



EUROPEAN POLICY BRIEF

UNDER PRESSURE: INTERGENERATIONAL PUBLIC TRANSFERS IN AGEING SOCIETIES



Understanding the interaction between public and private inter-generational transfers is essential for explaining and forecasting public transfers in the light of demographic change. It requires considerable private resources to bring up and educate children until they enter employment and contribute to the public transfer system. These investments in the young generations are too low in all EU-countries to sustain the current levels of public old-age benefits in the future. The key message of our research is that sustainable public transfer systems need to adjust to demographic changes and provide incentives for private investments in children.

February 2017

INTRODUCTION

Public Transfers in Ageing Populations

The two periods of economic dependency in childhood and old age are a key characteristic of the human life course. Children and the retired elderly cover a large part of their consumption through intergenerational transfers from the working-age population. Parents provide for the basic needs of their children, while taxes and social contributions finance their formal education as well as public pensions and health services for the elderly. Population ageing puts a strain on the funding of public transfers. Increasing longevity coupled with a fixed retirement age prolongs the period of economic dependency in old age. At the same time, the decline in fertility results in a decreasing share of contributors relative to beneficiaries.

The Intergenerational Contract

The reciprocal transfer flows between the parental and the child generation can be described as an intergenerational contract: the parental generation provides resources for children until they enter the labour force; the child generation in turn pays a share of its income to the parental generation in form of pensions, health care and long-term care. A key element of this intergenerational contract are sufficient human capital investments into the child generation to maintain the balance between benefits expected by the elderly and the contributions of the child generation.

Low Human Capital Investments across Europe

The Human Capital Investment Gap Indicator (HKIG) measures the difference between the value of public net benefits that a certain generation expects in old age and the expected net contributions of its children's generation. Hammer et al. (2016b) calculate the HKIG for the cohort born in 1950. The results show that there is not one among the 25 EU Member States in the analysis where the 1950 cohort has invested enough into the younger generations in terms of having children, educating them and integrating them into the labour force. Consequently, the contributions of their children's generation are too low to enable the members of the 1950 cohort to receive public old-age benefits at levels observed (for older cohorts) in 2010.

EVIDENCE AND ANALYSIS

Intergenerational Transfers in Europe

The European National Transfer Accounts database contains age-specific economic data for the EU Member States, including data on income, transfers, consumption and saving (Istenič et al., 2016). The database also contains age-specific data on unpaid household production, the corresponding transfers and consumption for 14 countries (Vargha et al., 2016). Figure 1 shows the type and total amount of net transfers between age groups for these 14 countries in 2010.¹ The different segments on the circle, which ranges from age 0 to the age group 80+, represent the life stages. The age groups below 26 received transfers from the working-age population in the form of public transfers (blue arrow); private transfers of money as well as goods and services bought on the market (orange arrow); and transfers in form of services produced in the household through unpaid work (yellow arrow).² The total value of transfers from the working-age population to children amounted to 23 per cent of GDP in 2010. The age groups older than 62 were net receivers of public transfers that amounted to 9 per cent of GDP.

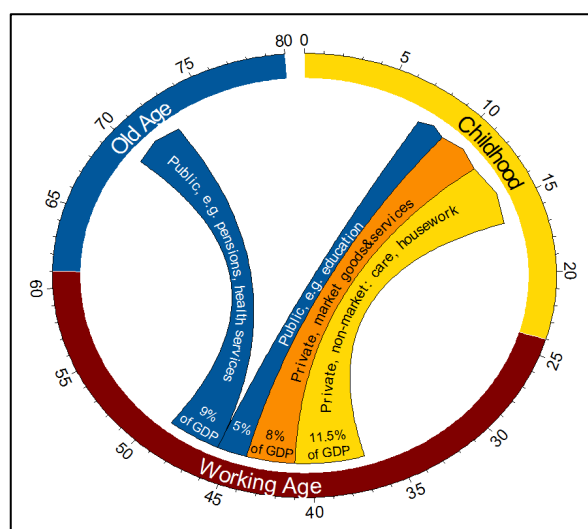


Figure 1: Private and Public Net Transfers between Children, Elderly and the Working-Age Population, 2010

A large working-age population enables high transfers to the elderly without overburdening the individual contributor. In sustainable transfer systems, it should remain to be possible for the working-age population to fund public old-age benefits without excessive increase in individual contributions.

The Human Capital Investment Gap (HKIG)

The calculation of the HKIG for the cohort born in 1950 is based on simulations of public benefits in old age and the children's contributions over their working life. For the old-age benefits, it is assumed that the per-capita age-specific benefits relative to the income of a full-time worker remain at the level we observe in the NTA cross-section data for 2010. Survival probabilities were taken from the EUROPOP population projections. The size of the child generation was calculated using data on completed cohort fertility of the 1950 generation. For the public contributions of an individual member of the child generation, we assume that age- and employment-specific contributions relative to the income of a full-time worker remain at the level observed in 2010. The data on age- and employment-specific contributions are then combined with employment projections (Hammer et al., 2016a) to

¹ Averages over all 14 countries weighted with population size.

² Unpaid work is valued with the average hourly net labour income of employed persons.

obtain estimates for the public contributions at each age. To calculate total benefits in old age and total contributions over working life, we simply add up the values at each age.

A positive HKIG is a sign that the public net benefits expected in old age are higher than the expected contributions of the child generation, given the 2010 tax rates and the 2010 share of taxes transferred to elderly persons. If the pattern is not different in previous or following cohorts, then the system is not sustainable and requires adjustments, either by increasing the contributions of the child generation or by decreasing the benefits of the parental generation.

Results

In none of the analysed countries are the contributions of the child generation sufficient to finance the old-age benefits of the 1950 cohort, given the age- and employment-specific transfer pattern observed in 2010. In about half of the European countries the public net transfers to the elderly generation would have to increase by more than 50 per cent if public old-age benefits were to remain at the 2010 level (Figure 2). The HKIG identifies those countries as least sustainable that financed a large part of public expenditure through issuing new public debt in 2010, in particular Slovakia and Ireland. The HKIG is relatively small in Bulgaria, Italy and Sweden which has very diverging explanations: the small role of public old-age benefits in Bulgaria, the high share of public transfers directed to elderly persons in Italy already in 2010 and the high participation rates and comparatively high fertility in Sweden.

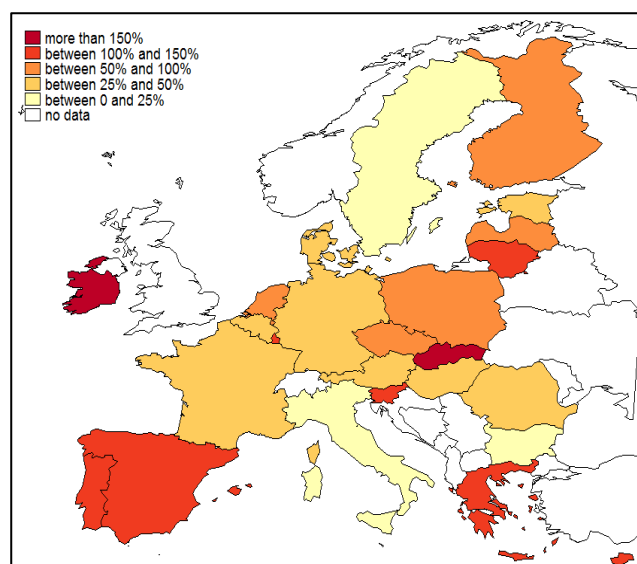


Figure 2. The Level of the Human Capital Investment Gap across Europe: Required Increase of the Public Net Transfers to the Elderly

Conclusions

Many European countries experienced a baby boom at some time between the end of the second world war and 1980. The high fertility together with increasing employment rates of women and high productivity growth rates enabled an unprecedented expansion of the public transfer systems. The levels of public old-age benefits observed in 2010 are appropriate for the parents of the baby-boomers, but hardly sustainable for generations with low fertility and increasing life expectancy.

References:

Hammer, B., Prskawetz, A., Loichinger, E. (2016a). Projections of the Labour Force by Age, Gender and Highest Level of Educational Attainment until 2050. AGENTA project report. <http://www.agenta-project.eu/Jacomo/upload/publications/d-7.1-submitted.pdf>

Hammer B., Fürnkranz-Prskawetz A., Gál R. I., Vargha L., Istenič T. (2016b). *Sustainability of Inter-Generational Public Transfers in EU-Countries: A New Indicator Based on Projections of National Transfer Accounts*. AGENTA project report. Download from: www.agenta-project.eu/Jacomo/upload/publications/0_sustainability_indicators_d7.2.pdf

Istenič, T., Šeme, A., Hammer, B., Lotrič Dolinar, A., Sambt, J. (2016). *The European NTA Manual*. AGENTA project report. Download from: www.agenta-project.eu/Jacomo/upload/publications/d-1.4-submitted.pdf

Vargha, L., Šeme, A., Gál, R. I., Hammer, B., Sambt, J. (2016). *Manual of the NTA methodology and guidelines to the AGENTA NTA data explorer*. AGENTA project report. Download from: www.agenta-project.eu/Jacomo/upload/publications/d-2.3-submitted.pdf

POLICY IMPLICATIONS AND RECOMMENDATIONS

The level of the tax burden, the rules governing access to public benefits as well as their level have a strong influence on the economic decisions of individuals. Unpredicted changes in the public transfer system can result in large costs, a reduction of wellbeing and considerable economic hardship. A sustainable and predictable public transfer system contributes to the well-being of the population and enables individuals to make judicious economic decisions. The current organisation of the public transfer system, in particular the pension system, ignores the importance of investing into the young generations as a main determinant of sustainability. Population ageing therefore puts a strain on the public transfer system in most European countries, requiring considerable changes. We identified two necessary characteristics that a sustainable, predictable and reliable public transfer system should have:

1. Accounting for demography: a sustainable public pension and health system has to take into account demographic developments, including life expectancy and fertility rates.

Life expectancy affects the expected public benefits in old age while fertility is an important determinant of total public contributions of the child generation. For keeping a balance between public transfer contributions and benefits these two factors have to play a key role in the organisation of public transfers, in particular the rules determining pension benefits.

2. Reconciling individual incentives and the functioning of a transfer system: accounting for private transfers to children in the calculation of public pensions.

For a generation as a whole the investments into the child generation, which are mostly private, determine the size of old-age pension benefits. These investments into children are associated with considerable costs for the parents, in form of reduced consumption, reduced leisure and lower labour income. However, individual pension benefits are based on one's contributions to the public system. As a consequence, households that invest into children are likely to end up with lower public benefits. The incentives that are set by the pension rules undermine the system's own sustainability. We suggest to better account for private transfers to children in the calculation of public pension benefits, for example by relating benefits to the number and education of a person's children.

RESEARCH PARAMETERS

The AGENTA project aims at explaining the past and forecasting the future of taxes and public transfers and services in the light of demographic change in the European Union. AGENTA puts a special emphasis on the links between the public and the private sectors (particularly households) in providing transfers to children and elderly. The guiding principle of the project is to provide evidence based policy proposals to ensure long-term sustainability of public finances in Europe.

A central component of AGENTA is the generation of National Transfer Accounts (NTAs). NTAs introduce the age dimension into the System of National Accounts (SNA) and measure age-specific income, public and private transfers between age groups, as well as the age-specific use of disposable income for saving and consumption.

PROJECT IDENTITY

PROJECT NAME	Ageing Europe: An application of national transfer accounts (NTA) for explaining and projecting trends in public finances (AGENTA)
COORDINATOR	Alexia Fűrnkranz-Prskawetz, Vienna Institute of Demography, Vienna, Austria, Alexia.Fuernkranz-Prskawetz@oeaw.ac.at
CONSORTIUM	Ecole d'Economie de Paris Paris, France Hungarian Demographic Research Institute Budapest, Hungary Lunds Universitet, Centre for Economic Demography Lund, Sweden National Institute of Economic and Social Research LBG London, United Kingdom Stiftelsen Institutet för Framtidsstudier Stockholm, Sweden Szkoła Główna Handlowa w Warszawie Warsaw, Poland Universitat de Barcelona Barcelona, Spain Univerza v Ljubljani Ljubljana, Slovenia Vienna Institute of Demography of the Austrian Academy of Sciences Vienna, Austria
FUNDING SCHEME	FP7 Framework Programme for Research of the European Union – Collaborative project – Socio-Economic Sciences and Humanities – Thematic area: The impact of ageing societies on public finances in Europe
DURATION	January 2014 – December 2017 (48 months)
BUDGET	EU contribution: EUR 2,496,850
WEBSITE	www.agenta-project.eu
FOR MORE INFORMATION	Contact: Bernhard Hammer (bernhard.hammer@oeaw.ac.at), Authors: Bernhard Hammer, Alexia Fűrnkranz-Prskawetz, Miguel Sánchez-Romero, Tanja Istenič, Jože Sambt, Lili Vargha, Robert Gál.
FURTHER READING	Gál, R. I., Szabó, E., & Vargha, L. (2015). The age-profile of invisible transfers: The true size of asymmetry in inter-age reallocations. <i>The Journal of the Economics of Ageing</i> , 5, 98-104. Loichinger, E., Hammer, B., Prskawetz, A., Freiberger, M., & Sambt, J. (2017). Quantifying Economic Dependency. <i>European Journal of Population</i> , 1-30. Rentería, E., Souto, G., Mejía-Guevara, I., & Patxot, C. (2016). The Effect of Education on the Demographic Dividend. <i>Population and Development Review</i> , 42(4), 651-671.