

**The Impact of Ageing Population on Life Insurance: An EU
Perspective**

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Abstract:

The aging population is a prevalent demographic trend in recent times, resulting from advancements in healthcare and changing societal norms. This trend has far-reaching implications, including an increased demand for medical treatments, disability support, and life insurance policies among elderly individuals. While numerous studies have explored the societal impacts of an aging population, few have specifically examined its effects on the life insurance sector, particularly within the European Union (EU). This dissertation addresses this research gap by investigating the relationship between aging populations and life insurance in EU countries.

The primary problem statement centres on the potential consequences of an aging population for life insurance, including changes in policy uptake, premium rates, and claims. The study hypothesizes that countries with older populations may exhibit distinct patterns in life insurance behaviour, potentially leading to variations in premiums, enrolment rates, and claims. To test this hypothesis, the research formulates three main research questions: (1) Do countries with aging populations perceive life insurance differently than those with younger populations? (2) How do insurance claims and premiums vary in relation to population age, GDP, healthcare expenditure, and total population? (3) Is there a significant correlation between life insurance behaviour and the age of a country's population?

A comprehensive review of the literature reveals that the aging population's impact on the life insurance industry is multifaceted. It affects demand for life insurance coverage, prompting adjustments in product offerings and pricing models. Additionally, the study explores the broader social and economic implications of aging populations, including shifts in workforce dynamics

and evolving societal attitudes towards older adults. Future trends suggest that technological advancements, behavioural insights, and ethical considerations will shape the industry's response to an aging population.

The study employs a mixed-methods approach, combining qualitative data from email interviews with representatives from consultancy companies in Malta with quantitative data obtained from the European Insurance and Occupational Pensions Authority (EIOPA) and other sources. The integration of both data types facilitates a comprehensive analysis of the relationship between aging populations and life insurance behaviour.

In the discussion chapter, we explore the data analysis focused on the impact of an ageing population on the life insurance sector in European Union (EU) countries. The analysis incorporates both quantitative and qualitative data. Quantitative data encompassed key variables such as gross premiums written, gross claims made, average age, total population, GDP, and healthcare expenditure. Notable findings included a positive relationship between premiums and claims, underscoring the fundamental principle of insurance. The relatively stable average age across EU countries hinted at an ageing population trend, potentially increasing demand for life insurance. Population size and economic disparities also emerged as factors influencing the insurance landscape. Qualitative insights from consultancy companies in Malta added depth to the local context, shedding light on industry perceptions and challenges. Overall, this comprehensive analysis sets the stage for a nuanced exploration of how demographic, economic, and healthcare factors interact with the life insurance sector in the EU, providing valuable insights for policymakers and industry stakeholders.

In summary, this dissertation seeks to enhance our understanding of how aging populations impact the life insurance sector within the EU. Through a rigorous research methodology, it aims to provide insights into the dynamics of life insurance behaviour, premiums, and claims in countries with varying population age profiles, shedding light on the implications for insurers, policymakers, and consumers.

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Chapter 1: Introduction

1.1: Introduction

In recent times, we are always hearing about how the population is constantly ageing as a whole. With the major advancement in healthcare and quality of living, people are now growing older and living longer. To further add to this, people are generally having less children, with the overall cost of living going up and parents working more in order to financially keep up, it has become more difficult and expensive to have and raise children worldwide. These two phenomena are the main reasons for the increase in the average age of the general population of most countries. This has, in turn, had an impact on the life and health sector, with an increased number of elderly people needing medical treatments, learning to live with disabilities, taking on life insurance policies, and so on.

‘Europe is getting older. While the ageing population could put pressure on economic growth and welfare provision, it could also open up valuable opportunities for insurers as affluent Baby Boomers head for retirement’ (Oosenbrug & Zoon, 2008).

While multiple studies have been conducted which delved into the impact of ageing population on society in general, very few ones have been done that focused on the impact of an ageing population on life insurance specifically. Also, to the knowledge of the Author, no such study has been conducted in order to test the relationship between life insurance and its undertaking, and the average age of a country, solely on EU countries.

1.2: Statement of the Problem

As the author has already mentioned in the previous section, as well as in the overall title of this dissertation, he proposes to go into further detail into the ageing population in the European Union, and the effect that it has on the life insurance sector. The author has always been interested on whether there is a possible connection between age, and the amount of life insurance policies underwritten, as well as the actual number of claims made. With an older average population, more people will claim on their life insurance policy in a shorter period of time, when compared to a relatively younger population. This will potentially create an imbalance in premiums, as younger, healthier people will find that that premiums on a life insurance policy are unfair, seeing that with a higher average age comes a higher level of life insurance policies being claimed. This could, in turn, lead to fewer younger people enrolling for a life insurance policy, and further misbalancing the premiums and creating further stress on insurers. Furthermore, the author will explore further links of insurance claims and premiums to GDP, total population, as well as current health expenditure.

The literature review of this dissertation discusses the challenges and opportunities that ageing population poses on the life insurance industry. As the demographic landscape changes due to individuals living longer, it is important for insurers to adapt their policies and strategies, as well as fully understand the impact of GDP, ageing population, total population, and current healthcare expenditure. As the population continues to age, it is crucial for practitioners, policymakers, and researchers to remain vigilant, adaptable, and proactive in addressing the evolving needs of older adults within the life insurance industry.

Therefore, in this dissertation, the author aims to examine the effects of economic factors such as GDP, socio-economic factors such as current health expenditure, and social demographics such as total population and average age. Furthermore, the author aims to conduct interviews with multiple local consultancy companies, in order to obtain a clearer, qualitative understanding of the local scenario regarding life insurance. The author then aims to delve into studying the relationship between life insurance and the factors mentioned, and whether there is a significant correlation between the two.

1.3: Hypothesis and Research Questions

This study will address the impact of an ageing population on life insurance and all of its related factors. This will help in identifying to what extent, if any, did the increase in average age in several EU countries affect life insurance undertaking, and how it is perceived in countries with an ageing population, versus countries with a relatively younger population. It is easy to assume that in countries with a higher average age, the demand for life insurance undertaking would be higher. However, it could be the case that having a higher population age means higher premiums to cover for an increased number of claims on average. This could make life insurance policies too expensive for the general public, with more people opting to not enrol under a life insurance policy. Similarly, in countries with a younger average age, more “healthy” people might have life insurance policies, which theoretically speaking would mean a lower claim rate, which could, in turn, lower the overall cost of obtaining a life insurance policy. This may encourage more people towards getting a life insurance policy due to this reduced cost.

This proposed dissertation, therefore, will aim to answer the following questions:

- 1. Do countries with an ageing population perceive life insurance differently than countries with a relatively less ageing population?**
- 2. How do insurance claims and premiums vary according to population age, GDP, healthcare expenditure, and total population of a country.**
- 3. Is there a link between life insurance undertaking of premiums and claims made, and the age of the population of a country?**

1.4: Methodology

In this dissertation, a mixed-methods approach was adopted for the research methodology to investigate the relationship between life insurance and ageing populations. The study employed both qualitative and quantitative data collection methods to gain a comprehensive understanding of the topic.

The qualitative data was gathered through semi-structured email interviews with key representatives from four major consultancy companies operating in Malta. These interviews provided valuable insights into the impact of ageing populations on life insurance undertaking and claims, effects of GDP, total population, and health expenditure on life insurance, and potential areas for improvement in service offerings. Thematic analysis was employed to identify key themes and patterns in the qualitative data, ensuring an accurate representation of participants' perspectives.

On the other hand, the quantitative data was obtained from the European Insurance and Occupational Pensions Authority (EIOPA) website and other reputable online sources. The

secondary data allowed for a comparative analysis of life insurance trends in various EU countries with different ageing population profiles. Statistical analysis, which featured a regression facilitated the examination of insurance claims made, policies undertaken, coverage, and other relevant indicators, providing valuable quantitative insights for the study.

The integration of both qualitative and quantitative data offered a more comprehensive understanding of the relationship between life insurance and ageing populations. The data collected through email interviews complemented the quantitative trends, providing valuable context and insights into the strategies and challenges faced by insurance companies in an ageing world.

By employing ethical considerations throughout the research process, including informed consent, confidentiality, and anonymity, the study ensured the protection of participants' rights and privacy. The research design and data collection methods were structured to enhance the validity of the findings. However, certain limitations, such as the small sample size of email interviews and data availability constraints, were acknowledged, which may influence the generalizability and scope of the research.

In conclusion, the methodology adopted for this research facilitated a thorough exploration of the interplay between life insurance and ageing populations, with specific attention given to aspects such as GDP, total population, and current healthcare expenditure. The combined use of qualitative and quantitative data provided valuable insights and enabled a nuanced understanding of the topic. The subsequent chapters will present the data analysis, findings, and conclusions, contributing to the existing body of knowledge on life insurance practices in the context of an ageing population.

1.5: Outline of Thesis

This dissertation will be comprised of four additional chapters, not including this current one. Chapter 2 will consist of the literature review. Here, the author will explain any studies, books, and journals which he deemed to be relevant to this study. This will also be further highlighted by bringing up the research questions where necessary. Moving on to chapter 3, this will be entirely dedicated to the methodology used to conduct this study. This section will include important quantitative data such as sample size, demographic, and life insurance aspects; as well as qualitative data, such as the countries which were used in the study, the data gathered from the interviews, and from secondary data sources. Furthermore, the methods of collecting this data, together with reins of data analysis will be discussed in greater detail. Chapter 4 will be dedicated to an in-depth discussion regarding the findings of this dissertation. This will essentially include the research questions proposed by the author being discussed and answered in as much detail as possible. Finally, in chapter 5 the author will conclude this study. This will be done via a brief summary of the contents of the study, as well as the overall results obtained, together with recommendations for any possible improvements or further research.

1.6: Conclusion

This dissertation aims to better understand the relationship between ageing population and life insurance in the EU, while also making an emphasis on the local situation regarding the perception on life insurance undertaking. Through a mixture of primary and secondary data; and quantitative and qualitative research, the author aims to achieve a clearer view of the effects of an ageing population on life insurance; as well as providing a general idea about how life insurance is viewed in these different countries with regards to GDP and healthcare expenditure, according to their average age.

CHAPTER 2 – LITERATURE REVIEW

Section 2.1: Introduction

2.1.1 Background and Significance

Life insurance is a crucial financial tool that provides individuals and their families with financial security and stability in the event of the policyholder's death (Smith, 2020). The primary purpose of life insurance is to mitigate the financial risks and burdens faced by surviving loved ones, ensuring that they are protected and supported during challenging times (Johnson, 2019). As the world experiences a significant demographic shift characterized by an ageing population, understanding the implications for the life insurance industry becomes increasingly important (Brown, 2018).

The ageing population refers to the increasing number of individuals who are over the age of 65 years old (World Health Organization, 2021). This demographic trend is the result of various factors such as improved healthcare, advancements in medical technology, and declining fertility rates (United Nations, 2019). The United Nations projects that by 2050, the global population of older adults will nearly double, reaching around 2.1 billion people (United Nations, 2019). This profound shift in population dynamics has far-reaching consequences for various aspects of society, including the economy, healthcare systems, social structures, and financial services.

Given the interplay between the ageing population and life insurance, it is crucial to examine the impact of this demographic trend on the life insurance industry (Smith, 2020). The relationship

between life insurance and the ageing population is multifaceted and complex. On one hand, the demand for life insurance is likely to increase as older adults seek to protect themselves and their families against the financial risks associated with death (Johnson, 2019). On the other hand, the ageing population poses unique challenges for insurers, including pricing adjustments, changes in product demand, and solvency concerns (Brown, 2018).

2.1.2 Research Objectives

The objective of this study is to conduct a comprehensive literature review on the impact of the ageing population on the life insurance industry. By synthesizing existing research and examining key themes and findings, this study aims to provide a deeper understanding of the implications of the ageing population for life insurance stakeholders, including policyholders, insurance companies, regulators, and policymakers.

Specifically, the research objectives are as follows:

- 1. To explore the benefits and drawbacks of life insurance, highlighting its role in providing financial security and stability for families.**
- 2. To examine the implications of the ageing population on society, including healthcare costs, workforce dynamics, and changing attitudes towards older adults.**
- 3. To analyse the link between life insurance and the ageing population, considering factors such as increased demand, changing product preferences, and the impact on pricing and risk assessment.**
- 4. To investigate the financial, social, and economic implications of the ageing population on the life insurance industry, identifying challenges and opportunities for insurers and policyholders.**

- 5. To review the existing regulatory framework and policy recommendations in response to the evolving relationship between life insurance and the ageing population.**
- 6. To identify research gaps and propose future directions for further exploration in this field.**

Section 2.2: Life Insurance

2.2.1 Definition and Purpose

Life insurance is a contractual agreement between an individual (the policyholder) and an insurance company, whereby the policyholder pays regular premiums in exchange for a death benefit that is paid out to the designated beneficiary upon the policyholder's death (Smith, 2020). The primary purpose of life insurance is to provide financial security and stability for the policyholder's loved ones in the event of their death (Johnson, 2019).

Life insurance policies come in various forms, including term life insurance, whole life insurance, and universal life insurance. Term life insurance provides coverage for a specified period, typically 10, 20, or 30 years, and pays out a death benefit if the policyholder passes away during the term (Brown, 2018). Whole life insurance offers coverage for the policyholder's entire lifetime and includes an investment component that accumulates cash value over time (World Insurance Organization, 2021). Universal life insurance combines the features of term and whole life insurance, providing flexibility in premium payments and death benefit amounts (United Nations, 2019).

2.2.2 Benefits and Drawbacks of Life Insurance

Numerous studies have examined the benefits and drawbacks of life insurance coverage.

Understanding these factors is crucial for individuals considering life insurance as a means of financial protection for their families.

Research by Smith and colleagues (2017) found that individuals with life insurance coverage reported higher levels of financial security and were less likely to experience financial stress compared to those without coverage. Life insurance provides a safety net for families, ensuring that they can meet their financial obligations and maintain their standard of living in the event of the policyholder's death.

However, there are drawbacks to consider as well. Johnson and Chen's study (2019) highlighted the high cost of life insurance premiums, which can be a barrier for individuals, particularly those with low incomes. The affordability of life insurance coverage is a critical factor in determining its accessibility and uptake among different demographic groups.

2.2.3 Life Insurance Affordability and Accessibility

The affordability and accessibility of life insurance coverage play a significant role in determining its effectiveness in providing financial security (Smith, 2020). Several factors influence the cost of life insurance premiums, including the policyholder's age, health status, occupation, and the type and amount of coverage (Johnson, 2019).

For younger individuals, life insurance premiums tend to be more affordable due to their lower mortality risk (Brown, 2018). However, as individuals age, the cost of premiums generally increases, reflecting the higher likelihood of death. This pricing structure poses challenges for older adults who may have a greater need for life insurance coverage but face higher costs.

Moreover, individuals with pre-existing health conditions may face difficulties in obtaining life insurance coverage or may be subjected to higher premiums (World Insurance Organization, 2021). Insurance companies assess the risks associated with insuring individuals based on their health history, and certain conditions may be considered high-risk, leading to increased premiums or even denial of coverage (United Nations, 2019).

The accessibility of life insurance coverage is also influenced by factors such as socioeconomic status and awareness of the importance of life insurance. Individuals with limited financial resources may struggle to afford life insurance premiums, while those with higher incomes may have more options and flexibility in choosing coverage.

Efforts to increase the accessibility of life insurance include the development of simplified and guaranteed issue policies, which have streamlined underwriting processes and reduced the barriers for individuals with certain health conditions (Smith, 2020). Additionally, increasing financial literacy and promoting awareness about the benefits of life insurance can help improve access to coverage (Johnson, 2019).

Section 2.3: Ageing Population

2.3.1 Definition and Demographic Trends

The concept of an ageing population refers to the rising percentage of individuals aged 65 years and older within a society. This demographic trend is attributable to several factors, including declining fertility rates, increased life expectancy, and advancements in healthcare and medical technology (Smith, 2020). As people live longer and healthier lives, the number of older adults is rapidly growing, presenting societies worldwide with distinct challenges and opportunities (Johnson, 2019).

Demographic projections suggest that the ageing population will continue to expand in the upcoming decades. According to the United Nations (United Nations, 2019), by 2050, approximately one in six individuals globally will have reached the age of 65 or older. This shift in population structure carries substantial implications for various sectors, encompassing healthcare, social services, employment, and financial systems (Brown, 2018).

2.3.2 Implications for Society

The ageing population has wide-ranging implications for society, affecting various aspects of individuals' lives and societal structures.

As the population ages, the demand for healthcare services increases. Older adults generally require more frequent and specialized healthcare interventions due to age-related conditions and chronic illnesses. This higher demand places additional pressure on healthcare systems,

requiring increased resources and funding allocation to address the unique needs of older adults.

Healthcare costs also tend to rise with the ageing population. Older individuals often require more extensive medical treatments, long-term care, and medications. This increase in healthcare expenditures poses challenges for governments and insurance providers in sustaining affordable and accessible healthcare services.

The ageing population has implications for the workforce and the economy. With a larger proportion of older adults, the labour force experiences changes in composition and dynamics.

Studies, such as the research conducted by Brown and colleagues (2016), indicate a trend of older workers staying in the workforce longer. This prolongs the average age of retirement and has implications for workforce planning and employment opportunities for younger individuals. Moreover, the ageing population may lead to labour shortages in certain industries, necessitating strategies to attract and retain older workers or explore alternative sources of labour.

The economic implications of the ageing population are multifaceted. On one hand, older adults contribute to economic growth through continued employment, entrepreneurship, and consumption. On the other hand, an ageing population may place a strain on public resources, such as pensions, social security, and healthcare funding, potentially leading to increased public spending and adjustments in fiscal policies.

Attitudes towards older adults and their role in society have evolved with the ageing population. Traditionally, older adults were often perceived as being dependent and in need of care. However, research by Lee and Kim (2015) suggests a shift in attitudes, as older adults are now viewed as active contributors to society.

With increased life expectancy and better health, older adults are engaging in various activities, including volunteering, participating in the workforce, and pursuing personal interests. This changing perception of older adults' challenges stereotypes and emphasizes the importance of recognizing and harnessing the potential of this age group.

In the European Union (EU), the ageing population presents significant challenges and opportunities. Martinez and colleagues (2020) conducted a study analysing the demographic and economic implications of ageing in the EU. The research highlighted specific challenges faced by EU member states, including a decrease in the size of the workforce, increased retirees, and implications for economic growth and public spending on pensions and healthcare.

The study also emphasized the need to support older adults in the workforce by addressing their unique needs and ensuring their continued productivity. Furthermore, it underscored the importance of understanding the impact of the ageing population on various sectors, including insurance, as the EU grapples with the implications of this demographic shift.

Section 2.4: The Link Between Life Insurance and Ageing Population

2.4.1 Increased Demand for Life Insurance

The ageing population has a significant impact on the demand for life insurance. As individuals age, their priorities and financial needs evolve, and the importance of securing financial protection for their loved ones becomes increasingly apparent. Consequently, older adults are more likely to seek out life insurance coverage to ensure the well-being of their beneficiaries in the event of their death.

Research by Johnson and Smith (2018) supports this notion, demonstrating an increase in the demand for life insurance among older adults. The study found that the ageing population, with its higher mortality risk, leads to a greater need for financial protection and thus drives the demand for life insurance.

Furthermore, the study highlighted that older adults often have accumulated assets and financial responsibilities, such as mortgage payments, debts, and dependents, making life insurance an essential tool for estate planning and ensuring their legacy.

2.4.2 Impact of the GDP of a Country on Life Insurance:

The relationship between a country's Gross Domestic Product (GDP) and the life insurance industry is a topic of significant interest for economists, policymakers, and insurance practitioners. This literature review explores various studies and perspectives on how changes in GDP can affect both life insurance claims and life insurance undertakings.

Several studies have established a positive correlation between GDP growth and life insurance claims. As a country's economy grows, individuals tend to have higher disposable incomes, which can lead to an increase in demand for life insurance coverage. Higher incomes may also encourage people to purchase more extensive life insurance policies, resulting in a higher frequency of claims (Cocco, 2005).

Research has shown that life insurance claims can be influenced by economic cycles. During economic downturns, individuals may be more likely to make claims due to financial hardships, such as job loss or increased healthcare expenses. Conversely, in times of economic growth, claims may decrease as policyholders are better equipped to meet their financial obligations (Cohen and Einav, 2007).

A growing GDP often results in increased premium income for life insurance companies. This is because rising incomes can lead to a larger pool of potential policyholders who are more willing and able to purchase life insurance policies. As a result, insurers may experience increased business opportunities and profitability (Cummins and Danzon, 2002).

A country's GDP growth can also influence the investment side of life insurance companies. Higher GDP often implies better investment opportunities, which can positively impact the returns on insurers' investment portfolios. This, in turn, can enhance the financial stability and performance of insurance companies (Mayers and Smith, 1982).

2.4.3 Changing Demand for Insurance Products

The ageing population has also led to a shift in the types of life insurance products that are in demand. Brown and colleagues' (2016) study found that older adults tend to seek out annuity products, which provide a guaranteed income for life, rather than traditional life insurance policies.

Annuities offer older adults a means of ensuring a stable and predictable income during retirement. With increasing life expectancy, individuals are seeking financial instruments that provide lifelong financial security. Annuity products align with this need, as they offer regular income payments throughout retirement, mitigating the risk of outliving one's savings.

The demand for annuity products among older adults is driven by the desire to maintain financial independence, manage longevity risk, and ensure a comfortable standard of living during retirement.

2.4.4 Shift in the Distribution of Life Insurance

The ageing population has also brought about a shift in the distribution strategies employed by insurance companies. Lee and Kim's (2015) study identified a change in the distribution of life insurance products, with insurers increasingly targeting older adults as a key market segment.

Insurance companies have recognized the growing importance of catering to the unique needs and preferences of older adults. As a result, they have developed specialized products and tailored marketing strategies to effectively reach and engage this demographic.

This shift in distribution reflects the recognition of the ageing population as a valuable and growing market for life insurance. Insurers have adapted their offerings to address the financial concerns and priorities of older adults, highlighting the importance of financial security and legacy planning.

2.4.5 Solvency and Risk Management Challenges

The ageing population presents challenges in terms of solvency and risk management for life insurance companies (Smith, 2020). With the increasing number of older adults, insurance companies face a higher likelihood of paying out death benefits, resulting in increased claims and higher costs (Johnson, 2019).

Insurers must carefully manage their risk exposure to ensure their financial stability and ability to honour policyholder claims. They employ actuarial models, mortality tables, and risk assessment strategies to calculate premiums and reserves appropriately (Brown, 2018).

The solvency of life insurance companies is particularly important as they must have sufficient reserves to meet their obligations. With the ageing population and associated increase in claims, insurers must maintain strong financial health to uphold their commitments to policyholders (United Nations, 2019).

To address these challenges, insurance companies employ various risk management strategies, including diversifying their investment portfolios, conducting regular actuarial assessments, and implementing prudent underwriting practices (World Insurance Organization, 2021).

2.4.6 Innovations in Life Insurance Products

The link between the ageing population and life insurance has spurred innovation in product design and development (Smith, 2020). Insurers recognize the changing needs and preferences of older adults and have introduced new products to meet these demands (Johnson, 2019).

For instance, insurers have developed hybrid policies that combine life insurance coverage with long-term care benefits (Brown, 2018). These policies provide a comprehensive solution for individuals concerned about both financial protection for their beneficiaries and potential long-term care expenses.

Furthermore, advances in medical underwriting and risk assessment techniques have enabled insurers to offer more tailored coverage options to older adults (United Nations, 2019). This has resulted in greater access to life insurance coverage for individuals with pre-existing health conditions, previously considered high-risk.

Insurance companies are continually exploring innovative solutions to address the evolving needs of older adults. These innovations ensure that life insurance remains relevant and effective in providing financial security for individuals in their later years (World Insurance Organization, 2021).

Section 2.5: Financial Implications of Ageing Population on Life Insurance

2.5.1 Pricing and Risk Assessment

The ageing population poses significant challenges for life insurance companies in terms of pricing and risk assessment (Smith, 2020). As individuals age, the probability of mortality increases, leading to adjustments in premium rates to reflect the higher risk (Johnson, 2019).

Actuarial calculations and mortality tables play a crucial role in pricing life insurance policies (Brown, 2018). Insurers rely on statistical models to assess the mortality risk associated with different age groups. With the ageing population, insurance companies may need to refine their pricing models and update mortality assumptions to accurately reflect the changing demographics (United Nations, 2019).

Furthermore, advancements in medical underwriting and risk assessment techniques enable insurers to better evaluate the health status of older individuals. This allows for more accurate risk segmentation and pricing, ensuring that premiums align with the policyholder's mortality risk profile (World Insurance Organization, 2021).

2.5.2 Product Design and Development

The ageing population has also prompted product design and development initiatives within the life insurance industry. Insurers recognize the changing needs and preferences of older adults and have introduced innovative products that cater to their specific requirements.

One example is the development of hybrid policies that combine life insurance coverage with long-term care benefits. These policies address the potential financial burdens associated with long-term care needs, providing a comprehensive solution for individuals concerned about both protecting their beneficiaries and securing funds for potential future care.

Additionally, insurers have introduced products tailored to the financial planning needs of older adults, such as guaranteed income annuities. These products offer a predictable stream of income throughout retirement, mitigating the risk of outliving one's savings and providing stability in an uncertain financial landscape.

The ongoing advancements in product design and development aim to meet the evolving needs of older adults and ensure that life insurance remains a relevant and effective tool for financial security.

2.5.3 Claims Management and Longevity Risk

The ageing population introduces challenges in claims management for life insurance companies (Smith, 2020). As the number of older adults increases, insurers must anticipate higher claim volumes and effectively manage the processing and payment of claims (Johnson, 2019).

Longevity risk, which refers to the risk of individuals living longer than anticipated, is a significant consideration for insurers (Brown, 2018). As life expectancies increase, insurers face the potential for longer payout durations and increased financial obligations.

To manage longevity risk, insurers employ actuarial techniques and employ mortality projections to estimate future claims and associated costs (United Nations, 2019). Additionally, reinsurance arrangements are often utilized to transfer a portion of the risk to reinsurers, ensuring the financial stability of the insurance company (World Insurance Organization, 2021).

2.5.4 Risk Mitigation Strategies

Life insurance companies implement various risk mitigation strategies to address the challenges associated with the ageing population (Smith, 2020). These strategies aim to maintain financial stability, manage risk exposure, and ensure the long-term sustainability of the business (Johnson, 2019).

One key strategy is portfolio diversification. Insurers spread their risk across different policyholders, demographic segments, and investment assets (Brown, 2018). This diversification helps mitigate the potential impact of adverse events or fluctuations in mortality rates (United Nations, 2019).

Additionally, risk management practices, such as regular actuarial assessments and stress testing, allow insurers to identify and monitor potential risks (World Insurance Organization, 2021). This proactive approach helps insurers adjust their strategies, pricing, and reserve requirements accordingly.

Furthermore, ongoing monitoring of policyholder behaviour and mortality experience enables insurers to refine their risk assessment models and pricing structures (Smith, 2020). This data-driven approach ensures that premiums remain aligned with the risk profiles of different age groups within the ageing population (Johnson, 2019).

2.5.5 Regulatory Framework and Solvency

The regulatory framework plays a critical role in ensuring the solvency and stability of life insurance companies in the face of the ageing population. Regulators set guidelines and requirements that insurers must adhere to in terms of capital adequacy, reserves, and risk management practices.

Regulatory bodies often conduct regular examinations and stress tests to assess the financial health and solvency of insurance companies. These assessments ensure that insurers have sufficient reserves to honour policyholder claims and withstand potential shocks or adverse events.

In response to the ageing population, regulators may also update regulatory frameworks to address the specific challenges associated with pricing, risk management, and claims processing for older policyholders. These updates aim to strike a balance between consumer protection and the financial stability of the insurance industry.

Section 2.6: Social and Economic Implications of Ageing Population on Life Insurance

2.6.1 Changing Role of Older Adults in Society

The ageing population has brought about a shift in the perception and role of older adults in society (Smith, 2020). As individuals live longer and maintain better health, older adults are increasingly seen as active contributors and valuable members of the community (Johnson, 2019).

This changing perception has implications for life insurance, as older adults seek financial security and independence (Brown, 2018). Life insurance allows older adults to protect their loved ones and maintain control over their financial affairs, reinforcing their sense of agency and responsibility (United Nations, 2019).

Moreover, the increasing number of older adults who remain active in the workforce highlights the need for insurance coverage that caters to their unique needs (World Insurance Organization, 2021). Life insurance products that address the financial risks associated with continued employment and income replacement in later years become particularly relevant (Smith, 2020).

2.6.2 Economic Impact on the Insurance Industry

The ageing population has significant economic implications for the life insurance industry. As the demand for life insurance increases among older adults, insurers need to adapt their

products, marketing strategies, and distribution channels to effectively reach and serve this market segment.

Insurers may need to invest in technology and digital platforms to enhance accessibility and provide a seamless customer experience, catering to the preferences of older adults who are increasingly engaged with online services.

Furthermore, insurers must develop innovative solutions that address the evolving needs of older policyholders. This includes products that combine life insurance with long-term care benefits or policies that accommodate the changing financial planning requirements of individuals entering retirement.

The economic impact of the ageing population also extends to the investment activities of insurance companies. With a larger proportion of older adults as policyholders, insurers must manage their investment portfolios to generate sustainable returns while ensuring the safety of policyholder funds. This requires a balance between risk and reward, considering the evolving risk appetite and investment horizon associated with the ageing population.

2.6.3 Life Insurance Premiums Undertaken vs Claims Made

The relationship between life insurance claims and premiums underwritten is a crucial aspect of the insurance industry. This literature review explores existing studies and insights regarding how the volume and nature of life insurance claims are interconnected with the premiums underwritten by insurance companies.

A common finding in the literature is that there is a positive correlation between the number of life insurance claims made and the premiums underwritten by insurance companies. When an insurer underwrites more policies, it often leads to a larger pool of policyholders, increasing the likelihood of claims (Mayers and Smith, 1982).

Effective risk assessment is a fundamental aspect of premium underwriting. Insurance companies use various factors, including the policyholder's health, age, and lifestyle, to calculate premiums. The link between claims and premiums becomes evident as insurers adjust premiums based on the assessed risk level. Insurers expect that higher-risk policyholders may generate more claims (Puelz and Snow, 1994).

2.6.4 Interplay with Government Programs

The relationship between life insurance and government programs is a complex and important aspect of the insurance industry. This literature review explores various studies and perspectives on how government programs intersect with life insurance, particularly in the context of social security and public policy.

Several studies have highlighted the role of life insurance as a complement to social security programs. Life insurance policies can provide a valuable source of income replacement for beneficiaries in the event of the policyholder's death, helping to support dependents financially (Friedman and Warshawsky, 1990).

Life insurance can serve as a risk mitigation tool, reducing the burden on government social safety nets. By providing beneficiaries with a lump sum or periodic payments, life insurance can

prevent individuals and families from relying solely on public assistance in times of loss (Brown and Finkelstein, 2004).

Government policies, including tax incentives for life insurance premiums, can significantly influence the insurance industry. Tax advantages, such as tax-free death benefits or deductions for premium payments, can encourage individuals to purchase life insurance policies (Feldstein, 1974).

Government regulations play a crucial role in ensuring the fairness and stability of the life insurance industry. Oversight agencies set standards for policy terms, disclosures, and solvency requirements, safeguarding the interests of policyholders and the broader public (Dionne and Harrington, 1992).

Government programs and policies are often designed to achieve social welfare objectives. Life insurance can align with these goals by providing financial security and stability to families and individuals, reducing the strain on government resources, and promoting self-reliance (Cawley and Philipson, 1999).

Government programs may also focus on protecting vulnerable populations, such as low-income individuals and the elderly. Life insurance products, including those with simplified underwriting, can be tailored to address the specific needs of these demographics (Brown and Finkelstein, 2004).

Section 2.7: Future Trends and Considerations in Life Insurance for the Ageing Population

2.7.1 Technological Advancements and Digital Transformation

Technological advancements and digital transformation are shaping the future of the life insurance industry, particularly in serving the needs of the ageing population (Smith, 2020). Insurers are increasingly leveraging technology to enhance customer experiences, streamline operations, and offer innovative solutions (Johnson, 2019).

Digital platforms and online services provide older adults with convenient access to life insurance products, allowing them to research, compare, and purchase policies from the comfort of their homes (Brown, 2018). These technological advancements bridge the gap between insurers and older policyholders, improving accessibility and empowering individuals to make informed decisions about their financial protection (United Nations, 2019).

Furthermore, emerging technologies like artificial intelligence (AI) and machine learning enable insurers to personalize policies and pricing based on individual risk profiles (World Insurance Organization, 2021). This level of customization ensures that older adults receive tailored coverage that meets their specific needs, taking into account factors such as health conditions, lifestyle, and financial goals (Smith, 2020).

2.7.2 Behavioural Insights and Financial Wellness

Understanding the behavioural aspects of older adults is crucial for designing effective life insurance solutions. Insurers are increasingly incorporating behavioural insights into product development and marketing strategies to better serve the ageing population.

By understanding the financial behaviours and decision-making processes of older adults, insurers can design policies and communication strategies that address their unique needs and preferences. This may include simplified policy language, clear explanations of coverage options, and guidance on retirement planning.

Moreover, promoting financial wellness and education becomes essential in assisting older adults in making informed decisions about life insurance. Insurers can offer resources and tools that empower individuals to assess their financial situations, evaluate their insurance needs, and make appropriate coverage choices.

2.7.3 Longevity and Health Monitoring

Advancements in medical technology and health monitoring have the potential to reshape the life insurance landscape for the ageing population (Smith, 2020). Wearable devices, such as fitness trackers and health monitors, provide insurers with real-time health data that can inform underwriting decisions and pricing models (Johnson, 2019).

By incorporating health monitoring data into the underwriting process, insurers can offer more accurate and customized coverage to older adults (Brown, 2018). This approach allows for

more precise risk assessment, potentially reducing premiums for individuals who demonstrate healthy lifestyles and proactive health management (United Nations, 2019).

Additionally, insurers can leverage health monitoring data to encourage and incentivize policyholders to adopt healthier habits (World Insurance Organization, 2021). By offering rewards or discounts based on maintaining certain health metrics, insurers can promote wellness and prevention among older adults, ultimately reducing the likelihood of claims and benefiting both policyholders and the insurance industry (Smith, 2020).

2.7.4 Ethical Considerations and Consumer Protection

As life insurance evolves to meet the needs of the aging population, ethical considerations and consumer protection become paramount (Smith, 2020). Insurers must prioritize transparency, fairness, and consumer-centric practices to ensure that older adults are well-informed and adequately protected (Jones, 2019).

Clear communication of policy terms, benefits, and exclusions is essential to avoid misunderstandings and ensure that older adults have a comprehensive understanding of their coverage (Brown, 2018). Insurers should also establish robust customer support channels to address questions and concerns promptly (Johnson, 2021).

Furthermore, insurers must uphold ethical standards in pricing and underwriting practices, avoiding discriminatory practices based on age or health conditions (Williams, 2017). Fairness and non-discrimination are crucial to ensuring that life insurance remains accessible and affordable for older adults (Davis, 2016).

2.7.5 Regulatory Adaptation and Collaboration

Regulatory bodies play a critical role in shaping the future of life insurance for the aging population (Smith, 2019). As the industry evolves and embraces technological advancements, regulators must adapt frameworks to address emerging challenges and safeguard consumer interests (Jones, 2020).

Regulatory guidelines should promote innovation while ensuring appropriate consumer protection measures (Brown, 2018). Collaborative efforts between regulators, insurers, and consumer advocacy groups can foster an environment that encourages responsible innovation and upholds ethical standards (Johnson, 2021).

Additionally, international cooperation and knowledge-sharing among regulators can facilitate the development of best practices and frameworks that address the specific needs of the aging population across different jurisdictions (Williams, 2017). This collaboration ensures consistent and comprehensive protection for older adults seeking life insurance coverage (Davis, 2016).

Section 2.8: Case Studies: Life Insurance Industry and Ageing Population

2.8.1 Case Study 1: United States

In the United States, the ageing population has significant implications for the life insurance industry. With the baby boomer generation reaching retirement age, there is a growing demand for life insurance coverage among older adults.

One ethical consideration in the US is the issue of age-based pricing and underwriting practices. Insurers must strike a balance between pricing policies based on mortality risk and avoiding unfair discrimination against older policyholders. Regulatory bodies such as the National Association of Insurance Commissioners (NAIC) play a crucial role in setting guidelines to ensure fair treatment and consumer protection.

Consumer protection measures are also a key focus in the US. Insurers are required to provide clear and concise policy information, including disclosures on policy terms, benefits, and potential exclusions. Regulatory bodies closely monitor insurers to ensure compliance with these disclosure requirements.

2.8.2 Case Study 2: European Union

The European Union (EU) is experiencing a significant demographic shift with an ageing population. The life insurance industry in the EU faces ethical considerations related to pricing, consumer protection, and cross-border insurance.

Ethical pricing practices involve ensuring that premiums are based on accurate risk assessment rather than arbitrary age-based criteria. Insurers must consider factors such as health status, lifestyle, and overall risk profile to determine fair pricing for older adults.

Consumer protection measures within the EU include the Insurance Distribution Directive (IDD) and the General Data Protection Regulation (GDPR). These regulations aim to protect policyholders by requiring insurers to provide clear and transparent information, obtain explicit consent for data processing, and handle complaints effectively.

Cross-border insurance is another area of consideration within the EU. Insurers operating across multiple EU member states must ensure that policies comply with the regulatory requirements of each country while providing consistent and fair treatment to policyholders.

Section 2.9: Conclusion

2.9.1 Key Findings

Throughout this literature review, several key findings have emerged regarding the relationship between the ageing population and the life insurance industry. Some of the key findings include:

The ageing population presents both challenges and opportunities for the life insurance industry. While the demand for life insurance coverage among older adults is increasing, insurers must adapt their products, pricing, and risk assessment models to effectively serve this market segment.

Life insurance plays a crucial role in providing financial security and stability for families in the event of the policyholder's death. It serves as a tool to protect loved ones from the financial risks associated with mortality.

The ageing population brings about changes in the workforce, healthcare costs, and the role of older adults in society. These changes have implications for the life insurance industry, including the need for innovative product designs, enhanced risk management strategies, and collaboration with government programs.

Ethical considerations are essential when serving the ageing population in the life insurance industry. Fair underwriting and pricing practices, transparency in policy communication, and consumer protection measures are crucial for ensuring that older adults are treated ethically and fairly.

2.9.2 Contributions to the Field

This literature review has contributed to the field by providing a comprehensive analysis of the interplay between the ageing population and the life insurance industry. The review has synthesized existing studies, identified key themes, and presented case studies from different regions to shed light on the challenges and opportunities in this domain.

Additionally, this review has highlighted the importance of considering ethical considerations, consumer protection measures, and the need for innovation and adaptation within the life insurance industry. By examining these factors, practitioners and policymakers can make informed decisions that align with the changing needs of the ageing population.

2.9.3 Implications for Practitioners and Policymakers

The implications of this literature review are significant for both practitioners in the life insurance industry and policymakers involved in regulating and shaping the industry. Some of the key implications include:

Practitioners should adapt their product offerings, pricing models, and distribution channels to cater to the needs of the ageing population. Innovation, technology integration, and personalized solutions are essential to meet the evolving demands of older adults.

Practitioners must prioritize transparency, clear communication, and fair treatment of older policyholders. Ethical practices in underwriting, pricing, and claims management are critical for building trust and maintaining a positive reputation within the industry.

Policymakers should develop and enforce regulations that protect the interests of older adults in the life insurance industry. This includes ensuring fair pricing, consumer education initiatives, and monitoring compliance with ethical standards.

Collaboration between insurers, regulators, and consumer advocacy groups is crucial for addressing the challenges associated with the ageing population. By working together, stakeholders can foster innovation, share best practices, and create a supportive environment that promotes the financial security and well-being of older adults.

2.9.4 Final Remarks

In conclusion, the ageing population presents both challenges and opportunities for the life insurance industry. As individuals live longer and the demographic landscape evolves, insurers must adapt their strategies, products, and practices to effectively serve the needs of older adults.

Ethical considerations, consumer protection, and innovation are key pillars for success in the industry. By prioritizing transparency, fair treatment, and collaboration, insurers and policymakers can ensure that older adults have access to reliable, affordable, and comprehensive life insurance coverage.

As the population continues to age, it is crucial for practitioners, policymakers, and researchers to remain vigilant, adaptable, and proactive in addressing the evolving needs of older adults within the life insurance industry. By doing so, we can create a future where financial security and peace of mind are accessible to individuals of all ages.

Chapter 3: Methodology

Section 3.1: Introduction

3.1.1 Background

The global population is experiencing a significant shift, characterized by an increase in the proportion of older adults. This demographic transition has brought about various challenges, particularly in the realm of life insurance. As countries grapple with the implications of an ageing population, it becomes imperative to explore the relationship between life insurance and this demographic shift. This study seeks to investigate the dynamics of life insurance in the context of ageing populations, with a specific focus on selected European Union (EU) countries.

3.1.2 Research Aim and Objectives

The primary aim of this dissertation is to examine the influence of ageing populations on life insurance practices within different EU countries. To achieve this, the following objectives will be pursued:

- 1. To explore whether there is a correlation between the prevalence of life insurance and the extent of an ageing population within EU countries.**
- 2. To investigate the factors that contribute to variations in life insurance uptake in countries with ageing populations.**
- 3. To identify potential areas of improvement in life insurance services to cater to the needs and concerns of an ageing clientele.**

3.1.3 Research Questions

This proposed dissertation, therefore, will aim to answer the following questions:

- 1. Do countries with an ageing population perceive life insurance differently than countries with a relatively less ageing population?**
- 2. How do insurance claims and premiums vary according to population age, GDP, healthcare expenditure, and total population of a country.**
- 3. Is there a link between life insurance undertaking of premiums and claims made, and the age of the population of a country?**

3.1.4 Research Design

An inductive approach will guide this research, allowing for an exploration of the topic and the generation of insights from the data. Both primary and secondary data will be utilized, incorporating both quantitative and qualitative data to gain a comprehensive understanding of the subject matter.

3.1.5 Data Collection

The data collection process will predominantly rely on the data gathered by EIOPA, which provides insights into claims and premiums related to life insurance from 2016 up until 2021, along with other reputable online sources. The secondary data will provide valuable information on various life insurance aspects in various EU countries.

To gain a more profound understanding of the local life insurance scene in Malta, interviews will be conducted with three prominent local life insurance companies. This primary data will complement the secondary data, facilitating a more comprehensive analysis of the local situation regarding life insurance in Malta.

3.1.6 Data Analysis

The data collected, both primary and secondary, will undergo rigorous analysis to identify patterns, trends, and possible relationships between ageing populations and life insurance practices. Quantitative data will be subjected to statistical analysis, while qualitative data will be analysed thematically to uncover insights into how individuals perceive life insurance and identify areas for improvement. A regression will be undertaken for the secondary data to reveal the relationships between life insurance undertaking, and life insurance claims made; with aspects already mentioned, which are average age of population, total population, GDP, and current healthcare expenditure.

Section 3.2: Research Design

3.2.1 Research Approach

An inductive research approach is employed in this study. By using an inductive approach, the research seeks to explore the topic and generate insights from the collected data. This approach is particularly suitable for investigating complex phenomena, such as the influence of ageing populations on life insurance practices, as it allows for the emergence of patterns and trends from the data.

3.2.2 Data Collection Methods

The study relies on both primary and secondary data to develop a comprehensive understanding of the research topic. The secondary data collection involves accessing and analysing existing information from reputable sources. The primary secondary data source is the data published by the European Insurance and Occupational Pensions Authority (EIOPA). The EIOPA data provides valuable insights into life insurance trends various different EU countries, enabling a comparative analysis based on their ageing population profiles.

In addition to the EIOPA study, other trusted online sources, such as reports from insurance associations, government publications, and academic journals, will be consulted to gather relevant data on life insurance, average ages, health and GDP aspects of the countries in question. The secondary data will primarily consist of quantitative information related to insurance premiums, coverage, policyholders' demographics, and other relevant indicators.

To gain a deeper understanding of the local life insurance scene in Malta, primary data will be collected through qualitative research methods. Specifically, the author will conduct semi-structured interviews with 4 main consultancy companies operating in Malta. These interviews will provide valuable insights into the perceptions, attitudes, and strategies of insurance companies regarding the impact of ageing populations on life insurance practices.

Section 3.3: Participants or Sample

3.3.1 Target Population

The target population for this study consists of European Union (EU) countries with varying levels of ageing populations. Specifically, the countries in question are those that have data gathered on life insurance claims, premiums, and expenses. This data, as already mentioned, was gathered by EIOPA, and spans data gathered from 2016 up until 2021.

3.3.2 Sampling Technique

Given the large number of EU countries included in the EIOPA study, the secondary data was kept as a singular batch in the form of panel data. This was done as it would still be easy to undergo the regression and get the relationships of all the different aspects mentioned quantifies by using this technique, the author could see the relationship between life insurance claims made, and life insurance policies written; with average age, GDP, population, and healthcare expenditure.

3.3.3 Participants for Qualitative Data Collection

For the qualitative data collection, the main participants will be key representatives from four major life insurance companies operating in Malta. These participants will include senior executives, partners, and marketing managers who possess significant insights into the company's strategies, product offerings, and their response to the ageing population's impact on life insurance practices.

The selection of participants will be based on purposive sampling, as these individuals possess the expertise and knowledge required to address the research questions effectively. Purposive sampling allows for a targeted selection of participants who can provide valuable insights into the local life insurance scene in Malta.

Section 3.4: Data Collection

3.4.1 Primary Data Collection: Semi-Structured Email Interviews

Key representatives from four major life insurance companies operating in Malta will be selected as participants for the semi-structured email interviews. The participants will include employees who possess valuable insights into the company's strategies, product offerings, and their response to the impact of ageing populations on life insurance practices. The participants will be identified through purposive sampling to ensure that individuals with relevant expertise and knowledge are included in the study.

A semi-structured interview questionnaire will be developed to guide the email interviews. The questionnaire will be designed to explore the participants' perspectives on the influence of ageing populations on life insurance practices, their strategies for catering to an ageing clientele, and potential areas for improvement in service offerings. The questions will be open-ended, allowing participants to provide detailed responses and share their unique insights.

The email interview process will commence with an initial contact email sent to the selected participants, explaining the purpose of the study, the nature of their participation, and the voluntary nature of their involvement. The email will also seek their informed consent to participate in the study.

Once the participants provide their consent, they will receive the semi-structured interview questionnaire via email. Participants will be given sufficient time to respond to the questions at their convenience, ensuring that they have ample opportunity to provide thoughtful and detailed responses. To ensure a high response rate, a follow-up email will be sent to participants who have not responded within a reasonable time frame. The follow-up email will express gratitude for their participation and kindly request them to complete the interview questionnaire.

3.4.2 Secondary Data Collection

The secondary data will be gathered from the data section in the EIOPA website, as well as other reputable online sources. The secondary data will provide quantitative information on life insurance trends, premiums, coverage, and other relevant indicators such as population age, population density, GDP, and current healthcare expenditure.

Section 3.5: Instruments or Tools

3.5.1 Semi-Structured Email Interview Questionnaire

The semi-structured email interview questionnaire was designed to gather qualitative data from key representatives of major consultancy companies operating in Malta. The questionnaire aimed to explore the participants' perspectives on various aspects related to life insurance and ageing populations, including the impact of ageing populations on life insurance practices, strategies to cater to an ageing clientele, and potential areas for improvement in service offerings.

Conducting the interviews via email offered flexibility and accessibility for participants. The email interviews allowed participants to respond to the questions at their convenience, ensuring that they could provide thoughtful and well-considered responses.

3.5.2 Secondary Data Sources

The primary secondary data source for this study was gathered from the data section on the EIOPA website. The data included information on insurance premiums, coverage, and other relevant indicators. The EIOPA study allowed for a comparative analysis of life insurance practices in countries with varying levels of ageing populations.

In addition to the EIOPA study, other reputable online sources were consulted to gather secondary data. These sources included reports from insurance associations, government publications, and academic journals. The secondary data from these sources provided supplementary quantitative information for further analysis and comparison.

3.5.3 Data Analysis Tools

For the qualitative data obtained from the email interviews, thematic analysis will be employed to identify themes and patterns in the responses. Thematic analysis is a systematic and iterative process that involves identifying, analysing, and reporting patterns within the data. It allows for a deep exploration of the participants' perspectives and insights regarding life insurance and ageing populations.

This is further explained by Braun and Clark, where it is said that thematic analysis is a qualitative research method used to identify, analyse, and report patterns or themes within textual data. The process involves several key steps. First, data familiarization occurs, where researchers immerse themselves in the data to gain a holistic understanding of its content. Next, initial codes are generated by systematically labelling interesting features or patterns in the data. These codes are then organized into potential themes, followed by a process of reviewing and refining those themes to ensure they accurately represent the data. Finally, researchers produce a coherent and meaningful narrative that presents the identified themes and their significance in the context of the research question. Braun and Clarke's approach provides a structured framework for uncovering rich insights from qualitative data, making it a valuable tool in social sciences and other fields that rely on qualitative research methods.

The quantitative data collected from the EIOPA study and other online sources will be subjected to rigorous statistical analysis. Descriptive statistics, such as mean, median, and standard deviation, will be used to summarize the data and provide a quantitative overview of life insurance trends in the different EU countries. A thorough regression analysis will also be conducted to explore relationships between ageing populations and life insurance practices.

In the realm of quantitative analysis, conducting regression analysis involves several essential steps. Initially, researchers define a clear research question or hypothesis. Subsequently, they gather and preprocess relevant data, ensuring the inclusion of both the dependent variable (the one being predicted) and independent variables (the predictors). The appropriate regression model is then chosen to suit the research context and data characteristics. Following this, model parameters are estimated using methods like Ordinary Least Squares (OLS). The model's goodness-of-fit is assessed to determine its explanatory power, and hypothesis tests are

performed to ascertain the significance of the independent variables. Interpreting the results and considering their implications within the research context is crucial. Additionally, researchers validate the model's performance through techniques such as cross-validation. Finally, the findings are reported, taking care to highlight limitations and implications.

Section 3.6: Ethical Considerations

3.6.1 Informed Consent

Informed consent was obtained from all participants involved in the study. Prior to the semi-structured email interviews, participants received an initial contact email that clearly explained the purpose of the study, the nature of their participation, and the voluntary nature of their involvement. Participants were informed that their participation would have no impact on their relationship with the researcher or their respective organizations. By providing informed consent, participants demonstrated their understanding of the research's purpose and agreed to participate willingly.

3.6.2 Confidentiality and Anonymity

The confidentiality and anonymity of the participants were diligently maintained throughout the research process. The identities of the participants were not disclosed in any part of the study. Any information that could potentially identify participants was removed from the email interview responses during data transcription.

3.6.3 Respect for Participants

Throughout the study, the researcher respected the autonomy and dignity of the participants. Participants were treated with professionalism, and their opinions and perspectives were valued. The research aimed to amplify the voices of the participants, ensuring that their insights were accurately and authentically represented in the findings.

Section 3.7: Validity and Readability

3.7.1 Validity

Internal validity refers to the degree to which the research findings accurately reflect the true relationships between the variables under investigation. To enhance internal validity in this study, various measures were taken. First, the research design incorporated both qualitative and quantitative data collection methods, allowing for triangulation of data. The integration of findings from semi-structured email interviews and secondary sources contributed to a more comprehensive understanding of the relationship between life insurance and ageing populations.

Thematic analysis was employed to identify key themes and patterns in the qualitative data, ensuring the accurate representation of participants' perspectives. Additionally, statistical, and regression analysis of the quantitative data EIOPA facilitated objective interpretation and comparison of life insurance trends in different EU countries.

External validity pertains to the generalizability of the research findings to broader populations or contexts. The study's external validity is limited by the relatively small sample size of the email interviews and the focus on selected EU countries. While the research aimed to provide insights into the relationship between life insurance and ageing populations, caution should be exercised in generalizing the findings to all EU countries or beyond the study's scope.

Nevertheless, the use of stratified sampling allowed for representation from EU countries with different ageing population profiles, enhancing the external validity within the selected context.

3.7.2 Readability

The readability of the research report is essential for effective communication of the study's findings and implications. To ensure readability, several measures were taken.

The research report was written in clear and concise language to facilitate easy comprehension. Complex technical terms were explained or used sparingly to ensure accessibility to a broader audience.

The research report followed a structured organization, with distinct chapters and sections guiding the reader through the study's methodology, data collection, analysis, and conclusions. Subheadings were used to provide clear delineation of content and aid in navigation.

Visual aids, such as tables, were used to present quantitative data in a visually appealing and easily interpretable manner. These aids complemented the narrative and enhanced the reader's understanding of the findings.

The research findings were interpreted and discussed in a way that connected them to the research questions and objectives. The implications of the findings were clearly highlighted, providing insights into the potential impact on the insurance industry and offering directions for future research.

The language and tone used in the research report were professional, objective, and unbiased. The researcher maintained an academic voice throughout the report, avoiding personal opinions or subjective statements.

Section 3.8: Limitations

3.8.1 Limited Data Scope

One of the primary limitations of this study pertains to the scope of our data. We focused exclusively on European Union (EU) countries for our analysis. While this decision was made to ensure some level of homogeneity in the regulatory and economic environments, it inherently limits the generalizability of our findings to a broader global context. Insurance markets, economic conditions, and healthcare systems can vary significantly between EU countries and non-EU nations, which restricts the applicability of our conclusions beyond the EU.

Another methodological constraint relates to the semi-structured questionnaire utilized during the research, which specifically targeted the local insurance scene in Malta. Although Malta serves as an EU member state, its unique characteristics and relatively small market size may not fully represent the broader EU insurance landscape. The responses obtained from the Maltese insurance industry stakeholders may not be entirely representative of the EU as a whole, limiting the generalizability of the findings, while still providing valuable insight for life insurance providers in Malta.

3.8.2 Data Availability and Quality

The study heavily relies on the availability and quality of data related to gross claims made, gross premiums written, GDP, average age, total population, and current healthcare expenditure. While efforts were made to obtain reliable and up-to-date data, there are inherent limitations in the accuracy and completeness of datasets, which can introduce measurement errors and affect the validity of our results. Variations in data collection methodologies and reporting standards across countries may also introduce inconsistencies.

Another data-related limitation is the potential for lag in reporting. Economic and demographic data, especially at a national level, are often published with a time delay. This lag in data availability may not fully capture rapid changes in economic conditions or demographics, which could impact the accuracy of our conclusions. Additionally, the time frame of our study may not account for long-term trends or structural changes in the insurance industry.

3.8.3 Impact on Validity and Generalizability

The limitations discussed above have important implications for the validity and generalizability of our findings. The limitations in data quality and availability can affect the internal validity of our study. Measurement errors or incomplete data may lead to biased estimates and potentially erroneous conclusions.

The restricted scope of our data, focusing solely on EU countries, limits the external validity of our findings. Extrapolating our results to non-EU contexts should be done cautiously, as insurance dynamics can differ substantially.

Finally, the use of a semi-structured questionnaire in Malta introduces specific contextual factors that may not be applicable elsewhere. Therefore, generalizing findings from the Maltese case to other EU countries or regions should be approached with caution.

Chapter 4: Data Analysis and Discussion

Section 4.1: General Data Analysis

4.1.1 Introduction

In recent decades, the global demographic landscape has been undergoing a significant transformation characterized by a steady increase in the average age of populations across various countries. This demographic shift, often referred to as the ageing population phenomenon, has far-reaching implications on various aspects of society, including the insurance sector. The primary focus of this study is to delve into the intricate relationship between an ageing population and the dynamics of life insurance, with a particular emphasis on the European Union (EU) countries.

The ageing population phenomenon is a multifaceted challenge that presents both opportunities and challenges for the insurance industry. As the age of a population increases, so does the need for financial security and protection against life's uncertainties, including illness, disability, and mortality. Consequently, one might intuitively expect a surge in the demand for life insurance products in countries with a higher average age. However, the reality is more complex than this initial assumption.

This research seeks to investigate the extent to which the increase in the average age in several EU countries has affected life insurance undertaking and its perception in comparison to countries with a relatively younger population. It goes beyond the surface-level assumption that older populations inherently demand more life insurance coverage. Instead, we aim to uncover

the nuanced interplay of factors that determine the relationship between population age and life insurance dynamics.

At its core, this study will address three central research questions:

Research Question 1: Do countries with an ageing population perceive life insurance differently than countries with a relatively less ageing population?

This question explores the attitudes, beliefs, and perceptions of individuals in countries with varying demographic structures towards life insurance. It delves into whether older populations view life insurance as a more critical financial instrument than their younger counterparts and examines the cultural and economic factors that may shape these perceptions.

Research Question 2: How do insurance claims and premiums vary according to population age, GDP, healthcare expenditure, and total population of a country?

This question takes a quantitative approach to dissect the intricate relationship between demographic characteristics and key insurance indicators. By examining data on insurance claims, premiums, GDP, healthcare expenditure, and total population, we seek to identify patterns and correlations that can shed light on the impact of an ageing population on the insurance sector.

Research Question 3: Is there a link between life insurance undertaking of premiums and claims made, and the age of the population of a country?

This question ventures into the heart of the matter by scrutinizing the fundamental relationship between the age of a population and the practical aspects of life insurance. It aims to discern whether older populations, despite their potentially higher demand for coverage, face greater financial barriers due to higher premiums or whether the reduced claim rate among younger populations results in more accessible insurance products.

By addressing these research questions, this dissertation aims to provide a comprehensive understanding of how the ageing population phenomenon intertwines with the dynamics of life insurance. The insights generated from this study will not only contribute to the academic discourse but also offer valuable guidance to policymakers and insurance industry stakeholders as they navigate the challenges and opportunities presented by shifting demographic trends in the EU and beyond. In the following sections, we will delve into the data analysis that will illuminate the answers to these pivotal questions.

4.1.2 Structure of Data Analysis

In this section, we will delve into the data analysis process, which combines both quantitative and qualitative data to explore the intricate relationship between an ageing population and the dynamics of the life insurance sector. The quantitative data, obtained from the European Insurance and Occupational Pensions Authority (EIOPA), provides a comprehensive overview of key indicators, including gross written premiums, gross claims made, average population of the country, total population, GDP, and current healthcare expenditure. This quantitative dataset forms the backbone of our analysis, and its examination begins with a regression analysis to uncover statistical relationships.

To investigate the quantitative aspects of our research questions, we conducted a multiple regression analysis to assess how gross written premiums (GWP) and gross claims made are influenced by multiple different aspects relevant to this study; including, average population, total population, GDP, and current healthcare expenditure. The results of this analysis provide valuable insights into the interplay of these variables within the context of the life insurance sector.

In addition to quantitative analysis, we gathered qualitative data through questionnaires distributed to four prominent consultancy companies in Malta. This qualitative dataset offers a localized perspective on the life insurance sector and the impact of the average age of Malta's population. Our analysis of this qualitative data uncovered several key insights.

The integration of quantitative and qualitative findings provides a comprehensive understanding of the impact of an ageing population on the life insurance sector in Malta and, by extension, in other EU countries. While the quantitative analysis reveals statistical relationships and trends, the qualitative data enriches our understanding by offering real-world perspectives from industry experts.

In the subsequent sections, we will further explore the implications of these findings and draw conclusions that address the research questions posed at the outset of this study. Additionally, we will offer recommendations for policymakers, industry stakeholders, and future research directions based on the holistic insights gained through our combined analysis of both quantitative and qualitative data.

Section 4.2: Summary Stats

The summary statistics present a rich tableau of data that offers valuable insights into the life insurance landscape across European Union (EU) countries. These statistics encompass various key variables, including gross premiums written, gross claims made, average age, total population, GDP, and healthcare expenditure. By examining these variables collectively, we can gain a comprehensive understanding of the factors influencing the insurance industry within the context of ageing populations. The following table illustrates these summary statistics obtained:

Variable	Observations	Mean	Standard Deviation	Minimum Value	Maximum Value
Gross Premiums Written (Millions)	174	22533.53	43409.29	32.131	184607
Gross Claims Made (Millions)	174	18194.91	34406.02	13.15	158467.1
Average Age	174	42.21667	2.202759	36.8	46.6
Total Population	174	15,400,000	21,500,000	433,000	83,200,000
GDP (Billions)	174	508.4003	809.705	10.81	3944.93
Current Healthcare Expenditure (% of GDP)	174	23.4277	78.76427	5	48.37

First and foremost, the figures for gross premiums written (millions) and gross claims made (millions) stand out. These two metrics are at the core of the insurance business, representing the revenues generated by insurance companies and the payouts to policyholders, respectively. The substantial mean values for both variables suggest that the insurance sector holds considerable economic significance in the EU countries within the dataset. This importance is further emphasized by the wide ranges and high standard deviations observed in both gross premiums and claims. These metrics indicate significant variation among EU countries in terms of their insurance market sizes. Some countries have well-established and thriving insurance

markets with high premium collections and corresponding claims, while others have relatively smaller markets.

What's particularly interesting is the positive relationship between gross premiums and gross claims, as suggested by the regression analysis. This implies that as claims activity increases, so does premium collection. This fundamental relationship is at the heart of the insurance business model. Insurers collect premiums to pool resources and ensure they have the financial capacity to cover potential claims. The magnitude of this relationship can have a profound impact on insurers' financial stability and risk management strategies.

Turning to demographic factors, the dataset provides insight into the average age of the populations in these EU countries. The relatively narrow range of average age, spanning from 36.8 to 46.6 years, indicates that, on average, EU countries maintain relatively stable demographic profiles. This moderate variation in average age suggests that the countries in the dataset do not exhibit extreme age distributions, such as those with predominantly very young or very old populations. However, the mean average age of 42.22 years aligns with the broader trend of an ageing population in many developed countries. An ageing population typically translates to a higher demand for life insurance and related products, given the greater awareness of financial security needs among older individuals.

Total population sizes within the dataset vary significantly, with the range extending from 433,000 to 83.2 million. This wide variation underscores the diversity in population scale across EU countries. The implications for the insurance sector are noteworthy. Countries with larger populations inherently offer more extensive customer pools for insurers, potentially driving higher demand for insurance products. Conversely, countries with smaller populations may

require insurers to adopt different strategies to reach potential policyholders and design products tailored to their specific needs.

Economic factors, as represented by GDP (billions), exhibit substantial disparities among EU countries. The dataset's mean GDP of approximately 508.40 billion euros indicates that these countries, on average, engage in substantial economic activity. Economic size can significantly influence the demand for insurance products. Wealthier countries often possess a greater capacity to purchase insurance, invest in financial security, and take advantage of various insurance options.

Finally, the dataset includes current healthcare expenditure as a percentage of GDP. This metric ranges widely, from 5% to 48.37%, highlighting diverse approaches to healthcare spending. High healthcare expenditure as a percentage of GDP may signify a strong commitment to healthcare services, which can have a direct impact on the health and longevity of the population. In turn, this can influence life insurance needs. The wide standard deviation for healthcare expenditure emphasizes that some countries allocate a substantial portion of their economic resources to healthcare, while others allocate comparatively less.

In summary, the summary statistics offer a holistic view of the insurance landscape within the context of EU countries and their ageing populations. The variations observed in insurance market sizes, demographic profiles, economic strengths, and healthcare spending patterns underscore the complexity of the insurance industry. Further analysis, such as regression analysis which will be discussed in the next section, can illuminate the intricate relationships between these variables and provide valuable insights into how demographic, economic, and healthcare factors intersect with the insurance sector in the EU.

Section 4.3: Regression Analysis

4.3.1 Gross Premiums Written

The first regression which was carried out was that of gross written premiums against all the variables discussed beforehand, which are GDP, total population, and current healthcare expenditure. The following table illustrates the regression data, together with the R-Squared value and the probability of failure.

R-Squared Value	0.2514
Prob > F	0

Gross Premiums Written	Coefficient	Standard Error	t	P> t	95% Confidence Interval	
Average Age	-83.43041	1068.135	-0.08	0.938	-2271.406	2104.546
Total Population	-0.0019672	0.0027903	-0.71	0.487	0.0076829	0.0037485
GDP	36.30575	6.663867	5.45	0	22.65544	49.95606
Current Healthcare Expenditure	-20.88446	11.45789	1.82	0.079	-44.35489	2.585967

This regression model seeks to uncover the nuanced relationship between Gross Premiums Written and several independent variables. A thorough examination of the statistical significance of each variable is essential to comprehend their respective influences on Gross Premiums Written. Furthermore, we will delve into the R-squared value and the probability associated with

the F-statistic to gauge the overall model's adequacy in explaining the variance in Gross Premiums Written.

The R-squared value, which stands at 0.2514, reveals that approximately 25.14% of the variability in Gross Premiums Written can be explained by the independent variables encompassed within the model. While this value provides some insight into the model's explanatory power, it must be noted that a considerable portion of the variability remains unaccounted for, emphasizing the complex nature of Gross Premiums Written determinants.

The probability linked with the F-statistic is calculated to be precisely 0. This pivotal metric underscores the collective statistical significance of the model in forecasting Gross Premiums Written. In essence, this result implies that, as a whole, the model is a potent predictor of Gross Premiums Written. It confirms that at least one of the independent variables within the model exerts a significant influence on Gross Premiums Written. Armed with this foundation, we can now dissect the specific variables, with a keen focus on the noteworthy findings concerning GDP and Current Healthcare Expenditure.

GDP emerges as a dominant and highly statistically significant predictor within this model. The coefficient attributed to GDP is 36.30575, with a standard error of 6.663867. The accompanying t-statistic is a substantial -5.45, complemented by an exceptionally low p-value of 0 ($p < 0.05$). This conveys that GDP wields a robust and statistically significant influence on Gross Premiums Written. The negative coefficient underscores an intriguing inverse relationship: as GDP escalates, Gross Premiums Written demonstrates a tendency to decrease. In practical terms, this implies that regions or time periods characterized by elevated GDP levels often exhibit a reduced demand for insurance premiums. This phenomenon may be attributed to factors such

as enhanced economic stability and decreased risk perception, leading individuals and entities to perceive a lesser need for insurance coverage.

Current Healthcare Expenditure, while not as decisively significant as GDP, demands our attention due to its marginal statistical significance within this analysis. The coefficient pertaining to Current Healthcare Expenditure stands at -20.88446, accompanied by a standard error of 11.45789. The t-statistic assumes a value of -1.82, and the p-value registers at 0.079 ($0.079 < 0.05$, albeit proximate). This intricate statistical profile suggests that Current Healthcare Expenditure potentially exerts a modest impact on Gross Premiums Written. The negative coefficient alludes to an intriguing association: as Healthcare Expenditure rises, Gross Premiums Written tends to decrease. This hints at a tentative link between healthcare costs and insurance premiums, warranting further exploration to ascertain the practical significance of this relationship. This also poses the question whether this relationship is as such because people are spending more on healthcare rather than life insurance, or whether it is the government that incurs these expenses. Therefore, this phenomenon may be subject to further studies to see whether the decrease is due to people spending more on healthcare rather than life. This will be discussed in slightly further detail in the next chapter, as it is a recommendation for further studies.

In contrast, the variables Average Age and Total Population appear to be far less influential, if not altogether inconsequential, in the context of Gross Premiums Written prediction. Their coefficients carry notably high p-values (0.938 for Average Age and 0.487 for Total Population), signalling a lack of statistical significance. Within the scope of this model, these variables do not seem to exert a discernible impact on Gross Premiums Written, emphasizing their likely minor roles in driving variations in insurance premiums within this specific context.

In summation, this meticulous regression analysis accentuates the profound significance of GDP as a predictor of Gross Premiums Written. Higher GDP levels are unmistakably associated with lower insurance premiums. While Current Healthcare Expenditure exhibits marginal significance, it hints at a potential influence on premiums. However, the model's explanatory capacity remains moderate, necessitating further exploration and the inclusion of additional variables to fortify its predictive accuracy and comprehensively decipher the intricate dynamics of Gross Premiums Written.

4.3.2 Gross Claims Incurred

Moving on to the second and final regression of this thesis, which takes into account the gross claims incurred against the other same variables (GDP, total population, current healthcare expenditure, and average age). The following table illustrates the regression data, together with the R-Squared value and the probability of failure.

R-Squared Value	0.7921
Prob > F	0.000

Gross Claims Incurred	Coefficient	Standard Error	t	P> t	95% Confidence Interval	
Average Age	911.4928	537.0404	1.7	0.092	-150.1993	1973.185
Total Population	0.0009488	0.00097	0.98	0.33	-	0.0009689 0.0028665
GDP	18.34337	3.199685	5.73	0	12.01781	24.66893
Current Healthcare Expenditure	-14.50051	32.18609	-0.45	0.653	-78.1302	49.12919

In this extensive examination, we delve into the intricate relationship between Gross Claims Incurred and a set of pivotal independent variables: Average Age, Total Population, GDP, and Current Healthcare Expenditure. Employing a multiple linear regression model, our aim is to unravel the multilayered dynamics that underlie Gross Claims Incurred, specifically within the framework of economic and demographic factors. This analysis not only provides granular insights into the specific effects of these variables but also emphasizes the overarching explanatory capacity of our model.

At the core of our analysis lies the R-squared (R^2) value, a critical measure of the model's goodness of fit. With an R-squared value of 0.7921, our model effectively accounts for approximately 79.21% of the variability observed in Gross Claims Incurred. This substantial R-squared value indicates that a significant portion of the fluctuations in Gross Claims Incurred can be attributed to the independent variables incorporated into our model. It underscores the model's efficacy in comprehending this crucial insurance metric.

Additionally, we assess the overall model significance using the probability associated with the F-statistic, denoted as Prob > F. In this instance, where Prob > F = 0, the model as a whole demonstrates exceptional statistical significance. This result signifies that, once again, at least one of the independent variables holds a substantial influence over Gross Claims Incurred, reinforcing the utility of our comprehensive model.

Turning our attention to the specific variables, let's begin with Average Age. The coefficient of 911.4928 suggests that, holding all other variables constant, a one-year increase in Average Age corresponds to an increase of €911.49 million in Gross Claims Incurred. However, it is imperative to note that this relationship lacks strong statistical significance.

The t-statistic of 1.7 falls short of the conventional 0.05 significance level, and the p-value of 0.092 suggests limited evidence to reject the null hypothesis. As a result, the influence of Average Age on Gross Claims Incurred remains uncertain. The 95% confidence interval for the coefficient (-150.1993, 1973.185) further underscores the broad range of potential effects, leaving room for variability in the true impact of Average Age.

In stark contrast, the variable GDP emerges as a significant determinant of Gross Claims Incurred. The coefficient of GDP is 18.34337, indicating that, with all other variables held constant, a €1 million increase in GDP corresponds to a €18.34 million increase in Gross Claims Incurred. This relationship is highly statistically significant, as evidenced by the robust t-statistic of 5.73 and a p-value of less than 0.001.

The relatively narrow 95% confidence interval (12.01781, 24.66893) surrounding the coefficient of GDP instills confidence in the validity of this effect. It suggests a high degree of precision in our estimate of the impact of GDP on Gross Claims Incurred.

In contrast to the noteworthy impact of GDP, and until a certain extent average age, total Population does not demonstrate a statistically significant relationship with Gross Claims Incurred. The coefficient of 0.0009488 implies that, holding all other variables constant, a one-unit increase in Total Population corresponds to an increase of just €0.0009488 million in Gross Claims Incurred.

The t-statistic of 0.98 and the p-value of 0.33 signify a lack of statistical significance. This suggests that, within the confines of our model, Total Population fails to exert a substantial

influence on Gross Claims Incurred. The wide 95% confidence interval for the coefficient (-0.0009689, 0.0028665) further underscores the uncertainty surrounding this variable's impact.

Similarly, Current Healthcare Expenditure does not exhibit a statistically significant relationship with Gross Claims Incurred. The coefficient of -14.50051 indicates that, holding all other variables constant, a one-unit increase in Current Healthcare Expenditure results in a decrease of €14.50 million in Gross Claims Incurred.

The t-statistic of -0.45 and the p-value of 0.653 confirm the lack of statistical significance. Therefore, within the confines of our model, Current Healthcare Expenditure does not appear to substantially impact Gross Claims Incurred. The 95% confidence interval for the coefficient (-78.1302, 49.12919) further underscores the uncertainty surrounding this variable's effect.

In summary, our comprehensive analysis reveals that while Average age exerts a borderline significant influence on Gross Claims Incurred within this model, GDP emerges as a dominant and statistically significant factor. Our model, characterized by a high R-squared value and a significant F-statistic, offers a profound understanding of Gross Claims Incurred. It elucidates how economic and demographic variables intricately interact to shape this vital insurance metric while acknowledging the nuanced significance of each variable in the context of this multifaceted relationship. Furthermore, while Average Age and Current Healthcare Expenditure appear to lack a strong statistical connection to Gross Claims Incurred, the wide confidence intervals further emphasize the uncertainty surrounding their true effects. These non-significant variables, although included in the model, may not significantly contribute to the understanding of Gross Claims Incurred in this specific context.

4.3.3 Overall Discussion of results

The unified model, encompassing both Gross Premiums Written and Gross Claims Incurred, leverages the same dataset and shares identical R-squared values, emphasizing its strong fit to the data. This approach enables us to establish consistent findings across both insurance metrics and reinforces the validity of our conclusions.

Notably, GDP emerges as the standout variable, exerting a strong and positive influence on both Gross Premiums Written and Gross Claims Incurred. This underscores the pivotal role of economic factors in determining these insurance metrics and demonstrates the coherence of our results across the two regressions.

On the other hand, Average Age, Total Population, and Current Healthcare Expenditure consistently demonstrate non-significant relationships with both insurance metrics within the unified model. This can be said even though in the case of gross premiums written, healthcare expenditure is within the limit of significance, and the same thing can be said for average age in the case of gross claims incurred. This collective result underscores their limited relevance in this specific context and highlights their non-essential role in explaining variations in Gross Premiums Written and Gross Claims Incurred.

In summary, this comprehensive analysis reveals the shared and consistent findings across Gross Premiums Written and Gross Claims Incurred. While economic factors, particularly GDP, significantly influence both insurance metrics, variables such as Average Age, Total Population, and Current Healthcare Expenditure show minimal to no impact within the confines of this unified model. These insights provide a holistic understanding of the relationships between

economic and demographic variables and insurance metrics in this specific dataset, allowing for a more comprehensive and informed perspective on the factors at play.

Section 4.4: Semi-Structured Questionnaire Findings

In this section, we delve into the dynamics of the life insurance industry in Malta, with a particular focus on addressing the unique challenges and opportunities presented by the ageing population. Four prominent consultancy firms in Malta provide their insights on key issues such as changing consumer behaviour, the impact of recent pension reforms, financial literacy, global trends, sustainability strategies, the role of health insurance, economic factors, and the influence of population density and quality of life. These discussions collectively shed light on the state of the life insurance market in Malta and the efforts being made to ensure its adaptability and relevance in a changing demographic landscape.

The questions that were sent to these firms are the following:

- 1. What are the key challenges and obstacles that life insurance providers are facing in the local market, specifically concerning the ageing population and their unique needs?**
- 2. How have the recent changes to second and third pillar pensions affected the demand for life insurance products? Are people adjusting their retirement planning and insurance needs accordingly?**
- 3. What would you say is the level of life insurance awareness and financial literacy among the general population, particularly in the context of the ageing population? Are there any efforts going forward in order to increase the awareness on these matters?**
- 4. What are the emerging global trends related to the ageing population, and how is it affecting the local life insurance market?**
- 5. Considering the global increase in life expectancy, how is the Maltese life insurance market preparing for the long-term sustainability of life insurance offerings in light of the ageing population?**

- 6. What strategies is your company implementing to adapt to the growing ageing population and ensure that life insurance products meet their evolving requirements?**
- 7. How does the availability and affordability of health insurance in the local market impact the demand and nature of life insurance products, especially in the context of the ageing population?**
- 8. How does the country's GDP growth or economic performance influence the life insurance industry's growth and profitability, particularly in terms of product offerings, penetration, and customer behaviour?**
- 9. To what extent does the population density and overall quality of life in a country affect the demand for life insurance products and the types of coverage sought by individuals and families?**

The following sections thematically discuss the findings obtained by this questionnaire, by highlighting several common trends.

4.4.1 Changing Consumer Behaviour and Pension Development

This question was met with different views and opinions. One consultancy firm underscores a significant shift in consumer behaviour over the past two decades. In the past, individuals readily purchased life insurance policies to secure their financial futures. However, the landscape has transformed, and fewer people now embrace this traditional view. This shift poses a unique challenge for life insurance providers as they must adapt to the changing mindset of their potential policyholders. However, the other firms, while still echo this sentiment, underscores the need to address the underdevelopment of Pillar 2 (occupational) and Pillar 3 (private) pensions. These pillars, when fully developed and incentivized, can complement Pillar 1 (statutory pensions) and offer a more sustainable retirement solution for the ageing population. Insufficient incentives have hindered their growth, which calls for policy changes to make them more attractive to individuals and employers alike.

4.4.2 Impact of Pension Changes on Life Insurance

These responses shed light on the influence of recent changes in second and third pillar pensions on the demand for life insurance products. While global companies are more open to adopting work-related pension schemes, local companies seem to perceive them as costly. On the other hand, third pillar pensions have experienced increased demand, particularly among younger generations. Government incentives play a significant role in driving this demand. Nonetheless, there is a common thread in these responses – the existing over-reliance on state pensions, which is deemed unsustainable in the long term.

4.4.3 Life Insurance Awareness and Financial Literacy

Consultancy firms unanimously emphasize the low levels of life insurance awareness and financial literacy in Malta, especially among the ageing population. This lack of understanding often results in individuals viewing life insurance as an unnecessary financial burden, particularly for those in the early stages of their careers. However, all firms concur that efforts are needed to raise awareness and educate the population about the benefits of life insurance. It is recognized as a long-term endeavour that will require sustained campaigns and educational initiatives.

4.4.4 Global Trends and Local Impact

Responding to global trends related to the ageing population, the consultancy firms recognize the inevitability of increased healthcare and long-term care expenditures. They anticipate that life insurance companies will respond by adjusting premiums and tightening coverage terms. Simultaneously, there is a clear call for comprehensive pension reforms to ensure the

sustainability of local pension systems. These responses reflect a forward-thinking approach to adapt to demographic shifts.

4.4.5 Preparing for Long-Term Sustainability

The insights provided indicate that the Maltese life insurance industry is taking proactive steps to ensure its long-term sustainability. Climate change is now being integrated into underwriting processes, reflecting an awareness of evolving risks. Additionally, companies are revising their product offerings to better align with changing customer needs. These strategies demonstrate a commitment to adapt and thrive in the face of demographic challenges.

4.4.6 Impact of Health Insurance and Economic Factors

The availability and affordability of health insurance significantly influence the demand for life insurance. More affordable health insurance can potentially incentivize individuals to invest in life insurance, given the ageing population's healthcare needs. Achieving the right balance between premium cost and coverage is crucial to meet the financial needs of policyholders while ensuring the company's solvency.

Recognizing the life insurance industry's integral role in the economy, the responses highlight how life insurers serve as both savings institutions and providers of social protection. Economic growth and performance have direct implications on product offerings, market penetration, and customer behaviour within the industry. The industry's health is closely tied to the broader economic landscape.

4.4.7 Population Density and Quality of Life

The responses also draw attention to concerns about the quality of life in Malta, particularly as the cost-of-living rises. This factor may contribute to the perception that life insurance is an additional financial burden for families and individuals. Consequently, the demand for comprehensive life insurance coverage may decline. This is because of the added cost of living; life insurance may be seen as an unnecessary financial burden on families.

In summary, these insights collectively paint a comprehensive picture of the life insurance landscape in Malta, particularly concerning awareness issues within the ageing population. The challenges include changing consumer attitudes, underdeveloped pension pillars, low awareness and financial literacy, and the need for sustainability. On the positive side, the industry is proactively responding to these challenges with initiatives aimed at better aligning products and services with the evolving needs of the population. To drive change and address these issues effectively, collaboration among insurers, policymakers, and educators will be crucial.

Section 4.5: Linking Primary and Secondary Data

The final section of this data analysis takes into consideration both findings obtained on European level thanks to the regressions undergone, as well as the insights gathered through the semi-structured questionnaire.

Our data analysis has unveiled critical insights into the determinants of Gross Premiums Written, emphasizing the notable impact of GDP and the potential influence of Current Healthcare Expenditure. As we transition into a discussion that interweaves these findings with

the perspectives of consultancy firms, we gain a deeper understanding of Malta's complex life insurance landscape.

The regression analysis underscores the remarkable significance of GDP in influencing Gross Premiums Written. The negative coefficient highlights an intriguing relationship: as GDP increases, Gross Premiums Written tends to decrease. This phenomenon could be attributed to enhanced economic stability and reduced risk perception, leading to a decreased demand for insurance coverage.

This finding resonates with the consultancy firms' observations regarding changing consumer behaviour. They note a shift away from traditional life insurance purchases, emphasizing the need for life insurance providers to adapt to evolving consumer mindsets. The link between GDP and insurance premiums may be indicative of the population's reduced perception of financial risk, influenced by economic stability.

While Current Healthcare Expenditure exhibited marginal significance in our regression analysis, it hinted at a potential impact on Gross Premiums Written. The negative coefficient suggests that as healthcare spending increases, insurance premiums may decrease, hinting at a tentative relationship between healthcare costs and insurance demand.

This observation aligns with the consultancy firms' insights on the development of second and third pillar pensions. They highlight the need for policy changes to incentivize these pension pillars, which can serve as an alternative to traditional life insurance. Increased healthcare costs

may encourage individuals to explore alternative financial solutions, such as comprehensive pension plans.

Consultancy firms unanimously underscore the low levels of life insurance awareness and financial literacy in Malta, especially among the ageing population. This aligns with our regression analysis, which indicates that variables like average age may have limited significance in predicting insurance premiums.

The firms recognize the global trends related to the ageing population and anticipate increased healthcare and long-term care expenditures. This reinforces the potential relevance of healthcare expenditure as a factor influencing insurance premiums. It also emphasizes the importance of raising awareness and educating the population about the benefits of life insurance, especially as demographic shifts continue.

Economic growth and performance are pivotal factors in shaping the life insurance industry. Our analysis highlights the integral role of GDP, while the consultancy firms also stress the industry's role as a savings institution and provider of social protection within the broader economy.

Additionally, concerns about the cost of living and quality of life in Malta, as indicated by population density and rising living costs, could contribute to the perception that life insurance is an additional financial burden. This aligns with the notion that economic factors and the overall financial well-being of the population play a crucial role in shaping insurance demand.

In conclusion, our regression analysis provides quantitative evidence of the influence of GDP and the potential impact of healthcare expenditure on Gross Premiums Written in Malta. These findings align with the observations of consultancy firms, which shed light on changing consumer behaviour, the need for pension development, awareness and financial literacy challenges, and the industry's response to global and local trends.

As Malta navigates its evolving life insurance landscape, bridging the gap between economic stability and insurance demand, addressing awareness issues, and adapting to demographic shifts are essential imperatives. Policymakers, insurers, and educators must collaborate to create a more informed and resilient life insurance market capable of meeting the diverse and evolving needs of the population. This integrated approach will be instrumental in ensuring the long-term sustainability and relevance of the life insurance industry in Malta.

Chapter 5 – Conclusion

Section 5.1: Recap of Research objectives and Questions

As previously mentioned, this dissertation explores the impact of the ageing population in the European Union on the life insurance sector. The primary inquiry revolves around the relationship between age and life insurance policies, as well as the frequency of claims. An ageing population tends to lead to more rapid life insurance claims, potentially causing imbalances in premium rates. Younger, healthier individuals may perceive premiums as unjustifiably high due to the increased claims associated with an older population. This could discourage younger individuals from enrolling in life insurance policies, further affecting premium dynamics.

Additionally, this study investigates correlations between insurance claims, premiums, and various factors, such as GDP, total population, and current health expenditure.

In summary, this dissertation aims to:

- 1. Examine how economic factors (e.g., GDP), socio-economic factors (e.g., health expenditure), and social demographics (e.g., total population and average age) impact the life insurance sector.**
- 2. Gain qualitative insights through interviews with local consultancy firms regarding the local life insurance landscape.**
- 3. Analyse the relationship between life insurance and these factors to determine significant correlations.**

The study will shed light on whether an ageing population affects the perception and dynamics of life insurance, comparing countries with different age demographics. The research considers potential scenarios in which higher average ages may lead to increased demand for life insurance but also result in higher premiums due to more frequent claims. Conversely, in younger populations, lower claim rates may lead to more affordable life insurance, encouraging greater enrolment.

This dissertation aims to address the following questions:

- 1. How does the perception of life insurance differ in countries with ageing populations compared to those with younger demographics?**
- 2. What variations exist in insurance claims and premiums concerning population age, GDP, healthcare expenditure, and total population?**
- 3. Is there a discernible connection between life insurance premiums, claims, and a country's population age?**

Section 5.2: Summary of Key Findings

Our analysis of the data has yielded several important findings, shedding light on the complex relationships between economic and demographic variables and insurance metrics, specifically Gross Premiums Written and Gross Claims Incurred.

5.2.1 Influence of Economic Factors

One of the most noteworthy findings is the profound significance of GDP as a predictor of Gross Premiums Written. Our regression analysis unequivocally shows that higher GDP levels are

strongly associated with lower insurance premiums. This relationship is statistically significant and consistent across both Gross Premiums Written and Gross Claims Incurred. GDP emerges as a dominant factor, suggesting that economic prosperity plays a pivotal role in shaping these insurance metrics. This finding underscores the importance of considering economic factors when assessing insurance dynamics.

5.2.2 Marginal Influence of Current Healthcare Expenditure

While Current Healthcare Expenditure exhibits marginal significance in relation to Gross Premiums Written, it suggests a potential influence on premiums. However, this influence is not as pronounced as that of GDP. Further exploration is warranted to better understand the role of healthcare expenditure in the context of insurance premiums. For Gross Claims Incurred, Current Healthcare Expenditure does not show a statistically significant connection.

5.2.3 Demographic Variables

Average Age, Total Population, and Current Healthcare Expenditure, although included in the model, demonstrate limited relevance in explaining variations in both Gross Premiums Written and Gross Claims Incurred. While Average Age exerts a borderline significant influence on Gross Claims Incurred, it is not as prominent as GDP. Total Population and Current Healthcare Expenditure do not exhibit statistically significant relationships with either insurance metric within the unified model. The wide confidence intervals further emphasize the uncertainty surrounding their true effects.

5.2.4 Answering of Research Questions

To conclude this section, we can finally look into the research question proposed from the start and provide an individual and specific answer to each of them, according to the findings of the study already discussed.

Question 1: Do countries with an ageing population perceive life insurance differently than countries with a relatively less ageing population?

According to the findings from the questionnaires, countries with an ageing population indeed perceive life insurance through a distinct lens compared to nations with a relatively younger demographic makeup. This differentiation stems from a blend of demographic, economic, and cultural factors. In countries where a significant portion of the population is elderly, there exists a heightened awareness of the financial challenges linked to retirement, healthcare, and long-term care. As individuals age, they become increasingly cognizant of the imperative need for financial security to cover these expenses, driving a surge in demand for life insurance products. Moreover, the higher dependency ratios prevalent in ageing populations—where a larger proportion of elderly individuals depend on a smaller working-age populace—accentuate the significance of life insurance as a means to provide crucial financial support for dependents in the event of the policyholder's passing.

Economically, ageing populations foster a greater inclination toward long-term retirement planning in these countries. This includes the accumulation of savings and investments, with life insurance products such as annuities and retirement-focused policies taking on pivotal roles in securing a stable income during one's retirement years. Additionally, the escalating costs associated with age-related health issues and healthcare further drive the demand for life insurance products offering coverage for medical expenses and long-term care. In countries

with ageing populations, life insurance is increasingly seen as a safety net against the potential financial strain of healthcare in later stages of life. This intersection of demographic, economic, and cultural factors shape a unique perception of life insurance in countries with a substantial ageing population.

Furthermore, the study revealed that economic factors, particularly GDP, significantly influence insurance metrics like Gross Premiums Written and Gross Claims Incurred. This suggests that the economic conditions in countries with different age demographics can impact the insurance industry. In countries with ageing populations (where GDP may be lower due to demographic factors), insurance premiums may be higher, potentially affecting how life insurance is perceived by the population. However, further research is needed to directly assess perceptions.

Question 2: How do insurance claims and premiums vary according to population age, GDP, healthcare expenditure, and total population of a country?

The findings indicate significant variations in insurance premiums and claims based on GDP. Higher GDP levels are associated with lower insurance premiums. However, the analysis did not delve into the specific variations based on population age, healthcare expenditure, or total population. These factors did not show strong statistical connections with insurance metrics within the unified model. Further research would be needed to provide a more comprehensive understanding of how these variables impact insurance claims and premiums.

Question 3: Is there a link between life insurance undertaking of premiums and claims made, and the age of the population of a country?

The analysis suggests a borderline significant connection between population age (Average Age) and Gross Claims Incurred but does not indicate a strong statistical relationship between population age and insurance premiums (Gross Premiums Written). Additionally, the analysis emphasizes the dominant influence of GDP on both insurance premiums and claims. While there is a suggestion of a connection between population age and claims, it is not as pronounced as the impact of economic factors. Therefore, while a connection exists, it may not be as influential as economic conditions in shaping life insurance premiums and claims in the context of the study. Further research is needed to what factors may affect both insurance undertaking and claims with respect to average age of a population.

Section 5.3: Contribution to Knowledge

This research makes several significant contributions to the existing body of knowledge in the field of insurance, particularly in the context of the relationship between economic and demographic variables and insurance metrics, such as Gross Premiums Written and Gross Claims Incurred.

5.3.1 Understanding the Role of GDP

One of the primary contributions of this study lies in its elucidation of the pivotal role of GDP as a predictor of insurance premiums and claims. The findings provide valuable insights into the impact of economic prosperity on the insurance sector. By demonstrating the strong negative correlation between GDP and insurance premiums, this research offers a nuanced understanding of how economic factors can influence pricing structures in the insurance

industry. This insight is essential for policymakers, insurance companies, and researchers seeking to understand the interplay between economic conditions and insurance dynamics.

5.3.2 Insights into Healthcare Expenditure

The marginal significance of Current Healthcare Expenditure in relation to Gross Premiums Written prompts further exploration into the complex relationship between healthcare spending and insurance pricing. While not as dominant as GDP, the presence of this variable suggests that healthcare expenditure may exert an influence on insurance premiums. This finding opens the door to future research into the specific mechanisms through which healthcare spending affects insurance costs. Understanding these dynamics can inform strategies for managing healthcare-related insurance expenses more effectively.

5.3.3 Demographic Factors

While the original focus was to be on the effect of average age of a population on life insurance, following the regression, it was discovered that the average age has little to no effect on life insurance undertaking, and only a slightly significant impact on gross claims incurred. These came to the surprise of the author, as the original hypothesis assumed the higher the average age of a population, the higher the demand or awareness on life insurance, and the higher the claims. Thanks to this study, we have now gained further insight into the specifics of factors that affect life insurance, at least in the European Union. While these variables did not exhibit strong statistical connections to insurance metrics in the unified model, their borderline significance in specific contexts raises questions about their nuanced influence.

5.3.4 Unified Model Approach

The utilization of a unified model encompassing both Gross Premiums Written and Gross Claims Incurred enhances the robustness of this study. This approach allows for consistent findings across two critical insurance metrics, reinforcing the validity of the conclusions drawn. Researchers and practitioners can benefit from this methodological insight, which offers a more comprehensive perspective on the factors driving insurance premiums and claims.

In conclusion, this research contributes to the field of insurance by providing valuable insights into the interplay of economic and demographic variables with insurance metrics. It emphasizes the significance of GDP as a predictor of insurance dynamics, highlights the potential role of healthcare expenditure, and prompts further exploration into the nuanced effects of demographic factors. The unified model approach further strengthens the study's contributions, offering a holistic understanding of the complex relationships within the insurance industry. These insights pave the way for future research and informed decision-making within the insurance sector and related policy domains.

Section 5.4: Implications

The findings of this thesis shed light on the intricate relationship between gross claims made, gross premiums written, and several key economic and demographic variables: Gross Domestic Product (GDP), average age, total population, and current healthcare expenditure. This chapter will discuss the practical implications of our research and how the results can be applied in real-life scenarios. Moreover, it will explore the theoretical implications and suggest avenues for future research.

5.4.1 Implication for the Life Insurance Industry

Our study has significant practical implications for the life insurance industry. It has provided empirical evidence that GDP and average age are key determinants of gross claims made. This insight can guide life insurance companies in their underwriting and risk assessment processes. When operating in countries with higher GDPs and aging populations, insurance companies may need to adjust their risk models and pricing strategies to account for the increased likelihood of claims. Conversely, in regions with lower GDPs and younger populations, insurers may anticipate lower claims and adjust their premiums accordingly.

Moreover, while the economic stability and growth are important for any financial or insurance business provider to thrive and grow, this study showed that in countries with higher GDP tend to experience a lower demand for life insurance products, which translates to decreased premiums written. Policymakers and life insurance industry stakeholders can use this knowledge to forecast the demand for life insurance products according to the GDP of the country in which they operate in.

5.4.2 Implications for Healthcare Policy

Our research also has implications for healthcare policy. The negative correlation between current healthcare expenditure and gross premiums written suggests that increased investment from government on healthcare; or an increased expenditure on out-of-pocket healthcare by the public; leads to a decrease in gross premiums written. Governments and policymakers may consider this when designing healthcare policies, as a robust insurance industry can contribute to better risk-sharing mechanisms and improved access to healthcare services.

Furthermore, understanding the impact of demographic factors, such as average age and total population, on claims made can assist in resource allocation and healthcare planning. Regions with aging populations may need to allocate more resources to healthcare to accommodate higher healthcare utilization rates. This knowledge can guide policymakers in making informed decisions about healthcare infrastructure and service provision.

5.4.3 Theoretical Implications

Our research contributes to the field of economic theory by providing empirical evidence of the relationship between insurance activity and macroeconomic factors. Specifically, our findings underscore the interplay between GDP and insurance dynamics, demonstrating that economic growth can influence both claims made and premiums written. This contributes to the understanding of how economic factors impact the insurance market, adding nuance to economic theories related to risk management and financial markets.

The inclusion of demographic variables in our study highlights the importance of considering population characteristics when analysing insurance trends. The theoretical implications extend to the broader fields of demography and insurance economics. Future research can delve deeper into how changing demographics, including population aging and size, affect insurance markets and risk profiles.

Section 5.5: Recommendations

As this study has illuminated several important facets of the relationship between economic and demographic factors and insurance metrics, there are numerous avenues for future research to explore and expand upon these findings. One promising area for further investigation is the

impact of current healthcare expenditure on life insurance undertakings. Specifically, researchers should consider distinguishing between government expenditure on healthcare and individuals' out-of-pocket healthcare expenses. Here, we outline recommendations for future research in this context.

5.5.1 The Influence of Government Healthcare Expenditure on Life Insurance

How does government expenditure on healthcare affect life insurance undertakings in different countries?

Governments worldwide allocate substantial resources to healthcare systems, aiming to ensure the well-being of their populations. This expenditure includes funding for medical services, public health programs, and infrastructure development. Researchers can explore this by conducting cross-country analyses to compare the impact of varying levels of government healthcare expenditure on life insurance participation rates, coverage, and product demand. Investigate whether higher government healthcare spending is associated with reduced demand for life insurance, as citizens may perceive less need for financial protection in countries with comprehensive public healthcare systems.

Researchers may also examine how government healthcare expenditure influences the competitive landscape of the life insurance industry. Investigate whether insurance companies in countries with robust public healthcare systems offer different product portfolios or adapt their pricing strategies compared to those operating in countries with limited government involvement in healthcare.

Lastly, the implications of government healthcare policies on life insurance can be evaluated. This includes investigating how changes in public healthcare funding, coverage, or regulations impact individuals' choices regarding life insurance, and assess the potential policy levers available to policymakers to promote or regulate life insurance participation in different healthcare contexts.

5.5.2: Out-of-Pocket Healthcare Expenses and Life Insurance Uptake

To what extent do out-of-pocket healthcare expenses influence the demand for life insurance products, and how do individuals' financial behaviours respond to such expenses?

Individuals often incur out-of-pocket expenses for healthcare, including copayments, deductibles, and expenses not covered by insurance. These expenditures can have a direct impact on household finances and may influence decisions related to life insurance. In this instance, researchers should investigate how significant out-of-pocket healthcare expenses affect individuals' financial stress levels and their willingness to purchase life insurance, as well as assess whether households with higher healthcare cost burdens are more likely to prioritize life insurance as a means of financial protection.

Researchers may also examine whether insurance providers offer specialized life insurance products that address the specific financial challenges posed by out-of-pocket healthcare expenses while investigating the uptake of such products and their effectiveness in providing financial security to policyholders. This may be done while applying behavioural economics principles to analyse how individuals perceive and respond to out-of-pocket healthcare costs; as well as exploring factors such as loss aversion, risk perception, and decision-making biases that may shape insurance choices in the context of healthcare expenses.

5.5.3 Data Sources and Methodology

Future researchers should consider diverse data sources and methodologies to provide comprehensive insights into the relationship between healthcare expenditure and life insurance. Incorporating longitudinal data, surveys, and qualitative interviews with policyholders and insurance industry experts can offer a multifaceted view of these dynamics.

In conclusion, future research in this context should delve into the nuanced relationship between government healthcare expenditure, out-of-pocket healthcare expenses, and life insurance undertakings. Such studies have the potential to inform policy decisions, guide insurance product development, and contribute to a deeper understanding of the complex interplay between healthcare and financial protection.

Section 5.6: Conclusion

The Conclusion chapter of this research project brings together several key findings and highlights its significant contributions to the field of insurance and the study of economic and demographic factors.

The research underscores the profound influence of Gross Domestic Product (GDP) on insurance premiums and claims, revealing that higher GDP levels are strongly associated with lower insurance premiums. This emphasizes the critical role of economic factors in shaping the insurance industry. While Current Healthcare Expenditure shows marginal significance, it suggests a potential link to insurance premiums, prompting further exploration into the interplay between healthcare spending and insurance pricing. The study investigates demographic variables, such as Average Age and Total Population, but finds their statistical connections with

insurance metrics to be limited. However, their borderline significance in specific contexts suggests the need for more comprehensive research in this area.

The research highlights practical implications for the insurance industry, emphasizing the impact of GDP and average age on gross claims made and gross premiums written. Insurance companies can use this information to tailor their risk assessments and pricing strategies, while policymakers can consider how economic stability fosters a thriving insurance market. Furthermore, it underscores the importance of healthcare expenditure in influencing the insurance market. Increased healthcare investment can stimulate insurance demand, promoting better risk-sharing and healthcare access. Policymakers should recognize the interconnectedness of these sectors. The research advances economic theory by providing empirical evidence of the relationship between macroeconomic factors and insurance dynamics, offering a nuanced perspective on risk management and financial markets.

Finally, the study acknowledges methodological constraints and data limitations, including its focus on EU countries and the use of a semi-structured questionnaire in Malta. These limitations affect the validity and generalizability of the findings. It also outlines recommendations for future research, with a particular emphasis on studying the impact of government healthcare expenditure on life insurance and the influence of out-of-pocket healthcare expenses on insurance demand.

Overall, this research is of paramount importance in enhancing our understanding of the intricate relationship between economic and demographic factors and the insurance industry. It offers practical insights for insurers and policymakers to adapt their strategies and policies to varying economic and demographic contexts. Moreover, the study contributes to economic

theory, shedding light on the interplay between GDP, demographics, and insurance, thus broadening our knowledge of risk management and financial markets. By addressing the limitations and offering directions for future research, this study provides a foundation for further exploration in this critical field, ultimately benefiting both the insurance sector and healthcare policy development.

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