In the mid2030s, the health of the baby boomers will have deteriorated and many in these large cohorts will be in need of formal and/or informal long-term care.

This **"care wave"** will transform two generations: the baby boomers in need of care and their children who may supply care. It will have significant implications for labour supply, especially for women, saving behaviour, and therefore for productivity, economic growth and its inclusiveness.

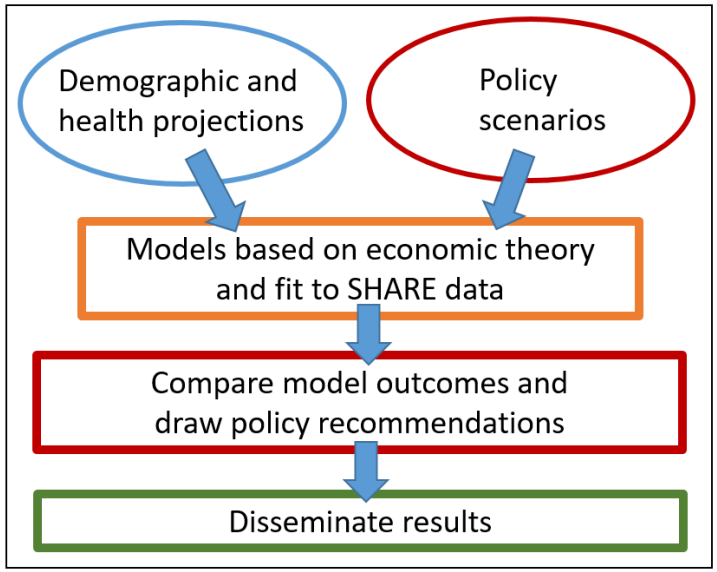
## This is the topic of


**The overarching objective of BB-Future is to understand the size and the implications of the care wave on economic and social outcomes, to appreciate the quality of this second ageing-related transformation and to develop policy recommendations for advance planning on the EU and Memberstate levels.**

The project | Trends and policy challenges | Participants | Policy Briefs | Contact

## The project

BB-Future will develop policy recommendations in a rigorous three-step approach: Based on projections of five fundamental trends and well-defined policy scenarios, a set of quantitative models will deliver key micro and macroeconomic outcomes which will be compared to derive policy recommendations. The eight work packages of BB-Future will develop models far beyond the current state-of-the-art and fit them to the rich internationally comparable data of the Survey of Health, Ageing and Retirement (SHARE), in order to obtain policy recommendations that are based on advanced theory and reliable empirical analysis.

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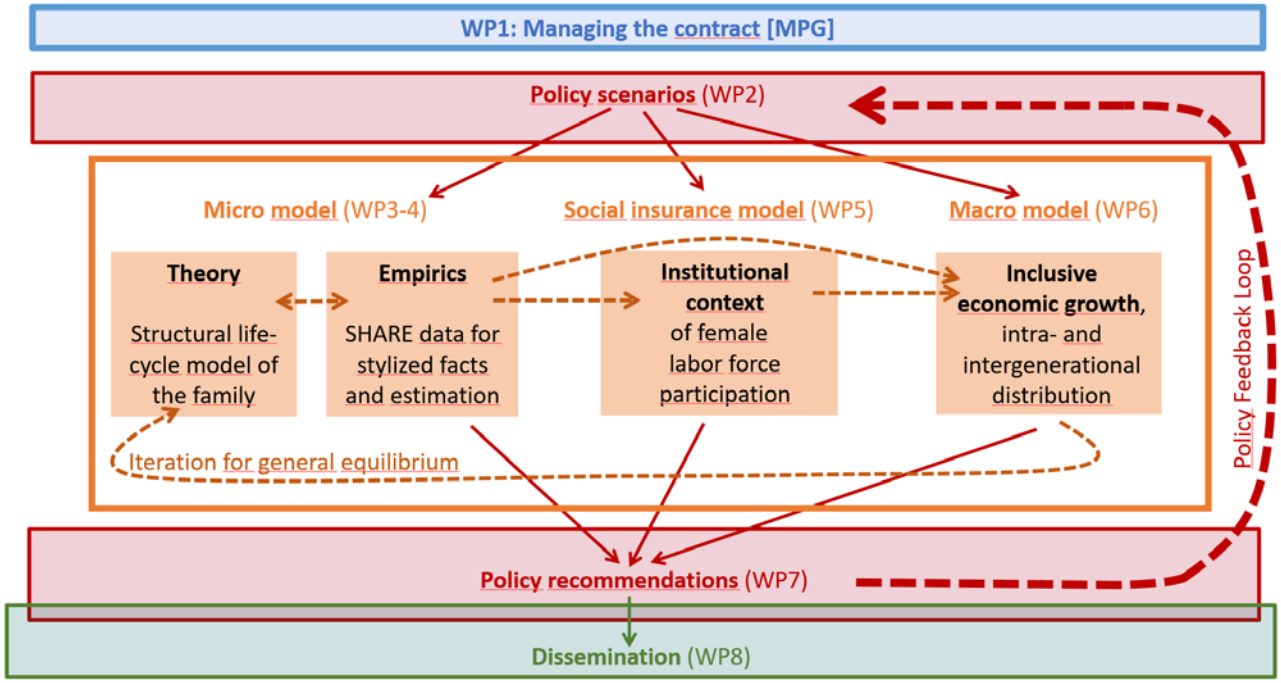
# Work packages




Intense interaction among all work packages is a key feature of our work: WP3-6 provide highly advanced analyses of the predicted impact of the care wave, using theoretical and empirical methods, based on the SHARE data. They are fed by inputs from WP2 and will deliver outcomes that are evaluated to derive policy recommendations in WP7, to be disseminated by WP8. The Policy Feedback Loop repeats this procedure, updating WP2 accordingly. The results from the micro model in WP3 enter both the macro model and the social insurance model (WP5). Finally, the macro outcomes from WP6 will be fed back to the micro model WP3 in an iterative process in order to achieve general equilibrium.

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## Trends and policy challenges

Five long-running trends contribute to the transformation that will peak in the mid2030s:

Demography | Health | Female labor supply | Family patterns | Geography

These trends differ across EU Member States and interact with each other in complex ways. They will – directly and indirectly through care giving – have large implications for household savings, productivity and labour supply, thus macroeconomic growth and investment potential, and affect the intra- and intergenerational wealth distribution.

They come with large social implications, such as unmet care needs, the social and financial sustainability of all branches of social insurance, and the role of women in ageing societies, threatening the inclusiveness of growth.

BB-Future will address these policy challenges, most urgently:

Unmet care needs | Lack of financial preparedness

## Demography

*Demographic trends* imply that the population share of individuals aged 85 and older in the EU27 will sharply rise over the next decades. Hence, more older people will demand long-term care (LTC) while fewer younger people can supply it. This imbalance ("care gap") between demand for, and supply of, long-term care is likely to be especially strong in Southern European countries such as Italy, Greece, Spain and Portugal.

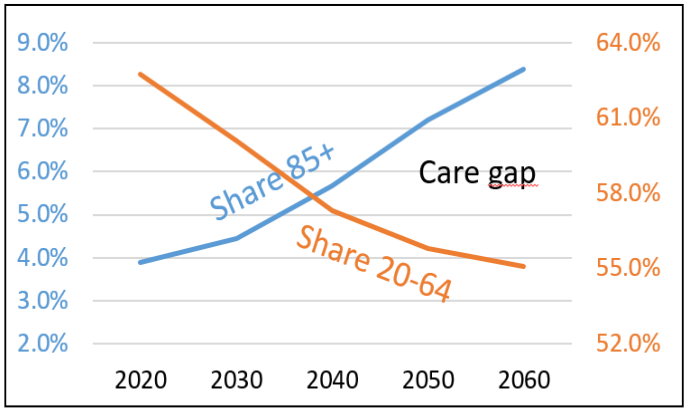


Figure 2: Share of population aged 85+ vs. 20-64.
Source: Eurostat (proj_19np), accessed 8July2021

**BB-Future will provide projections for the "care gap", i.e., the gap between demand for, and supply of, long-term care for all EU Member States.**

*There are indications that the trend towards better health is stalling* or even reversing, although with great heterogeneity within the European population. This threatens to increase care needs beyond purely demographic projections. The effects on healthy life expectancy and long-term care finances are so far little understood.

**BB-Future will refine the demographic care gap projections by cohort-based health projections based on the SHARE data for all EU Member States**

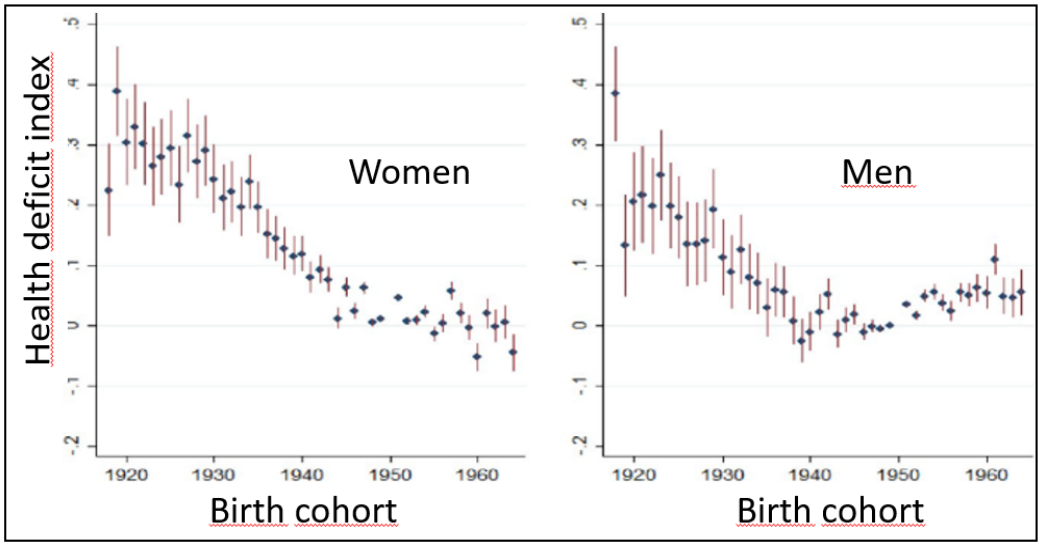


Figure 3: Cohort trends in health deficits by gender.
Source: Börsch-Supan et al. 2021. Bars denote 95%-confidence bands.

## Female labor supply

*Female labour supply is still rising* in all major European countries. *The gender pay gap is decreasing*. Pressures to supply more care may endanger this progress as there is a stable gender gap in care provision in Europe with daughters being more likely to provide care than sons. The gender care gap varies by care intensity and country: it is more pronounced when considering intense care and in the Mediterranean countries

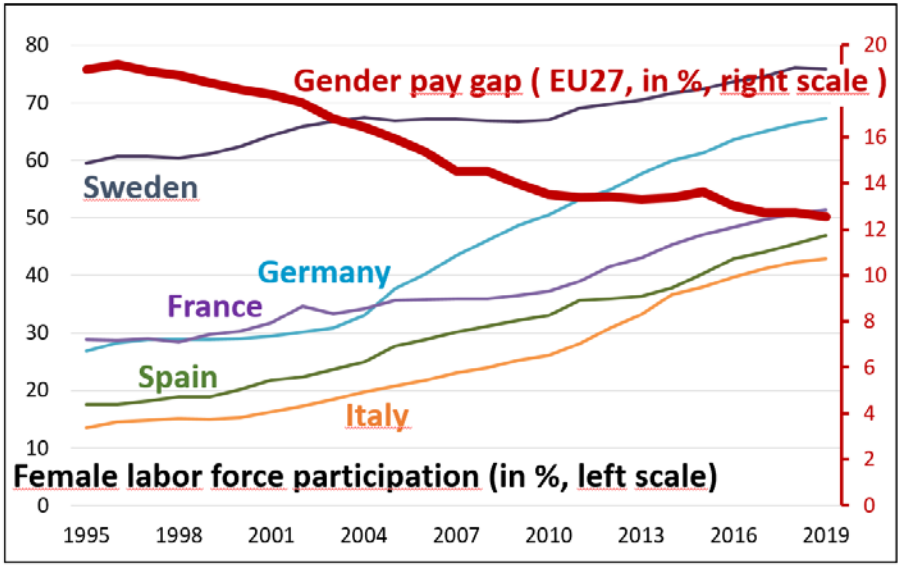


Figure 4: Female employment rate age 55-64 and gender wage gap.
Source: OECD Employment Outlook 2021

**BB-Future will model the interaction between labour supply and caregiving and its implications on the gender pay gap**

## Family patterns

*The change in marital and fertility patterns has created a substantially higher prevalence of childlessness, divorce and patchwork families*. Divorced and stepfamilies exhibit lower intergenerational solidarity. The father-child relationship is affected upon entering a new partnership and with the emergence of half and stepsiblings. Parent-stepchild relations are generally more fragile and often erode upon widowhood or divorce. This will complicate the intra- and intergenerational bargaining processes within families – who cares for whom and how much – even further. It may also lead to higher saving rates among parents in order to build up a buffer stock so as to be able to pay for formal care. In turn, higher savings will affect inter vivos transfers and bequests to the younger generation.

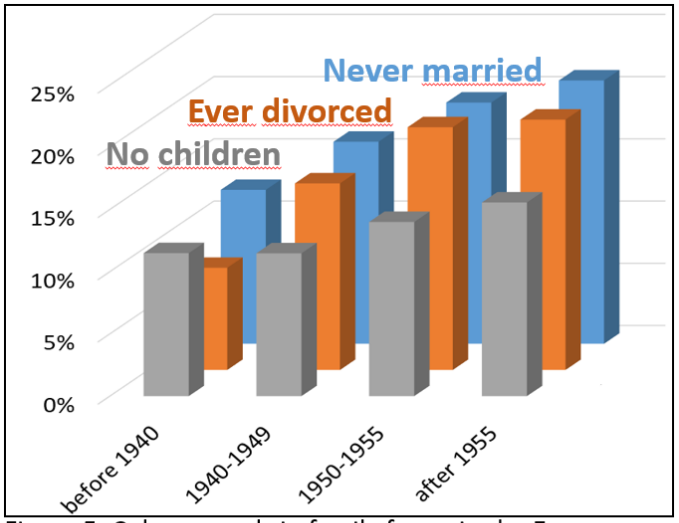

Figure 5: Cohort trends in family forms in the European 50+ population. Source: SHARELIFE, own calculations

**BB-Future will model who will be designated to provide care and how this affects inter vivos gifts, bequests and thus saving behaviour**

## Geography

*While the share of parents who have children close by is still very large* (almost 60% within a range of 5 km), differential productivity growth in Europe has led to more regional mobility, especially urban/rural, *thereby increasing the geographical distance between children and parents*.

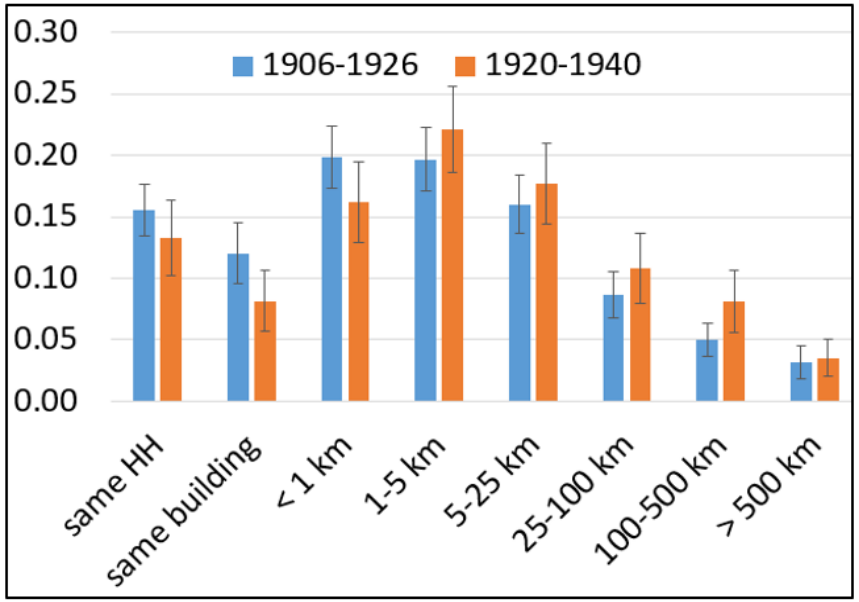


Figure 6: Geographical distance between children and parents by cohort. Source: SHARE W1 and W8

**BB-Future will model the interaction between caregiving and locational choice and its implications for labour supply and labour productivity, thus economic growth and its inclusiveness.**

## Unmet care needs

While these trends are evolving slowly, and the mid2030s may seem far away for some policy makers, the situation is unsatisfactory already now. The COVID-19 pandemic highlights that societies in Europe have made little progress in tackling these issues. The pandemic has had a severe negative impact on elderly people in poor health, especially for those living in nursing homes. It placed an enormous strain on formal and informal caregivers. Even more concerning, recent data show an alarming number of older people without adequate care. 32% of individuals with limitations in their daily activities self-reported that their care needs are not met.

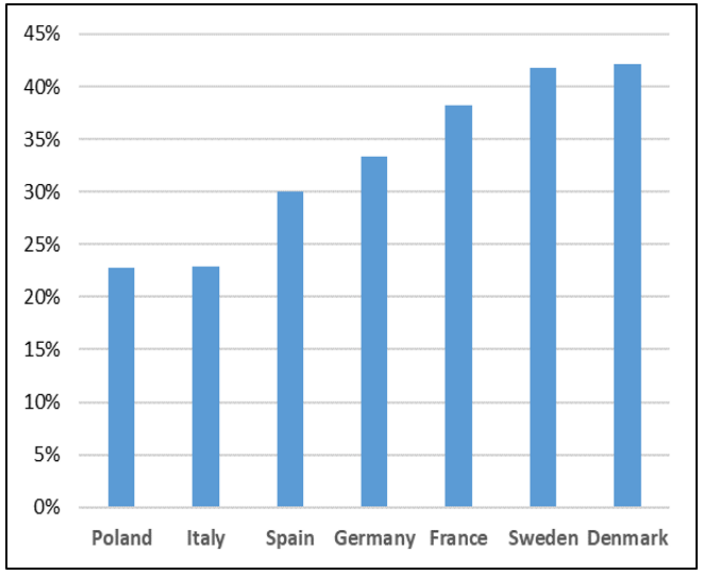


Figure 7: Unmet needs among people with limitations in activities of daily living
Source: SHARE Wave 6, own calculations

**BB-Future will predict unmet care needs and raise awareness of the urgency to invest in advance planning.**

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## Lack of financial preparedness

In addition, the state of financial preparation for the care wave is unsatisfactory. Public and private LTC insurance is only slowly emerging, with large variation across countries, which is concerning because a majority of individuals do not have sufficient resources to pay for LTC, e.g., no LTC insurance and not enough savings for LTC. Public LTC insurance exists in some European countries but it is generally insufficient to cover all care expenses. Rates of private LTC insurance are very low across Europe and in the United States

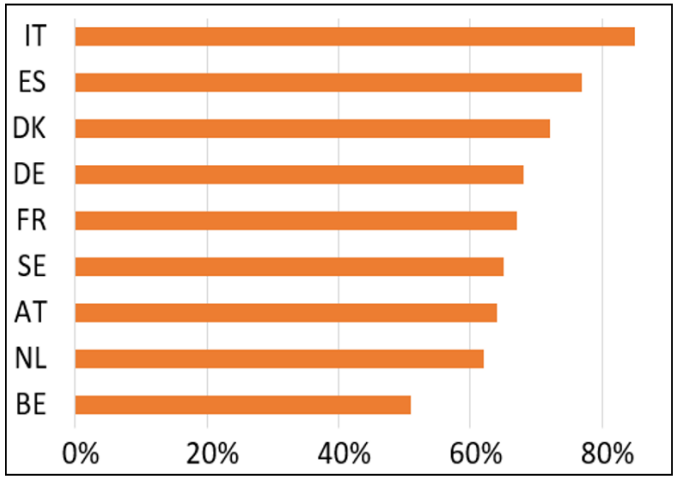


Figure 8: Population without insurance or savings to pay for LTC.
Source: Costa-Font et al. (2015). Data: Eurobarometer 283 QA28-1

**BB-Future will model the effects of different LTC insurance provisions on the financial status of parents and children.**

## Participants


BB-Future builds on the participants' scientific excellence, experience and long-standing success in structural modelling (Madrid, McGill and MEA), model estimation and application based on SHARE data (MPG and Paris), and EU policy development (Bruegel).

| Partner | Area of Expertise |
|---|---|
| MPG and MEA | • Experience in managing large scale projects such as the SHARE research infrastructure<br>• Public policy advice in pension, retirement and saving policies;<br>• Economic, social and public health aspects of population ageing;<br>• Econometric methodology and empirical analysis; quantitative social insurance analysis |
| Dauphine | • Economics of long-term care and social insurance;<br>• Microsimulation models;<br>• Empirical analysis |
| UC3M | • Economics of long-term care and family bargaining;<br>• General equilibrium analysis;<br>• Partial differential equations and finite-element methods |
| McGill | • Economics of long-term care and family bargaining;<br>• General equilibrium analysis;<br>• Development of numerical solution algorithms for bargaining problems |
| Bruegel | • Policy scenario development;<br>• Fact-based policy research and recommendations developments;<br>• Dissemination, communication and exploitation;<br>• Stakeholder engagement |

# Max Planck Society and the Munich Research Institute for the Economics of Aging and SHARE Analyses, Munich, Germany


The Munich Research Institute for the Economics of Aging and SHARE-based analyses (MEA) is an independent institute that was formerly a department and is now a cooperation partner of the Max Planck Society's (MPG) Institute for Social Law and Social Policy. A hallmark of the research at **MEA** is the **combination of macroeconomic OLG/CGE models and micro-econometric data analysis to study life-course decisions**. MEA has developed a suite of theoretical life-cycle models for saving and labour supply decisions, and it has built a pension simulation model, which details the effects of policy changes on old-age income. MEA has produced many micro-econometric analyses of retirement and saving decisions. Moreover, it has a long history of internationally comparative analyses, based on SHARE and other data sets. While MEA's previous research has focused on pensions, retirement and saving decisions, this project will transform this machinery to analyze decisions relating to LTC. Its director and **BB-Future's Principal Investigator** **Axel Börsch-Supan** is one of the leading experts in the field of the economics of ageing. He is also the Managing Director of SHARE-ERIC. The team has four post-doctoral fellows: **Ivo Bakota** (heterogeneous-agents models and computational economics), **Fernando David Loaiza Erazo** (health economics, structural equation models), **Johannes Rausch** (social insurance) and **Thorsten Kneip** (empirical sociology of the family, econometrics).

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Dauphine, Paris, France


Elsa Perdrix (PhD in Economics, Paris School of Economics and Paris 1) is associate professor at Dauphine University. She previously worked at the MEA. Her research are on the impact of public policies on health and long term care responsibilities of the elderly. She works on the role of pension reforms on health and long term care arrangement, on substitution between formal and informal care, and on projection of future needs for care. She will add her experience as a researcher on microsimulation of LTC needs (Ben Jelloul et al. 2022) and on the mix between formal and informal care (Perdrix & Roquebert, 2021).

UC3M, Madrid, Spain


**Matthias Kredler** (Ph.D. in Economics, New York University) is Associate Professor at UC3M. He also spent one year as a Visiting Assistant Professor at the University of Pennsylvania and has received the Spanish Ramón-y-Cajal grant in 2018. His interests lie in Macroeconomics, family economics, and labour markets. His research has been published in journals such as The Review of Economics Studies, the Journal of Economic Theory, the Review of Economic Dynamics, Quantitative Economics and the Journal of Economic Dynamics and Control.

Bruegel, Brussels, Belgium

**Bruegel is a Brussels-based European think tank** specializing in economics, recognized worldwide for its high reputation for research excellence and policy recommendations expertise, as well as for its success in making an impact on the policy debate. Bruegel will lead WP2 “Policy scenarios” and WP7 “Policy recommendations”.
Bruegel has extensive experience in policy advice and recommendations development. Having a successful track record of high-level events and solid base of high-ranking contact among relevant stakeholders, including different DGs of the European Commission, Bruegel is perfectly positioned to generate impact in the policy discussion. **Svend E. Hougaard Jensen** (a professor of economics at Copenhagen Business School and director of the Copenhagen-based Pension Research Centre (PeRCent)), has extensive experience in collaboration with public and private stakeholders. He is also a member of the Systemic Risk Council in Denmark, and he has served as a consultant to the World Bank, the European Commission, and other government agencies. He will be supported by **David Pinkus**.

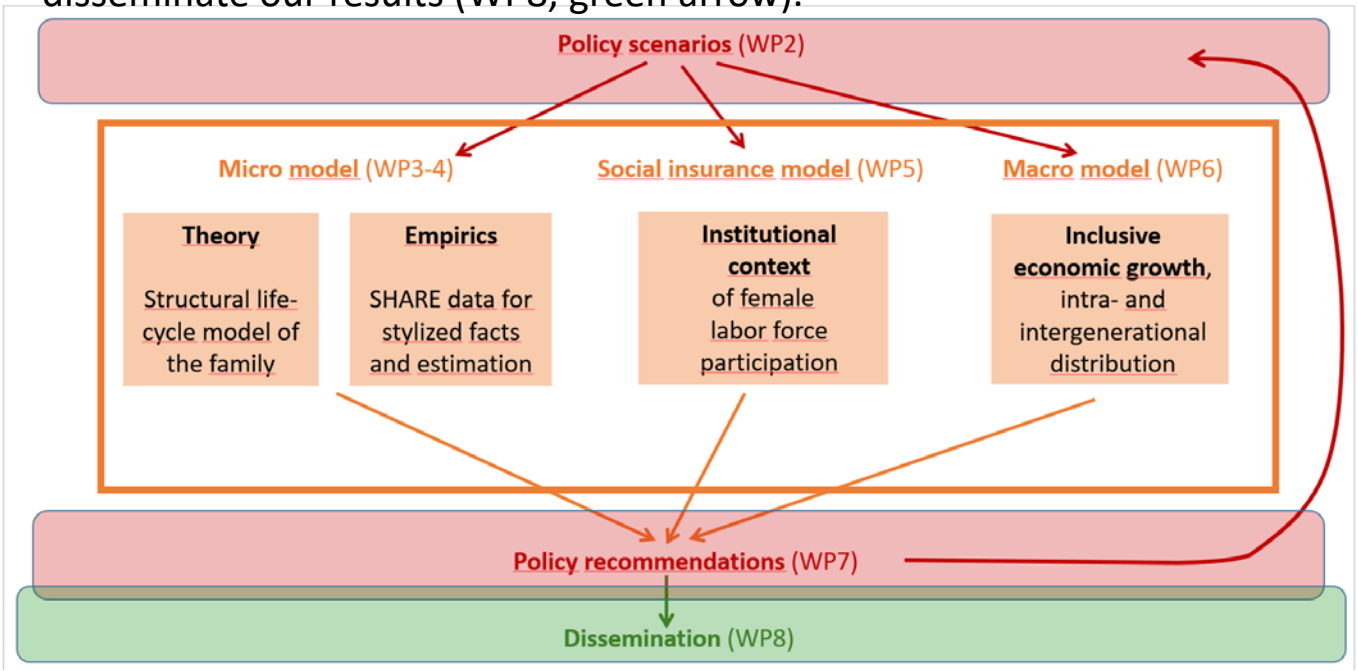
McGill, Montreal, Canada


Daniel Barczyk received his Phd.D. in Economics at New York University in 2011. Currently he is Associate Professor at McGill University in Montreal, Canada, and a research fellow at the Centre Interuniversitaire de Recherche en Économie (CIREQ). His research interests lie in macroeconomics with a focus on public policies and their interactions with family-level decision-making. A focal point of his research has been to study the effects of long-term care policy reform and intergenerational transfers on household savings and government budgets. His research has been published in journals such as The Review of Economics Studies, the Journal of Economic Theory, the Review of Economic Dynamics, Quantitative Economics and the Journal of Economic Dynamics and Control.

# Methodology

The project proceeds in four steps:

**Step #1:** Set up a broad range of health, social and labour market policy scenarios (WP2) which serve as inputs for the models (red arrows at top).
**Step #2:** Future trajectories of the outcomes of these scenarios are then computed using a set of quantitative models fitted to the SHARE data (WP3-6).
**Step #3:** From those, actionable policy recommendations (WP7, orange arrows) will be derived in cooperation with our policy network.
**Step #4:** The knowledge-based derivation of policy recommendations gives us the credibility to disseminate our results (WP8, green arrow).




Policy feedback loop between WP2 and WP7, leading to WP8

Home | Micro model (WP3-4) | Social insurance model (WP5) | Macro model (WP6)

# Micro model (WP3-4)


**The micro model** describes the joint determination of labour supply, caregiving and (dis)saving of parents and children as part of their life-cycle choices (WP3). The application of this model (WP4) will produce paths over time of labour supply, caregiving, remaining unmet care needs, saving of the young and eventually dissaving of the old as a function of the policy scenarios developed in WP2.

**It will answer the following questions*:*** How do households react to the five long-run trends? How do women and men manage the trade-off between caring for parents and labour supply? Will children forgo productivity gains by locating close to their parents? How much will the increased pressure to provide care affect the gender pay, employment and pension gaps? How can policies generate an optimal balance between formal and informal care? What will happen in patchwork families? Which parents will be left alone with unmet care needs which need to be picked up by social insurance? How can public and private LTC insurance be designed to prevent unmet needs in a cost-effective manner? Do we need more “care migration” to provide professional care?

Home | Methodology | Social insurance model (WP5) | Macro model (WP6)

## Social insurance model (WP5)


**The social insurance model** is needed to do a detailed accounting of the number of contributors and beneficiaries in a social insurance system and its financial balances (WP5). It will assess the financial sustainability of pension, healthcare and LTC insurance systems as a function of the labour supply decisions developed in the micro model which are in turn functions of the policy scenarios developed in WP2.

**It will answer the following questions*:*** To which extent can more female labour supply compensate for the retirement of the baby boomers, given the mounting pressures to supply more care? Which policies are needed to foster female labour supply, both in terms of labour force participation and hours worked? How will the strong cohort trend towards better educated women, now overtaking men, affect productivity? How should social insurance be re-designed to incentivize an optimal mix of formal and informal care that leaves sufficient room for higher labour force participation and increasing productivity? How can the interactions between the pension system, health and LTC insurances be exploited for efficient and sustainable social policies?

Home | Methodology | Micro model (WP3-4) | Macro model (WP6)

## Macro model (WP6)

**The macro-model:** A major hypothesis of BB-Future is that the care wave will significantly influence labour supply, productivity, household saving and dissaving decisions also on the macro level, i.e., in general equilibrium with responding wages and returns to capital. We therefore need a macro model with overlapping generations and heterogeneous households (WP6). Its uses as input the labour supply generated by the first model and produces paths of economic growth and social welfare as well as their intra- and intergenerational distributions as functions of the policy scenarios developed in WP2.

**The macro model will answer the following questions*:*** How large are the macroeconomic implications of the care wave? How are they distributed between the older vs. the younger generation, and between high vs. low-income households? And how do these macroeconomic and distributional effects depend on social insurance design?

## Policy feedback loop (WP2, 7 and 8)

Key to derive policy recommendations (WP7) is the ***Policy Feedback Loop***.

WP2 defines initial ***policy scenarios***, thus offering a baseline and a set of alternative scenarios. This will yield preliminary results deriving from applications of our three models, which will then be discussed during our ***Policy Dialogues*** (WP8).

We will then fine tune our scenarios and corresponding outcome variables (e.g., unmet care needs, female labor supply, distribution of welfare across different age and socioeconomic groups) to better evaluate the investigated policies. In doing so, we will investigate different policies from different countries as well as own novel policy ideas.

Based in this, we will provide actionable policy recommendations that take into account interactions with the policy network. We will structure our scenarios around three Policy Pillars:

1. **Demographic background conditions and health policies**
2. **Labor market conditions and labour market reforms**
3. **Social policies and social insurance reform**

# Contact

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Policy brief


This policy brief is the first issue of a “living document” that will document the policy-relevant results of the research project “The Care Wave And The Future Of The Baby Boomers And Their Children” (BB-Future), a European research effort to understand the size of the care wave and its ramifications for the economy and social security systems.

This first issue will present the policy challenges that gave rise to this project, summarize its objectives and sketch how we will achieve them. Further issues of this policy brief will be added as results from the project arrive.

**Download pdf here**

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