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Life course approach to income, consumption and wealth between cohorts

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University of Turku

Faculty of Social Sciences
Department of Social Research
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Doctoral programme on Inequalities, Interventions and New Welfare State

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To my mother, who always had faith in me even when I didn't have faith in myself.

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ABSTRACT

The resources of one generation significantly affect the life chances and economic opportunities of the subsequent generation. It isn't merely about "how the pie is sliced" but a more complex question concerning how it fluctuates throughout life at different stages and how these economic life stories compare across generations. Consequently, one generation's position in the hierarchy of financial affluence depends on the conditions of a given period. Previous studies have primarily focused on income distribution, providing a somewhat limited view of inequality. While there are more multidimensional approaches to economic inequality, they fail to consider that economic resources do not remain static. The level of income depends on the life stage or the time the individual was born. The period will dictate the available opportunities to strive for a better economic outcome.

To build upon and enhance previous analyses, this study offers new information in two areas. First, the study considers both the life course of each cohort and the period. Second, a holistic framework is applied to economic measures, accounting not only for income but also for consumption and wealth. The underlying logic is that income, consumption, and wealth do not operate in isolation, as one needs income to acquire goods and services and save the surplus for future use.

This study evaluates how the three types of economic resources are distributed across cohort differences over the life course, providing a more comprehensive analysis of economic inequality. The analysis combines high-quality household-level income, consumption, and wealth data with longitudinal register-based datasets. The data cover various periods spanning from as early as 1966 to 2021. The data are a representative sample of the population, and the register datasets are census datasets which contain the entire Finnish population. The analyses use state-of-the-art age-period-cohort models and multilevel regression models.

The results demonstrate how income, consumption, and wealth vary between generations and indicate which background factors contribute to income development throughout the life course. This directly supplements previous multidimensional research endeavours on background factors.

Articles I and II focus on income from the age-period-cohort perspective and especially from the between-cohort perspective. Overall, the results suggest that from the 1970s cohort onwards, no income development was related to the linear trend of average income development. Similar trends are found in the second substudy on income, as the 1980s cohort did not increase their income in relation to the

1970s cohort. Thus, overall, it can be stated that there is income stagnation among the younger cohorts. In terms of age, period, and cohorts, the research identified cohort and period effects as being statistically significant, with no age effects observed after introducing controls, especially main economic activity as the strongest explanatory variable. This is also supported by the second sub-study, which was conducted using registers. Here, education, unemployment, and occupational status explained most of the income inequality between cohorts, especially at the peak career point during the middle of the life course. In generational terms, the results support previous findings where the Baby Boomers are the 'winners' and the youngest generation are the 'losers.'

Article III analyses necessities and leisure-time expenditures between high- and low-income earners. Findings suggest that both consumption and income have maintained a stagnant gap between both extremes of income groups over cohorts. Overall, the age-period-cohort analysis reveals that the relative expenditures between the two income groups have slightly increased in favour of the high-income group. The more affluent end of the spectrum seems to have been gradually investing in leisure time over cohorts, while the low-income group remains 'leisure poor.' This could imply that those in more economically adverse situations have more difficulty participating in certain societal functions and seeking self-improvement in areas such as hobbies and other downtime activities. This could mean that either the prices of these goods and services have become more expensive, or there is less opportunity to invest in these activities when income is low.

Article IV examines wealth inequality between cohorts over the life course. The results show that overall, inter-cohort wealth inequality in gross and net wealth has not increased over time. The results show potential periodic differences related to age, as overall wealth did temporarily decrease during the financial crisis of the 1990s, but they do not have a permanent impact on wealth accumulation. Wealth accumulation over the life course does not seem to be hindered by economic circumstances in the long run. Yet, there is an exception. The 1980s cohort displays a slower rate of wealth accumulation than the preceding cohort. It also bears a higher debt load coupled with slower loan amortization, which has delayed the purchase of dwellings and pushed it to a later age. Consequently, the prolonged loan amortization could have long-term implications for total wealth accumulation, leaving future retirees to live on tighter budgets. Financial wealth shows variations among younger cohorts, where their initial investment ages are lower compared to other cohorts. These findings support previous results indicating that building personal wealth and assets is becoming increasingly important.

To summarize, both the period and cohort are pivotal components in all economic metrics. While age seems to have a certain degree of influence, the economic inequality is more significantly associated with the timing at which different cohorts encounter various periods. The younger generation, in particular, seems to be facing economic pressure.

KEYWORDS: generational inequality, economic inequality, consumption, income distribution, wealth

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TIIVISTELMÄ

Yhden sukupolven resurssit vaikuttavat merkittävästi seuraavan sukupolven elämänmuutoksiin ja taloudellisiin mahdollisuuksiin, sillä talous vaatii ylläpitoa. Kyse ei ole vain ”kuinka kakku jaetaan”, vaan monimutkaisempi kysymys koskee sitä, miten se vaihtelee elämän eri vaiheissa ja miten nämä taloudelliset elämäntarinat vertautuvat sukupolvien välillä. Näin ollen yhden sukupolven asema taloudellisen vaurauden hierarkiassa riippuu annetun ajanjakson olosuhteista. Aiemmat tutkimukset ovat pääasiassa keskittyneet tulonjakoon, mikä antaa melko rajallisen kuvan eriarvoisuudesta. Vaikka taloudelliseen eriarvoisuuteen on moniulotteisempia lähestymistapoja, ne eivät ota huomioon sitä, että taloudelliset resurssit eivät pysy muuttumattomina. Tulotason määrää elämänvaihe tai aika, jolloin yksilö on syntynyt. Ajanjakso määrää saatavilla olevat mahdollisuudet pyrkiä parempaan taloudelliseen lopputulokseen.

Laajentaakseen ja parantaakseen aiempia analyysejä, tämä tutkimus tarjoaa uutta tietoa kahdella alueella. Ensinnäkin, tutkimus ottaa huomioon sekä kunkin kohortin elinkaaren että ajanjakson. Toiseksi, taloudellisiin mittareihin sovelletaan holistista viitekehystä, joka huomioi paitsi tulot, myös kulutuksen ja varallisuuden. Taustalla oleva logiikka on se, että tulot, kulutus ja varallisuus eivät toimi tyhjiössä, sillä tuloja tarvitaan tavaroiden ja palvelujen hankkimiseen ja ylijäämän säästämiseen tulevaa käyttöä varten.

Tämä tutkimus arvioi, miten kolmen tyyppisiä taloudellisia resursseja jaetaan kohorttieroissa elinkaaren aikana, tarjoten kattavampaa taloudellisen eriarvoisuuden analyysia. Aineisto yhdistää korkealaatuista kotitalouksien tulo-, kulutus- ja varallisuustietoa pitkittäisrekisteripohjaisiin tietoaineistoihin. Aineisto kattaa eri ajanjaksot, aina vuodesta 1966 vuoteen 2021 asti. Aineisto on väestöä edustava otos ja rekisteriaineistot ovat väestönlaskenta-aineistoja, jotka sisältävät koko Suomen väestön. Analyysit käyttävät huippuluokan ikä-periodi-kohorttimalleja ja monitasoregressiomalleja. Tulokset osoittavat, miten tulot, kulutus ja varallisuus vaihtelevat sukupolvien välillä ja mitkä taustatekijät vaikuttavat tulokehitykseen elinkaaren aikana. Tämä täydentää aikaisempaa tutkimusta moniulotteisessa viitekehyksessä eri taustatekijöiden osalta.

Artikkelit I ja II keskittyvät tulojen tarkasteluun ikä-periodi-kohorttinäkökulmasta ja erityisesti kohorttien välisestä näkökulmasta. Yleisesti tulokset osoittivat, että 1970-luvun kohortista lähtien tulojen kehitys ei seurannut keskimääräisen tulojen trendiä. Samankaltaisia tulos löytyy myös toisesta alatutkimuksesta, koska

1980-luvun kohortti ei lisännyt tulojaan suhteessa 1970-luvun kohorttiin. Näin ollen voidaan todeta, että nuoremmat kohortit kärsivät tulonkehityksen stagnaatiosta. Ikä-, periodi- ja kohortti-tekijöiden osalta tutkimus tunnisti kohortti- ja periodiaikutukset tilastollisesti merkittäviksi, eikä ikävaikutuksia havaittu mallien vakioinnin jälkeen. Erityisesti pääasiallisen taloudellisen toiminnan ollessa vahvin selittävä tekijä ikävaikutusten osalta. Tätä tukee myös toinen alatutkimus, joka tehtiin rekisterien avulla. Siinä koulutus, työttömyys ja ammatillinen asema selittivät suurimman osan tuloeroista kohorttien välillä, erityisesti uran huippukohdassa elämänkulun keskivaiheilla. Sukupolvien osalta tulokset tukevat aiempia löydöksiä, joissa suuret ikäluokat ovat ”voittajia” ja nuorin sukupolvi on ”häviäjiä”.

Artikkeli III analysoi kulutusta niin välttämättömyyksien ja vapaa-ajan menojen näkökulmasta korkea- ja matalatuloisten välillä. Tulokset osoittavat, että sekä kohorttien väliset kulutus- että tuloerot ovat säilyttäneet saman välimatkaeron tuloryhmien ääripäiden välillä. Ikä-periodi-kohorttianalyysi paljastaa, että suhteelliset menot kahden tuloryhmän välillä ovat kasvaneet korkeatuloisen ryhmän hyväksi. Varakkaamman spektrin pää näyttää enenevissä määrin kasvattavansa kulutusta vapaa-aikaan kohorttien yli mitatessa, kun taas matalatuloiset ryhmät ovat vapaa-ajan mahdollisuuksiltaan ”köyhiä”. Tämä voisi viitata siihen, että taloudellisesti hankalammassa tilanteessa olevilla on suurempia vaikeuksia osallistua tiettyihin yhteiskunnallisiin toimintoihin ja pyrkiä itsekehitykseen alueilla kuten harrastuksien ja muut vapaa-ajan toiminnan osalta. Tämä saattaa tarkoittaa, että joko näiden hyödykkeiden ja palvelujen hinnat ovat nousseet tai että vapaa-aikaan on vähemmän kulutusmahdollisuuksia, koska tulot ovat matalat.

Artikkeli IV tutkii varallisuuseriarvoisuutta kohorttien välillä elinkaaren näkökulmasta. Tulokset osoittavat yleisesti, että erot kohorttien välisessä bruttoja nettovarallisuudessa ei ole kasvanut ajan myötä. Ne paljastivat myös mahdollisia periodiin liittyviä eroja, sillä kokonaisvarallisuus väheni tilapäisesti 1990-luvun talouskriisin aikana, mutta sillä ei ole pysyvää vaikutusta varallisuuden kertymiseen. Kohorttien välisen varallisuuden ja iän suhteen varallisuuden kertyminen elinkaaren aikana ei näytä olevan riippuvainen taloudellisista olosuhteista pitkällä aikavälillä, yhtä poikkeusta lukuun ottamatta. 1980-luvun kohortti kerryttää varallisuutta hitaammin kuin edeltävä kohortti. Heillä on myös suurempi velkataakka yhdistettynä hitaampaan lainanlyhennykseen, mikä on viivästyttänyt asuntojen ostoa ja siirtänyt sen myöhempään ikään. Näin ollen pitkäaikainen lainanlyhennys saattaa vaikuttaa pitkällä aikavälillä kokonaisvarallisuuden kertymiseen, jättäen tulevat eläkeläiset elämään tiukemmalla budjetilla. Rahoitusvarallisuus osoittaa vaihtelua nuorempien kohorttien keskuudessa, joilla alkusijoitusikä on alhaisempi verrattuna muihin kohorteihin. Nämä tulokset tukevat aiempia tuloksia, joiden mukaan henkilökohtaisen varallisuuden ja omaisuuden kerryttäminen on yhä tärkeämpää.

Lopuksi, ajanjakso että ikäluokka ovat keskeisiä tekijöitä kaikkia taloudellisia mittareita tarkastellessa. Vaikka iällä näyttää olevan tietty yhteys, taloudellinen eriarvoisuus liittyy enemmän periodiin, jolloin eri sukupolvet kohtaavat erilaisia ajanjaksoja. Erityisesti nuorempi sukupolvi näyttää kohtaavan taloudellista painetta.

ASIASANAT: sukupolvien välinen eriarvoisuus, taloudellinen eriarvoisuus, kulutus, tulonjako, varallisuus

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Esa Karonen

Table of Contents

Abbreviations

APC	Age-period-cohort
APCD	Age-period-cohort Detrended
APCGO	Age-period-cohort Blinder-Oaxaca
APCT	Age-period-cohort Trended
CGLIM	Constrained generalized linear model
EGP	Goldthorpe / Erikson / Portocarero class scheme
ESS	The European Statistical System
HES	Finnish Household Expenditure Surveys
IDS	Income Distribution Statistics
IE	Intrinsic estimator
ISCED	The International Standard Classification of Education
ICC	Intraclass correlation coefficient
OSF	Official Statistics of Finland

List of Original Publications

This dissertation is based on the following original publications, which are referred to in the text by their Roman numerals:

I Karonen, Esa; Lehti, Hannu; Erola, Jani; Moisio, Pasi & Kuivalainen, Susan. Structural Changes and Generational Income Inequality Over the Life Course. Submitted manuscript.

II Karonen, Esa & Niemelä, Mikko: Life course perspective on economic shocks and income inequality through age-period-cohort analysis: evidence from Finland. Review of Income and Wealth, 2019, 66(2), 287-310.

III Karonen, Esa & Niemelä, Mikko: Necessity-Rich, Leisure-Poor: The Long-Term Relationship be-tween Income Cohorts and Consumption through Age-Period-Cohort Analysis. Journal of Family and Economic issues, 2022, vol(43), 599-620.

IV Karonen, Esa & Niemelä, Mikko: Cohort differences in wealth development over the life course: the case after of the opening of financial markets in Finland, 1987–2016. Submitted manuscript.

1 Introduction

Things are scarce.

Even though one could argue that we are living in an era of abundance, especially in a high-standard-of-living country like Finland, all societies are fundamentally tied to this basic premise. Currently, debates about material and social resources primarily focus on the question of 'how the pie is sliced' (Rycroft, 2013).

Since we do not live in a world of unlimited resources, one's position in the socioeconomic hierarchy is influenced by both the overall economic situation and the opportunities available. This is the starting point of a complex discussion about inequality, which is accurately described as multidimensional (Fadda & Tridico, 2016).

Several scholars have proposed more comprehensive and multidimensional approaches to economic inequality, shifting the focus to various background factors (see Atkinson & Bourguignon, 1982; Decancq & Lugo, 2012; Piketty, 2014; Sen, 1995; Tsui, 1995, 1999; Weymark, 2006). For example, Aaberge and Brandolini (2015) recently advocated for a more multidimensional approach, arguing that economic well-being is a result of many different attributes of human life and that income, expenditure, or wealth alone is just a rough proxy of living quality (see also Atkinson & Bourguignon, 1982). Much of the research on economic inequality has narrowly focused on income distribution.

This dissertation aims to build upon previous research in two significant ways: by employing a life course approach and by adopting a holistic view of income, consumption, and wealth, rather than just focusing on income.

The first contribution recognizes that economic resources do not remain static as individuals transition through various stages of life from childhood to retirement. This means considering the intersecting factors of age, period, and birth time. Age differences should be acknowledged because economic reality can change drastically depending on one's life stage. Additionally, individuals are born at different times, which determines the opportunities available for striving for better economic outcomes. Thus, societal and economic factors unite a generation, as people are bound together by their birth date and the conditions of their time (Mannheim, 1928; Mayer, 2009). In addition, the resources of one generation significantly influence the life changes and economic opportunities of the next generation (Anand & Sen, 2000; Rawls, 1999).

The second major contribution is a holistic approach to economic resources.

Rather than focusing primarily on income, this dissertation aims to consider all economic measures, namely, income, consumption, and wealth. While income and wealth distribution are rightly seen as key forms of inequality (Piketty, 2014), with income distribution often viewed as a critical indicator of overall inequality, this dissertation boldly argues that a focus on income alone can create economic blind spots that prevent deeper understanding. Income, consumption, and wealth do not exist in isolation; one needs income to acquire goods and services and ideally save the surplus for future use and financial security.

Moreover, the simple flow of resources cannot be disconnected from the reality that income fluctuates throughout one's life, affecting the opportunity to purchase goods and accumulate savings. To delve deeper, each of these so-called 'life courses,' from birth to death, is tied to the surrounding economic and social opportunities. These include, for example, educational opportunities, employment rates, and the types of jobs available in the labour market. Some of these factors, such as gender and family background (see Weber, 1922), are neither earned nor chosen but are assigned to an individual. In other words, the openness of society and opportunities reflects the level of equality of opportunity and the possibilities to accumulate more resources. This ties the three economic measures to the first contribution, as if we were to observe changes in age and not by birth cohort or period, we would only see a snapshot of the larger issue of inequality. To integrate these two contributions, this dissertation outlines three research objectives. These are divided by each economic resource, measuring income, consumption, and wealth, while considering the dimensions of age, period, and cohort.

First, this dissertation aims to measure income between generations and identify what background factors contribute to income development throughout life. This directly supplements previous studies in their multidimensional endeavour on background factors, as they lack a life course and generational perspective.

Second, in the area of consumption, I examine how expenditures on necessities and leisure consumption relate to economic inequality between birth cohorts. This question is connected to the minimum level of decent living and whether the gap between the rich and poor has narrowed over time. On the other hand, investment in leisure time can indicate whether those in more economically adverse situations have increased opportunities for societal participation and self-improvement.

Third, in terms of wealth, I aim to study how not just wealth but all types of assets and investments affect total wealth accumulation between birth cohorts over different periods. More often, studies measure just gross or net wealth, but I aim to expand on the issue of how wealth is constructed over the life course and generations. This in-depth look is crucial, as it touches on the ability to repay loans and assess whether financial security has changed.

With the results provided by these three main questions, I answer not only 'how the pie is sliced' but also how and if these differences are found during the life course

of different generations in Finland. Instead of looking at a single snapshot of income, I aim to offer a cinematic universe of Finnish generations, which includes a series of stories about their lives, focusing on the three economic components and how different background factors influence them. Overall, the goal is to analyse how lifetime economic outcomes have changed between generations, which are shaped by opportunities and constraints in different periods.

This dissertation makes multiple contributions. First, the introduction of a life-course approach allows us to study economic measures 'on the move' as the intersection of age, period, and cohort offers a more dynamic analysis, while traditional research offers a static 'snapshot' using one of these dimensions. Second, the dissertation significantly contributes to the literature on economic inequality by adopting a multidimensional view of the life course framework and measuring all the key economic measures together in income, consumption, and wealth. Previously, multidimensionality has been used in the case of poverty measures, and now I introduce the same concept to measure economic resources (see Aaberge & Brandolini, 2015; Alkire et al., 2015; Levitas, 2007). Third, the dissertation uses high-quality register data and other specialized datasets to provide new knowledge on the development of economic inequality. Fourth, it contributes to the field of life-course and cohort analyses by applying novel and advanced methods of age-period-cohort and multilevel modelling techniques to the study of generational economic inequality.

It remains largely unknown how different periodic changes, such as financial policy or economic cycles, impact the economic prosperity of different generations. For example, in Finland, there have been several significant changes in financial policy, such as tax reforms in 1992, which separated the taxation system into labour and capital tax. Similarly, financial deregulation in 1987 opened up a new world of investment opportunities for the general public. Additionally, economic shocks, like the recession in the 1990s, had a major impact on income distribution, which likely led to a cascading effect on wealth accumulation. As mentioned earlier, these events can have a multifaceted impact on the long-term economic development of different cohorts, as their life stage and social location within society differ from each other. The extent of these effects is still unknown. Therefore, a holistic viewpoint on economic inequality could provide a useful framework for planning targeted policy measures. In this way, the dissertation generates knowledge that is useful for policymakers who wish to increase economic efficiency and implement taxation reforms regarding lifetime economic development.

The dissertation is structured as follows: The second chapter discusses the generational framework and life course theory in sociology, which introduces the multidimensional aspect of economic thinking. The third chapter focuses on economic inequality and how it is framed in the life-course paradigm, and how it explains the three economic outcomes of income, consumption, and wealth. The model in this chapter draws on the sociological life-course perspective and the literature on eco-

nomic inequalities. Chapter 2 can be seen as a more general outline of generational theory and thinking, while the third chapter is more of a literature review for the dissertation. The fourth chapter outlines the research aims and the design. The fifth chapter introduces the data and methods used in each sub-study of the dissertation. The sixth chapter provides an overview of the results obtained in the four research articles. The last chapter is dedicated to discussing the scientific and practical implications.

2 GENERATIONAL FRAMEWORK

In this chapter, I introduce the life-course approach and the generational framework in sociology. This lays a foundation for understanding how economic inequality and social stratification connect with the perspective of age, period, and cohort, as they contribute to the overall theoretical viewpoint. Last, I present the Finnish context of generations as depicted in the research literature.

2.1 Life course perspective

Over the last 30 to 40 years, life-course research has blossomed at a high rate as an interdisciplinary study of human lives from birth to death. Although life course is not a complex theory in itself, it is utilized in various fields of study such as anthropology, demography, economics, sociology, and developmental psychology, with sociology serving as a significant disciplinary anchor. A longitudinal and life-course approach has become prevalent across the social sciences, and longitudinal data collections have proliferated, becoming a current objective of quantitative social science. For instance, the importance of longitudinal studies on social science is highlighted in a special issue of Science (Butz & Torrey, 2006), where longitudinal studies of the life course are hailed as the most progressive and innovative research.

The life-course approach examines an individual's life history, investigating, for example, how early events influence future decisions and events such as employment and unemployment, economic shocks, marriage and divorce, or engagement in crime (Elder et al., 2003; Willson et al., 2007). A life course is defined as "a sequence of socially defined events and roles that the individual enacts over time" (Giele & Elder, 1998). More specifically, the approach focuses on the connection between individuals and the historical and socioeconomic context in which these individuals live (Willson et al., 2007). The method includes observations in different disciplines. However, empirical research with a life course approach has not yet resulted in the development of a formal theory (Mayer, 2009).

To define the field's criteria and narrow it down to economic matters, it's essential to clarify what distinguishes the life course approach from many other overlapping research areas. The following criteria represent an emerging consensus (Elder et al., 2003; Fasang & Mayer, 2020; Mayer, 2004; Settersten, 2003). First, the life-course approach studies changes in human life paths as alterations in personal characteristics

and transitions between states. These are considered over a long span of a lifetime, such as from childhood to old age, rather than as specific episodes like the transition to marriage or first birth, or narrow life phases. The most evident economic example is an individual's employment history and lifetime wealth accumulation (Johnson & Schoeni, 2011; Mayer, 2018). There is also a strong assumption that one's previous life history significantly impacts later life outcomes (Bengtson et al., 2012, 1974). An example of this could be better access to education due to geographical location, which could provide an individual with a head start compared to their peers. Thus, changes in human lives are investigated across a larger series of cohorts. This implies that life course development is often analysed as the outcome of personal characteristics and individual action, as well as cultural frames and institutional and structural conditions related to micro-, meso-, and macro-levels of analysis.

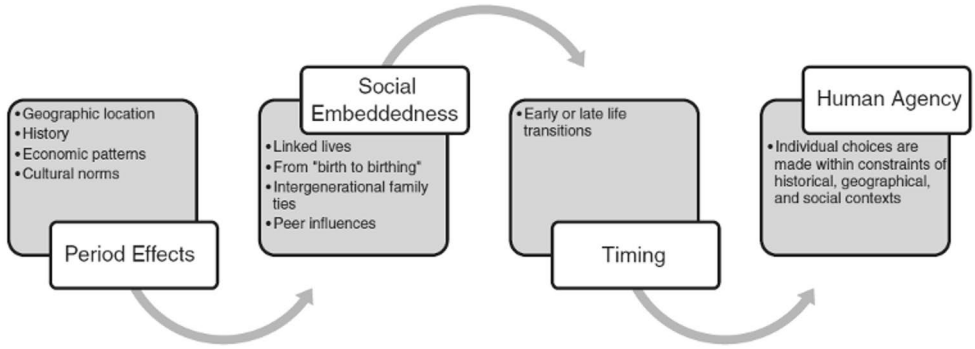

Figure 1. Four elements of the life course paradigm.

To generalize, Giele and Elder (1998) proposed the life course theory, which is grounded in four key principles (refer to Figure 1) which tie into historical time and geographical place: lifespan development, human agency, timing of decisions, and linked lives. These events and roles do not necessarily unfold in a predetermined sequence but instead comprise the aggregate of the individual's actual experience. Consequently, the concept of life course suggests age-differentiated social phenomena which are distinct from uniform life-cycle stages and the life span. The term 'life span' refers to the duration of life and characteristics which are closely related to age but vary minimally across time and place. Ageing and developmental change are thus continuous processes experienced throughout life. In this way, the life course mirrors the intersection of social and historical factors with personal biography and development, within which the study of economic development and social change can occur (Elder, 1994; Hareven, 1996). A more in-depth discussion of this model in an economic context can be found in Chapter 3.

To contextualize the life course in analytical and generational terms, refer to Figure 2, which displays a Lexis diagram illustrating the dynamics of age, period,

and cohort. They represent the three basic building blocks of the theory mentioned above: in Mannheim and Mayer's life course theory, 'cohort' represents the generation. 'Age' and 'period' follow the causal form of individuals linked to their year of birth.

Figure 2. Lexis diagram on the relationship of age, period and cohort.

The Lexis diagram graphically represents the age, period and cohort (APC) effects, which represent three distinct ways in which economic resources can change over time, and researchers across the social sciences have long been interested in differentiating and understanding these changes. First, individuals can age, meaning that they change as they progress through their life course. Second, change can occur over time due to differences between cohort groups, whereby as new cohorts replace old cohorts, the social composition (and thus the income, consumption and wealth) of society as a whole can change. Third, and finally, change can occur as a result of period effects, whereby passage through time results in a change in economic cycles, regardless of the actions of the individual (Bell & Jones, 2015.).

2.2 Generational perspective

Now that we have covered the life course approach, we can turn to the generational perspective, as generations have distinct experiences throughout their lifetimes. The notion of generation is widely used in everyday language to make sense of differences between age groupings in society and to place individuals and other people within a historical timeframe. We commonly distinguish these groups using terms

like ‘my generation’ and ‘the older generation.’ For example, we refer to those who grew up in the 1950s as belonging to ‘the fifties generation.’ We make clear distinctions between groups of people and periods of time by using phrases such as ‘a few generations ago,’ ‘the millennials,’ and ‘the generation gap.’ Despite widespread use of the word ‘generation,’ contemporary sociologists have only recently begun to pay attention to its significance (Pilcher, 1994.).

Some scholars, such as Finch (2018), argue that the overlooked aspect of the sociology of generations parallels the lack of attention paid to the social significance of age. Finch emphasized the necessity of developing a sociology of age by highlighting its value in contributing to understanding of key sociological issues, including the interplay of the biological and the social, the relationship between personal and social change, and the intersection of biography and history (Finch, 2018; Pilcher, 1994).

Mannheim’s seminal essay, “The Problem of Generations,” is considered the most systematic and fully developed theory of generation from a sociological perspective (Bengtson et al., 1974). One of the key reasons for its high praise is how it firmly locates generations within socio-historical contexts and is part of a broader sociological theory of knowledge. Indeed, Mannheim’s theory of generations must be acknowledged as a fine-tuned element of his broader scope in the sociology of knowledge. Mannheim was primarily concerned with examining social location in terms of class factors (Abercrombie & Longhurst, 1983), although he also conceived of social location in terms of generational factors.

Before delving into a theoretical account of generations and how it touches upon several key sociological issues, some terminological clarifications must be addressed. Many scholars who contribute to the study of generational analysis have noted that the way in which Mannheim and others have used ‘generation’ is really in the sense of ‘cohort’ and that this would be a more accurate term to employ (Pilcher, 1994). This has a direct effect on Mannheim’s generational framework. Glenn (1976), for example, notes that the technical term ‘generation’ has overlapping roots in kinship terminology denoting the parent–child relationship. Instead, in Mannheim’s perspective, a ‘cohort’ is defined as people within a defined population who experience the same significant event within a given period.

Terminological issues can be particularly important, especially when the sample used in generational research is composed of members of family groups. In such instances, individuals are generations in the kinship sense, and, on the other hand, they are also generations in the cohort sense. To be more clear-cut and not to mix up the two dimensions of generations embedded in research designs, scholars advocate the use of ‘generation’ when reference is made to kinship relationships and ‘social generation’ when reference is made to any cohort-related phenomena (Pilcher, 1994.). This distinction protects the research from liberal use of terminology while maintaining links with the sociological tradition, which has roots in Mannheim’s use of

the term ‘generation.’

The aforementioned terminological mismatch surrounding generational analysis can act as a useful introduction to Mannheim’s generational sociology. The confusion resulting from misapplication of ‘generation’ as a term arises out of, for example, the conflation of biological generation with cohort and an insensitivity to the multiple nature of time and to the complexity of biographical and historical connections. It should be noted that I use ‘generation’ here as an indicator of social generation, as a synonym for a cohort, and do not use it as a kinship distinction.

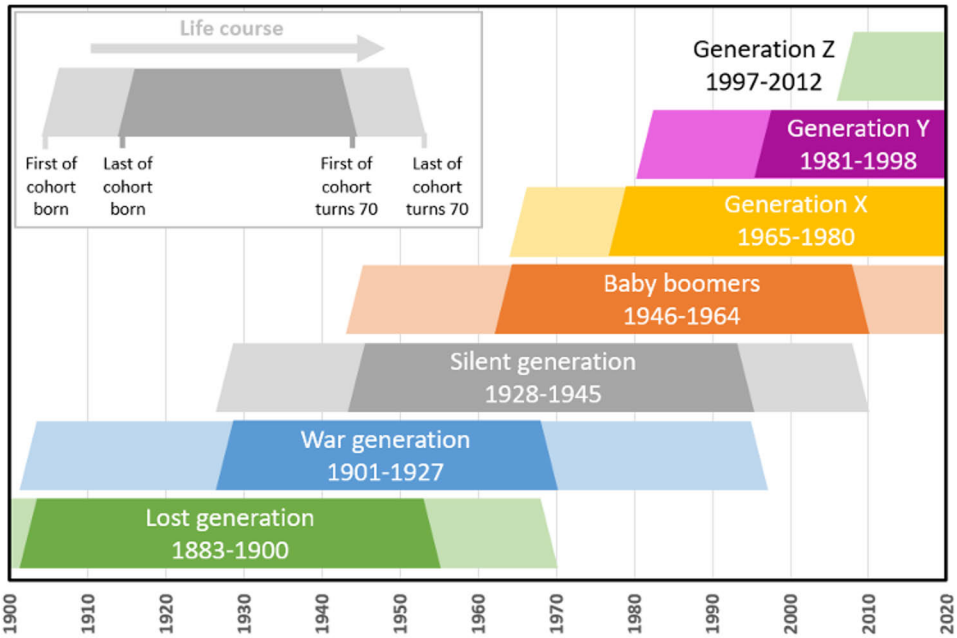

Figure 3. Generational framework in a life-course perspective.

Mannheim defined a generation as a group of individuals of similar ages whose members have experienced a significant historical event within a set period of time (Mannheim, 1928). According to Mannheim, the social consciousness and perspective of youth reaching maturity in a particular time and place is significantly influenced by the major historical events of that era. Mannheim termed this as ‘generational location,’ where a generation experiences unique events, thus becoming a real, distinct ‘generation.’ A key point, however, is that this major historical event has to occur (to deviate from the ‘trend’) and has to involve the individuals in their early life stage, thus shaping their lives, as later experiences will tend to receive meaning from those early experiences. Mannheim states that mere chronological commonality is not enough to produce a common generational consciousness. Without unique content, there is no unique ‘personality’ of a generation. Mannheim even stressed that

not every generation will develop a distinctive consciousness. Whether a generation succeeds in developing a distinctive consciousness is significantly dependent on the pace of social change.

In addition, Mannheim (1928) asserts that social change can occur gradually, without the necessity for significant historical events. This suggests that such events are more likely during periods of accelerated social and cultural change. Mannheim also observed that members of a generation are internally divided by factors such as location, culture, and class, which can influence their perspectives on various events, indicating that they are not completely homogeneous. An example of a cultural effect is the punk subculture in the United Kingdom in the 1970s. Within what Mannheim termed the 'generation in actuality,' there can be varying responses to specific historical situations, resulting in a stratification into 'generational units' or, more broadly, 'social generations.'

The key aspect of the social element of a distinct generation is the concept of a generational 'scar' acquired through shared socialization. This concept connects with how different birth cohorts grow up during a similar historical period (Mannheim, 1928). Economically speaking, this could be seen as inequality, as some cohorts might have an easier entry into the labour market due to their specific economic conditions. Therefore, an economic upturn or downturn can significantly influence how a given generation establishes itself during changing market conditions. For instance, cohorts that reached adulthood during economic booms are more likely to benefit from that favourable market situation. Conversely, cohorts 'scarred' by an economic downturn might be more risk-averse and have a more disadvantaged economic path, viewed from a life course perspective (Malmendier & Nagel, 2011). These observations have laid the foundation for the life course hypothesis and paved the way for new developments in the theory, which mainly focuses on systematic cycles of advantaged and disadvantaged generations (Myles, 2002, p. 138). This approach was spearheaded by numerous researchers (e.g. Campbell et al., 1976; Clark & Oswald, 1994; Frey & Stutzer, 2002; Helliwell, 2003; Helliwell et al., 2012; Kahneman et al., 1999; Layard et al., 2014) who explored the impact of other outcomes, such as income, employment, and educational qualifications, on well-being.

To provide a practical example, similarities between generations have been identified in the Finnish context. Although Erik Allardt (1981) claims that the composition of generations has not been a primary concern in Finnish sociology (see also Toivonen, 2003), later research on lifestyles and biographies elevated generational research to a new level in the 1980s, adopting the Mannheimian framework (see Karisto, 2005; Roos, 1980; Virtanen, 2001). While cohort research had modest beginnings, the newer generation of researchers, such as Jani Erola and Terhi-Anna Wilska (2004), have made significant contributions to the field. A major factor driving the intensified research of generations is the improved quality and usability of research data, such as the increased availability of register data. Overall, previ-

ous research indicates that every framework on Finnish generations recognizes at least three to four classes (Purhonen, 2007; Roos 1980; Virtanen 1999). A complete breakdown of cohorts identified by previous research is provided in Table 1.

Table 1. Finnish context and structure of generations in extended form (Purhonen, 2007)

Generation	Description
War generation 1900–1929	Generation born during the wars
Deprived generation 1930–1939	Rebuilding period after the war years
Baby–boomers 1940–1954	Largest birth cohort
Oil crisis 1955–1964	Labour market entry at the time of oil crisis
Precarious generation 1965–1972	Generation first to grow up part of welfare society
Recession generation 1973–1979	Labour market entry on the 1990's great recession
Y–generation 1980–1990	Digital natives; labour market entry during financial crisis
Z–generation 1991–	

Now, to link the generational perspective with the life course approach, it's important to understand that individual life courses exist within each cohort, or in simpler terms, each generation. This concept was illustrated in Figure 2 using a Lexis diagram. The uniqueness of the average life course of a generation forms a distinct group, which is constituted by similar opportunities and experiences. These opportunities and experiences are of utmost importance, as they are mechanisms that shape the economic characteristics of each given cohort. This life course pattern is generalized in Figure 4.

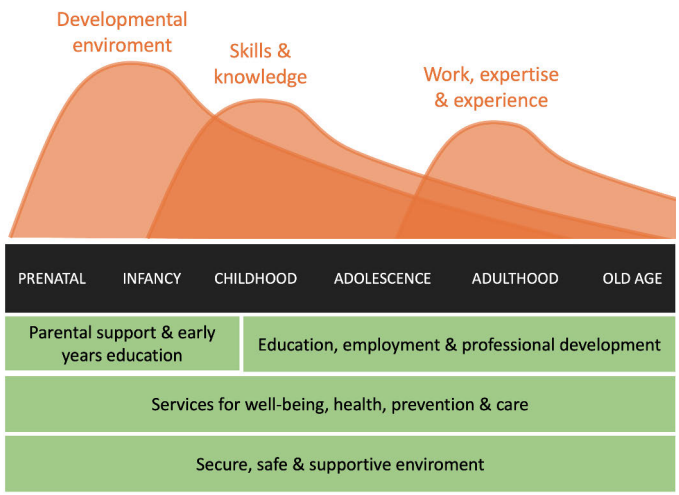

Figure 4. Distribution of environmental factors and skills over the life course.

There is a strong assumption that prior life history significantly impacts later life outcomes. Mayer (2000, 2009) suggests that the focus of studies should be on the mechanisms associated with inequalities across generations. Different demographic, social, and economic structures can influence the income development of generations. These mechanisms have been the enigmatic areas of stratification research, as the differences in income trajectories among cohorts remain largely unknown (Mayer, 2009). The primary motivation of this dissertation is not only to answer "how," but also "why." Hence, its main objective is to determine the extent to which these mechanisms explain economic inequality between generations.

Decisions made during the life course can and will affect the expected income level, which in turn impacts the accumulation of wealth and opportunities to consume products and services. Factors such as health, gender, employment, career opportunities, education, labour market competition, and parental social status all have an impact on an individual's outcome. Therefore, identifying which mechanism best explains the extent of generational economic inequality is crucial to understanding why these differences exist in both the theoretical and empirical realms.

3 GENERATIONAL ECONOMIC INEQUALITY

In this chapter, I link the concept of economic inequality with the life course perspective. Firstly, I present the sociological viewpoint concerning economic inequality. Secondly, I apply the life course paradigm model to generational economic inequality. This explains how social stratification and equality of opportunity are shaped within the perspective of age, period, and cohort, contributing to the three economic outcomes.

3.1 Sociological concepts of economic inequality

In the longstanding sociological tradition, five primary theoretical explanations for economic inequality exist. These revolve around theoretical giants like Karl Marx (1928), who interpreted economic inequality through the lens of class exploitation, and Max Weber (1946), who concentrated on social closure between classes. Some diverge from class theory, like Thorstein Veblen (1899), who focuses on individual rank competition, and Davis and Moore (1945), who flip the argument around to advocate for the functional necessity of inequality. Lastly, Polanyi (2001) suggests that poverty stems from markets, which, if left unchecked, can undermine the foundations of social life and institutional mediation.

To summarize, these approaches to economic inequality are grounded in different sociological perspectives, revolving around three key themes: social classes, individual *competition*, and *institutions*. However, there are no clear, unifying theories on economic inequality within sociology, and these theories alone only offer an unfocused snapshot of the broader inequality scheme, partly due to their temporal context. As these main themes are neither mutually exclusive nor exhaustive, they should not be viewed as complete explanations in themselves. Here, the generational framework provides an opportunity for a more comprehensive viewpoint. For instance, all the aforementioned theoretical and empirical foundations are not static; they change over time. It is therefore logical to assume that the economic environment varies across generations, as they possess different class and occupational structures, live under evolving institutions and policies, and face differing levels of individual competition in the job market. In other words, the available *opportunities* and the *economic environment*t are the main factors that determine how each cohort

can develop their economic prowess throughout their lives.

Economic inequality, a term encompassing the distribution of income, consumption, and wealth, arises from asymmetry in the distribution of monetary resources amongst individuals. From this perspective, the intersection of timing and coincidence can limit available economic opportunities, acting as a constraining factor for the distribution of the aforementioned resources. To clarify the thesis's argument, economic inequality is the unequal distribution of economic resources and opportunities amongst different societal groups. Here, *social stratification* refers to a society's categorization of its people into groups based on socioeconomic factors like income, expenditure, wealth, education, gender, occupation, or social status. Consequently, stratification represents the relative social positions of individuals within a social group, category, or unit. Importantly, the key social groups here are the generations/cohorts and their respective age differences, i.e. the life course.

The question, "Why does (in)equality matter?" boils down to contrasting arguments on needs between individuals or earnings based on individual effort (Sen, 1997). Hence, inequality can be viewed not merely as a measure of dispersion but also as a measure of difference. The underlying idea here, which outlines the distinct characteristics of generations, is the *equality of opportunity*. This is the assumption that the placement of individuals in the social hierarchy is determined by some form of competitive process, and all members of society are eligible to compete on equal terms. Following the generational lens, if we consider the primary factors behind the equality of opportunity (i.e. education, occupation), the measured variation and their differences are associated with the generations and their life course trajectories, which should reflect the total 'inequality' between the groups.

In summary, the distribution of three economic resources is determined by the constraint of given opportunities in a specific time for each generation. In the next section, this theoretical framework will be more formally constructed and linked to existing life course models.

3.2 Economic inequality from the life course paradigm

Models on the life course can be divided into two primary perspectives. First, Elder (1994) pinpointed four crucial elements that shape the life course. These include the historical and geographical location, social relations, development of individual agency, and the significance of timing (see also Elder et al., 2003). The second notable contributor is Giele, who, akin to Elder, developed an autonomous four-function variant of Parsons' (1966) model of the social system. This model is applied to the life course and social change. Elder's model aligns closely with Giele's (Giele & Elder, 1998), with both paradigms echoing each other. Elder's analysis is interpreted through the *individual*, while Giele's dimensions concentrate on the relationships between the individual and the encompassing *social structure*. Merg-

ing these two frameworks is beneficial for tracking the interaction between person and environment, and the dynamic changes initiated by the individual within the context of structural transformations, as illustrated in Figure 5 and the subsequent paragraphs.

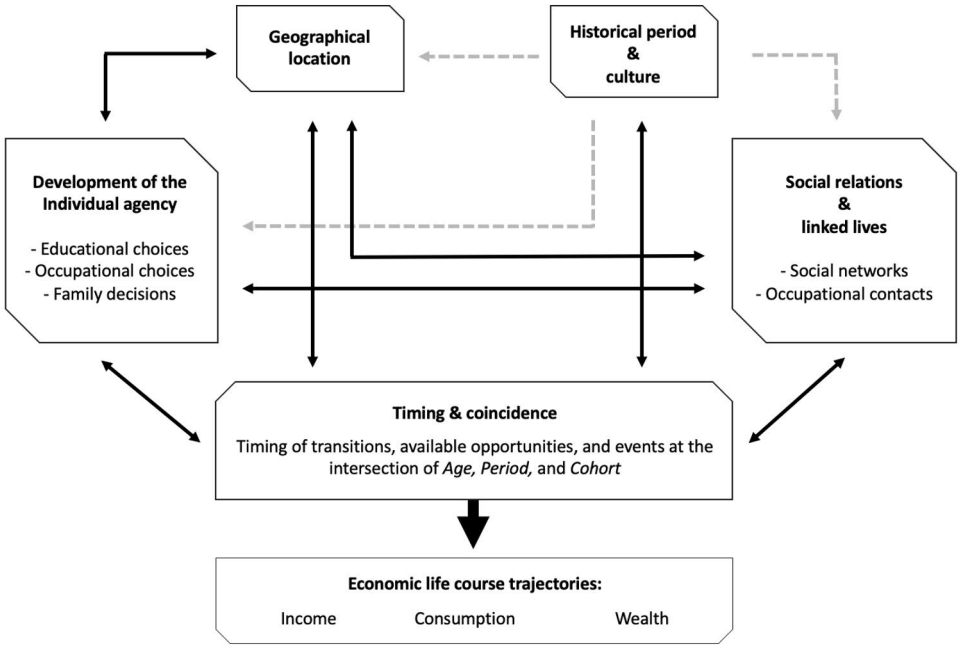

Figure 5. Key determinants and elements of the economic life course paradigm.

Figure 5 presents a variant of Giele's and Elder's life course models, modified to accommodate the thesis's generational perspective. All two-way interactions between factors are represented by solid black lines with arrow endpoints, while one-way connections are depicted by grey dashed lines, with a single arrow endpoint indicating the direction of the connection. The significant modification to the original models is that each key factor is linked to the age-period-cohort dynamic, setting certain limits on how cohorts can influence their economic trajectory throughout life. It's also crucial to understand the role of the individual within this dynamic, as some factors are beyond their control, while others allow for individual agency, albeit within certain constraints.

Initially, the *historical period* is the primary causal link since time establishes a focal point for all cohorts and other elements in the life course model. The period explicitly determines the range of economic opportunities available to all cohorts, from educational opportunities to labour market conditions, not to mention institutional realities like the role of social insurance and income redistribution. Essentially, being part of a cohort means existing within a specific economic environment. However,

the context of the period can differ from one location to another. For instance, in rural areas, job opportunities are often limited, pushing individuals towards larger growth centres where economic drivers like education, career choices, and social networks are more abundant (Giannakis & Buggeman, 2020). It's worth noting that only the historical period can dictate each geographical location's economic situation, as the location cannot influence time. Therefore, while the historical period is beyond individual control and depends on the time of birth, geographical location is something an individual can impact by relocating.

From the perspective of cohorts and period, both general and unique aspects of location influence shared experiences and can be perceived as socially and individually patterned in ways that persist over time. For example, children who lived through the Finnish economic recession in the 1990s experienced a unique historical phase compared to those born later and encountered varying conditions depending on the severity of the situation in their hometown (Verho, 2008). From the life course perspective, birth timing is significant as it correlates with the life stage at which these events occur: the impact of an economic downturn differs greatly for an individual transitioning from school to work compared to someone who has already established their career (von Wachter, 2020). This could result in a delayed career start, which could subsequently affect the lifelong accumulation of economic resources and impede major investments, like purchasing a home (Kurz & Blossfeld, 2004; Oreopoulos et al., 2012). In addition to this dynamic, an individual's location during an economic downturn could either hinder or shield them depending on the competitive landscape and opportunities available in the area.

The second component of the life course paradigm is the development of *individual agency*, which can be interpreted as personal goal orientation. As depicted in Figure 5, the historical period 'hard codes' the overall economic constraints, while the physical location modifies the available choices (Roikonen, 2022). As previously mentioned, the economic environment takes centre stage in this scenario. If we view this environment as a combination of the labour market, educational opportunities, and institutional elements – all of which form a dynamic system that persists and evolves over time – individuals within this environment are motivated to meet its requirements in line with their preferences (McQuaid & Lindsay, 2013; Roikonen, 2022). Therefore, individual agency is the freedom to satisfy personal needs through proactive decision-making aimed at achieving economic security. These actions are conducted within the constraints of personal efforts, capabilities, and available opportunities, which may include (but are not limited to) pursuing education, aiming for specific careers, or starting a family (Perugini & Martino, 2008). Family or other social relationships can particularly motivate certain individual choices, such as the decision to relocate for better economic opportunities or remain in the same location as the family.

To illustrate, gender plays a significant role in influencing individual agency

through gender norms and family dynamics at a given time. Women are more likely to take breaks from the workforce for caregiving responsibilities, such as raising children or caring for elderly family members, leading to lower lifetime earnings and reduced savings. However, government policies, such as parental leave and childcare support, can impact gender income disparities by enabling men and women to balance work and family responsibilities more equitably, influencing the individual agency.

To apply the above in the context of cohorts and demonstrate the interconnectedness of these factors, individual choices can alter the characteristics and social fabric of a location over time. For instance, in Finland, Salo was a major industrial city during Nokia's peak, but after the foreclosure from 2008 to 2010, the city's demography drastically changed within a few years as people opted for employment in more lucrative cities (Kangas & Karonen, 2023). Those born in the area during the right period could take advantage of the plethora of jobs and economic prosperity in the area, but subsequent cohorts are strongly encouraged to seek opportunities elsewhere, without the benefit of early employment options. In the case of Salo, a dual problem emerged as highly specialized and educated individuals found no suitable jobs, and even manufacturing trades faced a similar issue due to the lack of demand for manual labour at such a high volume. Simultaneously, the area's overall prosperity and economic drive declined, triggering a domino effect of labour migration. As more people choose to relocate, it also impacts social relationships, the composition of social classes, and networks, creating additional pressure, coupled with dwindling economic opportunities, to do the same. This exemplifies the push-pull effect in the life course paradigm, as individual agency and the pursuit of economic security also influence social relationships and vice versa.

The third element is *social relations and linked lives*, which broadly encompasses the integration of social groups. In this context, social actions at cultural, institutional, and social levels interact not only as parts of a whole but also as the result of other individuals who share similar experiences. Expectations, norms, or social institutions vary between cohorts. For instance, differences between groups can be found in various aspects such as family backgrounds or experiences in work, education, and other domains (Webster et al., 2022). To illustrate, during the economic recession in the 1990s, certain social classes experienced the economic downturn more severely, and both the parents and their children had differing experiences compared to those with more secure social positions (Haapakorva et al., 2017). This led to different generational experiences of the same event, which uniquely identified cohorts, and could have influenced certain economic choices made by the individuals (Mayer, 2009; Wrzus et al., 2013). Social relations are a complex matter in the life course paradigm, as individual agency either shapes or is affected by social relations and geographical location.

In conclusion, all the elements mentioned above are linked and shaped by the

timing and coincidence of economic events. The timing of birth sets a fixed point around which other events occur within a historical period. Individuals and cohorts attempt to achieve their goals, responding to the timing of external events and engaging in behaviour based on available options and resources. Thus, the timing of life events intersecting with age and cohort can be understood as both passive and active adaptation for achieving economic goals. Examples include how and when a person accumulates income, wealth, and education, chooses an occupation, or starts a family.

To revisit a previous example, the factory closure in Salo is a local event, which is beyond the individual's control and can serve as a point where the economic reality changes depending on the life stage (Kangas & Karonen, 2023). Specifically, if the individual is at the stage of transitioning from school to work, the closure could mean foreclosure of the possibility of beginning a career for which the person has educated themselves for over 5 years. This could lead to a later entry into the labour market and directly affect economic trajectories over the life course. Here, the timing of the transition, available economic opportunities, and the position in the life course compared to the event come together, illustrating the multidimensionality and importance of generational analysis.

Focusing on the *outcome of the model*, all the elements of individual choice, location, historical period, social relations, and the dimension of timing play a part in economic life course trajectories. Simply put, we can measure how each cohort's income, consumption, and wealth have developed over the life course. Each of these measurements represents a dependent variable, which offers a holistic viewpoint on cohort economic history: income, consumption, and wealth do not operate in a vacuum, as one needs income to acquire goods and services and ideally save the excess for later use and to reinforce their financial security.

Furthermore, the models can be tailored to accommodate multiple variables within the life course paradigm. For instance, individual agency can be considered through years of education, historical periods can be represented by the year of measurement, and social relations can be depicted by occupational or social class. Additionally, some variables could represent multiple issues, such as gender, which can guide individual choices (preferences in the educational- and occupational field) and time (gender norms, parental policy etc.). When considering timing, a variety of methods utilizing age-period-cohort modelling can be employed to account for the individual's age and year of birth. Once this dynamic across age, period, and cohorts is captured among all three economic measures, this thesis provides a more precise answer to the question of generational economic inequality than ever before.

3.3 Previous research connected to the holistic perspective

The holistic economic perspective is built upon the causal relationship between income, consumption, and wealth. One needs a stable and suitable level of income to accumulate wealth and meet various expenditure needs. It is understood that these three components vary based on life circumstances, age, environmental demands, and preferences. In this section, I present a descriptive outlook of the holistic economic perspective by connecting major life course events from previous sections to contextualize the long-term situation of economic inequality in Finland.

To start, let's begin with the root cause of economic accumulation by focusing on income. Through the lens of the economic life course paradigm, previous studies on income inequality between cohorts can be summarized into five main results. *First*, studies on European welfare states and the United States reveal discrepancies in income accumulation between cohorts, indicating that being born in the 'Baby Boomer' generation provides an advantage (Chauvel, 2013; Chauvel & Schroder, 2015; Freedman, 2017). *Second*, research on income and wealth inequality reports that younger generations have lower living standards than their parents at similar ages in Great Britain (Crawford et al., 2016), Europe (Stand & Rising, 2011), the United States (Chetty et al., 2017), Canada (Kershaw, 2015), and Australia (Daley & Wood, 2014).

These two points are also reflected in the findings from Finland. The 'Baby Boomer' generation appears to have the highest income cohort compared to other generations, and studies show discrepancies in income accumulation between cohorts (Pekkala & Lucas, 2007; Riihelä 2006; Suoniemi 2012). Similarly, studies have found that the younger generation is a victim of unfortunate timing in an economic sense, as they faced an economic shock, leading to a lower income level than expected (Riihelä, 2006).

Third, focusing on period effects, economic shocks have been identified as a significant influence on inter-cohort income inequality. The main hypothesis suggests that cohorts entering the job market during times of austerity and economic downturn are – compared to cohorts born during an economic upturn – in a more disadvantaged position in terms of attaining similar career opportunities. *Fourth*, connected to this, the effectiveness of welfare state institutions in buffering external shocks, particularly the generosity of the income transfer system, is known to fluctuate over time. This impacts how different socioeconomic and demographic factors contribute to individuals' income trajectories (McCall & Percheski, 2010). For instance, younger generations have an 8 percent lower expected income than older generations, a result of the economic situation and different socio-political reforms (Berloffa & Villa, 2010).

Both the third and fourth points are applicable in the Finnish context. The era of

welfare state expansion in the 1960s and 1970s decreased income inequality regardless of the income concept. Additionally, during the welfare state expansion, Finland underwent a phase of educational expansion, which led to the increased importance of growth centres and a shift in the occupational structure. The agricultural sector diminished in favour of a more service-based economy (Pekkala & Lucas, 2007). Thus, overall income did increase until the early 1990s (Blomgren et al., 2014). After this point, a significant drop in income is observed, revealing the economic recession of the 1990s, which heavily impacted income. From a comparative perspective, the increase in income inequality was exceptionally rapid and steep in Finland during the period between 1995 and 2002 (OECD, 2008). The main hypothesis suggests that cohorts entering the job market during times of austerity and economic downturn are – compared to cohorts born during an economic upturn – in a more disadvantaged position in terms of attaining similar career opportunities (Berloffa & Villa, 2010).

Fifth, in addition to economic development, the increased individual agency to acquire human capital has changed through educational expansion, which is linked to the returns to income from certain educational fields (Becker, 1962; Mincer, 1958; Pekkala & Lucas, 2004). Older generations had the opportunity to work towards higher education but also benefited from expanding job markets and low competition within the same educational field. As educational expansion progressed, younger generations had to compete with an ever-growing pool of highly educated individuals for the same jobs. Therefore, according to supply and demand, higher degrees hold less profit-making value for younger generations than for older generations. The older generations reaped the benefits of starting their careers in an optimal job market situation while also gaining work experience. In addition, these changes between cohorts have been especially significant for women who have made gains in educational attainment, fields of study can influence income. Women may still be underrepresented in high-paying fields such as science, technology, engineering and mathematics.

As a result of economic cycles, structural changes, and educational expansion, prior research has indicated that income typically exhibits an inverted U-shape pattern, increasing with age and then slightly declining as individuals transition into retirement (Gangl, 2005). However, even taxpayers aged 60 years or older tend to earn above-average incomes (Alessie & De Ree, 2009; Bönke et al., 2015). This suggests that as the Baby Boomer generation continues to progress into their peak earning years, there will be a higher proportion of high-earning individuals compared to younger, lower-earning individuals, contributing to a perceived rise in inequality. A similar pattern can be observed in Finland when examining the age distribution of income; the income trajectory across different age groups also forms an inverted U-shape (Riihelä et al., 2014). Notably, those between the ages of 30 and 40 years experience a slight delay before their income trajectory increases more rapidly. This phenomenon can be attributed to gender differences in income, as the 30–40 age

bracket coincides with the child-rearing stage, which can impact women's earnings. The peak of one's career appears to occur between the ages of 55 and 60 years, half a decade prior to the typical retirement age.

Expenditures are intrinsically linked to income, thereby establishing a budget constraint. Without savings or loans, an individual's spending cannot exceed their income. As such, income and consumption tend to increase concurrently, with the ideal situation being that expenditures fall below income, enabling the surplus to be saved for future use. If consumption surpasses income, it inevitably depletes wealth, indicating an overspending situation.

Moreover, consumption is a vital measure, as income alone may not accurately reflect the long-term resources available to a household or individual (Blundell & Preston, 1998; Uusitalo, 1980). Temporary fluctuations in income can distort the true economic status of a household, especially when borrowing or saving mechanisms are utilized to balance out consumption patterns.

Sociologists widely agree that consumption patterns vary throughout an individual's life course, with the desire to purchase certain consumer goods fluctuating based on life stage, consumer culture, and market conditions (Felson, 1976; Hirsch, 2005; Nicosia & Mayer, 1976). Research has consistently shown that life events significantly influence consumption preferences (Gourinchas & Parker, 2002; Kolsrud et al., 2017), including health transitions and the onset of parenthood (Stöver, 2012). In the same vein, numerous variables that change over time, such as family structure, age, class, and occupation, have a strong correlation with spending patterns (Bihagen, 1999; Blundell & Preston, 1995; Cohen, 2016; Heslop, 1987; Katz-Gerro, 2003; Katz-Gerro & Talmud, 2005; Koelln et al., 1995; Salcedo & Izquierdo Llanes, 2020).

From the life course perspective, the central concept is that individuals' consumption propensities vary across cohorts and periods, and different cohorts exhibit unique life course patterns. For instance, starting a family increases spending needs beyond the individual, whereas single students can manage with less. Consumption peaks around the age of 50 and decreases thereafter into retirement (Lim & Zeng, 2016). It is logical that at a young age, income levels are relatively low, while consumption escalates later in life when individuals acquire a home and start a family. When income decreases post-retirement, expenditures are optimized within this constraint.

Similarly, from a cohort perspective, research indicates that as individuals' income and wealth increase, they diversify their spending; this behaviour is believed to be driven by resource-optimizing tendencies (Deutsch et al., 2015; Krueger & Perri, 2006; Räsanen, 2003). In low-income groups, individuals typically exhibit concentrated spending patterns, but these tend to diversify as income rises (Fernandez-Villaverde & Krueger, 2011; Krueger & Perri, 2006; Räsanen, 2003). Furthermore, the level of heterogeneity in expenditure diversity increases alongside income (Chai

et al., 2015).

In Finland, expenditures have risen over the years, reflecting the overall increase in income. However, this trend is not always consistent. During the economic recession of the 1990s, consumption rates remained stable, as economic crises affect incomes and relative prices (Dutt & Padmanabhan, 2011; Hampson & McGoldrick, 2013; Mckenzie et al., 2011; Räsanen, 2003). Nonetheless, the consumption of necessities remains unchanged despite economic fluctuations, and short-term changes may be offset by utilizing savings, underscoring the point made by the aforementioned research (Blundell & Preston, 1995, 1998; Friedman, 1957; Slesnick, 2001).

However, a cohort effect could be at play, as previous research on consumer behaviour during an economic crisis has found that younger generations tried to maintain their consumption level, whereas older generations aimed to reduce their spending (Urbonavičius & Pikturnienė, 2010). The divergence in economic behaviours can be attributed to the older generation's ability to exhibit more steady and logical purchasing behaviour in relation to income, as opposed to their younger counterparts.

Finally, *wealth* accumulation has often been approached from the perspective of the life cycle hypothesis, which posits that people aim to maintain the same consumption level throughout their lives when their income is low by taking on debt when they are young and using their savings later in life (Modigliani, 1966). Here, wealth accumulation is primarily achieved by saving during peak earning years when income is at an all-time high. The hypothesis assumes that wealth accumulation will follow a 'hump-shaped' pattern: low at the beginning of adulthood and in old age, and peaking in the middle. However, empirical studies over the years have questioned this conclusion, as data suggest that retirees do not deplete their wealth as quickly as the model predicts (Alonso-García et al., 2022).

In Finland, two significant historical period changes have major implications for the wealth trajectories and wealth distribution of cohorts. These events are new market opportunities, tax reforms, and economic cycles.

First, in the Finnish context, until the 1980s, the financial market was regulated, including interest rates, foreign exchange rates, and the import and export of currency (Pekkarinen & Vartiainen, 1993). During the 1980s, the Bank of Finland began a slow deregulation process, allowing banks to handle foreign exchange affairs, and by the mid-1980s, the banks' lending rates were deregulated. Finally, market operations opened in 1987, marking the birth of a modern financial market (Jonung et al., 2009). This opened up practical means for the general public to invest and use financial instruments. The context of financial markets presents a unique opportunity, as the dataset for this dissertation covers the period, which could reveal potential effects on cohort acquisition of financial wealth.

The *second* major change was the shift in tax reforms. Until the end of 1992, Finland had a global income tax system where all income was treated the same. The reform separated the taxation system into labour and capital tax, followed by a shift

from earnings to capital income. In practical terms, these changes meant a significant gap between the marginal tax rate on labour and capital income for many taxpayers, benefiting those with more capital income and financial investments (Pirttilä & Selin, 2011.).

Third, economic cycles, such as the recession of the 1990s, are significant periodic influences that can lead to increased unemployment rates among young adults and hinder wealth accumulation. Within the context of life stages, those who have established long and well-defined careers in their later years may not experience the same impact from an economic downturn as those attempting to enter the labour market for the first time (Frankenberg et al., 2003; Lovenheim & Reynolds, 2013). Consequently, cohorts affected by economic recessions may tend to be more cautious in taking risks and might have limited options for wealth accumulation throughout their lifetime (Attanasio et al., 1999; Cagetti, 2003; Lusardi et al., 2017; Malmendier & Nagel, 2011).

Similarly, as in the case of income, the second factor in periodical changes is economic shocks, which can have varying effects across generations. Those who have long and well-defined careers at a later age may not be similarly affected by an economic shock compared to those trying to enter the labour market for the first time (Frankenberg et al., 2003; Lovenheim & Reynolds, 2013). Hence, cohorts affected by an economic downturn may be more risk-averse and have fewer wealth-building options available during their life course (Attanasio et al., 1999; Cagetti, 2003; Lusardi et al., 2017; Malmendier & Nagel, 2011). In the same vein, since households need stable income and employment to purchase property, these specific cohorts might have postponed their initial home acquisition. This is pivotal for wealth accumulation, as prior findings on the periodic impact on wealth reveal that, irrespective of time and location, real estate constitutes a significant portion of net worth (Christelis et al., 2009; Kolb et al., 2013; Sierminska & Takhtamanova, 2007).

From the perspective of a cohort, past findings indicate a link between generational wealth, featuring strong persistence of wealth across generations, particularly at the higher end of the distribution (Charles & Hurst, 2003; Conley & Glauber, 2008; Hansen, 2014; Mulligan, 1997; Pfeffer & Killewald, 2018). This phenomenon, in the context of Finland, can be traced back to the significant tax reform in 1993. The resulting gap between the marginal tax rates on labour and capital income was advantageous for those with higher capital income and financial investments. It is plausible to assume that these changes significantly affected wealth accumulation across generations, as previous findings suggest that the dual-taxation reform in 1993 boosted capital gains at the top of the income distribution. Further, higher inflation rates serve as a broader economic factor that impacts inter-cohort wealth inequality. They tend to favour the wealth positions of younger, middle-class households at the expense of older and wealthier households (Doepke & Schneider, 2006).

Age plays a crucial role in the distribution of wealth, with the assumption that

wealth is gradually built up through savings, inheritances, and other forms of capital transfers. Studies on age-related variations have consistently shown that wealth generally escalates throughout one's life until reaching the age of 60 (Hurst et al., 1998; Sierminska & Takhtamanova, 2007). In Finland, the pattern of net worth follows a similar path, with a noticeable decline in older age groups. Interestingly, the peak net worth tends to lie within the 65–74 year age group, which is slightly older compared to other countries, although this age range can fluctuate depending on the time period (Hurst et al., 1998). In contrast, the distribution of assets before debt reduction appears to be more balanced across different age groups, with the 45–54 and 65–74 year age groups having almost equal average assets (Tormälehto, 2018). It's important to note that wealth accumulation is influenced by certain factors. For instance, young adults with lower net worth who have invested in higher education may not currently have a strong wealth position, but this doesn't necessarily reflect their long-term financial potential (Conley, 2001; Conley & Ryvicker, 2005).

4 AIMS OF THE STUDY

In this chapter, I address the primary objectives of the research, which involve studying generational economic inequality from a holistic perspective. Practically speaking, it serves as a classifying guideline: the major research questions are categorized according to the type of resources, split into the domains of income, consumption, and wealth. With this framework in mind, the dissertation seeks to answer three main questions:

1. Income
    - How has generational income inequality changed, and how have different structural and socioeconomic mechanisms contributed to income differences? (Sub-studies I and II)
2. Consumption
    - How has generational consumption inequality changed within income distribution? (Sub-study III)
3. Wealth
    - How has generational wealth distribution changed, and how does the opening up of financial markets relate to changes in wealth between generations? (Sub-study IV)

The unique aspect of this dissertation is that it takes into account both the life course of each cohort and the period. Thus, three factors are at play: age, period, and cohort. Rather than a simple snapshot of a certain time or age, research was conducted to control for these dimensions. State-of-the-art methods and high-quality datasets were used to tackle this multidimensional challenge. Furthermore, a holistic framework is applied in economic measures, as each sub-study is divided to measure income, consumption, and wealth. As a result, the findings show cohort differences in all types of economic resources over the life course, providing a more precise perspective on economic inequality.

The first research aim, income, contains two sub-studies that differ in nature to cover the scope of the aim. In the first study, a novel methodology is applied to

measure income equality on the dimensions of age, period, and cohort. The main objective is to observe if non-linear variation around the linear trend of income has benefited some birth cohorts. The central idea is that, by taking into account the linear development of income, one can fairly observe which generations have benefited the most. Various background factors have been considered to determine if the life course, period, or timing of birth plays a role in generational income development. In the second sub-study, high-quality register data are used to delve deeper into the background factors contributing to income inequality between generations. By using data that track the entire Finnish population, the dissertation measured how income inequality has evolved during the life course between generations and how much the background factors contribute to overall income inequality. This directly contributes to previous research in a novel way, as it has primarily focused on the background factors directly and not on how they vary according to period, timing, or life course.

The second aim is consumption. The third sub-study focuses on how expenditures in necessities and leisure consumption between high- and low-income households connect to economic inequality between birth cohorts. The innovative concept here is to compare these two subgroups, as the gap between the 'haves and have-nots' is related to societal questions of fairness and equal opportunity to participate in society's functions. Thus, if the gap between the rich and poor has narrowed over time, it should indicate that society has become more inclusive over time. For example, investment in leisure time can show whether more economically disadvantaged individuals can participate in society and its functions – in other words, whether society and generations more well-off and not merely surviving, as they can afford to have personal goals and interests in life.

In the last research aim, in the fourth sub-study, I examined how not just wealth but all asset types and investments affect the total wealth accumulation between birth cohorts. Here, wealth represents the financial security development of generations. If between-generation investment in financial assets and savings has increased, this could suggest that the overall economy provides a more financially secure base for newer generations. In addition, the novel idea is to use rich data to measure beyond gross or net wealth, touching on different financial asset types and accounts. Furthermore, the Finnish case provides a unique perspective on the matter, as the dataset starts at the opening of the financial markets, which sets the measurement point at different life stages for different generations. Thus, it opens up the possibility to observe how readily different generations at various stages of life react to new financial opportunities, and if the matter of timing is producing more economic (in)equality.

The empirical framework of the research is demonstrated in Table 2. The research tasks are divided into four main questions.

Table 2. Descriptive table of the dissertation's sub-studies, research questions, data, and methods.

	Research questions	Study	Data	Methods
Income	**RQ1** - How much generational income inequality explains total income inequality during 1970–2018 for men and women in Finland **RQ2** - How much diffrent structural factors contribute to generational income inequality	**SUB STUDY I** Generational differences in income trajectories in Nordic welfare state	FOLK register data	Generalized Estimation Equations (GEE) & Intraclass Correlation Coeffecients
	RQ1 - How income distribution has developed across periodic economic fluctuations in relation to cohorts and age group	**SUB STUDY II** Life course perspective on economic shocks and income inequality through age-period-cohort analysis: evidence from Finland	Finnish Income Distribution Statistics (IDS)	APC Detrended -model
Consumption	**RQ1** - How inter-cohort income and spending profiles in high- and low-income deciles have changed **RQ2** - How much inter-cohort consumption profiles between high- and low- income differ in specific categories of consumption	**SUB STUDY III** Necessity-rich, leisure-poor: the long-term relationship between income cohorts and over the years 1966–2016 consumption through age-period-cohort analysis	Finnish Household Expenditure Surveys (HES)	APCGO -model
Wealth	**RQ1** - How between-cohort wealth inequality has developed from 1987 to 2016 **RQ2** - How wealth trajectories over age have developed between cohorts	**SUB STUDY IV** Inter-cohort wealth development in Finland, 1987–2016	Finnish Household Assets (HAS	OLS regression interaction models

5 DATA AND METHODS

In this chapter, I go through the main research questions and how they have been addressed. This section contains discussion on how these questions are answered, including technical details on their data sources, measurement units, and various methods.

5.1 Data

This thesis utilizes two primary types of data sources to measure income, consumption, and wealth: income, expenditure, and wealth surveys and tax register data. The first two sub-studies, which focus on income distribution, employ Finnish Income Distribution Statistics (IDS) and FOLK register data. It should be noted that the IDS survey data is constructed from the register data used in the second sub-study, rendering them analytically comparable. The third sub-study employs Finnish Household Expenditure Surveys (HESs), while the fourth uses the Household Assets dataset. All these datasets are administrated and maintained by the Official Statistics of Finland (OSF).

A common denominator for all the datasets is the register data, which form the basis for a large portion of the surveys. This implies that all information regarding a reference person's taxable monetary sources and personal characteristics are derived from the registers. Conversely, information that cannot be sourced from registers, such as wealth, non-taxable information, and household expenditures, is gathered through surveys. In essence, Sub-studies II to IV are sourced from the first sub-study, which also serves as the foundation for sample selection. This shared core in each sub-study enhances the validity of comparisons made between the results when they are examined comprehensively in the discussion section.

As previously mentioned, the first two sub-studies are utilized to analyse the initial research question on income. The analysis of the first sub-study uses the FOLK register data from the OSF, which provides information on the total population. Our sample from this data includes 4.4 million individuals from 1970 to 2018. Each person was tracked until the end of the data period, and any new family members were added to the panel and monitored. The data was amalgamated with information from the population register, tax register, and several other official registers (see OFS, 2024). This data enabled us to follow the income trajectories of cohorts born

between 1920–1989 for four decades of the working-age population, aged 20–65 years.

Sub-study II is based on the Finnish IDS and the Finnish HES provided by Statistics Finland. Both datasets are part of the OSF and the European Statistical System (ESS) series. HES provides data on incomes and expenditures for the years 1966, 1971, 1976, 1981, and 1985. The data are partly derived from interviews, and since the 1971 survey, they have also been obtained from official registers. The IDS provides data on incomes, collected annually since 1987. Thus, the analysis period in this study spans from 1966 to 2015. In both cases, income data are gathered from tax and other registers and are generally considered high-quality. The data are harmonized to provide a representative sample of the Finnish population. The primary unit of analysis is the household. Data are multiplied to the level of the total population by using special weights included in the household surveys. The person with the highest personal income is chosen as the household's reference person, serving as a proxy for demographic and background status. The income variables measure both the household's income and the individual income of the household's reference person.

For the second research question on consumption, the empirical analyses in Substudy III are based on the Finnish household expenditure survey (HES) conducted by Statistics Finland. This dataset is part of the OSF and the ESS series. The HESs provide data on households' annual expenditures for various purposes, such as food and transportation. They also provide extensive information on households' structures, activities, durable goods, housing conditions, income, and social services benefits. From 1966 to 1990, the survey was conducted regularly at five-year intervals. From 1994 to 1996, the survey was conducted annually. Subsequent HESs were conducted in 1998, 2001, 2006, 2012, and 2016. Data are partly derived from interviews and, since the 1971 survey, from official registers. The household budget survey data are collected via interviews, diaries, and purchase receipts kept by households, as well as from administrative registers. The data collection process includes interviews about a household's background, ownership and purchase of durable goods, residential costs, and other information. After the main interview, households keep a diary of their consumption expenditures and retain receipts from their purchases for two weeks. Demographic and income data are derived from registers.

Finally, the third research question centres on wealth. Sub-study IV utilizes the OSF Household Assets dataset. This wealth survey delineates household assets, including their total amount, structure, and distribution among various population groups. The survey also encompasses other aspects that impact the financial standing of households, such as income and debts. It also includes data on debt and income. Data on wealth are procured using different estimation methods, with register data serving as the data sources. The dataset ranges from 1987 to 2016. It's noteworthy that there have been certain changes in data collection within the Household Assets

dataset. In 1987, 1988, 1994, and 1998, the data were gathered as an interview study linked with the data collection of IDS. The 2004 survey (the Housing and Wealth Survey) was a distinct survey. The 2009 survey is rooted in a sample of income statistics, but with a revised methodology excluding separate data collection. IDS for the sample households are associated with, for instance, housing, shareholdings, and vehicle registration information. Not all asset types are available for statistical use registry information, necessitating the employment of various estimation methods. Due to the revised methodology, the comparability differs from one asset to another.

It's worth noting that since the research involves individual citizens, I have considered the ethical issues pertaining to data management. Firstly, the datasets employ pseudonyms as ID codes, ensuring no individual can be identified from them. Secondly, my co-authors and I have formally signed non-disclosure agreements with Statistics Finland to refrain from distributing the data or using any information that could conflict with laws on the use of the statistics. The data are securely stored behind password protection, while the register data can only be accessed through a remote network on Statistics Finland's servers. This research poses no risk to the well-being of any original survey participants or individuals amongst the register data. All datasets were collected before the implementation of the General Data Protection Regulation.

5.2 Indicators

5.2.1 Dependent variables

This dissertation addresses the three primary research questions using indicators focused on income, consumption, and wealth. Each variable is adjusted for inflation and equivalized when household measures are applied.

Sub-study I utilizes register data, providing an opportunity to measure individual income over time. Specifically, the study employs taxable annual income as the dependent variable, which is both inflation-adjusted and log-transformed. As suggested by previous research, income is adjusted for inflation to eliminate the impact of price inflation on data. The log-transformation is implemented to convert the skewed income distribution into a normally distributed one, catering to the requirements of the statistical models (see Canberra Group, 2011). The annual income variable encompasses all taxable annual (pre-tax) income: earned income, capital income, and the majority of social benefits. Despite the data's comprehensive coverage, they do not include some non-taxable incomes, such as means-tested, last-resort social assistance benefits. It should be noted that disposable income could not be utilized, as the registers contain this information only for a few measurement years, making annual taxable income the second-best option.

In the second sub-study, the dependent variable is the annual household disposable income. This includes monetary income items and benefits in kind related to employment relationships. However, it does not include imputed income items, such as imputed rent (see OSF, 2015a). The household income is not top-coded. In the HES statistical years of 1966–1985, all income variables utilized the older Finnish national currency, the Markka (FIM). To harmonize the variables, all monetary values were converted from the old currency, FIM, to EUR. Additionally, the income has been log-transformed and equivalized with the modified Oxford scale annual household disposable income, which has been adjusted for inflation.

Sub-study III has multiple dependent variables, which are equivalized and adjusted for inflation in euros. The variables used include money income, money spending, food and grocery expenditures, and cultural and leisure-time expenditures. The aggregate food and grocery expenditures variable is constructed from 282 separate food item variables, which include details on every aspect of food items. Culture and leisure time are also used as aggregates and comprise the total expenditures of 133 variables.

In Sub-study IV, the dependent variables consist of annual household gross, net, and financial wealth. The gross wealth variable includes several components: the value of dwellings and other properties; transportation; forests; the value of arable land; net worth of business activities; net worth of a group; total deposits; listed shares; other shares; investment funds; bonds; participation certificates; individual pension insurance; and savings and investment assets. Household net wealth is calculated by subtracting the household's liabilities from its gross wealth. Financial wealth is used as a dependent variable to measure changes in investment rates following financial market deregulation. This variable comprises quoted deposits, shares, other shares, fund shares, pension insurance, and savings. The household wealth concepts are not top-coded (see OSF, 2015b). As wealth is a highly skewed variable, the dissertation utilized the recommended inverse hyperbolic sine (I) transformation, which can incorporate zero and negative values (to account for debt, etc.) (Friedline et al., 2015; Pence, 2006). The dependent variables are the inverse hyperbolic sine of all listed wealth concepts, which are equivalized and adjusted for inflation.

For ease of interpretation of the results, the coefficient measures were transformed back into euro values by using the inverse function $\frac{1}{2}(exp(\beta X) + exp(-\beta X))$ (see Pence, 2006).

5.2.2 Independent variables

For independent variables, this dissertation also measured socioeconomic status (SES) in terms of social class and education, unemployment, family structure, and income transfers. Different strategies were implemented depending on the accuracy provided in the dataset.

In Sub-study I, SES was measured using Erikson–Goldthorpe's class classification (Goldthorpe & McKnight, 2006). While the Goldthorpe / Erikson / Portocarero class schemes (EGP) traditionally include ten categories, data restrictions in the older registers from 1970–1980 necessitated harmonization to seven classes: higher service (I); lower service (II); higher routine non-manual (IIIa); small proprietors and employees (IVa); self-employed farmers (IVc); lower technicians (V); and routine non-manual workers, administration, and sales and services semi-/unskilled manual workers (IIIb+VIIa+b). In Sub-studies II, III, and IV, SES was measured by the main type of economic activity, based on Statistics Finland's Classification of Socio-economic Groups. This classification includes employees, who are classified into upper-level and lower-level employees, and manual workers. Self-employed individuals can be grouped into self-employed without employees, self-employed with employees, and unpaid family workers.

In Sub-study I, education was measured as a continuous variable, in years. The indicator referred to the highest acquired degree and the years required to attain that education level. Finland has a compulsory education system, which sets the minimum years of education at 9 years, and the maximum years of education at 21 years. Sub-studies II, III, and IV used a categorical variable, which is the highest educational level attained by the end of the measurement year. The classification is based on the The International Standard Classification of Education (ISCED) classification, and includes basic education, upper secondary education, post-secondary non-tertiary education, lower tertiary education, higher tertiary education, or higher.

Unemployment in Sub-study I was quantified by the number of months at the end of the year. Hence, the term 'unemployed' encompasses those not employed for various reasons, such as retirement, studying, or home care. Unfortunately, Sub-study II did not offer such detailed information; instead, it employed the unemployment level within each 10-year age group for accuracy, thus providing necessary variation at the cohort level over time, compared to a mere annual unemployment level.

Family structure was examined in all sub-studies, using the number of children as an indicator. There were nine categories: no children, one to eight children (each child reported separately), and a distinct category for families with nine or more children.

In conclusion, several unique variables were employed in specific sub-studies. Sub-study I introduced two unique variables not present in Sub-study II. Firstly, income transfers were included to compensate for the absence of disposable income as an indicator. The income transfer variable comprised social security benefits, social assistance, and other current transfers received. Secondly, the cohort size was also controlled, a feat made possible by the register data, to capture structural changes in the demographic age structure. In addition, analysis was done both for men and women respectively, while other sub-studies omitted this approach as they use household-level data based on reference persons without access to the partner's

information.

Furthermore, Sub-study II included urbanization level to account for varying consumption preferences and needs in different areas. Three categories were employed to denote the urbanization level of the household's municipality: city, densely populated, and rural.

5.3 Methods

5.3.1 Multilevel approach to between-cohort income inequality in Sub-study I

The first sub-study of this dissertation employed multilevel modelling to determine the extent to which between-cohort income inequality accounts for overall income inequality throughout the lifespan. The choice of methodology was bolstered by the availability of a high-quality register dataset, tracking all Finnish individuals over time. Consequently, an age-period-cohort framework was neither required nor appropriate, given the focus was on income variance.

The article utilized three-level random intercept regression models, separately for men and women. These models clustered observations according to cohorts and individuals, yielding individual-, time-, and cohort-specific variances. The study controlled for age in 5-year interval categories across all models, including baseline models, since birth cohorts encompass individuals with varying age spans. By adjusting models where age groups are accounted for, it made possible to compare income inequality between individuals who were in the same age groups (5-year intervals) but belonged to different cohorts. Variance decomposition methods were employed to identify which specific variables contributed to between-cohort income inequality.

To determine how much between-cohort income inequality explains total income inequality, the models were designed to estimate variance components in baseline models that controlled for age in 5-year interval categories. As age is controlled for, we only observe the average differences in between-cohort income inequality. If age were not controlled, the model would be biased because age trajectories would vary by birth cohort. Moreover, the article examined how structural factors contributed to total between-cohort income inequality by decomposing variance from the baseline models and adding each explanatory variable individually to the models. Finally, the article estimated variance components for complete models that included all the explanatory variables. In both instances, variance components and intraclass correlation coefficients (ICCs) were provided to demonstrate how much cohort-specific differences in income, both before and after adjustments, account for the total variance (cohort var. + within individual var. + between individual var.). As all the models control for age, total income inequality implies differences between and within individuals of different cohorts, adjusted for age. The ICC serves as a

measurement for the degree of between-cohort income inequality from total variance, as between-cohort variance is calculated as a percentage share from the total variance. The models we estimated can be expressed as follows:

$$Y = \beta_0 + \beta x_{cit} + \tau_c + \mu_{ci} + \epsilon_{cit}$$
$$Y = \beta_0 + \beta x_{cit} + \beta Z_{cit} + \tau_c + \mu_{ci} + \epsilon_{cit}$$

Y denotes income that is the dependent variable, β_0 is an overall intercept, and βX_{cit} is the age of the individuals that are adjusted for in all the models (dummies for every 5-year interval). Here, cit refers to the levels of the cohort (c), individual (i), and time (t). Here, time refers within-individual variation, as in the data individuals are followed through the years. Z_{cit} describes the observed cohort and individual characteristics for each independent variable; residual τ_{cit} reflects differences due to unobserved cohort-level heterogeneity, which does not vary between individuals of the same cohort. μ_{ci} refers to unobserved individual-level heterogeneity, which is constant for each individual, and ϵ_{cit} refers to the residual variance within individuals due to time (within individual variation).

The random intercept model allowed for comparing cohort- and individual-level variances with the total variance in the model: $\sigma^2_{cohort} + \sigma^2_{individual} + \sigma^2_{time}$. The amount of variance explained by the cohort with respect to the total variance of income inequality was calculated by $\rho_{cohort} = \frac{\rho^2_{cohort}}{\rho^2_{cohort}+\rho^2_{individual}+\rho^2_{time}}$, which indicates the share of between-cohort income inequality. $\rho_{individual} = \frac{\rho^2_{time}}{\rho^2_{cohort}+\rho^2_{individual}+\rho^2_{time}}$ measures how much individual variation in income explains from total variation of income inequality. When ρ_{cohort} and $\rho_{individual}$ are multiplied by 100, the value can be interpreted as the degree to which cohort and individual variations explain between-cohort income inequality as percentages of the total variation.

To capture the change over the life course, the study used growth curve multilevel models in order to investigate how the structural factors explain cohort differences in income over different stages of life course. To this end, the article estimated the means and variances of income trajectories by age between cohorts. Similarly, as in the first part, the baseline model (empty model) was run first, and after this, the models included each structural factor separately. After this, the study calculated how much each structural factor changed between-cohort variance in percentages compared to the empty model. In the growth curve models which are denoted below, we added an interaction term between cohort and age:

$$Y = \beta_0 + \beta 1 x_{cit} + \beta 2 x_{cit} + \beta 1 x_{cit} * \beta 2 x_{cit} + \tau_c + \tau_{\beta_{\tau c}} + \mu_{ci} + \epsilon_{cit}$$
$$Y = \beta_0 + \beta 1 x_{cit} + \beta 2 x_{cit} + \beta 1 x_{cit} * \beta 2 x z_{cit} + \beta z_{cit} + \tau_c + \tau_{\beta_{\tau c}} + \mu_{ci} + \epsilon_{cit}$$

Models used random slope linear regressions with within-subject correlations of repeated measurements by assuming a correlation structure between them (Twisk,

2004). Y denotes income is the dependent variable, β_0 is the intercept (grand mean), $\beta 1 X_{cit}$ is the regression coefficient for the age of the individuals (dummies for every 5-year interval), $\beta 2 X_{cit}$ is the regression coefficient for cohort, and βZ_{cit} is the independent variable. In the interaction models, denoted $\beta 1 X_{cit} * \beta 2 Z_{cit}$, the article computed age and cohort variables under categorical variables because the results were presented in easy-to-interpret graphical form. Error terms in the model are denoted as follows: ϵ_{cit} is for individuals at time t; τ_c is for cohorts; $\tau_{\beta_{\tau c}}$ is cohort within age, and μ_{ci} is individuals within a cohort.

5.3.2 Age-Period-Cohort methodology to measure income and consumption in Sub-study II and III

The second and third sub-studies of this dissertation utilized innovative age-period-cohort modelling techniques. Age-period-cohort models aim to estimate inter-cohort income trajectories by examining the effects of age, period, and cohort from two contextual perspectives: the relative and absolute contexts.

However, despite numerous papers suggesting that answers can be found in the empirical estimations and effects of age (a), period (p), and cohort (c), a significant problem that arises as the 'identification problem.' The variables are collinear, meaning that when two of the variables – age, period, or cohort – are known, the third is also known. Collinearity between regressors suggests that the statistical model produces an infinite number of possible solutions for either the least squares or maximum likelihood estimators (Yang et al., 2004). Thus, the primary issue is that the model does not possess a unique solution, and such a solution cannot be identified. As a result, when the actual underlying process affecting a dependent variable includes linear effects of some or all of APC, there is a risk of selecting the incorrect combination, given that we could substitute a term for the combination of the other two terms without altering the data

Age-period-cohort models are an attempt to grasp the identification problem. The model aims to explain outcomes through three components: the individual's age a (α_a), membership in a cohort c (μ_c), and statistical period p (π_p). Thus, the equation can be stated as follows:

$$y^{apc} = \mu + \alpha_a + \pi_p + \gamma$$

The primary function of the APC model is to determine 'how' an outcome is influenced by the individual's age (life-cycle stage), time of birth (cohort), and time (period).

Past research has addressed the identification problem by imposing specific restrictions on the model (Hobcraft et al., 1982; Mannheim, 1928; Mason et al., 1973; O'Brien, 2011; Ryder, 1965; Yang et al., 2004). These restrictions are designed to

limit the coefficients of certain variables. One such example is the constrained generalized linear model (CGLIM) estimator, which relies on a theoretical foundation whereby constraints utilize additional information to limit coefficients based on theory. However, the CGLIM's dependence on external information is problematic, as such information often does not exist, and CGLIM is sensitive to the selection of constraints, as noted by Glenn (1976). This issue is one of the reasons the intrinsic estimator (IE) model was developed by Yang et al. (2004, 2008).

At its core, the IE employs principal component analysis to reduce the collinear APC dimensions to a bi-dimensional plane. Despite this, the solution has been criticized by O'Brien (2011) and Luo (2013), who argue that the intrinsic constraint is as arbitrary as in any other CGLIM. For instance, studies by O'Brien (2011) and Chauvel (2013) have demonstrated that the model fails empirical tests such as detecting educational levels (refer to the discussion in Pelzer et al., 2014).

Age-Period-Cohort Detrended model

The second sub-study employs the age-period-cohort-detrended (APCD) method (Chauvel, 2011; Chauvel & Schroder, 2015). Simply put, the APCD model calculates the relative differences between age groups, cohorts, and periods in comparison to a linear trend. This quality of the model makes it possible to take into account general income development over time while controlling for APC components, which would not be possible in other modeling techniques.

The APCD model acknowledges that due to the identification problem, linear trends in APC models cannot be firmly ascribed to age, period, and cohort. Instead, the 'detrended' approach concentrates on how the effects of age, period, and cohort deviate around a linear trend, which this method absorbs. More descriptively, APCD operates as 'bump' detector, demonstrating how various cohorts diverge from the linear trend. The APCD model imposes a set of constraints on zero-sum, zero-slopes, and the estimation domain of the cohort effects, excluding the first and last cohort. Instances of omitted observations are the oldest age group from the initial period and the youngest from the final period that appear once in the model. This technique enables the model to be identifiable, secure improved estimates, and offer a unique solution.

In the detrended model, y^{apc} stands for the dependent variable but also for the independent variables of age (a), period (p) and cohort (c). The APC effects are the following: period effect π_p fits the categorical period, α_a is the coefficient for the non-linear age changes, γ_c is the estimates for the cohort effects, β_0 denotes the general intercept, and $\beta_j x_j$ are coefficients for the control variables. Rescale (a) and rescale (c) are linear functions that rescale the indexes a and c, which transforms the coefficients α_0 and π_0 in a standardized form to a scale of -1 to +1. Both rescale (a) and rescale (b) absorb the linear trend. Finally, if γ_c, as the cohort effect coefficient,

is zero, this means that the cohort does not show any unique cohort-specific behavior and that it maintains homogenous behavior or effect. The model is stated as follows:

In the detrended model, y^{apc} represents both the dependent and independent variables, specifically age (a), period (p), and cohort (c). The APC effects are as follows: the period effect, denoted as π_p, fits the categorical period; α_a serves as the coefficient for non-linear age changes; γ_c estimates the cohort effects; β_0 is the general intercept, and $\beta_j x_j$ are coefficients for the control variables. The linear functions rescale (a) and rescale (c) are used to rescale the indexes a and c, transforming the coefficients α_0 and π_0 in a standardized form to a scale of 1 to +1. Both rescale (a) and rescale (b) absorb the linear trend. Finally, if γ_c, the cohort effect coefficient, is zero, this implies that the cohort does not exhibit any unique, cohort-specific behaviour and maintains a homogeneous behaviour or effect. The model is presented as follows:

$$\begin{cases} y^{apc} = \alpha_a + \pi_p + \gamma_c + \alpha_0 rescale(\alpha) + \pi_0 rescale(p) + \beta_0 + \sum_j \beta_j x_j + \epsilon_i \\ \begin{cases} \sum\limits_a \alpha_a = \sum\limits_p \pi_p = \sum\limits_c \gamma_c = 0 \\ Slope_\alpha(\alpha) = Slope_p(\pi_p) = Slope_c(\gamma_c) = 0 \\ min(c) < c < max(c) \end{cases} \end{cases}$$

The APCD model divides trends into two categories: the first category is based on the linear trend, while the second is based on the non-linear trend on the fluctuations around the linear trend. This model circumvents the traditional identification dilemma by calculating the constrained trend with zero-sum and zero-slope parameters, which are compared against a unique decomposition of a, p, and c. These contain the estimated fluctuations (Chauvel, 2011). In essence, when at least one coefficient differs from the zero-slope coefficient, the APCD model will display the variations. When selecting the appropriate model between AP and APC, it is sensible to compare (Raftery, 1986) Bayesian information criteria values between the models to determine which model has superior explanatory power.

When disposable income is used as the dependent variable, there are several reasons to analyse deviations from the linear trends. APCD distinguishes the relative share of period variations between cohorts but does not account for the nonconformity of changing living standards in an absolute sense. Therefore, the age-period-cohort trended (APCT) model is developed as a tool to measure absolute declines and progressions. The main modification to the APCD model is to eliminate the zero-slope constraint from the cohort coefficients and thus suppress the γ_0 rescale (c)-term.

The period fluctuations are controlled in the same way in both APCD and APCT; however, rather than absorbing the long-term linear trend, the parameter γ_0 acts as a trended cohort effect in the APCT model. This trended effect denotes per-cohort

change while being controlled. Thus, the APCT will estimate the progression that controls for period fluctuations at a given age without being affected by the long-run period trends. Hence, the APCT will illustrate how inflation-adjusted disposable income changes between cohorts. The APCT formula is defined as follows:

$$\begin{cases} y^{apc} = \alpha_a + \pi_p + \gamma_c + \alpha_0 rescale(\alpha) + \beta_0 + \sum_j \beta_j x_j + \epsilon_i \\ \begin{cases} \sum\limits_a \alpha_a = \sum\limits_p \pi_p = \sum\limits_c \gamma_c = 0 \\ Slope_\alpha(\alpha) = Slope_p(\pi_p) = 0 \\ min(c) < c < max(c) \end{cases} \end{cases}$$

Age-Period-Cohort modeling for between-cohort consumption: Blinder-Oaxaca method for subgroups

The third sub-study focused on expenditure differences between two income groups, which called for a special variation of the APC model to make this comparison possible (for a discussion of this methodology, see Yang et al. 2004). This is requirement poised by the research question, as the sub study compared high- and low-income groups between cohorts.

The APCGO model (Chauvel et al., 2017) analyses the birth cohort–based differences ('gaps') between two groups, decomposing the differences into a part explained by control variables as well as an unexplained part. It measures a possible closing gap from social generation to generation.

The process is twofold. First, with the base of the Oaxaca-Blinder models of relevant control variables in each (age by period) cell of the initial Lexis table γ_{apc}, the model computes a matrix u_{apc} of 'unexplained' differences and the 'Oaxaca-Lexis table' of income and expenditure gaps between the groups. Second, the Oaxaca-Lexis table is decomposed on the basis of a specific trended APC model to obtain a measure of the cohort-specific non-explained gap in income (Bar-Haim et al. 2023).

In the first step, the model applies the Blinder-Oaxaca decomposition method (Blinder, 1973; Jann, 2008; Oaxaca 1973; Oaxaca & Ransom, 1994) to each cell of the initial Lexis table to obtain the income quintile gaps in household expenditures (HSE) (un)explained by independent variables. We consider incomes for the first group G_1 and the second group G_2, a linear combination of endowments, and a sum of errors.

$$\overline{log(HSE)}_c^{G1} = \overline{X}_c^{G1} b_c^{G1} + \epsilon_1$$

$$\overline{log(HSE)}_c^{G2} = \overline{X}_c^{G2} b_c^{G2} + \epsilon_2$$

In Equation 1, $\overline{X}_c^{G1}$) represents the mean of independent variable X at cohort C for the first quintile; likewise, b in b_c^{G1} represents the coefficient for the same independent variable and quintile cohort groups. Similarly, in the second equation, the same definitions apply except for the fifth quintile. When we subtract Equations 1 and 2, we express the differences in expenditures to income quintiles for each cohort:

$$\overline{log(HSE)}_c^{G1} - \overline{log(HSE)}_c^{G2} = b_c^{G1}(\overline{X}_c^{G1} - \overline{X}_c^{G2}) + \overline{X}_c^{G2}(b_c^{G1} - b_c^{G2})$$

In Equation 3, the subtraction of HSE terms is the overall expenditure gap in cohort C between income groups, and $b_c^{G1}(\overline{X}_c^{G1} - \overline{X}_c^{G2})$ is the gap explained by independent variable X in a cohort C. The term $\overline{X}_c^{G2}(b_c^{G1} - b_c^{G2})$ is the unexplained variation, which contains the effect not observed in the model.

In the twofold decomposition, the mean outcome difference is the difference in the linear prediction at the group-specific means of the regressors of the difference, which can, in the case of the two groups, be decomposed. The model applies a specific trended APC model to the Oaxaca-Lexis table to obtain the trend measure of the cohort-specific expenditure gap, the APCT-lag coefficient. The new APC-lag approach uses the 'linear age effect' as its baseline (Bar-Haim et al., 2023, 2018). Once this constraint is given and the period linear trend is constrained to zero, the cohort effect will absorb the long-term time transformations. This definition means a new, clear baseline, at which the linear slope of age trend measured by the α_a coefficients is designed to equal, the average shift due to age in the Oaxaca-Lexis table across cohorts O_{apc}. Consider this average shift α:

$$\alpha = \sum \frac{(O(\alpha+1, p+1, c) - O_{apc})}{(A-1)(P-1)}$$

where α represents the average shift for a cohort c when it grows one age group older in the next period across the window of observation of a age groups and p periods. Once this is known, APC-lag is identifiable:

$$o^{apc} = \alpha_a + \pi_p + \gamma_c + \epsilon$$

whereas the full model is denoted as

$$\begin{cases} y^{apc} = \alpha_a + \pi_p + \gamma_c + \beta_0 + \sum_j \beta_j x_j + \epsilon_i \\ \begin{cases} \sum(\alpha_a) = \sum(\pi_p) = 0 \\ Trend(\pi_p) = 0; Trend(\alpha_a) = 0 \end{cases} \end{cases}$$

The formula of operator trend for age coefficients, when A is the number of age coefficients, is

$$Trend(\alpha_a) = 12\frac{\sum(\alpha_a(2\alpha - A - 1))}{(A-1)A(A+1)}$$

In APC-lag, γ_c absorbs the constant (larger when the gap is high), its trend shows the variation in the intensity of the gap by cohort for age and period controlled, and the fluctuations show possible non-linear accelerations or decelerations in the cohort trend.

It should be noted that the complete APCGO method cannot provide direct estimations of confidence intervals due to the complexity of the succession of the Blinder-Oaxaca and APC methods. Therefore, we bootstrap the entire process considered, including the Oaxaca-Blinder decomposition of each cell of the initial Lexis table of γ_{apc} to obtain the non-explained O_{apc} Oaxaca-Lexis table. For a more comprehensive methodological discussion, see the relevant research literature (Bar-Haim et al., 2023; Chauvel et al. 2017).

5.3.3 A linear model to measure wealth differences between cohorts in Sub-study IV

In the fourth sub-study, the dissertation utilized linear regression models. The wealth data weren't as harmonized as the other datasets, potentially leading to reliability issues with APC modelling. Therefore, more traditional models were selected to capture cohort differences over the life course.

The analysis is confined to comparing differences in wealth association between age groups during the observation period. For this purpose, regressions with interaction terms of the cohort dummies and wealth components are performed for the whole sample.

The sub-study use the marginal effects from the ordinal least squared. The dependent variable in the model is inverse hyperbolic sine transformed household wealth of gross wealth, net wealth, financial wealth, and all the decomposed variables of financial wealth (stock assets, exchange-traded funds and other funds, other stocks, and bonds). In the first set of models, we use the interaction term of cohorts (X_{cohort}), and in the second set of models cohort and age groups (X_{age}). The simplified models for each wealth component are denoted as follows:

$$ashin(wealth)_i = \beta_0 + \beta_1 X_{cohort} X_{age} + \epsilon_i$$

In addition, as a robustness check, the models were ran as as multilevel models with statistical years as a level, but the observed change on intraclass correlation was extremely low. This test result validated the use of marginal effects instead of a multilevel model. Results of the multilevel models did not deviate from the marginal effect results.

6 RESULTS

6.1 Summary of main findings

Table 3 shows the main results of the dissertation, which are ordered by the main research questions posed in Table 2. The logic is the holistic context of economic resources, as income is the prerequisite for consumption and wealth.

Table 3. Summary of main results for main research aims.

How has generational income inequality has changed, and how have the different structural and socioeconomic mechanisms contributed to income differences?
• Period and cohort changes were identified as the most important driver of income, while age was not after adjusting for the main economic activity • Income inequality was explained by cohort differences by 6% for men and 26% for women • For both men and women, cohort size and education were the most important factors associated with income inequality. For men, especially unemployment was a major factor • Income has increased each subsequent cohort: Baby Boomers as 'winners'; youngest generation as 'losers' • 1980s cohort's income development has stagnated: average income has not increased from the 1970s cohort's income, probably affected by the financial crisis
How has generational consumption inequality changed within income distribution?
• Incomes have maintained a stagnant gap between high- and low-income groups over cohorts; however, expenditures have risen slightly more in favour of the high-income group • Expenditures in food and groceries have become more similar between high- and low-income groups, with low-income group becoming more 'necessity rich' • The high-income group have been gradually investing in leisure time over cohorts, while the low-income group remains 'leisure poor'
How has generational wealth distribution changed, and how does the opening up of financial markets relate to changes in wealth between generations?
• Overall, wealth has increased each subsequent cohort, while wealth accumulation starts to accelerate at increasingly younger age • Regardless of financial deregulation, deposits and traditional saving methods were still 'king' • The 1980s cohort displays a slower rate of wealth accumulation than the preceding cohort, while having similar wealth profile and level as the 1970s cohort • The 1980s cohort bears a higher debt level coupled with slower loan amortization and has delayed the purchase of dwellings

Overall, the most crucial findings indicate that the cohort from the 1980s is in a vulnerable position, seeming to face more unfavourable circumstances concerning income, consumption, and wealth. While the war generation also faced adverse situations regarding income and wealth, these outcomes were anticipated due to the crisis, underdeveloped social institutions, and the unfortunate reality that the time to alleviate these issues had already passed from a life course perspective.

Considering the overall progression of income development, the relative income for the 1980s cohort is lower compared to that of other cohorts. This observation is corroborated by a more detailed analysis of individual income, which revealed that the younger cohort is grappling with income stagnation. Here, the income trajectory over the life course mirrors that of the 1970s cohort.

From a consumption standpoint, younger generations exhibit the largest expenditure gap in leisure time between low- and high-income groups. This discrepancy significantly impacts societal participation beyond merely 'making ends meet.'

Additionally, the 1980s cohort displays a slower rate of wealth accumulation than the preceding cohort. They also bear a higher debt load coupled with slower loan amortization, which has delayed the purchase of dwellings and pushed it to a later age. Consequently, the prolonged loan amortization could have long-term implications for total wealth accumulation, leaving future retirees to live on a tighter budget.

In summary, the younger generation often find themselves playing 'catch-up' games with older generations. From the holistic perspective, the dissertation offers a more comprehensive picture of how income, consumption, and wealth connect to each other. The case from the 1980s illustrates the causal relationship of the three economic resources, demonstrating how the stagnant growth of income contributed to the deceleration of wealth accumulation. Concurrently, it altered the budget constraints for consumption. Moreover, the findings of the thesis highlight the importance of the economic life course approach presented in Chapter 3 (Elder, 1994; Giele et al., 1998). It revealed that individual agency, manifested through decisions related to education and professional fields, plays a significant role. Alongside this, historical periods were characterized by both increased opportunities in human capital and economic recession, the latter resulting in unemployment spells or delayed careers (see also Kurz & Blossfeld, 2004; Lovenheim & Reynolds, 2013; Oreopoulos et al., 2012). Significant contributors to inequality were identified as adverse events, as they lie outside the control of individuals, and, consequently, their respective cohorts. This observation is emphasized by the experiences of the cohort from the 1980s, reinforcing earlier discoveries (Chetty et al., 2017; Riihela, 2006).

The sections that follow present the main findings in greater detail, along with the research questions posed by the sub-studies.

6.2 Income inequality between cohorts (Sub-study I & II)

The dissertation's first research question was on how generational income inequality has changed, and how the different structural and socioeconomic mechanisms contributed to income differences. The first and second articles connect, as they both analysed income distribution between cohorts. The first study focused on determining both how much generational income inequality explains total income inequality during 1970–2018 for men and women in Finland and how much different structural factors contribute to generational income inequality. The second study aimed to answer how income distribution has developed across periodic economic fluctuations in relation to cohort and age group.

The *first sub-study* scrutinizes the variations in income inequality over the life course across Finnish birth cohorts born between 1920 and 1989. It also explores how structural changes related to education and the labour market contribute to these differences. In simpler terms, the central question of the article is to determine the magnitude of cohort differences and identify the 'winning' and 'losing' birth cohorts.

Our findings reveal that cohort differences account for 26% and 6% of total income inequality in women and men, respectively. On the whole, for both genders, each successive cohort until the 1980s exhibits a higher average income trajectory. However, for women, the income trajectory differences between cohorts are significantly larger compared to men.

Our results corroborate previous findings that suggest the younger generation is being left behind (see Chetty, 2017; Manduca et al., 2020). The study discovers that for both genders, each successive cohort until the 1980s has a higher average income trajectory. However, the income development of the 1980s generation is stagnating, as their average income has not increased compared to the 1970s cohort. Regarding the second research question, the sub-study addresses which structural factors account for cohort income inequality. Education, social class, and cohort size emerge as the most significant factors for both men and women. Education accounts for most of the variation between cohorts, suggesting that the accumulation of human capital is crucial for income development among cohorts. Cohort size determines the number of applicants in the labour queue, and the findings show that cohort size explains a large portion of the varying income trajectories between cohorts. From an individual perspective, a large birth cohort size may be disadvantageous, as it intensifies labour market competition, thereby limiting opportunities to secure higher labour market positions (Mugiyama & Toyonaga, 2022). The economic situation also plays a significant role: unemployment is a crucial factor for both genders; however,

it explains almost twice as much for men as it does for women.

The *second sub-study* evaluates how economic shocks influence income trends and inter-cohort income dynamics by using APC modelling. The findings suggest that period and cohort effects primarily impact relative income within the context of APC methodology, while age effects have no substantial influence when control variables are considered. This result underscores the relationship between the effects of economic shocks and cohort placement at labour market entry, whereas the occupational position achieved explains for all age variations.

The results indicate that those born in 1970, who entered the labour market on the cusp of the economic shock of 1993 (at the age of 23 earliest), exhibit no income development in relation to the income trend. Every cohort born after 1975 experiences a negative relative income effect. A similar effect is discovered in the first sub-study, where the 1980s cohort demonstrates a stagnated income trend, mirroring the income trajectory of the 1970s cohort. Moreover, the analysis reveals that economic shocks create stagnation points in income development. In the context of cohort incomes, these stagnation points are especially detrimental to cohorts transitioning into the labour markets. However, while the older cohorts didn't experience such effects during the oil crisis, younger generations faced birth-positional disadvantages during both the economic recession of the 1990s and 2007/2008.

Overall, the APC framework and the analysis conducted using register data complement each other well. To reiterate, APC modelling reveals that both cohort and period effects are significant in income, while the multilevel approach with the registers provides an opportunity to delve deeper into identifying the 'winners' and 'losers' within generational income development.

6.3 Consumption differences between top and bottom income deciles (Sub study III)

The dissertation's second research question asks how generational consumption inequality has changed within income distribution. The third sub-study investigates the differences in consumption between various cohorts. First, the article explores the way inter-cohort income and spending profiles in the high- and low-income deciles have evolved over the years 1966–2016. Subsequently, it probes the degree to which inter-cohort consumption profiles between high- and low-income households vary in certain categories of consumption. The analysis uncovers an inequality between the two income groups. Although income and consumption remain static across different cohorts, expenditures on necessities (such as food and groceries) and income-elastic goods (such as culture and leisure activities) indicate shifts in consumption inequality.

First, the relative expenditure on food and groceries between high-income and low-income groups appears to exhibit more uniform spending patterns over time, as

indicated by a distinct reduction in the spending disparity between these two groups on necessities. The findings indicate that long-term income increases are equalizing between-cohort expenditures on necessities, irrespective of their socioeconomic status.

However, expenditure on culture and leisure activities between high- and low-income groups reveals that the gap is expanding over cohorts to the advantage of the high-income group. This suggests that the high-income group possesses more resources for consumption, and that this group tends to allocate surplus resources towards more income-elastic goods, such as cultural activities and leisure time. It appears that a surplus of resources affords more freedom to invest in leisure time, while the low-income group remains 'leisure poor.' Consequently, this dissertation finds that expenditures on goods related to leisure time are increasing – but predominantly in favour of households with superior economic resources. This implies that households from older to younger generations are investing more in leisure time, but increasingly, only those that are economically affluent do so.

6.4 Wealth accumulation between cohorts and the financial deregulation (Sub study IV)

The dissertation's final research question is on how generational wealth distribution has changed and how the opening up of financial markets relates to changes in wealth between generations. Thus, the fourth sub-study examines wealth disparities among different cohorts. The primary objective is to evaluate how wealth distribution across generations is shifting and how the deregulation of financial markets correlates with these changes. Additionally, the study explores the evolution of wealth dynamics among cohorts throughout their lives, particularly following significant institutional changes such as the advent of open financial markets. To provide a comprehensive view of wealth fluctuations, the study measures gross, net, and financial wealth.

The sub-study assesses the scale of changes in absolute terms and the composition and significance of financial wealth in relative terms as a portion of total wealth throughout the life course. The results indicate a relatively stable pattern of wealth accumulation across cohorts, except for the war generation. The findings also reveal that each cohort's wealth is not only higher overall but also begins its upward trend at an increasingly younger age with each successive cohort. Consequently, the accumulation of wealth starts at an earlier stage in life. However, the wealth trends of the 1930s and 1980s cohorts contradict this pattern, with the oldest generation showing a stagnant trend and the youngest exhibiting a less steep slope than the preceding cohort.

For the younger cohort, the less steep wealth trajectory could be linked to higher debt levels (and more costly homes) and slower loan repayment. The study also discovers that early life debt related to housing significantly impacts wealth, with the

debt decreasing as retirement approaches. Younger cohorts carry more housing debt, and they tend to purchase homes later in life compared to older cohorts. Moreover, loan repayment is slower for each subsequent cohort, indicating that the stage of life free from debt is delayed compared to earlier cohorts.

Considering the historical context, the deregulation of financial markets, and the structure of financial wealth, previous study has found that younger cohorts may be more receptive to financial instruments, despite their limited resources (Lim & Zeng, 2016). In contrast, some research suggests that only older generations show a greater interest in financial assets (Greene, 2014). The dissertation's study yields mixed results. It shows variations in financial wealth among younger cohorts, with them starting to invest at younger ages compared to other cohorts. However, the significance of financial wealth in relation to total net wealth remains virtually the same across all cohorts.

7 DISCUSSION

This dissertation studied generational economic inequality throughout the life course, considering factors such as age, period, and cohort and using a unified and holistic approach. This approach incorporates income, consumption, and wealth. Theoretically, the dissertation enhances the research field by acknowledging that economic resources fluctuate as individuals progress through their life course. Likewise, individuals are born at different times, which determines the opportunities available for improving economic outcomes. Additionally, a significant contribution is the holistic consideration of economic resources, which incorporates all economic measures: income, consumption, and wealth.

Previous research has expressed concerns about the income development of younger generations, both internationally and within the Finnish context (see Chetty, 2017; Hammer, 2022; Riihela, 2006). This dissertation's findings resonate with these concerns, as the 1980s generation exhibits clear income stagnation, an increasing consumption gap between income groups, and lower wealth accumulation coupled with higher debt levels. However, previous research has not examined the details of this phenomenon.

This dissertation provides new insights into the vulnerability of younger cohorts and unveils how different cohort dynamics influence the life course. The multidimensional age-period-cohort approach successfully unravels many previously unknown issues by utilizing innovative methods and considering a holistic approach to economic measures. It emphasizes the importance of understanding the interplay of income, consumption, and wealth, as changes in one component could affect the others. In this chapter, I first review the substantive and theoretical contributions of the dissertation's research articles then discuss potential policy implications, assess methodological considerations, and inally conclusions, which also suggest recommendations for future research.

7.1 Interpretation of the results

This dissertation reflects the theoretical framework of the life course paradigm, as introduced and discussed in the third chapter. It illustrates how income, consumption, and wealth provide a complex picture when examining the long-term economic development of various cohorts over the life course. A key aspect of the theory is

the intersection of cohort and time, influencing the timing of opportunities and the economic environment availabIe. The results indicate that the timing of the cohort is significant, as several historical periods were relevant for the cohorts.

From the perspective of Finnish economic history, the period 1945–1980 was a time of substantial economic growth. The cohorts of 1930–1950 entered the labour market during this period. High employment rates and increased educational opportunities created an optimal platform for social mobility, positively influencing the ability to secure lucrative positions in the labour market. These findings support previous results indicating that the so-called 'Baby Boomer' generation had a relative economic advantage in terms of income returns, while also providing more insight into the impact of this change on overall income distribution.

In comparison to previous research, this dissertation found that cohort differences can explain income inequality. For women, the figure stands at 26.1%, and for men, it is 9.5%. This highlights the change in educational opportunities for women, providing a solid foundation for income and social mobility. The increased educational level of women also led to significant changes in occupational structures, altering women's participation in the labour market and resulting in higher between-cohort variation (Breen et al., 2009, 2010). These findings support previous results indicating that the so-called 'Baby Boomer' generation had a relative economic advantage in terms of income returns, while also providing more insight into the impact of this change on overall income distribution.

In contrast, younger generations have faced the economic recession of the early 1990s and the financial crisis of 2007/08. The results from both sub-studies on income indicate that the 1980s cohort, in particular, does not increase their income level compared to the previous 1970s cohort. Detailed analysis for both men and women suggests that the 1980s cohort has a more unstable income trajectory and even falls below the income trajectory of the previous cohort. Furthermore, more detailed cohort results mirror the impact of educational expansion for women, leading to greater income growth. However, certain life events from ages 20 to 40 are associated to women's income. Occupational segregation plays a role, as men and women work in different fields, with traditionally male-dominated industries offering higher wages. In addition, women are more likely to take breaks from the workforce for caregiving, leading to lower lifetime earnings and reduced retirement savings.

However, unlike previous studies (Dutt & Padmanbhan, 2011; Mckenzie et al., 2011; Urbonavičius & Pikturnienė, 2010), this thesis does not find an association between economic crises and the expenditures of cohorts, as both income and consumption gap trends remain unaffected. A similar result was found regarding wealth, as economic recessions did not seem to have a long-term direct impact on wealth development. However, the result is dependent on the measurement period, as a slight change in 1-year wealth estimations is observable during the 1990s recession, yet during the 5-year measurement period it is not, indicating that it is not a long-

term change. In addition to period effects, the question of whether the dual-taxation reform would impact wealth accumulation for those already possessing substantial financial investments, or those demographic groups with a greater amount of disposable wealth for investments, remains unanswered. In both cases, the dissertation reveals no direct evidence, as the financial wealth shares appear to be similar or marginally higher than the total wealth of preceding cohorts. In the case of consumption, it is to be noted that the APC methodology period was arranged into 5-year groups, which could increase insensitivity to more rapid changes, for example during the financial crisis of 2007/2008.

To contextualize these historical periods from the life course perspective, it may very well be that the 1970s cohort who were 14 to 23 years old during the 1990s recession were still mostly in education, where they could fend off the crisis and transition to the labour market later. On the other side, the 1980s cohort were at the youngest 18 to 28 years old during the financial crisis. The average age for school-to-work transition for tertiary education is 27 years in Finland. It is probable that the cause for the income stagnation is the belated beginning of a working career, as findings support previous results showing that credential inflation contributes to income inequalities between cohorts (Bol, 2015; Van de Werfhorst & Andersen, 2005). It is to be noted that the results indicated lower income trajectories among younger cohorts compared to older ones when education is adjusted for. As educational expansion has focused mostly on higher education levels, it is reasonable to assume that returns on higher degrees have diminished for younger generations. Here, increased individual agency does not necessarily include a better social position, as the internal competition within cohorts also matters.

To continue the story of the 1980s cohort, the dissertation found that although there has been a general increase in wealth over time, the disparity between different cohorts has also grown. Specifically, evidence shows that each cohort not only possesses more wealth overall but also starts accumulating wealth at an increasingly younger age compared to the previous one. This implies that the process of wealth accumulation commences at an earlier stage of life with each subsequent cohort. However, an exception was observed in the wealth progression of the cohort from the 1980s, which displayed a contrasting trend.

The 1980s cohort accumulated less wealth than their predecessors. For the younger cohort, the smaller slope of the wealth trajectory could be linked to higher debt, more expensive housing, and slower loan amortization. Although younger cohorts might have a greater potential to amass more financial wealth over their lifespan, our study indicates that they have a slightly higher or similar propensity to acquire financial assets. Thus, these younger cohorts also possess the potential for substantial financial wealth accumulation over their lifetime. This is contrary to previous research findings, which have suggested that individuals with fewer resources, like the younger cohorts, would be more risk-averse (Attanasio et al., 1999; Cagetti,

2003; Lusardi et al., 2017; Malmendier & Nagel, 2011).

The narrative becomes more complex when examining differences in consumption. This thesis has uncovered several new insights into consumer behaviour.

The dissertation revealed that nondurable goods, especially those related to leisure time, accounted for a significant part of consumption, while the proportion of spending on essentials like food was decreasing. More specifically, the spending gap between older and younger cohorts has significantly widened, demonstrating an increased preference for cultural and recreational activities across cohorts. This trend is linked to overall income growth, where income is being directed more towards income-elastic goods rather than necessities.

However, in the APC analysis, this research was able to distinguish between two income groups, uncovering new evidence not previously identified (see e.g. Segall, 2013) that while spending on leisure-time goods has increased, it mostly benefits households with superior economic resources. Thus, the findings affirm previous results suggesting that households from older to younger cohorts are increasingly investing more in leisure, but as new evidence reveals, this trend is increasingly exclusive to those who are financially well-off. This observation adds to previous research (Fan & Lewis, 1999; Semyonov et al., 1996), suggesting a disparity in consumption opportunities among different socio-demographic groups. In conclusion, from a social inclusion perspective, Finnish society appears to be equal in terms of access to necessary resources, but leisure options seem to divide high- and low-income earners. In other words, this dissertation identified more precisely the role of consumption in the stratification process, which theoretical literature has suggested (Douglas & Isherwood, 1996; Katz-Gerro & Talmud, 2005; Slater, 1999)

To summarize these findings under the economic life course paradigm introduced in Chapter 3, the main focus seems to be on the economic vulnerability of the 1980s cohort. A clear narrative emerges when taking a holistic approach to economic resources. The dissertation observed that the mean income and wealth trajectories of each successive cohort up until the 1980s had a higher average income and wealth trajectory. This is partly due to timing and coincidence, with the 1980s cohort transitioning from school-to-work during the 2007/2008 financial crisis. Coupled with the increased market competition due to credential inflation, the results support previous findings that income development for the younger generation has stagnated (Chetty, 2017; Manduca et al., 2020).

This has impacted both consumption behaviour and wealth accumulation. The dissertation found that debt on dwellings is higher among younger cohorts, especially the 1980s group, while the acquisition of dwellings occurs at a later age compared to older cohorts. This is likely due to stagnant income and rising housing market prices. In addition, loan amortization is slower in each successive cohort, which means that the debt-free life stage has been delayed compared to other cohorts. To add insult to injury, the 1980s cohort's loan amortization has stagnated, resulting in

lower net wealth and hindered net wealth accumulation compared to older cohorts. Furthermore, income stagnation has also led to decreased spending on leisure time, which could potentially be interpreted as lower societal inclusion and attachment for this generation. The results overall highlight the importance of a holistic view of economic resources, as income is the 'prime mover' of both consumption and wealth accumulation. However, all components contain significant information that could be overlooked if not considered collectively.

In conclusion, all the above results support the research literature's concept of 'a scarring effect' from the life course perspective, as younger cohorts have lower income attainment than previous ones (Chauvel & Schroder, 2015; Mannheim, 1928; Mayer, 2009). In this case, the 1980s cohort has the 'privilege' of occupying an awkward economic position. However, there is still time to consider potential policy solutions or at the very least ensure that the following generation does not inherit this outcome. Here, the multidimensional approach is crucial; without it, this thesis would only present a partial picture of economic inequality, much like many previous studies.

7.2 Policy implications and recommendations

The concept of fairness often arises when discussing policy issues across generations (Dworkin, 1981; Rawls, 1971). This fairness, or equity, refers to the necessary conditions for individuals to lead full, healthy lives. Equality, on the other hand, involves providing individuals with the same resources they need to achieve such lives (Bronfenbrenner, 1973). These notions are interconnected from a generational policy perspective, as different periods present varying needs and desired outcomes for policy.

In terms of social sciences and economics, fairness, or justice, is primarily associated with taxation and welfare policy (Summers & Smith, 2014). It also applies to individuals or generations at different life stages (Cannon & Kendig, 2018; Luscher et al., 2016). Thus, in a specific time frame, a person or a generation could benefit from distribution, while over a life course, they might contribute to it, or vice versa. Implementing fairness at a practical level, and reflecting the findings of this dissertation, policy recommendations ideally consider equity in four distinct norms suggested by Rydell (2005). These norms ensure just treatment and allocation of social expenditures across successive cohorts, equitable sharing of the welfare state's costs, fair returns on contributions made throughout the life cycle, and the right balance of transfers to maximize opportunities and prospects, which Piachaud et al. (2009) identify as the primary focus of generational equity.

In the following sections, I will explore the issue of generational policy from two angles. Firstly, I will delve into broader aspects, such as labour markets and pension systems. Secondly, I will focus on the significance of timing and birth cohort

coincidence. From a generational view, both labour markets and pension systems are heavily influenced by an ageing population, which results from increased life expectancy and declining fertility rates. This demographic shift has dramatically altered economic relations between generations, thereby driving generational fairness or unfairness.

This significant demographic shift has raised genuine concerns about its fiscal implications and its impact on labour markets and the overall economy (Engbom, 2019). Although greater labour force participation by older individuals correlates with increased youth employment and reduced youth unemployment (van Dalen & Henkens, 2002; Gruber & Wise, 2010), the immediate effect of retirement is a potential labour shortage. For instance, as Baby Boomers, who make up a significant portion of the workforce, retire, they could leave many positions vacant. This could increase competition for skilled workers, potentially inflating wages and benefits (Roberts, 2012). One argument is that younger generations lack the experience of the retiring generation, leading to a loss of professional knowledge unless efficient skill transfer processes are in place. However, past research suggests this concern may be exaggerated (Freeman, 2006; Neumark et al., 2013). On the bright side, younger workers, particularly those born in the 1980s and beyond, may advance more quickly due to changes in workforce dynamics. However, as Baby Boomers retire and transition from being net contributors to net recipients of benefits, there could be increased pressure on public finances.

Pensions play a vital role in the fairness discussion, as they represent a transfer from the working generation to retirees (Góra, 2008). Moreover, the ageing and declining population in Finland poses an additional challenge from a life course perspective. Regardless of the pension system model, pension benefits are always financed through the division of current GDP (Chybalski & Marcinkiewicz, 2018). Future GDP is crucial in a pension system, as the consumption of future pensioners will depend on future production, primarily by their children's generation (Barr & Diamond, 2006). In an era of an ageing population, ensuring pension benefits is a significant challenge. The question of restructuring the intergenerational contract as part of the welfare state may become politically relevant.

Timing and coincidence are extremely important. To illustrate, the cohort from the 1980s suffered from the financial crisis in a different way than, for example, the cohort born in the early 1970s, whose transition to the labour market coincided with the recession of the 1990s, which was much worse in Finland than the financial crisis. What distinguishes these last two recessions is that the late 1990s and the early 2000s were a time of strong economic growth, so for those born in the early 1970s, the ICT boom and economic growth driven by Nokia acted as an upswing, i.e. a return to the mean. On the other hand, for those born in the 1980s, the same economic growth was not found after the financial crisis; instead, they were offered a state of permanent austerity and economic stagnation. For comparison, a similar

upswing was also experienced by the Baby Boomers, which lasted several decades and was not even slowed by the oil crisis during 1973.

The unfortunate timing of the 1980s cohort with the economic recession earned them the label of 'the most vulnerable generation.' They were hit by the economic recession at a critical age for the school-to-work transition, resulting in a stagnated income trajectory, which in turn led to lower wealth accumulation. The connection between the timing of school-to-work transitions and economic shocks is significant, leading to persistent earnings declines lasting 8 to 10 years (Oreopoulos et al., 2012, 2006). Previous research has also found that the effects of recession shocks are strongest for young workers, while those with a few years of labour market experience are less affected (Oreopoulos et al., 2012; von Wachter, 2020). Recessions initially lead workers to start working at less attractive employers, which can hinder career development, leaving some young people playing catch-up with earnings, especially during the first years after the shock. However, there is evidence that if social institutions implement correct transition systems to support young people during the school-to-work transition, it is associated with lower national levels of youth unemployment (Schoon & Bynner, 2019).

The 1980s cohort's stagnated income and slower career start could also lead to lower wealth accumulation, creating several potential issues. The dissertation found these to include a higher debt load combined with slower loan amortization, which has delayed property purchases and pushed them to a later age. As acquiring property is, on average, the most significant economic investment that people make during their life course (Bernstein & Koudijs, 2020; Davies et al., 2008; Wolff, 2017), there could be considerations for optimizing the system to lessen the impact of loan amortization. This is seen as crucial, as studies have found that within-cohort education, class, and income differentials grew when young adults from lower socioeconomic backgrounds became relatively less likely to enter homeownership (Kurz & Blossfeld, 2004). The dissertation showed that the youngest generation carries a higher debt burden due to the rising housing market prices and the fact that individuals acquire property at a later age than before (Arundel & Ronald, 2021). Thus, it would be logical to either consider options to incentivize property purchases at an earlier age or to reconsider the loan system as a whole. However, during later life, studies have shown that the impact of later loan amortization is not significant in general, but it could pose problems for those with irregular work histories and lower pensions (Mastrogiacomo, 2016).

Several options could have the desired policy effect. These include removing the transfer tax to lessen the impact on property acquisition, which could also support workforce mobility. Another solution could be to change the loan payment period. Finland has a 'loan payment culture' where individuals are expected to repay their loans within a set period, typically 15 to 25 years. In contrast, Sweden has a loan payment period of over 100 years, which has partly resulted in the average

Swedish individual having twice the wealth of their Finnish counterparts (Credit Suisse, 2023). Therefore, it could be valuable to replace our loan payment system with a more dynamic model to relieve the increased loans required to acquire property, especially in growth centres. Here, decreasing the pressure of monthly loan amortization would adjust the risk of property acquisition at an earlier age and stimulate wealth-building in the long run.

A more traditional approach is changes in taxes. From the purchasing power viewpoint, the most general change would be to adjust the value-added tax (VAT). It is known that prices respond twice as much to VAT increases as to VAT decreases, resulting in higher markups (Benzarti et al., 2020). Furthermore, a one-percentage-point increase in the VAT rate leads to about a one per cent reduction in the level of per capita aggregate consumption (Alm & El-Ganainy, 2013). As Finland aims to increase the VAT rate to 25.5 per cent (a 1.5 percentage unit increase), this could have a long-term impact on overall purchasing power. The dilemma here is the form of taxation, as taxing consumption rather than income generates more savings for the individual; however, it also decreases the level of consumption (Alm & El-Ganainy, 2013).

To summarize the above policy discussion, if policy measures are to be implemented, they should be directed optimally to the sensitive part of the life course during the school-to-work transition to aid individuals' long-term economic growth. This would also account for the stunted pension accumulation due to income stagnation. Any policy measure should aim to maximize impact over the life course while considering the principles of equivalent treatment of cohorts. As previous cohorts were more prosperous, it would make sense to focus policies on the group that would balance out the adverse period effects.

It's worth noting that the foregoing policy discussion is based on descriptive results. A more comprehensive analysis using a causal study setting is needed to reveal possible real-world effects. It is challenging to test the causal relationship of policy effects, as this would require tracking individuals' income, wealth, and consumption habits, which is not possible as both wealth and consumption data are not tracked over the years at the individual level.

7.3 Methodological considerations

This dissertation utilized notably long-running time-series datasets from Statistics Finland, both in survey and register form. These datasets spanned periods from 31 to 52 years depending on the sub-study, thereby enabling long-term cohort analysis with sociologically intriguing characteristics. Without such comprehensive and high-quality data, the age-period-cohort approach would be unfeasible. Furthermore, the register data on the entire Finnish population allowed tracking of individuals over time, capturing intricate details of the life course.

The integration of register analysis with the age-period-cohort methodology using APCD, APCT, and ACPGO models yielded insightful results, extending previous findings in a significant way. The age-period-cohort analysis facilitated examination of age patterns across the adult life course and identified which of the three dimensions of APC were relevant for economic measures. However, conclusions about birth cohort effects should be interpreted as descriptive suggestions, as even the most sophisticated age-period-cohort methods cannot entirely untangle the relationship between age, period, and cohort. Replication of the results would dispel any doubts, and striving for more accurate datasets, especially concerning wealth and consumption, would be ideal.

It is worth noting that some researchers have debated whether solving the 'identification problem' around APC methodology is possible (Bell & Jones, 2013, 2015): distinguishing age, period, and birth cohort effects, including linear effects if they exist. The creators of the model and others have countered that simulations are an unsuitable method for assessing the significance of APC methods (Reither et al., 2015). This debate influenced my choice of models, as APCD, APCT, and APCGO models have been employed in empirical research and have yielded reliable estimates (see Chancel, 2014; Chauvel, 2011, 2013; Chauvel & Schroder, 2015; Freedman, 2017). This dissertation underwent several robustness checks, and these methods did not encounter the same issues as some of the other APC models (see discussion on IE model, Luo, 2013; O'Brien, 2011). Even manipulating data to undermine the model does not significantly alter the results, provided the data have a high number of cases.

While methodological questions remain unanswered, these methods have offered valuable insights into several questions that would otherwise remain unknown. Thus, considering modelling limitations, this methodological approach provided a significant advantage in terms of resolving the age-period-cohort conundrum with respect to economic inequality, whereas traditional models only utilize two of the three dimensions.

7.4 Conclusion

This dissertation has made a substantial contribution to the literature by adopting a holistic perspective to economic measures and employing a life course approach. To reiterate, this multidimensional research framework has provided new insights into the development of income, consumption, and wealth, while considering the movement of individuals through different periods and respective cohorts which make these groups unique, not forgetting their life courses within. The use of the life course approach as a theoretical and methodological amalgamation has provided new and novel information.

To specify, this thesis contributed to two main theoretical domains mentioned in the introduction.

First, the dissertation contributed to the life course perspective in the theoretical level. The strength of the life course perspective is its focus on the interconnectivity of factors that change around the individuals over time, yet the framework itself does not make assumptions about which of the moving parts holds more weight. The dissertation did disentangle this issue by finding that both cohort and period play a more important role in economic resources than age. This has major implications in Elder's and Giele's framework on individual agency, as period dictates the 'stage' which individual agency can take place. Thus, differences are found between cohorts because the periodical constraints dictate how an individual can act at given time, which in turn makes age conditional on the two dimensions. Thus, from theoretical perspective, Giele's emphasis on structural change over individual's like Elder seems to be more dominant in empirical sense, yet individual choices remain valid (yet constrained) calling for using both viewpoints to form a robust theoretical life course perspective.

Second, the multidimensional approach contributed to the literature on economic inequality by finding a linkage between income, consumption, and wealth. As previous research has mainly focused on individual economic resources, this dissertation provided insight into how income loss impacts both consumption and wealth. The decreased income profiles had lead to belated dwelling acquisition and decreased spending profiles on non-necessities among 1980's cohort, identifying how income serves as the main driver for consumption and wealth while periodical shocks' impact on earnings can have far-reaching consequences on all three components, not just one.

Furthermore, the dissertation contributed in the methodological field, as the use of new age-period-cohort modelling techniques has maximized the utility of survey data. Without this approach, it would have not identified theoretical insights on the life course perspective mentioned above. The high-quality registers with multilevel models enabled tracking of the entire population over time. Finally, studying the social determinants of income, consumption, and wealth between cohorts has led to a more profound understanding of population-level changes and could provide possible avenues for targeting policies to ensure economic prosperity for future generations. Thus, while most of the studies on economic resources fall within the domain of economics, the sociological approach has its merits. The flexibility and novelty of the concepts highlight the possibilities of a multidimensional approach over generations. Such an approach is not just warranted, it is complementary.

In conclusion, this dissertation has found that income, consumption, and wealth have been on the rise. However, not all cohorts have been so fortunate. It was discovered that the 1980s cohort, in particular, is facing economic challenges, as they had to confront a financial crisis during their school-to-work transition phase. Their income development has stagnated, leading to a similar stumble in wealth. This has partly affected home ownership, as the age of acquisition has been delayed com-

pared to other cohorts, while simultaneously, younger generations have had to take on larger loans than before. As a result, the time required for loan amortization is lengthy, which will, in turn, affects the total wealth available at the end of the life course. Even free-time consumption has shifted increasingly towards high-income earners, which could leave the 1980s generation excluded from self-improvement spaces. However, the 'generational game' winner was the Baby Boomer generation, which had the highest relative income and total wealth. Nevertheless, younger generations have a higher overall income level, and wealth begins to accumulate at an earlier age. Furthermore, returns to education have dwindled due to credential inflation, as younger generations are far more educated than their older counterparts, intensifying inter-cohort competition.

The widening cohort differences in income, consumption, and wealth should command our attention. The younger generation is taking on the role of torchbearers, responsible for funding the previous generation's pensions, healthcare, and social security system. These generations bear the burden of the economy while striving to build their own lives and future generations. Hence, this motivates a continuation of this research to expand on the findings of this dissertation. Future research should further illuminate under which types of recessions are particularly consequential for labor market entrants' future earnings and wealth trajectories. The novel findings of the dissertation call for a comparative extension to fully elaborate their implications for theories of social change and how economic cycles impact economic attainment across generations in different institutional environments.

I began this journey by stating that resources are scarce, with the underlying question being "how is the pie sliced?" I have discovered that the so-called 'millennials' are on a diet, as they have seen more modest development in economic resources than their older counterparts. While the situation is not as dramatic as it may sound, for the overall development of the Finnish economy and future generations, it is hoped that this trend is either a temporary hiccup or can be reversed.

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