste or, as formulated by le Mans, Hannen and Pólos, "the appeal to audiences" is likely to begin to decline if performance on invested capital is not satisfactory. According to this argument, failure hazards for pension funds and collective foundations in Switzerland also increase with age when inertial forces increase with age, and the category audiences' tastes drift over time"[117].

6.3.5 Recommendation 5: Reduction of the Regulatory Complexity

Recommendation 5: Reduction of the Regulatory Complexity. The literature review in Chapter 2 outlined that Swiss pension funds are under the supervision of seven cantonal supervisory authorities, which are accountable to the Occupational Pension Supervisory Commission (OPSC). The Swiss Federal Council appoints the members of OPSC for four-year terms and comprises seven to nine independent subject-matter experts. Despite the Federal Occupational Pensions Act as a regulatory framework, the system of various cantonal regulatory bodies leads to regulatory disparities,

[117] Le Mans G., Hannan, M. T., Pólos, L. (2011). Founding Conditions, Learning, and Organizational Life Chances: Age Dependence Revisited.

especially in smaller regions. To mitigate this issue, it is recommended that a unified regulatory body be established to oversee all Swiss pension funds and collective foundations, similar to the regulatory structure for banks and independent asset managers. This unified regulatory body could bring significant benefits, including streamlined oversight, reduced regulatory disparities, and enhanced efficiency in managing Swiss pension funds. In Liechtenstein, pension funds are under the Financial Market Authority's (FMA) supervision.

6.4 Summary Chapter 6

Chapter 6 of this dissertation engages in a comprehensive examination of the contributions to the existing body of literature. It articulates a practical framework for Swiss pension funds to navigate the challenges posed by Switzerland's persistent low-interest rate environment. This discussion also addresses the excessively conservative behaviour exhibited by boards of trustees and pension fund managers, as well as the increasing tendency to delegate responsibilities to external advisors. This phenomenon can be linked to escalating regulatory requirements.

Drawing upon the literature review and theoretical underpinnings presented in Chapter 2 and the empirical findings outlined in Chapter 5, the data provide compelling support for established theories within corporate demography research. The evidence indicates that managers of Swiss pension funds and collective foundations demonstrate myopic behaviour and exhibit significant resistance to change. This phenomenon appears to be influenced by an imprinting effect associated with the first introduction of the Federal Law on Occupational Retirement, Survivors and Disability Pension Plans, dated June 25, 1982, a time characterised by particularly advantageous conditions for pension funds and collective foundations. However, the author of this dissertation argues that the myopic behaviour of pension fund managers cannot be attributed solely to the imprinting effect. Instead, this shortsighted behaviour seems to arise from a more complex set of predispositions, including the favour of expanding risk aversion due to increasing regulation.

Finally, the author articulates five strategic recommendations intended to enhance existing conditions and promote sustainable improvements in long-term returns on pension assets. One of the recommendations also seeks to simplify the current regulatory

and political frameworks, thereby aligning them more effectively with prevailing market conditions and other regulatory financial market structures, implemented and known to other financial market participants in Switzerland.

Bibliography

Abraham, J.M., Hendershott, P.H., Patterns and Determinants of Metropolitan House Prices, 1977-9: SSRN. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=879241

Agraz-Boeneker, G.M., del Mar Fuentes-Fuentes, M. (2018). Heterogeneity and the Origin of the Founding Team: How the Concepts Relate and Affect Entrepreneurial Behaviour. In: Cubico, S., Favretto, G., Leitão, J., Cantner, U. (eds) Entrepreneurship and the Industry Life Cycle. Studies on Entrepreneurship, Structural Change and Industrial Dynamics. Springer, Cham. https://doi.org/10.1007/978-3-319-89336-5_3

Arthur T. G., Randa, P. A., (1991). Actuaries, Pension Funds and Investments. Retrieved from http://www.actuaries.org.uk/system/files/documents/pdf/0001-0049.pdf

Barron D. N., West E., Hannan M. T., (1994). Growth and Mortality of Credit Unions in New York City, 1914 – 1990. The University of Chicago. American Journal of Sociology.

Back Matter. (2011). Administrative Science Quarterly, 56(4). http://www.jstor.org/stable/41721961the

Beauchamp TL, Childress JF. (2008). Principles of biomedical ethics, sixth edition. New York: Oxford University Press.

Beobachter Beratungsteam, (2020). Retrieved from Koordinationsabzug - Das Schweizer Recht erklärt | Beobachter

Berufsethische Richtlinien des BDP und der DGPs (zugleich Berufsordnung des BDP). Delegiertenkonferenz des BDP am 8.5.2022 und von der Mitgliederversammlung der DGPs am 14.9.2022 beschlossenen Fassung. Retrieved from Berufsethische Richtlinien Föderation Deutscher Psychologenvereinigungen (dgps.de)

Blake, D., Lehmann, B. N., & Timmermann, A. (1999). Asset Allocation Dynamics and Pension Fund Performance. The Journal of Business, 72(4), 429–461. https://doi.org/10.1086/209623

Boekestein TL. Making Do With What We Have: On the Interpretation and Enforcement of the EU's Founding Values. German Law Journal. 2022;23(4):431-451. https://doi.org/10.1017/glj.2022.33

Boston Consulting Group, Global Asset Management, 21 edition, (2023). Retrieved from https://www.bcg.com/publications/2023/the-tide-has-changed-for-asset-managers

Brønn, C., Brønn, P. (2015). A Systems Approach to Understanding How Reputation Contributes to Competitive Advantage. Corp. Reputation Rev 18, 69–86. https://doi.org/10.1057/crr.2015.5

Bundesamt für Sozialversicherungen BSV, Die wirtschaftliche Situation der Bevölkerung im Erwerbs- und Rentenalter. (2022). Retrieved from www.bundespublikationen.admin.ch

Bundesamt für Sozialversicherungen BSV, Monatliche Vollrenten, Skala 44 AHV/IV Retrieved from https://www.ahv-iv.ch/Portals/0/adam/AHV-IV/8SvWAfGT_kCZJNivxn3o_w/Document/Monatliche%20Vollrenten,%20Skala%2044%2013.pdf

Bundesamt für Statistik. Bevölkerungsdaten im Zeitvergleich, 1950-2022. Retrieved from Bevölkerungsdaten im Zeitvergleich, 1950-2022 - 1950-2022 |Tabelle | Bundesamt für Statistik (admin.ch)

BVG- und Stiftungsaufsicht des Kantons Zürich (BVS). Retrieved from Home - BVG- und Stiftungsaufsicht des Kantons Zürich (BVS) (bvs-zh.ch)

BVV2 The Ordinance of 18 April 1984 (as of 1 January 2024) on Occupational Retirement, Survivors, and Disability Pension Plans. Retrieved from www.fedlex.admin.ch

BPVV The Ordinance of 20 December 2005 on the Law on Occupational Pension Provision. Retrieved from https://www.gesetze.li/konso/2005288000

c-alm A.G., Webpage, About us. Retrieved from c-alm A.G. | Company Profile

Carroll, G.R., Hannan, M.T. (2000). The Demography of Corporations and Industries, Princeton University Press. https://doi.org/10.2307/3094860

Carroll, G.R., Hannan, M.T. (2004). The Demography of Corporations and Industries, Princeton University Press. https://doi.org/10.2307/3094860

Carroll, G.R., Hannan, M.T. (2018). The Demography of Corporations and Industries, Princeton University Press. https://doi.org/10.1515/9780691186795

Christian C. D., Frase D. (2016). MiFID II. Critical Considerations for U.S. Asset Managers. The Investment Lawyer, Volume 23, pp. 1, 11. Retrieved from https://www.dechert.com/files/Uploads/Documents/FSG/IL_0516_ChristianFrase.pdf

Clark, G.L. (1998). Why Convention Dominates Pension Fund Trustee Investment Decision Making. Environment and Planning A: Economy and Space. https://journals.sagepub.com/doi/abs/10.1068/a300997

Clark, G. L. (2022). The problematic nature of UK pension fund regulation: Performing governance at the expense of innovation. Competition & Change, 26(1), 125–142. https://doi.org/10.1177/1024529420974608

Clark, G. L., Caerlewy-Smith, E., & Marshall, J. C. (2006). Pension fund trustee competence: decision making in problems relevant to investment practice. Journal of Pension Economics and Finance, 5(1), 91–110. https://doi.org/10.1017/S1474747205002374

Complementa AG, Webpage, About us. Retrieved from About us – Complementa – Investments. Wissen. Werte

Creswell, J. W. (2024). My 35 Years in Mixed Methods Research. Journal of Mixed Methods Research, 18(3), 203-215. https://doi.org/10.1177/15586898241253892The Evolution of

De Cuyper, L., Phillips, B., C., N. (2020). Imprinting Beyond the Founding Phase: How Sedimented Imprints Develop over Time. Organization Science 31(6):1579–1600. https:/ / doi.org/ 10.1287/ orsc.2020.1372

Dobrev, S. D., Kim, T.-Y., & Carroll, G. R. (2002). The Evolution of Organizational Niches: U.S. Automobile Manufacturers, 1885-1981. *Administrative Science Quarterly*, *47*(2), 233–264. https://doi.org/10.2307/3094805

ECOFIN INVESTMENT CONSULTING LTD, Webpage, About us. Retrieved from About ECOFIN - ECOFIN Website

Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative Content Analysis: A Focus on Trustworthiness. Sage Open, 4(1). https://doi.org/10.1177/2158244014522633

Encyclopedia Britannica. Retrieved from Konrad Lorenz | Austrian Zoologist & Nobel Laureate | Britannica

Fuertes-Callén Y., Cuellar-Fernández B., Serrano-Cinca C. (2023). The role of organisational factors and environmental conditions on the success of newly founded firms. Journal of Management & Organization. Retrieved from The role of organisational factors and environmental conditions on the success of Newly Founded Firms | Journal of Management & Organization | Cambridge Core

Geschichte der Sozialen Sicherheit in der Schweiz, Retrieved from Geschichte der Sozialen Sicherheit-Pensionskassen

Gilbert, P. (2005). Compassion: Conceptualisations, research and use in psychotherapy. Routledge. https://doi.org/10.4324/9780203003459

Gioia, D., Patvardhan, S., Hamilton, A., Corley, K. (2013). Organisational Identity Formation and Change. Academy of Management Annals. https://doi.org/10.5465/19416520.2013.762225

Hannan, M. T., Freeman, J. (1984). Structural Inertia and Organizational Change. American Sociological Review, 49(2), 149–164. https://doi.org/10.2307/2095567

Hannan M. T., Pólos L., Carroll G. R., (2002). Structural Inertia and Organisational Change. Revisited III: The Evolution of Organizational Inertia. Research Paper No.1734. Graduate School of Business, Stanford University

Hannan, M. T., Carroll, G. R., Pólos, L. (2003). The Organizational Niche. *Sociological Theory*, *21*(4), 309-340. https://doi.org/10.1046/j.1467-9558.2003.00192.x

Hannan, M.T., Pólos, L., Carroll, G.R. (2004). The evolution of inertia. Industrial and Corporate Change. https://api.semanticscholar.org/CorpusID:154704307

Hannan, M. T., Pólos, L., Carroll, G. R. (2007). Logics of Organization Theory: Audiences, Codes, and Ecologies. Princeton University Press. http://www.jstor.org/stable/j.ctt7sxnr

Hannan M. T. (2014). Rethinking Age Dependence in Organisational Mortality: Logical Formalisations. American Journal of Sociology.

Haley, C. (2023). The Value of the Right Tech Talent: Why Attracting the Right Talent is Important to Your Startup Ecosystem. Retrieved from The Value of Attracting the Right Talent to Your Startup Ecosystem (startup-genome.com)

Hinz, R. (2014). Regulation and Supervision of Pension Funds. World Bank Group. Retrieved from https://www.worldbank.org/content/dam/Worldbank/Event/pensions/2.%20Hinz_Pension%20Regulation%20and%20Supervision.pdf

Hügli D. (2023). Interview: Freie Pensionskassenwahl führt zu einer Entsolidarisierung. Retrieved from: «Freie Pensionskassenwahl führt zu einer Entsolidarisierung» | cash

Johnson, V. (2007). What Is Organizational Imprinting? Cultural Entrepreneurship in the Founding of the Paris Opera. American Journal of Sociology, 113(1), 97–127. https://doi.org/10.1086/517899

Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. Econometrica, 47(2), 263–291. https://doi.org/10.2307/1914185

Kamps, J. (2009). Michael T. Hannan, László Pólos, and Glenn R. Carroll: Logics of Organization Theory: Audiences, Codes, and Ecologies. Administrative Science Quarterly, 54(2), 350-353. https://doi.org/10.2189/asqu.2009.54.2.350

Konrad L. (1935). Der Kumpan in der Umwelt des Vogels. Retrieved from 1935-Kumpan

Langas, K. (2023). Fundamental Properties of Organizational Structuralism: From Homogeneity to Autonomy. In: Organizational Structuralism. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-031-16049-3_4

Le Mens, G., Hannan, M. T., Pólos, L. (2011). Founding Conditions, Learning, and Organizational Life Chances: Age Dependence Revisited. Administrative Science Quarterly, 56(1), 95–126. http://www.jstor.org/stable/41410249 http://klha.at/papers/1935-Kumpan.pdf

Le Mens, G., Hannan, M. T., Pólos, L. (2015). Age-Related Structural Inertia: A Distance-Based Approach. Organization Science, 26(3), 756–773. http://www.jstor.org/stable/43661019

Le Mens, G., Hannan, M. T., Pólos, L. (2015). Organisational Obsolescence, Drifting Tastes, and Age Dependence in Organizational Life Chances. Organization Science, 26(2), 550–570. http://www.jstor.org/stable/43663663

Lynn, T., Brady, M. (2013). Corporate Mission, Vision and Values. In: Idowu, S.O., Capaldi, N., Zu, L., Gupta, A.D. (eds) Encyclopedia of Corporate Social Responsibility. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-28036-8_225

Ma, S., Seidl, D., McNulty, T. (2021). Challenges and practices of interviewing business elites. *Strategic Organisation*, *19*(1), 81-96. https://doi.org/10.1177/1476127020980969

Mankiw, N. G., Weil, D. N. (1989). The baby boom, the baby bust, and the housing market, Regional Science and Urban Economics, Volume 19, Issue 2, Pages 235–258, ISSN 0166-0462. https://doi.org/10.1016/0166-0462(89)90005–7

Marquis Chr., Tilcsik a., The Academy of Management Annals, 2013 Vol. 7, No. 1, 193–243, http://dx.doi.org/10.1080/19416520.2013.766076

Morina, F. and Grima, S. (2021). The Performance of Pension Funds and Their Impact on Economic Growth in OECD Countries*, Özen, E., Grima, S. and Gonzi, R.D. (Ed.) New Challenges for Future Sustainability and Wellbing (Emerald Studies in Finance, Insurance, and Risk Management), Emerald Publishing Limited, Leeds, pp. 17-47. https://doi.org/10.1108/978-1-80043-968-920211003

Mullen C., Ainger J., (2020). Bloomberg Market News. Retrieved from World's Negative-Yielding Debt Pile Hits $18 Trillion Record - Bloomberg

Mettler U., Schwendener A., von Lindeiner B., c-alm AG, (2019). Study for OAK BV, Vermögensverwaltungskosten in der 2. Säule, (2019). P. 44

Naeem, M., Ozuem, W., Howell, K., & Ranfagni, S. (2023). A Step-by-Step Process of Thematic Analysis to Develop a Conceptual Model in Qualitative

Research. International Journal of Qualitative Methods, p. 22. https://doi.org/10.1177/16094069231205789

OECD Pensions at a Glance (2019). Retrieved from https://www.oecd-ilibrary.org//sites/b6d3dcfc-en/1/2/9/3/index.html?itemId=/content/publication/b6d3dcfc-en&_csp_=a8e95975da55b0299df9e90b37215621&itemIGO=oecd&itemContentType=book#

OECD, Pension Markets in Focus 2019

OECD, Pension Markets in Focus 2020

OECD, Pension Markets in Focus 2021

OECD, Pension Markets in Focus 2022

Pearce J., David Fred. (1987). Corporate Mission Statements: The Bottom Line. Academy of Management Executive. https://doi.org/10.5465/AME.1987.4275821.

PPCmetrics AG, Webpage, About us. Retrieved from At a Glance - Consulting services for institutional and private investors (ppcmetrics.ch)

prevanto AG, Webpage, History. Retrieved from History - prevanto

Preston S., Palumbo M., Tyson W., Clark J. W. (2023). Vanguard Viewpoints. The changing workforce environment: How employer plans can help attract and retain employees. Retrieved from The changing workforce: How employer plans can help attract and retain employees (vanguard.com)

Peksevim S., Ercan M. (2023). Do pension funds provide financial stability? Evidence from European Union countries. J Financ Serv Res. https://doi.org/10.1007/s10693-023-00408-4

Puiu, S. (2021). Organisational Culture. In: Idowu, S., Schmidpeter, R., Capaldi, N., Zu, L., Del Baldo, M., Abreu, R. (eds) Encyclopedia of Sustainable Management. Springer, Cham. Retrieved from https://doi.org/10.1007/978-3-030-02006-4_567-1

Reisyan, G.D. (2016). 30+ Years of Organizational Culture. In: Neuro-Organizational Culture. Springer, Cham. Retrieved from https://doi.org/10.1007/978-3-319-22147-2_2

Relevate by PensExpert. (2024). Geschichte-Schweizer-Sozialversicherungen. Retrieved from https://relevate.ch/blog/geschichte-schweizer-sozialversicherungen#geschichte-06

Sagiv, L., & Roccas, S. (2021). How Do Values Affect Behaviour? Let Me Count the Ways. Personality and Social Psychology Review, 25(4), 295-316. https://doi.org/10.1177/10888683211015975

Sai Manohar, S., Pandit, S.R. Core Values and Beliefs: A Study of Leading Innovative Organizations. J Bus Ethics 125, 667–680 (2014). https://doi.org/10.1007/s10551-013-1926-5

Schein, E.H. (1983). The role of the founder in creating organisational culture. Organizational Dynamics, Volume 12, Issue 1, 13–28, ISSN 0090-2616. https://doi.org/10.1016/0090-2616(83)90023-2 (https://www.sciencedirect.com/science/article/pii/0090261683900232)

Silberschmidt A. (2023). National Council of Switzerland. Autumn session. Fifth session 14.09.23 08h00. Retrieved from: 21.4114 | Freie Wahl der Pensionskasse. Machbarkeit und Vorteile? | Amtliches Bulletin | Das Schweizer Parlament

Spalding, D. A. (1872). On instinct. Nature, pp. 6, 485–486 (1872). https://doi.org/10.1038/006485a0

Spalding, D. A. (1873). Instinct: With original observations on young animals. Initially published in the *Macmillan's Magazine, 27*, 282–293. The British Journal of Animal Behaviour, Volume 2, Issue 1, 1954, Pages 2–11, ISSN 0950-5601. https://doi.org/10.1016/S0950-5601(54)80075-X.

Statista: Staatsschuldenquote der Schweiz von 2001 bis 2021. Retrieved from https://de.statista.com/statistik/daten/studie/216761/umfrage/staatsverschuldung-der-schweiz-in-relation-zum-bruttoinlandsprodukt-bip/

Stinchcombe, A.L. (1965). Social structure and organisations. In J.G. March (Ed.), Handbook of organisations (pp. 142–193). Chicago, IL: Rand McNally.

Stinchcombe A.L. (1997). On the virtues of the old institutionalism. Annu. Rev. Sociol. 23(1):1–18. https://api.semanticscholar.org/CorpusID:146698059

Stinchcombe A.L. (2000). Social Structure and Organizations. Advances in Strategic Management. 17. 229–259. https://doi.org/10.1016/S0742-3322(00)17019-6.

Swiss Federal Statistical Office. Pensionskassenstatistik 2020: Definitive Ergebnisse. Retrieved from https://www.bfs.admin.ch/asset/en/21304878

Swiss Federal Statistical Office. Pensionskassenstatistik 2021: Definitive Ergebnisse. Retrieved from 2021 verwalteten die Pensionskassen 1159 Milliarden Franken - Pensionskassenstatistik 2021: Definitive Ergebnisse und Kennzahlen - | Press release

Swiss Federal Statistical Office. Pensionskassenstatistik 2022: Definitive Ergebnisse. Retrieved from 2022: Kapitalbezug bei Pensionierung weiterhin im Trend - Pensionskassenstatistik 2022: Definitive Ergebnisse und Kennzahlen - | Press release

Swisscanto by Zürcher Kantonalbank – Schweizer Pensionskassenstudie. Retrieved from Swisscanto Pension Funds Study – development since 1985

Swisscanto by Zürcher Kantonalbank – Schweizer Pensionskassenstudie 2021. Retrieved from https://pensionstudy.swisscanto.com/21/app/uploads/Schweizer-Pensionskassenstudie-2021.pdf

Swisscanto by Zürcher Kantonalbank – Schweizer Pensionskassenstudie 2022. Retrieved from Auf einen Blick - Schweizer Pensionskassenstudie 2022 (swisscanto.com)

Swisscanto by Zürcher Kantonalbank – Schweizer Pensionskassenstudie 2024. Retrieved from Auf einen Blick - Schweizer Pensionskassenstudie 2024 (swisscanto.com)

Selznick P. (1957). Leadership in Administration: A Sociological Interpretation (University of California Press, Berkeley). Retrieved from urn: lcp: leadership-inadmi0000selz: lcpdf:74b5506d-aecf-4b63-977e-2a86acdf3f03

Selznick P. (1992). The Moral Commonwealth: Social Theory and the Promise of Community (University of California Press, Berkeley). Retrieved from ISBN 0520052463

The Trustee Tool Kit. Retrieved from https://trusteetoolkit.thepensionsregulator.gov.uk/

Tilba, A. (2011). 'Pension Funds' Investment Practice and Corporate Engagement', PhD Thesis, University of Liverpool.

Tilba, A., Baddeley M., Liao Y. (2016). Research Report on the Effectiveness of Oversight Committees: Decision-Making, Governance, Costs and Charges. Retrieved from https://api.semanticscholar.org/CorpusID:157984951

Tilba, A., McNulty, T. (2013). Engaged Versus Disengaged Ownership: The Case of Pension Funds in the UK. Wiley-Blackwell: Corporate Governance: An International Review.

Tilcsik, A., Marquis, C. (2013). Punctuated Generosity: How Mega-events and Natural Disasters Affect Corporate Philanthropy in U.S. Communities. *Administrative Science Quarterly*, *58*(1), 111–148. http://www.jstor.org/stable/43550110

Tilba. A. and Wilson, J.F. (2017). Vocabularies of Motive and Temporal Perspectives: Examples of Pension Fund Engagement and Disengagement. British Journal of Management, 28(3), 1-17 (4*)

Tipurić, D. (2022). Strategic Direction. In: The Enactment of Strategic Leadership. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-031-03799-3_5

Tversky, A., Kahneman, D. (1974). Judgment under Uncertainty: Heuristics and Biases. Science, 185(4157), 1124–1131. http://www.jstor.org/stable/1738360

Verordnung vom 18. April 1984 über die berufliche Alters-, Hinterlassenen- und Invalidenvorsorge (BVV 2). SR 831.441.1 - Verordnung vom 18. April 1984 übe... | Fedlex (admin.ch)

Wezel, F. C. (2005). Location Dependence and Industry Evolution: Founding Rates in the United Kingdom Motorcycle Industry, 1895-1993. Organization Studies, 26(5), 729–754. https://doi.org/10.1177/0170840605051823

List of Appendices

Appendix 1

Fragebogen Pensionskasse

Name der Vorsorgeeinrichtung:

Name und Funktion der Kontaktperson:

Quantitativer Teil:

1. Wann wurde Ihre Pensionskasse/Sammelstiftung gegründet?
2. Wie viele Assets verwaltet Ihre Pensionskasse/Sammelstiftung?
3. Wie viele Destinatäre sind Ihnen angeschlossen?
   a. Aktiv Versicherte in %:
   b. Pensionäre in %:
4. Wie lange ist die durchschnittliche Anlagedauer einer bei Ihnen versicherten Person?
5. Welches Durchschnittsalter haben die Destinatäre Ihrer Pensionskasse/Sammelstiftung?
6. Welchen prozentualen Anteil veranlagen Sie auf
   a. Cash:
   b. Immobilien (direkt und indirekt):
   c. Obligationen:
   d. Aktien:
   e. Alternative Anlagen:
7. Wie hoch ist der jährliche Netto CF (Vorsorgeteil und Anlageteil) Ihrer Pensionskasse/Sammelstiftung in % der Bilanzsumme?

Qualitativer Teil:

Wie differenzieren Sie Ihre Pensionskasse/Sammelstiftung von anderen?

Nennen Sie drei Ziele Ihrer Kasse nach der Wichtigkeit?

b)

c)

Arbeiten Sie mit einer Beratungs-Gesellschaft zusammen?

Falls ja, berät Sie die Beratungs-Gesellschaft in Bezug auf die Asset Allokation?

Falls nein, für welchen Bereich beziehen Sie Beratungsdienstleistungen?

Wer ist bei Ihnen für die Asset Allokation verantwortlich?

Wer ist bei Ihnen für die Umsetzung der Asset Allokation verantwortlich?

Appendix 2

Pension fund questionnaire

Name of the pension fund:

Name and function of the contact person:

Quantitative part

1. When was your pension fund/collective foundation established?
2. How many assets does your pension fund/collective foundation manage?
3. How many beneficiaries are affiliated with you?
   a. Active insured persons in %:
   b. Pensioners in %:
4. What is the average investment duration of a person insured with you?
5. What is the average age of the beneficiaries of your pension fund/collective foundation?
6. What percentage do you invest in

Cash:

Real estate (direct and indirect):

Bonds:

Equities:

Alternative investments:

7. What is the annual net CF (pension part and investment part) of your pension fund/collective foundation as a % of the balance sheet total?

Qualitative part:

1. How do you differentiate your pension fund/collective foundation from others?
2. Name three objectives of your fund in order of importance.
   a.
   b.
   c.
3. Do you work with an advisory company?
4.
5. If yes, does the advisory company advise you on asset allocation?
6. If not, in which area do you obtain advisory services?
7. Who is responsible for your asset allocation?
8. Who is responsible for the implementation of the asset allocation?

Appendix 3

Email Request for Support from Swiss Pension Funds

Sehr geehrte Damen und Herren

Ich schreibe Ihnen mit der Bitte um Unterstützung bei einer Dissertation im Zusammenhang mit Pensionskassen in der Schweiz, welche die Punkte Governance, Investments und Asset Allokation zum Thema hat.

Der Hintergrund meiner Studie ist rein akademisch und dient ausschliesslich wissenschaftlichen Zwecken, das Resultat meiner Studie ist somit vollkommen unabhängig von kommerziellen und/oder privaten Interessen.

Es geht mir vor allem darum, Anlageprozesse innerhalb von Pensionskassen besser zu verstehen.

Ich habe hierzu einen kurzen Fragebogen verfasst und bitte Sie, die Fragen möglichst vollständig zu beantworten.

Auf meine Dissertation werden voraussichtlich Präsentationen und Publikationen in Fachzeitschriften und interessierten akademischen Kreisen folgen.

Das Forschungsprojekt wird von Herrn Professor László Pólos und Frau Dr. Anna Tilba der Durham Business School begleitet und beaufsichtigt.

Ich danke Ihnen für Ihre Unterstützung und stehe für Fragen gerne zur Verfügung.

Freundliche Grüsse

Appendix 4

Inhabitants 1999 - 2022

Struktur der ständigen Wohnbevölkerung nach Kanton, am 31.12.2022 — T 01.02.03.04

	Total	Alter			Geschlecht		Staatsangehörigkeit		Zivilstand [1]							Typologie: Raum mit städtischem Charakter [2]			
		0–19	20–64	65 und mehr	Mann	Frau	Schweizer	Ausländer	Ledig	Verheiratet	Verwitwet	Geschieden	Unverheiratet	In eingetragener Partnerschaft	Aufgelöste Partnerschaft	Städtischer Kernraum	Einflussgebiet städtischer Kerne	Gebiete ausserhalb des Einflusses städtischer Kerne
Schweiz	**8'815'385**	**1'755'213**	**5'368'549**	**1'691'623**	**4'379'953**	**4'435'432**	**6'519'362**	**2'296'023**	**4'024'051**	**3'589'295**	**402'798**	**780'357**	**647**	**14'293**	**3'682**	**5'547'579**	**1'932'177**	**1'335'629**
Genferseeregion	1'701'827	358'186	1'046'653	296'988	835'051	866'776	1'130'600	571'227	816'952	649'510	72'194	158'686	228	3'360	849	1'176'727	363'754	161'346
Waadt	830'431	180'828	510'764	138'839	408'209	422'222	554'772	275'659	405'980	313'352	33'611	75'333	83	1'646	405	511'867	232'420	86'144
Wallis	357'282	68'941	215'062	73'279	177'835	179'447	272'671	84'611	157'310	148'115	18'653	32'679	38	373	100	196'906	85'174	75'202
Genf	514'114	108'417	320'827	84'870	249'007	265'107	303'157	210'957	253'662	188'043	19'930	50'674	107	1'341	344	467'954	46'160	0
Espace Mittelland	1'918'746	379'054	1'144'199	395'493	948'765	969'981	1'536'189	382'557	862'111	781'413	95'513	176'418	121	2'438	678	958'079	513'602	447'065
Bern	1'051'437	200'509	620'777	230'151	516'805	534'632	872'661	178'776	469'022	431'354	54'214	94'967	57	1'389	416	551'861	234'361	265'215
Freiburg	334'465	73'118	205'729	55'618	167'569	166'896	255'175	79'290	157'683	133'499	13'755	28'986	28	405	99	108'282	140'065	86'118
Solothurn	282'408	54'189	169'758	58'461	141'168	141'240	214'403	68'005	120'412	121'474	14'045	25'990	13	367	83	169'914	72'522	39'972
Neuenburg	176'571	36'157	105'474	34'940	86'657	89'914	131'328	45'243	82'116	65'602	9'140	19'433	13	205	61	103'225	51'728	21'618
Jura	73'865	15'081	42'461	16'323	36'566	37'299	62'622	11'243	32'878	29'484	4'359	7'042	10	72	19	24'797	14'926	34'142
Nordwestschweiz	1'202'435	236'134	727'022	239'279	598'131	604'304	872'250	330'185	528'247	509'976	56'395	105'374	66	1'905	437	785'150	309'970	107'315
Basel-Stadt	196'786	34'516	123'376	38'894	95'937	100'849	123'465	73'321	98'160	69'212	9'522	19'145	21	598	121	196'786	0	0
Basel-Landschaft	294'417	56'709	170'422	67'286	144'441	149'976	223'876	70'541	121'799	130'051	15'814	26'126	13	504	104	199'822	87'691	6'904
Aargau	711'232	144'909	433'224	133'099	357'753	353'479	524'909	186'323	308'288	310'713	31'059	60'103	32	803	212	388'542	222'279	100'411
Zürich	1'579'967	312'392	994'624	272'951	788'846	791'121	1'141'651	438'316	756'713	619'417	61'890	136'723	83	3'970	1'124	1'221'626	347'932	10'409
Ostschweiz	1'217'015	240'361	732'845	243'809	612'142	604'873	922'217	294'798	527'723	523'754	58'432	105'541	54	1'188	280	660'548	209'104	347'363
Glarus	41'471	7'968	24'758	8'745	20'975	20'496	30'918	10'553	17'630	17'889	2'258	3'638	2	44	9	31'943	0	9'528
Schaffhausen	85'214	16'063	50'430	18'721	42'318	42'896	62'066	23'148	35'698	36'956	4'518	7'887	3	121	27	48'606	27'907	8'701
Appenzell A. Rh.	55'759	11'365	32'747	11'647	28'114	27'645	46'395	9'364	24'016	23'935	2'744	4'983	1	66	14	15'744	26'922	13'093
Appenzell I. Rh.	16'416	3'392	9'674	3'350	8'408	8'008	14'510	1'906	7'420	7'045	855	1'083	1	9	3	0	0	16'416
St. Gallen	525'967	107'360	318'282	100'325	264'521	261'446	392'009	133'958	231'778	224'539	24'426	44'592	20	470	111	364'320	68'936	92'711
Graubünden	202'538	35'349	121'064	46'125	101'760	100'778	162'686	39'852	87'011	86'944	10'737	17'628	15	157	42	66'483	24'663	111'392
Thurgau	289'650	58'864	175'890	54'896	146'046	143'604	213'633	76'017	124'170	126'446	12'894	25'730	12	321	74	133'452	60'676	95'522
Zentralschweiz	841'372	166'893	514'866	159'613	424'681	416'691	661'858	179'514	379'110	359'041	37'017	64'854	52	1'043	222	493'605	110'895	236'872
Luzern	424'851	85'932	260'162	78'757	212'021	212'830	340'582	84'269	196'755	176'873	18'845	31'692	27	520	127	223'386	48'728	152'757
Uri	37'317	7'362	21'811	8'144	19'007	18'310	32'224	5'093	16'026	17'082	1'973	2'200	6	25	5	22'995	9'998	4'324
Schwyz	164'920	31'575	101'903	31'442	84'722	80'198	127'120	37'800	72'025	71'493	7'227	13'926	4	197	44	100'253	35'258	29'409
Obwalden	38'700	7'638	23'137	7'925	19'574	19'126	32'652	6'048	17'104	16'975	1'823	2'767	1	25	4	10'654	0	28'046
Nidwalden	44'420	7'906	26'689	9'825	22'783	21'637	37'150	7'270	19'240	19'214	2'064	3'839	2	44	4	16'062	6'022	22'336
Zug	131'164	26'480	81'164	23'520	66'574	64'590	92'130	39'034	57'960	57'404	5'085	10'430	12	232	38	120'275	10'889	0
Tessin	354'023	62'193	208'340	83'490	172'337	181'686	254'597	99'426	153'195	146'184	21'357	32'761	43	389	92	251'844	76'920	25'259

[1] Serienbruch ab 2014: Exkl. „ohne Angabe"
[2] gemäss BFS-Typologie "Raum mit städtischem Charakter, 2012" im Gebietsstand am 31.12.2020

Bundesamt für Statistik, STATPOP

Auskunft: Bundesamt für Statistik (BFS), Sektion Demografie und Migration, info.dem@bfs.admin.ch, Tel. 058 463 67 11

Appendix 5

Pilot Study 2018

Z0967415

Stefan M. Kremeth

Signs of Structural Inertia within the Pension Fund Industry

Progress Review / Pilot Study

DBA Program 2015

University of Durham Business School

Supervisor: Prof. Dr. Laszlo Polos

Working period: May until August 2018

Submitted on August 27, 2018

Number of pages: 20

Word count: 5871

Table of Contents

Abstract

This paper is a progress review in the form of a pilot study produced for the September 2018 “Research Visit 2”. It proposes the results of interviews between the writer of this paper and multi-level experts in the Swiss pension fund industry. The pilot study aimed to find out if evidence of broad-based structural inertia in Swiss pension funds can be detected, and if this was the case, it could lead to lower-than-expected returns on invested assets. Rather than interviewing any number of pension funds directly or sampling information by sending out questionnaires, for this pilot study, I interviewed experts from the regulatory side, pension funds consultancy side, the authors of a highly regarded industry study and one large multi-billion Swiss pension fund. The conclusion shows a result which does not entirely reflect my initial assumption, and thus, I will maybe slightly adapt my research question during my research visit in September 2018. The Interviewing process took place between May and July 2018. After consolidating my notes, I had to schedule further telephone and email conversations with the interviewees, which took place during July and August 2018.

1 Introduction

Today, Switzerland has a three-pillar pension provisioning model. Pillar one is government-induced and mandatory; with pillar one only, financial survival cannot be guaranteed. Pillar two is the classical occupational retirement scheme by employers, which has been mandatory since 1985. Along with pillar one, financial survival is almost guaranteed at the current stage. Pillar three is optional and subdivided into two categories: Pillar 3a as a fixed pension plan and Pillar 3b as a flexible pension plan, with differing benefits and tax advantages. Most Swiss citizens use pillar three for its tax advantages, not necessarily because they will need higher pensions after retirement.

1.1 Swiss Federal Law on Occupational Retirement, Survivors and Disability Pension Plans

The Swiss Federal Law on Occupational Retirement, Survivors and Disability Pension Plans “Bundesgesetz über die berufliche Alters-, Hinterlassenen und Invalidenvorsorge” (BVG) stems from 1982 but only came in law in 1985. Before this Swiss

federal law was introduced, employers were responsible for running a pension scheme for their employees. After the law was introduced in 1985, it was mandatory for any employer of any size to either run a pension scheme for their employees or join a collective pension scheme.

2 Pilot Study Research Environment

The research environment for this pilot study covers an almost complete selection of stakeholders by types of the Swiss pension fund market, i.e. regulator, consultant, asset manager, researcher, and policyholder, in a geographically limited space (Zürich) and small numbers. However, the regulatory body I was able to interview is the largest in Switzerland; the collective foundation is one of the largest ones in Switzerland; the consultant is active across Switzerland and belongs clearly to the opinion leaders in the field, and the research producers are highly respected. Their research product is an industry standard and, as such, read across all regions. So far, the selection of my interview partners is undoubtedly incomplete but still a fair representation of the Swiss pension fund industry. Thus, I think it represents a perfect fit for this pilot study.

2.1 Switzerland's Interest Rate Dilemma

The LIBOR rate for a 12-month Swiss Franc investment currently stands at below –

0.5%[118], i.e., if an investor "invests" his money for 12 months in Swiss Francs, he will not receive any interest but will be charged an interest rate of over 0.5%. Ever since the financial crisis of 2008, interest rates in Swiss Francs have come down dramatically and, in January 2015, turned negative. When the BVG became law in 1985, 12-month LIBOR rates for Swiss Francs stood at 4.025%[2]. Pension schemes could invest their policyholders' money in Swiss government bonds called "risk-free" and still cover yield needs and management and administrative costs. This changed

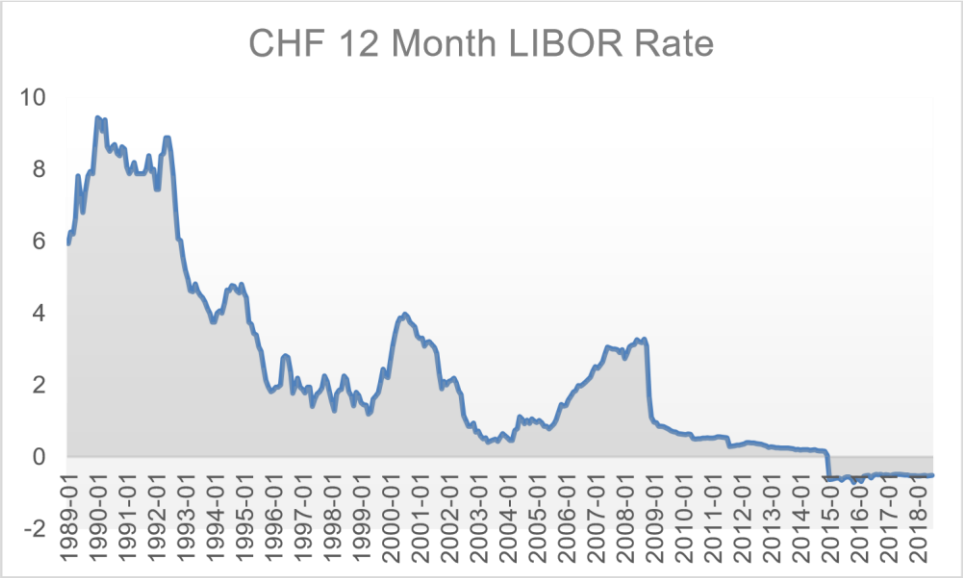
[118] Swiss National Bank

(SNB) [2] Swiss National

Bank (SNB)

dramatically between 2002 and 2006 and ever since the financial crisis. Table number 1 shows a graph of 12-month LIBOR rates in Swiss Francs between 1989 and 2018.

Table 1: Swiss Francs LIBOR Rate Development 1989 - 2018



Source: Swiss National Bank Database

While low interest rates benefit some industries, they lead to at least some misallocation of capital, as increased reliance on intangible capital and low real interest rates hurt capital reallocation and reduce productivity and output growth[119]. Additionally, they may be fatal for pension schemes, affecting pension funds on both the asset and the liability sides of their business. Protracted low interest rates increase the liabilities of pension funds to the extent that the decline in rates has not been fully reflected in liability reporting, and worse, they will reduce future (re-) investment returns. As a result, the solvency status of pension funds –badly damaged during the financial crisis - could fail to improve or even show some deterioration[120]. However, coverage ratios of Swiss pension funds have increased steadily over the past ten

[119] Caggese, Pérrez-Orive, 2017, p. 3.

[120] Antolin, Schich, Yermo, 2011, p. 2.

years. The latest statistics by OAK BV show that all Swiss pension funds and collective foundations combined display coverage of over 109%.[121]

2.2 Organisational Structure of a Swiss Pension Fund

The average Swiss pension fund runs on a simple three-layered structure. The first and supervising layer consists of the board of trustees. In most Swiss pension funds, the board of trustees generally functions in a militia system, which means its members do not get paid or, if very little, execute their duties next to their regular jobs. The board of trustees is usually staffed with people without extensive asset and liability management know-how. Typically, the members of such a board of trustees would represent the company's owners or, in larger organisations, the board of directors. There would be a representative from the Human Resources (HR) department, a representative from the employees' side and maybe a representative from a union. Many pension fund boards of trustees have no asset and liability management expert. From what I have seen, heard or read; this crucial know-how is heavily underrepresented. On the second and operational layer, the asset and liability side is managed by pension fund specialists, analysts, risk officers, etc. On layer three, one would typically find support staff. However, the market concentration and the trend toward more considerable pension funds also lead to better-equipped boards of trustees, especially collective foundations, which are usually very professional and staffed with industry experts.

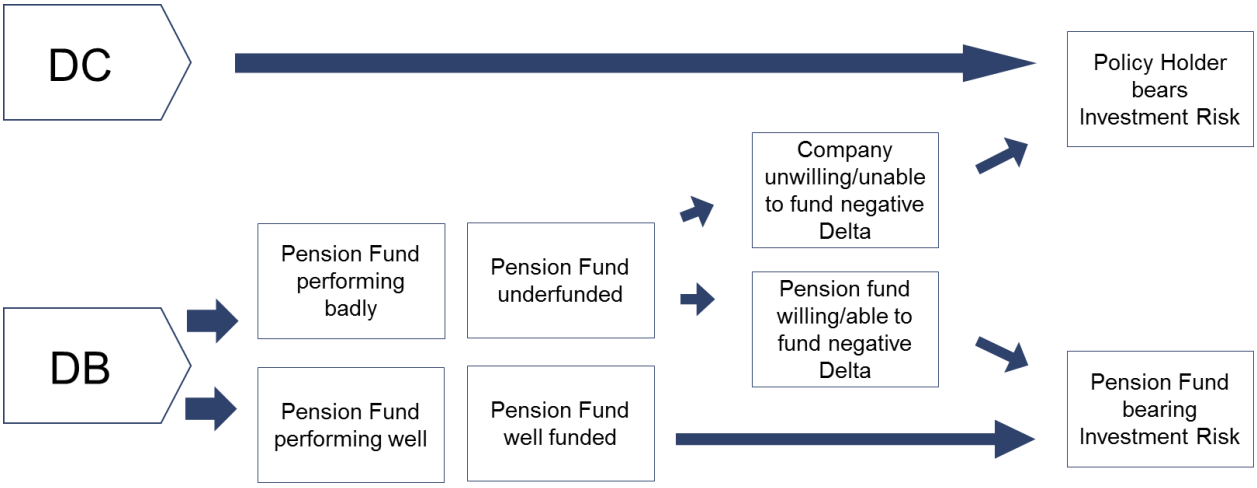
2.3 Defined Contribution versus Defined Benefit Pension Plan

Global defined contribution plan assets are growing faster than defined benefit pension assets, according to a new report by the Thinking Ahead Institute and Willis Towers Watson. Over the past 20 years in the seven largest pension markets (Australia, Britain, Canada, Japan, Netherlands, Switzerland and the United States), defined contribution plan assets grew at a rate of 7.9% per year, while defined benefit plans only grew by 4.5% annually, the report found. DC now accounts for 49% of total assets across the seven largest pension markets in the world as these funds

[121] OAK BV, 2017, Bericht Finanzielle Lage der Vorsorgeeinrichtungen, p. 24.

continue to experience positive net cash flow and relatively lower levels of benefit withdrawals compared to their DB counterparts.[122] Ultra-low interest rates lead to a shift of investment risk from pension funds to policyholders. Table 2 below illustrates that shift.

Table 2: DC versus DB Chart



Source: Incrementum AG, Liechtenstein

This global trend can be explained by the fact that companies switch their internal pension fund rules and regulations from DB plans to DC plans so as not to build up potential liabilities in the future due to ultra-low interest rates and, therefore, insufficient returns on the invested pension fund capital and further because new pension fund policies are mainly being issued as DC-plans. Naturally, as old plans begin to expire and new plans start under the new regimen over the following decades, defined contribution plans will become more and more critical compared to defined benefit plans. Once more, this exercise aims solely to shift the investment risk from the pension fund (or the employer) to the policyholder, i.e., the employee. In a defined contribution pension fund statement, which usually an employee receives once a year, returns and proposed monthly or yearly pensions upon retirement are exclusive to be seen as proposed amounts of money to be received if circumstances stay the way they are over the life span of the investment phase of the policy, i.e. until the retirement of the policyholder. Looking at markets and interest rate volatility over the

[122] Benefits Canada, 2018

last 50 years, I think it is a fair assumption that investment circumstances can be expected to be unstable, at least to some extent; thus, pension fund returns must vary, too and therefore, proposed pensions should be seen as what they are, proposed pensions and not guaranteed ones. Over the past decades, managing DB plans has led to liability-driven investment (LDI) strategies. Pension funds applying LDI strategies typically focus on the pension fund's assets side, i.e., on the assurances (defined benefits) made to pensioners and employees, which become the liabilities any LDI strategy must target. LDI is a concept, and there is no single LDI strategy, but pension fund managers will generally apply various tactics to try to meet their targets.[123]

2.4 Interviews

My interview partners belong to different cohorts within the Swiss pension fund industry; therefore, their perspectives may differ. The person from the regulatory body seemed to be pretty neutral. The consultancy representative and the CIO of the multi-billion pension fund showed a heavy bias towards the philosophy of the companies they work for and represent. As both represent opposing views, they seemed somewhat passive and unwilling to see the good in the views of the respective other. This behaviour is supported by the latest research on age-related cultural inertia, which shows that people have strong tendencies to prefer the status quo both inside and outside organisations and that the content of organisational memory provides a source of inertia significantly as the inertial pressure increases the more extensive the content of organisational memory is. The content of organisational memory in both organisations is extensive due to frequent speeches, talks and publications on both sides.

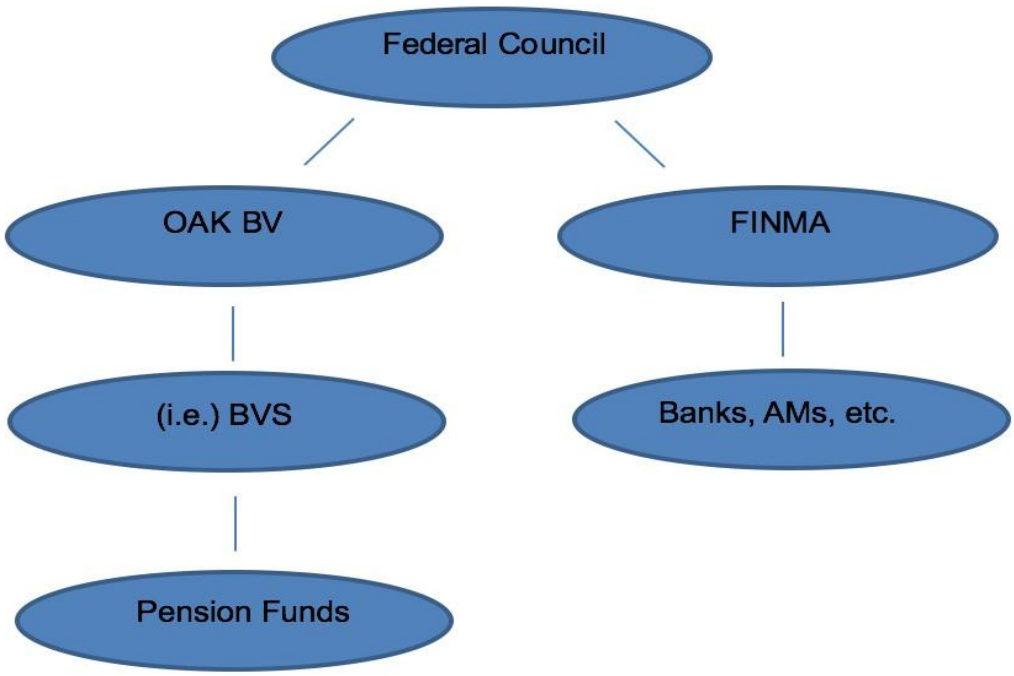
2.5 BVS (BVG und Stiftungsaufsicht des Kantons Zürich)

BVS is the most significant regulatory body for pension funds in Switzerland. Its monitored pension fund assets amount to a total of CHF 306 billion.[124] Regarding pension

[123] Martinelli, 2006.
[124] BVG und Stiftungsaufsicht des Kantons Zürich (BVS), Geschäftsbericht und Jahresrechnung 2017. P. 17.

fund regulation, the 26 Swiss cantons enjoy great freedom. Most cantons have moved to standard regulatory bodies, and today, Switzerland knows eight different regulatory bodies for Swiss-based pension funds, all of which, like the one of the canton of Zurich (including the affiliated canton of Schaffhausen), which I used as an example for my chart on table 3 on page Nr. 10, report to the OAK BV. The OAK BV is the supervisory board supervising Switzerland's eight pension fund regulators. The Swiss Federal Council elects the OAK BV members. This system of different regulatory bodies leads to a certain degree of regulatory inconsistency and, from what I have found out during my interviews, even frustration. Some political trends in Switzerland ask for one national regulatory body to supervise all Swiss pension funds. This would be comparable to FINMA, the Financial Markets Authority supervising all regulated financial market participants like banks, asset managers, brokers, etc. Such a change would undoubtedly remove some of the complexity of today's structure. In step one, the eight regulatory authorities would move their power up to the national regulatory body, and in step two, the cantonal regulatory bodies could be dissolved.

Table 3: Organizational Chart: Current Swiss Pension Fund Regulation



2.6 PPCmetrics

PPCmetrics, founded in 1991, offers investment and actuarial consultancy, controlling and research consultancy services, advising pension funds of all sizes and legal forms on regulatory developments, changes to liability structure and the increasing complexity of capital markets. In addition, it advises finance and treasury departments on the activity of modern treasury departments, comprising various tasks such as cash management, liquidity management, debtor management, and asset and pension management. Its services are being offered across all regions in Switzerland, and it has an exceptionally high market share in the Swiss Italian part of Switzerland.[125]

2.7 Swisscanto

Swisscanto offers investment and pension solutions for private individuals, companies, and pension funds. Swisscanto Holding Ltd. is a Zürcher Kantonalbank group company. Swisscanto Fund Management Company Ltd., Swisscanto Pensions Ltd. (Swisscanto Vorsorge AG) and Swisscanto Asset Management International S.A., Luxembourg, are wholly owned subsidiaries of Swisscanto Holding Ltd. Swisscanto is the publisher of “Schweizerische Pensionskassenstudie” is a highly respected yearly industry report.[126]

2.8 Sample Collective Foundation

The sample collective foundation managing CHF 7.7 bn in pension money for 37’269 policyholders with a strong bias towards tangible assets. During the financial crisis of 2007/2008, the sample collective foundation’s investments were hit, and the coverage ratio dropped to an alarming 80%. However, sticking to the long-term strategy paid off, and today, the coverage ratio stands at 111% even though pay-out ratios are well above the Swiss average in recent years. Further, it has been actively

[125] PPCmetrics Webpage
[126] Swisscanto Holding Ltd. Webpage

marketing its strong performance since the financial crisis and even longer term. It can be seen as a winner of the ongoing Swiss pension fund market concentration.[127]

[127] Profond Vorsorgeeinrichtung Webpage

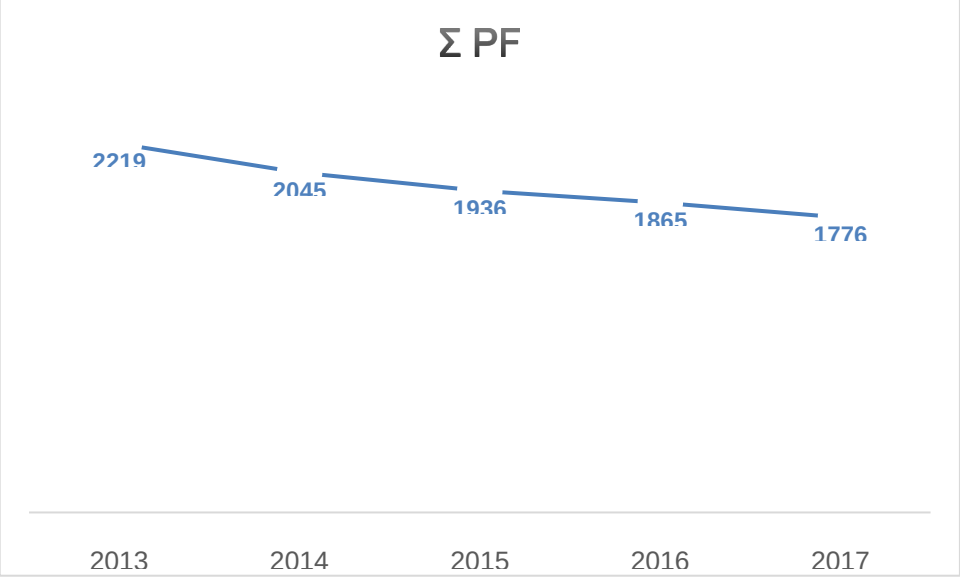
3 Statistics

All statistical data used in this paragraph stems from the “Oberaufsichtskommission Berufliche Vorsorge” (OAK BV), which is the ultimate regulatory body for all pension fund activities in Switzerland, i.e. the supervisory board supervising the cantonal pension fund regulators. OAK BV publishes a yearly report, “Bericht Finanzielle Lage der Vorsorgeeinrichtungen” (report on the financial situation of pension funds) on the industry's status, containing vast amounts of statistical data and also informs about industry trends, taking into consideration the latest political tendencies.[128]

3.1 Swiss Pension Fund Industry

In 2004, over 3’000 pension funds were active in Switzerland. At the end of 2017, this number had gone down to 1’774.[129] Table 4, “Number of Pension Funds”, illustrates this development

Table 4: Number of Pension Funds



[128] Oberaufsichtskommission Berufliche Vorsorge OAK BV, 2017.

[129] Oberaufsichtskommission Berufliche Vorsorge OAK BV, 2017.

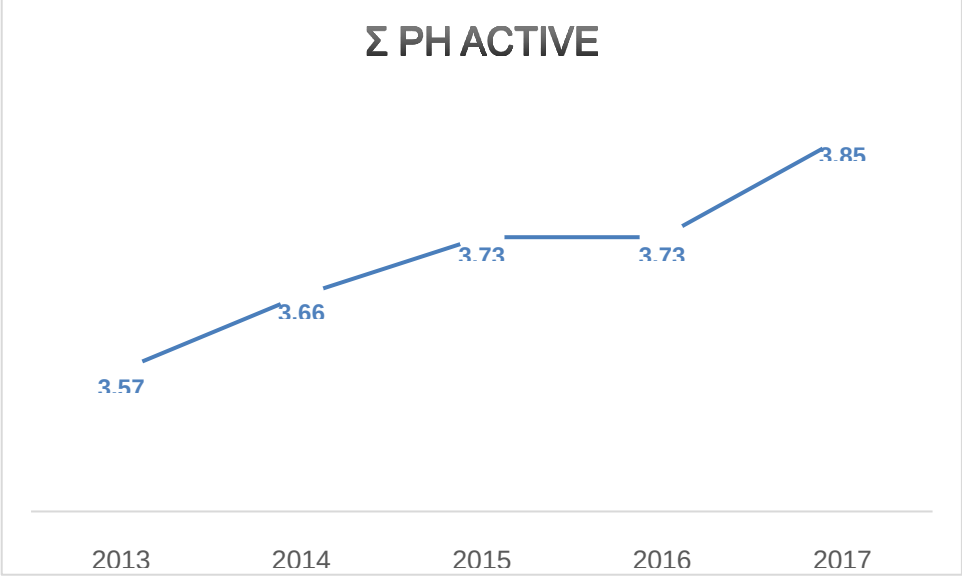
over the last five years, and while the number of Swiss pension funds is constantly decreasing, the size of assets under management is constantly increasing. By the end of 2017, assets in Swiss pension funds reached CHF 900 billion, an increase of CHF 100 billion in one year, of which CHF 17 billion were contributed by employers, CHF 24 billion by employees, and CHF 59 billion by the market in the form of performance.[130]

In the Swiss pension fund environment, “performance” is frequently referred to as the third contribution payer (after employees and employers).

3.2 Active Policy Holders

At the end of 2017, 8,482,200 people lived in Switzerland, of which 2,125,100, or 25%, were foreigners. Net immigration fell to slightly below 1% after a decade of growth above 1%. Immigration is co-responsible for the growth in the number of active pension fund policyholders, as visualized in Table 5 below.

Table 5: Number of Active Pension Fund Policy Holders

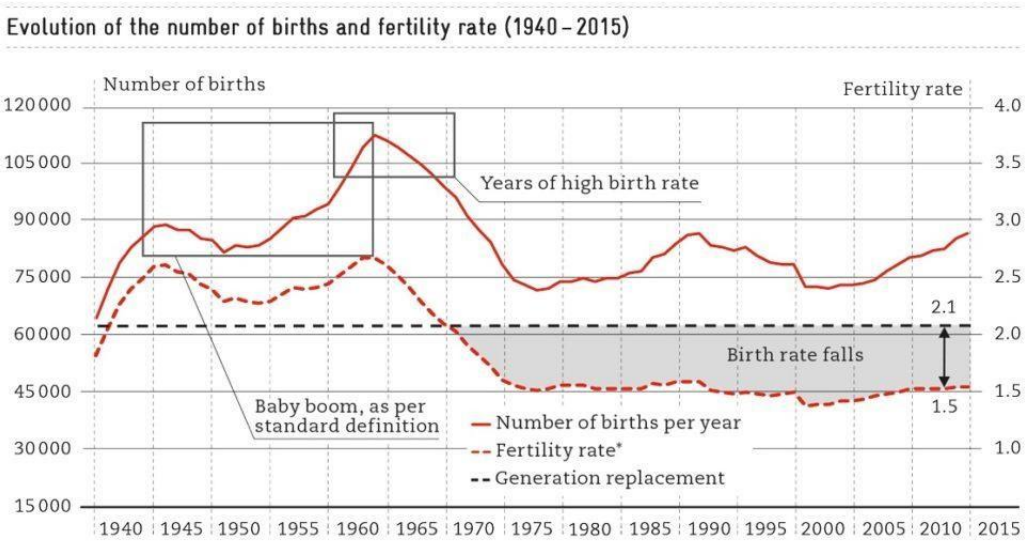


[130] Swisscanto Vorsorgee AG,Schweizer Pensionskassenstudie, 2018, p. 9.

3.3 Retired Policy Holders

With baby boomers exiting the labour market, the population's ageing process enters a decisive phase. According to the common definition, baby boomers are individuals born between 1945 (after the Second World War) and 1964 (when the peak in birth rates was reached and the "pill effect" began). Table 6 below illustrates the development of this "baby boom" and its abrupt end due to the "pill" effect.

Table 6: Evolution of Births and Fertility Rate

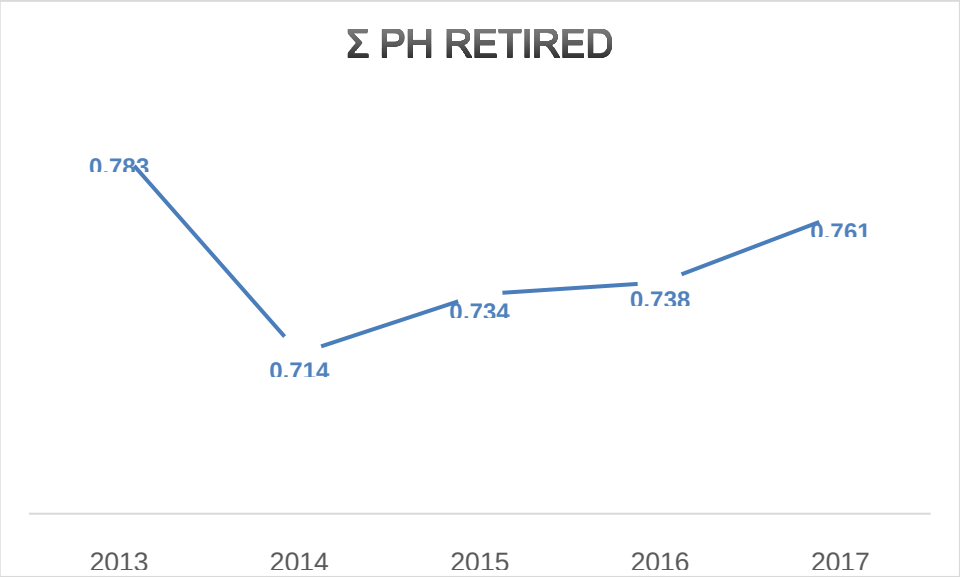


Today, more age groups will retire each year, and the number of new pensioners will continue to increase annually until 2030. Already in 2016, more domestic workers were exiting the labour market in Switzerland than entering it for the first time.[131] However, as we have learned under paragraph 3.2, "Active Policy Holders", net immigration was over 1% for the last decade and, together with a fertility rate of roughly 1.5% over the period, still led to an underlying population growth. Switzerland is usually blessed with a very stable labour market, and the current unemployment rate stands at 2.4% and averaged 3.28% from 1995 until 2018, reaching an all-time high of 5.7%

[131] Grünenfelder, Müller-Jentsch, 2017.

in January 1997 and a record low of 1.5% in May 2001.[132] As more and more baby boomers retire, the number of retired pension fund policyholders will increase.

Table 7: Number of Retired Pension Fund Policy Holders



3.4 Active and Retired Occupational Pension Capital Policy Holders

With the help of immigration and stable labour market conditions, Switzerland has experienced and is still experiencing growth on the active occupational pension capital policyholders' side and, simultaneously, on the side of the retired occupational pension capital policyholders. In a shrinking population (i.e. Japan, Germany) or a situation of high and increasing unemployment rates, this dual growth rate, as shown in table number 8 on page 16 and table 9 below, would not be achievable. If the 2018 trend of a slowing immigration rate for Switzerland continues, the growth in the number of active occupational pension capital policyholders will come to a halt, too. The same is true if the unemployment rate should pick up unexpectedly.

[132] Trading Economics, 2018.

Table 8: Number of Active Occupational Pension Capital Policy Holders

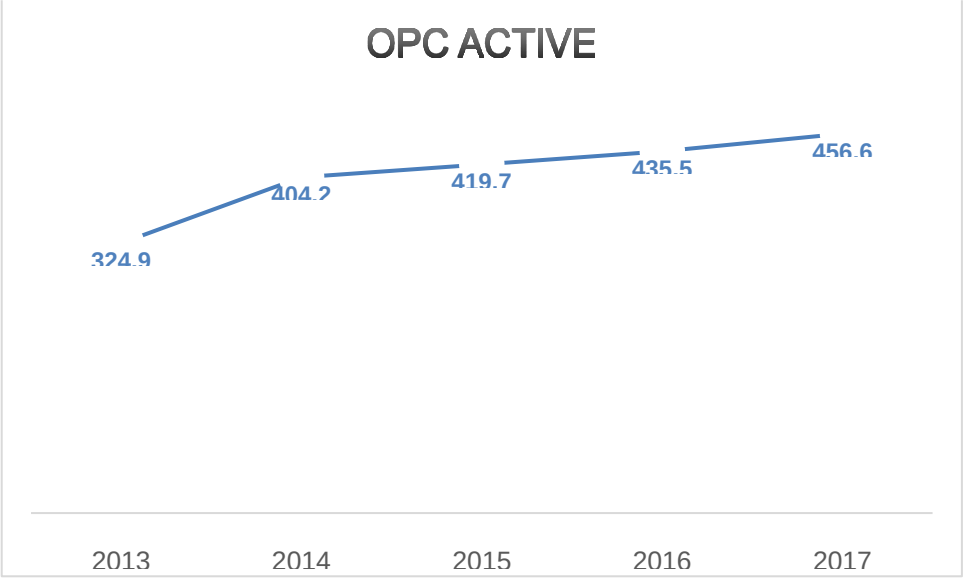
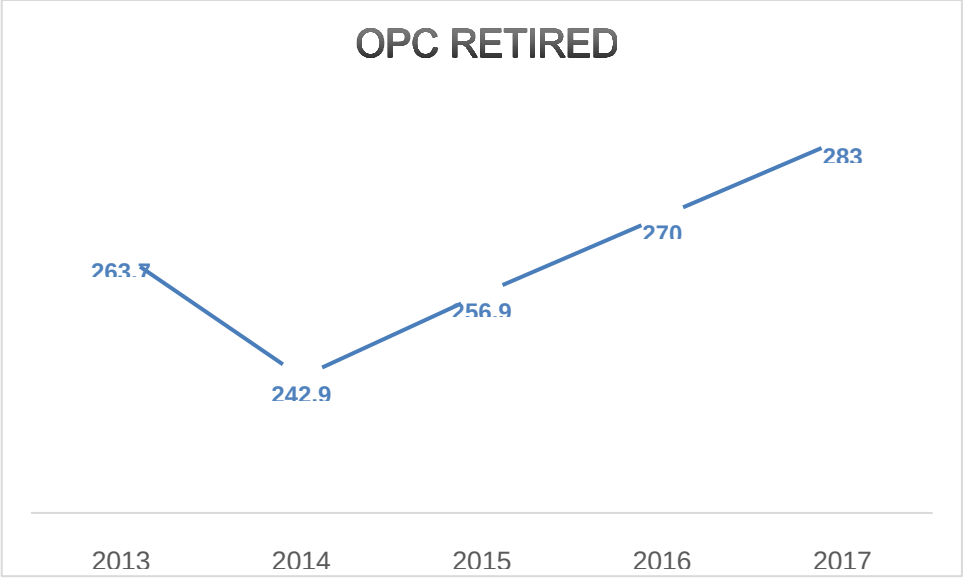


Table 9: Number of Retired Occupational Pension Capital Policy Holders



4 Inertia

Hannan and Freeman's theory holds that structural inertia arises as an inadvertent byproduct of a particular social selection process imposed on purposeful actors and, as such, that inertia derives from the very characteristics that make formal

organisations favoured kinds of corporate actors in contemporary societies: reliability and accountability. Reliability means the capacity to achieve low variance in performance quality, including timeliness. Accountability means the ability to construct rational accounts for one's actions.[133] Low variance plays an important role in the risk management of a pension fund. From the information I gathered during my interviews, low variance on the investment side seems more important than investment return. Considering this, structural inertia seems a logical outcome in an organisation favouring low variance, or in the context of a pension fund, low volatility, as a core feature in its organisational architecture.

4.1 Age-Related Structural Inertia

Current research suggests that age-related structural inertia plays a significant role in organisation theory. While various studies show the positive effect of organisational age on the failure hazard, it was also observed that older organisations tend to have more trouble adapting to changing environmental conditions.[134] The innovations of older organisations are more like their previous innovation efforts.[135] Le Mens, Hannan and Pólos conclude in their research that the exposure of any organisation's members to features of the organisational architecture increases over time. When introducing the federal BVG law in Switzerland, interest rates oscillated around 4%+ as outlined in paragraph 2.1, "Switzerland's Interest Rate Dilemma". That environment was a very comfortable one for Swiss pension funds. Nominal interest rates would easily cover most pension funds' yield needs and running costs. Fund managers could match maturities on the liabilities side with maturities on the assets side without fearing too high a volatility in the portfolio. At the time, bonds in the portfolios were booked till maturity (which, in most cases, meant 100%), and it was not like today at market prices. Simultaneously, the working population was growing, and age-related demographic change was not an issue, creating too many worries on pension funds' boards of trustees. For pension fund managers and board of trustees' members, that situation was perfect. There was no need to be innovative until the

[133] Hannen, Freeman, 1984, pp. 49-64.

[134] Le Mens, Hannen, Pólos, 2014, p. 1.

[135] Gilbert, 2005.

“Great Financial Crisis” (GFC) hit the markets and changed everything. Pension funds needed to adapt quickly to those changing environmental conditions. Especially older pension funds of smaller size “tend to have more trouble adapting to changing environmental conditions” than larger ones. This has a lot to do with internal structures and a somewhat lower job attractiveness for well-educated and eager fund managers who may be able to add new thinking to existing pension fund management know-how. Since the GFC, the number of pension funds in Switzerland has almost halved. Innovation leaders, notably among collective foundations, experienced growth while organisations that had become inert are (in line with organisational theory) facing an increasing risk of mortality hazard and thus disappeared and are still disappearing.

Suppose we bear in mind that organisations “have minimal capacities to reshape their core structures (their forms) as quickly as the environment changes (Hannan & Freeman, 1977)” and consider this theory when thinking about the ongoing consolidation process in the Swiss pension fund industry. In that case, I gain the impression that structurally induced and culturally conditioned inertia is as a consequence of this consolidation process getting smaller.

5 Findings

As inconvenient as it may seem at first sight for my dissertation, I was somewhat unable to find signs of broad-based structural inertia within the Swiss pension fund industry. The information and knowledge I gained stems from the people of the organisations I was able to interview for this pilot study and is mainly indirect information. Except for one collective foundation, I did not have direct contact with pension funds and/or their managers for this pilot study.

I saw innovation, especially within the consultant and the collective foundation. PPCmetrics regularly publishes studies and research material on the latest industry developments and the Swiss pension fund market. Their staff is exceptionally well trained and educated. Also, the CIO of the collective foundation I interviewed looks pretty close to the market and understands “missing yield” as one of the critical risks for pension scheme policyholders. However, I could detect more minor signs of inertia just about everywhere, but then again, I think this is normal to some extent and

nothing that would worry me as a pension fund policyholder too much. For example, I was asking why pension funds would not outsource certain mid- and back-office reporting and other duties to specialised partners offering very specific services to various pension funds; not only could I imagine cost synergies but administrative/regulatory synergies as well. The answers I received were not satisfying, and I somewhat got the impression that these concepts had not yet arrived at the pension fund management level. Also, when talking to Profond's CIO and PPCmetrics' consultant, I gained the impression that due to their strong corporate culture, they somewhat became inert, showing some resistance in accepting the views of others. As outlined under paragraph 3.1, "Swiss Pension Fund Industry", on page 13, the Swiss pension fund industry is in an ongoing concentration process. The trend shows a clear shift from more minor and less- to more extensive and more professionally managed institutions. This market concentration represents a perfect example of a transformation due to changing core structures,[136] i.e. the pension fund industry experienced that if the economic and/or political need is urgent enough, organisations may be forced to adapt to new situations in a relatively short time and thus change or give up current "core structures".

The mortality rate of Swiss pension funds was very high over the last ten years and wiped out hundreds of smaller and medium-sized peripheral and near-market pension funds.[137] During periods of high risk-free interest rates, administration and management costs were of no material importance, and the asset management capabilities needed to structure a government bond portfolio of matching maturities on the asset and liabilities side was minimal and sometimes a company's chief financial officer (CFO) would manage the company's pension fund on the side. In this respect, the GFC led to a substantial change in the core structures of an entire industry and helped to restructure it and even if the consolidation process is not yet completed, broad based structural inertia has been reduced and professional asset and liability management techniques have been introduced and are surveyed and if necessary updated regularly also because regulation-demands increased substantially during the past ten years. Two phenomenon I observed seem worrisome to me. First there

[136] Carroll, Hannen, Freeman, 2000, pp. 368-374.
[137] Hannen, Pólos, Carroll, 2007, pp. 215-220.

are pension funds of Swiss medium sized companies having invested large amounts of pension fund money in real estate. Within that cohort are pension funds that were building and offering living space for their workers/employees at attractive rents. The reason behind this is very simple. Employees will be willing to work for lower salaries, if housing is affordable and close to their working space. Companies offering such a concept to their employees should benefit from higher margins due to reduced salary costs, while the investment risk for the real estate is born by the pension fund, i.e. the pension fund's policy holders (effectively the employees) and this makes the business more attractive for its owners however, not necessarily for the pension fund's policy holders.

Since over time (as it happened in Switzerland during the last decades) some of the companies that applied such a concept started to outsource parts of their production to low labour cost countries, less and less employees needed housing close to the Swiss based production site and more and more apartment buildings stayed empty or partially empty. At the same time the pension fund itself started to overage and produce negative cash flows, i.e. more cash going to retirees than coming in from still active and young employees. What happened was that some older Swiss employees would continue working at the Swiss based production site while young ones were hired abroad to work there. This most probably must lead to perplexity, eventually indifference because such pension funds are not able to sell their real estate at price levels equalling the real estates' book value in the pension fund portfolio and in order not to create a situation of underfunding which would occur if the pension fund had to sell below book value, the real estate just stays in the portfolio. In order to meet the cash requirements, liquid assets are being sold which over time results in a situation where real estate takes up more and more % points in the asset allocation of such a pension fund and eventually leads to total inertia because the fund managers cannot move anymore without creating a disaster for the policy holders. These cases are very, very rare according to the gentleman I was interviewing form the regulatory side, but they exist.

The second phenomenon was far more intriguing to me, as it hits many policy holders. I am referring to the fact that from the information I gathered during my interviews and the conversations thereafter, it seems that missing investment return is not regarded as a risk, except by the CIO of the collective foundation. Volatility is regarded

a risk. Missing return due to suboptimal asset allocation is merely regarded an opportunity loss. When it comes to reporting requirements, I detected a discrepancy in matching maturities. Reporting requirements on a monthly, quarterly and yearly basis are relatively short-term compared to the average duration of a pension fund portfolio, which in most cases lies between 15 – 20 years. From the feedback I received from my interview partners, the fact that pension fund managers need to report at least on a quarterly basis may influence the fund manager's investment behaviour.

6 Conclusion

From the moment the BVG law was introduced in 1985 until the GFC, Switzerland experienced 20 years of a perfect investment environment for pension funds. Low volatility (government) bond investments on the assets- and with matching maturities on the liability side must have led to an environment facilitating inertia.

I think it would be interesting to see what difference in the asset allocation during the phase of relatively high nominal interest rates and during the phase of relatively low nominal interest rates can be observed. If I want to prove the existence of broad-based structural inertia Le Mens, Hannan and Pólos' distance-based approach[138] offers a perfect possibility to receive results. I would like to measure the distance between asset allocations in pension funds over time. However, this information may not be available anymore within the pension funds and even if, I imagine pension fund managers would not be very thrilled replying to questions that make them dig into files dating back over 30 years. However, I see a chance of receiving that data from the OAK BV (Oberaufsichtskommission et al.). I have tried to receive a meeting with them but was turned down. An official letter from Durham University Business School explaining the research and asking for the data and my help.

The pilot study helped me formulate questions for a questionnaire I would like to send out to as many pension funds as possible. I want to learn more and better understand current investment behaviour procedures and time frames for asset management strategies and tactics changes. I want to build a grid and categorise between small, medium, and large pension funds and collective foundations to see if size influences

[138] Le Mens, Hannen, Pólos, 2014, pp. 2-3.

investment behaviour, procedures, and time frames. I firmly believe portfolios need to be managed with the help of a toolbox full of investment tools that may be used for various market cycles, and I would like to find out if today's pension fund managers are open to such an approach. Some of the questions I would like to ask are regarding the following topics:

- Size of Pension Fund
- Year it was founded
- Direct or indirect, or mixed investments
- Yearly Return
- Organisational Structure
- Board of Trustees
- Growing/shrinking/over-ageing
- Investment tools used to manage assets

Furthermore, and finally, I personally believe short-term volatility as a risk measure for pension funds is overrated and that quarterly reporting may make sense, but not necessarily when it will influence long-term ALM strategies and investment behaviour.

Reference List

Antolin P., Schich S., Yermo J. (2011). The economic impact of protracted periods of low interest rates on pension funds and insurance companies. OECD Journal: Financial Markets Trends Volume 2011 – Issue 1

Grünenfelder P., Müller-Jentsch D. (2017). As of Today, Demographic Change Is Tangible. Avenir Suisse. Retrieved from https://www.avenir-suisse.ch/en/today-demographic-change-tangible/

Benefits Canada. (2018). Global DC pension assets are projected to outgrow DB in two years. Retrieved from https://www.benefitscanada.com/pensions/db/global-dc-pension-plan-assetshttps://www.benefitscanada.com/pensions/db/global-dc-pension-plan-assets-to-outgrow-db-assets-in-two-years-report-110243

BVS BVG und Stiftungsaufsicht Zürich. Geschäftsbericht und Jahresrechnung 2017. Retrieved from http://www.bvs-zh.ch/files/bvs_geschaeftsbericht_2017.pdf

Caggese A., Pérez-Orive A. (2017). Capital Misallocation and Secular Stagnation. Finance and Economics Discussion Series Divisions of Research & Statistics and Monetary Affairs Federal Reserve Board, Washington, D.C.

Carroll G. R., Hannan M. T. (2000). The Demography of Corporations and Industries. Princeton University Press

Gessat, M., (2012). Labour minister warns of failing pension system. Deutsche Welle. Retrieved from http://www.dw.de/labor-minister-warns-of-failing-pension-system/a-16215512

Gilbert C. G., (2005). Unbundling the Structure of Inertia: Resource Versus Routine Rigidity. Academy of Management Journal, Volume 48, No. 5. Hannan M. T., Freeman J. (1984). Structural Inertia and Organizational Change. American Sociological Review 49:1

Hannan M. T., Freeman J. (1993). Organizational Ecology. Harvard University Press Cambridge, Massachusetts

Hannan M. T. (2014). Rethinking Age Dependence in Organizational Mortality: Logi cal Formalizations. American Journal of Sociology.

Hannan, M. T., Pólos, L., Carroll, G. R. (2004). The evolution of inertia. Industrial and Corporate Change, 13: 213-242.

Hannan, M. T., Pólos, L., Carroll, G. R. (2007). Logics of Organization Theory. Princeton University Press

IMF (2016). Report for Selected Countries and Subjects. Retrieved from http://www.imf.org/external/pubs/ft/weo/2014/01/weodata

Le Mens G., Han nan M. T., Pólos L. (2014). Age-Related Structural Inertia: A Distance-Based Approach.

Martinelli L. (2006). Managing Pension Assets from Surplus Optimization to Liability-Driven Investment. EDHEC Risk and Asset Management Research Centre

Oberaufsichtskommission Berufliche Vorsorge OAK BV, Schweizerische Eidgenossenschaft (2017). Bericht Finanzielle Lage der Vorsorgeeinrichtungen. Retrieved from https://issuu.com/bbf.ch/docs/oakbv_finanzielle_lage2017?e=4447114 /60843508

PPCmetrics AG. Webpage. Retrieved from https://www.ppcmetrics.ch/en/home/

Swiss National Bank (SNB) Interest rates, yields and foreign exchange market. Retrieved from h//data.snb.ch/de/topics/ziredev#!/cube/zimoma?fromDate=1985https://data.snb.ch/de/topics/ziredev?fromDate=1985-%2007&toD -!/cube/zimoma07&toDate=2018-07&dimSel=D0(12M)

SWI Swissinfo.ch (2018). The increase in the Swiss population slows after a decade of growth. Retrieved from https://www.swissinfo.ch/eng/society/head-count_swiss-population-increasehttps://www.swissinfo.ch/eng/society/head-count_swiss-population-increase-slows-after-a-decade-of-growth/44026978

Swisscanto Holding Ltd. Webpage. Retrieved from https://www.swisscanto.com/ch/en/po/companies/swisscanto-holding-ltd.html

Swisscanto Invest, (2018). Schweizerische Pensionskassenstudie. Swisscanto Vorsorge AG, Postfach, 8021 Zürich. Retrieved from https://www.swisscanto.com/ch/de/is/vorsorgen/pensionskassenstudie.html

The World Bank Data (2014). Fertility rate, total (births per woman). Retrieved from http://data.worldbank.org/indicator/SP.DYN.TFRT.IN

Trading Economics (2018). Switzerland Unemployment Rate. Retrieved from https://tradingeconomics.com/switzerland/unemployment-rate?hc_location=ufi

United Nations (2015). World Populations Prospect, pp. 9, 10, 11, 15. Retrieved from http://esa.un.org/unpd/wpp/Publications/Files/Key_Findings_WPP_2015.pdf

List of tables

List of abbreviations

DB	Defined Benefit Pension Plan
DC	Defined Contribution Pension Plan
BVG	Berufliches Vorsorge Gesetz
BVS	BVG und Stiftungsaufsicht des Kantons Zürich
CFO	Chief Financial Officer
CHF	Swiss Francs (Currency of Switzerland)
FED	U.S. Federal Reserve System, i.e. Central Bank
G-20	Group of finance ministers and central bank governors from 20 major economies
GDP	Gross Domestic Product
GFC	Great Financial Crisis (2007/2008)
GWP	Gross World Product
HR	Human Resources Department
IMF	International Monetary Fund
LDI	Liability Driven Investing
LIBOR	London Interbank Offered Rate
OAK BV	Oberaufsichtskommission Berufliche Vorsorge

OECD	The Organisation for Economic Cooperation and Development
SNB	Swiss National Bank

Appendix 6

List of Interview Participants / Asset Size

Pilot Study

1. Member of Senior Management of Cantonal Regulatory Body
2. Member of Senior Management in one of the largest Pension Fund Consulting Companies

Interviews, including Survey

1. PF 1, Pension Fund CFO: (AUM > CHF 2 bn)
2. PF 2, Senior Pension Fund Manager: (AUM > CHF 2 bn)
3. PF 3, Chairman of Board of Trustees: (AUM > CHF 3.7 bn)
4. PF 4: PF 3 and PF 4 are one person (AUM > CHF 0.3 bn)
5. PF 5, CIO: (AUM > CHF 15 bn)
6. PF 6, former head of HR: (AUM > CHF 11 bn)
7. PF 7, retired MD: (AUM > CHF 1.5 bn)
8. PF 8, Senior Pension Fund Manager: (AUM > CHF 1.9 bn)
9. PF 9, Senior Pension Fund Manager: (AUM > CHF 20 bn)
10. PF 10, former Head of Research, Trustee: (AUM > CHF 6.5 bn)
11. PF 11, Senior Pension Fund Manager: (AUM > CHF 1 bn)
12. PF 12, Member of Senior Management: (AUM > CHF 0.8 bn)

Appendix 7

Additional List of Interview Questions and Answers

Introduction to Appendix 7 "Additional List of Interview Questions and Answers"

Appendix 7 meticulously covers all interviews with the elite pension fund experts from the pension fund/collective foundations in Liechtenstein and Switzerland that built the basis for this thesis. The interviews were divided into quantitative and qualitative parts. Lively discussions followed each interview. For one interview, the questionnaire had to be sent well before a physical meeting in the office of the pension fund's Chairman of the Board of Trustees. The discussion was scheduled for after most of the COVID-19 measures were lifted. This interview was the only one where the interviewer met with an interviewee in physical presence. The transcripts include all quantitative and qualitative questions and offer a translation of the most relevant answers by the interviewees per interview question and additional comments by the writer of this thesis. Appendix 7 further covers the author of this dissertation's remarks and clarifications to all the answers given by the interviewees.

Transcripts of the Essential Answers to Every Interview Question

The research process was thorough, ensuring that all significant answers were included. Many of the answers were similar in content or added no new information to the topic and, therefore, were not translated to be listed in this chapter, further demonstrating the research rigour.

At the beginning of each interview, the interviewer always asked about the 2019 edition of the "Swiss Pension Fund Study" by Swisscanto Pension Ltd[139]. One of the conclusions readers can draw from this highly regarded yearly study on the Swiss pension scheme market, "Schweizer Pensionskassenstudie", is that public-sector pension funds published a higher return on assets under management than private-sector

[139] Swisscanto by Zürcher Kantonalbank – Schweizer Pensionskassenstudie 2019

pension funds for the year 2018. The average performance numbers for public-sector pensions were reported at minus 2.59%, while private-sector pension funds reported an average financial return of minus 3.01%. For the first warmup question, all interview partners were asked to explain this difference and elaborate on it. Most of the received answers were neutral and oscillated around the individual pension scheme policy-holder cohort's demographic structure. However, two answers stuck out.

> *"Theoretically, it could be that more people in the public sector pension funds are still safe in retirement age, which means that these pension funds should be conservatively invested in terms of structure alone. On the other hand, it could also be that public sector pension funds always have a quasi-governmental cover in the back of their heads and therefore invest conservatively by their very nature, i.e. a large part of their investments is safely invested in bonds" (PF 5).*

Bonds are considered safer investments than equities due to their low daily volatility under normal circumstances. If, for any given state pension fund, the taxpayer de facto guarantees the difference between the return achieved and the minimum return to cover proposed pensions, where lies the incentive for the management of such public pension fund to opt for higher returns and welcome to pay the price for it by accepting higher volatility?

Table 124:Historic Chart of the Swiss Market Index (SMI)

Source: Börse | Indizes | SMI Valor 998089 | Finanz und Wirtschaft (fuw.ch)

In a year where financial markets in Switzerland yielded negatively, the difference in asset allocation towards more fixed income versus equity investments could explain the difference in performance for such a specific and negative year. On January 1, 2018, the Swiss Market Index (SMI) started at 9'556.98 points. On December 31, 2018, the index closed at 8'056.56; therefore, the explanation given by the PF 5 seems plausible.

Another plausible explanation stems from PF 6 and reads as follows.

"The age structure of the respective funds could be a reason for this."

The writer of this thesis could not verify the possible explanation that the age structure positively influenced the return on assets under management of public-sector pension funds versus private-sector pension funds in 2018 by the pension fund manager mentioned above. A favourable age structure in public-sector pension funds would mean a lower average age and a higher active insured percentage rate of policyholders versus private-sector pension funds.

Quantitative Part

The quantitative part allowed the interviewer to ask questions about performance asset allocation, the size of assets under management, and the relation between active and retired policyholders. In the Swiss pension fund industry, size truly matters. While it is not valid for every Swiss pension fund, the number of policyholders generally influences its cost base. The size of a pension fund had a significant cost-reducing effect from 2014 to 2017. This result seems plausible against the background of expected economies of scale[140]. However, the pension fund size cannot explain a significant share of the observed dispersion of asset management costs. This is why collective foundations, i.e., pension funds for many companies, are growing over-proportionally in size while the total number of pension funds is decreasing[141]. Generally, they are proposing a lower cost base to affiliated companies. Furthermore, besides the question of cost, another critical factor for financing any pension scheme is the relationship between active and passive policyholders. This ratio largely determines whether the cash

140 Mettler U., Schwendener A., von Lindeiner B., c-alm AG for OAK BV, VV-Kosten in der 2. Säule, (2019). P. 44
141 Swisscanto, Schweizerische Pensionskassentudie, 2020,

flow of a pension fund is positive, i.e. the monthly payments by active policyholders are higher than the monthly payments out to passive policyholders, or negative, i.e. the monthly payments by active policyholders are lower than the monthly payments out to passive policyholders.

The "warmup" question for the quantitative part of the interview covered the average investment period per policyholder. It read: How long is the average investment period of an insured person, i.e. for how many years on average does your pension fund have the money available for investments? This question allowed a macro and a micro view. The macro view considers the entire investment period of a policyholder's pension investments. In contrast, the micro view restricts the investment period of a policyholder to the investments in the pension scheme of the interview partner. The writer of this dissertation did not specify which view the interviewees should take; he left it open on purpose.

> *"In Switzerland, this is currently around 60 years, a very long period. By law, from age 25 until retirement at 65, that is 40 years. At the moment, life expectancy would be another 20 years or 60 years in total, but that will increase in the future because there are endeavours to pay into the pension fund from the age of 20 and life expectancy is also tending to increase, say 25 years. We are already at 70 years of investment" (long-standing managing director of the pension fund of a Swiss industrial company).*

This broad macro view by a long-standing industry expert clearly shows the magnitude of the investment horizon pension fund managers deal with. The impact of short-term volatility on any policyholder's portfolio is essential, but so is the absolute length of the investment horizon.

> *"Active policyholders are insured for an average of 9 years, while retired policyholders are insured for an average of 20 years" (PF 3).*
>
> *"We invest the capital in our pension fund for an average of 22 years" (PF 1).*

However, one way or the other, looking at the investment horizon is critical in asset management. Investors with a longer investment horizon can take on more risk since the market has many years to recover in the event of a pullback; therefore, investors

with an investment horizon of multiple decades can allocate most of their assets to equities. Over time, even significant pullbacks are offset as outlined in Table 13, "*Historic Chart of the Dow Jones Industrial Average"*, a log scale chart covering 108 years of performance of the Dow Jones Industrial Average (DJIA) from February 1915 until November 2023. The grey vertical bars indicate recessions of the U.S. economy.

The following questions during the interview covered the pension fund's name and the contact person's name and function. The remaining part of the interview was structured into three parts: a quantitative part, a qualitative part and a discussion with a summary.

The first question in this section covered the timing of the founding. It read: When was "your" pension fund/collective foundation established?

> *All the pension funds covered during the interviews were established before introducing the Federal Act on Occupational Retirement, Survivors and Disability Pension Plans, BVG (Bundesgesetz über die berufliche Alters-, Hinterlassenen und Invalidenvorsorge), which was introduced in 1985.*

The second question in this section concerned the size of the pension fund in terms of assets under management. It read: How many assets does "your" pension fund/collective foundation manage?

> *The range of assets under the management of the pension funds/collective foundations covered by this research stretched from slightly below CHF 300 million to over CHF 20 billion.*

The third question in this section covered the size of the pension fund in terms of the number of policyholders/beneficiaries. It read: How many beneficiaries are affiliated with "your" pension fund/collective foundation?

> *Between 4,500 and 60,000 policyholders are insured through the individual pension funds of the interview partners, of which the active insured persons range between 61,1% and 66% and the pensioners between 34% and 38.9%.*

The fourth question in this section covered the average investment horizon of policyholders in the respective pension fund/collective foundation. It read: What is the average investment period of a person insured with "you"?

Surprisingly, this number was not readily available to the pension fund managers who were interviewed, and even though the questionnaire for the interviews was sent out to all interview partners well before the interview, that number did not seem to matter to them.

The fifth question in this section covered the average age of the policyholders and, therefore, indirectly, for how many years the capital still has to be invested. It read: What is the average age of the beneficiaries of "your" pension fund/collective foundation?

The average age of the interview participants' pension funds/collective foundation beneficiaries ranges between 34 and 44.

Questions six to ten in this section covered information on asset allocation mix. The sixth question asked: What percentage does "your" pension fund/collective foundation hold in cash?

The average cash position in the interview participants' pension funds/collective foundations ranges between one and nine per cent.

The seventh question read: What percentage does "your" pension fund/collective foundation hold in real estate?

The average real estate position in the interview participants' pension funds/collective foundations ranges between 5 and 28.44 per cent.

The eighth question read: What percentage does "your" pension fund/collective foundation hold in fixed-income products?

The average fixed-income product position in the interview participants' pension funds/collective foundations ranges between 11 and 64.5 per cent.

The ninth question read: What percentage does "your" pension fund/collective foundation hold in equities?

The average equity position in the interview participants' pension funds/collective foundations ranges between 25.375 and 48 per cent.

The tenth question read: What percentage does "your" pension fund/collective foundation hold in alternative investments?

> *The average alternative investments position in the interview participants' pension funds/collective foundations ranges between 0 and 7.811 per cent.*

The eleventh question in this section covered the expected cash flow from investments. It read: What is the annual net cash flow (pension part and investment part) of your pension fund/collective as a % of the balance sheet total?

> *The average annual net cash flow (pension part and investment part) in the interview participants' pension funds/collective foundations ranges between 1 and 2 per cent, with one respondent unable to answer the question.*

Qualitative Part

The qualitative part allowed the interviewer to ask questions about the pension fund/collective foundation's investment strategy and the potential influence of expert pension fund consultants on management, strategy and even asset allocation. The questions left room for explanations by the interviewees and often led to discussions. Some interviewees were very reluctant to make extensive comments during the qualitative interviews. The first question in this section covered the differentiating factor to peers. It read: How do "you" differentiate "your" pension fund/collective foundation from others?

> *Our pension fund is characterised by good benefits, including good risk benefits, and by the introduction of a so-called variable pension (long-standing managing director of the pension fund of a Swiss industrial company).*

While the above answer represents only one example that showed the reluctance to answer in any concrete way, the following one shows the opposite.

> *Our pension fund offers two attractive savings plans: a basic plan with lower employee contributions and a savings-plus plan with higher contributions. Our pension fund implemented a total compensation approach in which fixed and variable salary components are insured. The coordination deduction is 25%, with a maximum of CHF 20,000.00 p.a. We also*

> *offer attractive purchase options, and the savings contributions remain the same between the ages of 45 and 65. Our insured persons have complete freedom of choice between a pension and a lump sum at retirement. We also have a supplementary fund for salaried employees from CHF 230,000.00 p.a. with a free choice of strategy. In this supplementary fund, we offer five different strategies whereby individual portfolio management is implemented for each insured person with valuation at the market price of the investments of the respective Investment strategy implemented. We also offer the option of a voluntary capital transfer from the pension fund to the supplementary fund (PF 3).*

PF 3's pension fund (the Pension fund of an established Swiss financial institution) is comfortable compared to many of his peers. One can assume sufficient asset management expertise within a traditional and established Swiss financial institution. This expertise certainly helps the structuring of excellent long-term solutions for their policyholders. The term "coordination deduction" used by the interviewee describes in a broader sense the coordination between the AHV (Occupational Retirement) – first pillar pensions with those of the second pillar, i.e. employee's pension fund concerning any employee's base salary deductions to cover their future retirement needs. The second pillar uses "coordination deduction" in occupational pension provision. The coordination deduction is deducted from the salary subject to AHV contributions. This results in the so-called coordinated salary. The pension fund then levies its premiums on this salary. The Federal Council determines the amount of the coordination deduction. In the Swiss pension system, one must never forget that the AHV (1st pillar) pays a basic pension, and the pension fund (2nd pillar) pays a supplementary pension. The coordination deduction ensures that the pension fund only levies contributions on the salary for which the AHV does not pay a pension.

The following answer to question one stuck out because the perspective changed from the policyholders to the asset manager. Interestingly, the respective collective foundation has outperformed most Swiss-based pension funds/collective foundations for years and leads almost all league tables.

> *We mainly differentiate ourselves with a very high tangible asset ratio, which means we have many more equities and yet also noticeably more property. Together with the alternative investments, this currently*

> *amounts to around 80% tangible assets, and, as I said, with the expansion of alternative investments, for example, in infrastructure investments, the proportion of tangible assets will continue to rise towards 85% and more, which in turn means that we can pay our beneficiaries better benefits than our competitors in the long term (CIO of an extensive Swiss Collective Foundation).*

The management of that collective foundation attaches great importance to realising long-term capital gains and consciously accepts short-term volatility.

The second question in this section covered the pension fund/collective foundation's main objectives. Answers to this question allow conclusions about the strategic orientation, the coherence of the strategy, and, under certain circumstances, the opportunities and risks perceived by the pension fund/collective foundation's Board of Trustees. It read: What are the three main objectives of "your" pension fund/collective foundation in order of importance?

> *The first objective is to create a secure pension fund that can fulfil its obligations today and in the future. The second objective is to deliver good results relative to the age and contribution of the individual policyholder. The third objective is to explain the nature of the pension fund to employees. We want to consult them when they consider taking money from their pension account for the down payment on real estate or going through a divorce and explain what that may mean for their and their partners' future retirement (senior pension fund manager of a cantonal public-sector pension fund).*

The above answer is a perfect example of a pension fund focussing on security, i.e. low volatility. It is representative of some of the answers the interviewer received to the second question. It fits into the picture gained from the first question about the 2019 edition of the "Swiss Pension Fund Study" by Swisscanto Pension Ltd. and the interviewer's answer that public-sector pension funds are skewed towards less volatility, even if this means less return because of a quasi-governmental cover by the taxpayer.

The following answer, however, focuses on promoting the pension fund's performance in an environment of negative interest rates in Swiss Francs-denominated risk-free interest products.

> *First, I want to mention the attractive interest rate for active insured persons. On average, over the last ten years, we have been able to distribute over 2% per year to active insured persons in the two strategies we offer and even increase or maintain the coverage ratio. However, it must be said that the past investment year was excellent, which significantly increased the foundation's cash component. At the end of 2019, the average coverage ratio was around 109% (PF 1).*

During the interview, the interviewer was only partially satisfied with the answer and insisted on an answer to the second and third most important objectives. The answer was:

> *The second most crucial objective is avoiding redistribution between active insured persons and pensioners. The Board of Trustees is concerned about setting the parameters, so there is no redistribution. The third most crucial objective is to optimise customer service so our customers feel they are in good hands.*

The standard answers mainly centred around the attractiveness of the pension solution for all insured persons, the long-term financial stability of the pension fund, including sufficient reserves for difficult times, and the lowest possible redistribution between active and passive policyholders.

Questions three to five covered the pension fund/collective foundation's relationship to expert pension fund consulting companies and their possible influence on asset allocation. Question number three asked, "Do you" work together with pension fund consulting companies?

> *Yes, we work together with consulting companies.*

This concise answer came from eleven interviewees.

> *We do not work with any consulting companies.*

This answer came from the PF 6 and was then relativised to the answers to questions five and six.

> *Yes, we do that; for example, we once conducted an investment study with PPCmetrics AG.*

This answer came from PF 1. The following answer came from PF 4 from an established Swiss financial institution's pension fund, and it is surprising in that it can be assumed that an established Swiss financial institution is not reliant on purchasing asset allocation support from an external consultant. The author of this thesis assumes that, in this case, it is primarily a question of the consultant's monitoring function. Interestingly, despite the stated influence of a consultant, the proportion of fixed-income products is relatively low at 24.1%, while the proportion of equities is relatively high at 41.5%.

> *Prevanto AG is a guest on the Investment Control Committee and provides the Investment Control Committee with technical support in defining and implementing the investment strategy.*

Question four read: If "you" work with pension fund consulting companies, does the consulting company advise "your" pension fund/collective foundation on asset allocation?

> *The responses to question four varied, ranging from 'no influence' to 'some influence', 'monitoring of the asset allocation process', 'suggestion on asset allocation by the advisor', and 'yes'. This diversity of approaches underscores the industry's complexity.*

Question five read: For which area do "you" obtain consulting services for "your" pension fund/collective foundation?

> *Third-party products are used within the asset classes of the pension funds we manage and within mandates of our bank's asset management department, for example, in alternative investments. In such cases, we seek advice from those mandate recipients.*
>
> *There are, of course, consulting companies in the area of pensions, some of which have to be called in for legal reasons. For example, so-called qualified pension fund experts. These are experts who carry out so-called actuarial reports and, depending on the business we do, we may need a lawyer to advise us or most or almost all of the things we have in our investments are looked after and managed externally, i.e. the asset managers, the banks are also external or, for example, we also need external experts for IT.*

> *External specialists can be called in for legal clarifications. The experts also advise the Board of Trustees and the Executive Board on drafting regulations.*

Question six read: Who is responsible for the asset allocation in “your” pension fund/collective foundation?

All interviewees unanimously identified the Board of Trustees as the entity responsible for asset allocation, underscoring this body's pivotal role in the process.

> *The Investment Committee plays a crucial role in preparing the decision-making basis for determining the strategic asset allocation, with the final determination made by the Board of Trustees.*

This answer came from PF 4, who claimed that Prevanto AG was a guest on the Investment Control Committee and provided the Investment Control Committee with technical support in defining and implementing the investment strategy.

> *The Board of Trustees is primarily responsible for asset allocation, which is required by law. The Investment Committee, of course, advises it, and the Investment Committee has internal and external investment specialists from various areas, e.g. someone who specialises in real estate, someone in asset allocation, someone from Controlling, someone who specialises in alternative investments.*

This answer came from PF 6, who claimed in question number three not to work with any consulting companies.

Question seven read: Who implements “your” asset allocation?

> *The pension fund’s managing director and his team.*
>
> *At our company, the investment committee implements the asset allocation, and the investment manager is responsible for day-to-day operations.*
>
> *The implementation of the specified targets is carried out via the asset management subsidiary of our mother company.*
>
> *The external asset manager appointed by the Board of Trustees implements the strategic asset allocation.*

At the end of each interview, the interviewer asked why the asset allocation was determined this way, i.e., precisely the percentage for interest rate products, shares, and real estate was set this way.

> *According to the BVG, the upper limit for equity investments for Swiss pension funds is 50%. If the equity allocation rises passively, i.e., above 50% for performance reasons, we can easily justify this, and it is not a problem. If we actively exceed the limit, we will also be actively violating the BVG and will have to expect consequences. Therefore, we have decided to utilise the equity ratio as far as possible without violating the applicable rules.*

The above answer came from PF 5, who outperformed most Swiss-based pension funds/collective foundations for years and led almost all league tables.

> *When I joined the pension fund in 2004, I had completely different freedoms. Over time, I needed to diversify my investments by introducing, for example, private equity, convertible bonds, real estate outside Switzerland, and other new investment instruments. We have reduced investment risks in recent years.*

The above answer stems from the pension fund manager, who answered question six with “the pension fund’s managing director and his team”. The following answer stuck out because it shows a rather technical approach to asset allocation.

> *The investment strategy is based on the desired return (target return), the risk capacity, and the foundation's actuarial parameters. The Board of Trustees reviews it periodically using an asset and liability study.*

Summary Appendix 7 “Complete List of Interview Questions and Answers”

The objective of Appendix 7 was to present the findings derived from interviews conducted with thirteen industry experts from pension fund/collective foundations in Liechtenstein and Switzerland. These interviews formed the basis of this thesis, and the aim was to offer a comprehensive overview of the responses to all the questions posed to the interviewees. The interviews encompassed both quantitative and qualitative components, and the research process was thorough to ensure the inclusion of all significant answers. Given that many responses either mirrored each other in content or offered no new insights on the subject, they were not translated or listed in this chapter

to underscore the rigour of the research. Appendix 7 further looks into the author's comments and explanations regarding all the responses provided by the interviewees.