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Who Pays for Ageing? Work, Assets, Pensions and Transfers in Lithuania and Japan

INTRODUCTION. Demographic changes and ageing populations pose significant challenges for economies worldwide. National Transfer Accounts (NTA) provide a structured method to analyse the economic lifecycle, intergenerational transfers, and the sustainability of public welfare systems. This policy brief examines the economic life-cycle and dependency structures of Japan and Lithuania, two nations experiencing common ageing challenges, including an increasing life expectancy and declining birth rates. However, Japan's ageing population is significantly larger and more aged, with nearly 30% of its population over 65 compared to Lithuania's 21%. In contrast, Lithuania's ageing process is more recent, driven by both demographic shifts and high emigration rates, which exacerbate labour shortages. Both countries face pressures on public pension systems and healthcare financing, requiring policy adjustments to maintain both social and economic sustainability. The analysis focuses

on whoever is bearing the financial burden of ageing and how each country is sustaining its elderly population through labour income, asset reallocations, as well as in-cash and in-kind public and private transfers, including pensions. A look at the experience of Japan provides important lessons regarding a way forward for a rapidly ageing Lithuania.

METHODOLOGY. The policy brief is based on a review of the two recently published academic studies by Fukai et al. (2024)* for Japan and Sambt et al. (2021)** for the EU countries, including Lithuania. Both studies employ the NTA framework, which measures consumption, labour income, and public

* Fukai, T., Fukuda, S., Ichimura, H., Nakata, D., Sato, I., & Terada, K. (2024). National Transfer Accounts (NTA) in Japan: 1984–2014. *The Japanese Economic Review*, 75(6), 779–821.

** Sambt, J., Hammer, B., & Istenič, T. (2021). The European National Transfer Accounts: Data and Applications. *Economic and Business Review*, 23(3), 184–193.

and private transfers across different age groups, including elderly populations. The comprehensive study for Japan covers data for the period of 1984–2014, while data and analysis on Lithuania refers to the period of 2010–2011.

The analysis highlights **life-cycle surplus (LCS) and deficit (LCD)** – the positive or negative difference between the total income and the total consumption at each age, indicating periods of economic dependence. The overall size of LCS or LCD reflects age-specific patterns of economic activities and consumption, but also the population structure. The analysis distinguishes between **inflows** (such as the labour income, the asset income, and transfers received) and **outflows** (such as consumption, savings, and transfers given). The study also distinguishes between **public transfers** (such as public pensions, other cash and in-kind benefits and services, direct and indirect taxes and social insurance contributions), **private transfers** (such as regular and one-off familial intra-household support and inter-household payments) and **asset-based reallocations** (such as private savings, interest paid on loans, (imputed) rent, funded pension contributions and pay-outs, as well as other returns on property and assets). All of this provides insights into how ageing populations are being financed.

The NTA methodology combines data at the micro and macro levels in a consistent way. The age profiles of the labour income and consumption are estimated by using such individual-level microdata sources as Japan's *Family Income and Expenditure Survey* (NSFIE), *EU Survey on Income and Living Conditions* (EU-SILC) and *Household Budget Surveys* (HBS). These estimates are then aligned with macro-economic aggregates from the *System of National Accounts* (SNA). The data is also obtained from other sources, such as population censuses, demographic statistics, and fiscal reports.

KEY FINDINGS:

1. **Labor income: higher wages and longer working careers, reinforced by encouraged senior employment, help sustain an aged population in Japan**
 - o **Lithuania:** Labour income peaks at around 35–40 years, reflecting an earlier labour market entry and an age-related bias. However, the total working period is shorter due to earlier retirement norms. This, as well as lower earnings and productivity rates, result in the economic surplus from the working-age population being smaller in Lithuania. Moreover, employment among older individuals is lower compared to Japan.
 - o **Japan:** Labour income peaks later in life, at around 45–50 years, due to policies encouraging senior employment. Many elderly individuals continue to work, which reflects both economic necessity and cultural expectations.
2. **Public and private transfers: finding balance between reduced consumption for the young and reliance on private familial transfers for the old**
 - o **Japan:** The economic dependency and public transfer burden on the working-age population is increasing. Government pensions, healthcare and long-term care (LTC) form the backbone of elderly financial stability, while creating fiscal pressure for the public welfare system. At the same time, the age group of 23–39 suffered the lowest growth rate of consumption since 2004 compared to other age groups, despite their higher labour income growth. This shows an increasing intergenerational solidarity and an increasing need for life-cycle saving and transfers. On the other hand, this finding adds a new item to the potential list of the explanations for lower marriage and fertility rates in Japan, as the younger generation needs to constrain its consumption and spending.

- o **Lithuania:** A higher reliance on private transfers within families exists, alongside a social welfare system that provides basic public support. This reliance on familial transfers may reflect a cultural tendency toward intergenerational support, as well as social policy gaps. Given the low fertility and significant emigration flows, higher reliance on familial transfers in Lithuania may pose an important challenge for the future.

3. Asset-based reallocations: interest payments to domestic investors in Japan and relatively high rates of home-ownership and saving in Lithuania

- o **Japan:** Asset-based reallocations were positive for those aged over 43 in 1984, which decreased to the younger age limit of those over 32 in 2014. This reflects interest payments on the national debt and the new deficit government bond, which is a feature specific to Japan, where most of its government’s debt is owned by domestic investors. Moreover, a higher fraction of the older age group holds stocks and benefits from the corporate operating surplus distributed to households.
- o **Lithuania:** The share of asset-based reallocations as of 2010 was relatively high in Lithuania in the EU context, i.e., at 16% of the total labour market income. This reflects relatively high rates of private

saving and home ownership. The latter can still be attributed to the Soviet past and privatization, with the majority of the population owning their housing, rather than renting. Housing, especially outside the major cities, is still relatively inexpensive, especially compared to Japan.

4. Life-Cycle Surplus (LCS) and Deficit (LCD): Lithuania needs to increase the number of years in positive economic surplus by around 8 years to match Japan

- o **Japan:** For the latest study year, the positive lifecycle surplus starts at around 26 years and ends at around the age of 60. This results in around 34 years of positive LCS, which is even longer for men (around 40 years). Within the last 30 years, the period of the positive LCS gradually increased by around 3 years. Still, the LCD value is significantly higher in the latest available data, with individuals over 60 consuming far more than they earn. This is largely sustained by public transfers, particularly for pensions, health and LTC.
- o **Lithuania:** The positive LCS starts at around 29 years and ends at around the age of 55. This results in around 26 years of positive LCS, the period being longer for men (at around 30 years) compared to around 20 years for women. The total LCS in Lithuania, although positive, is the smallest (at 8%

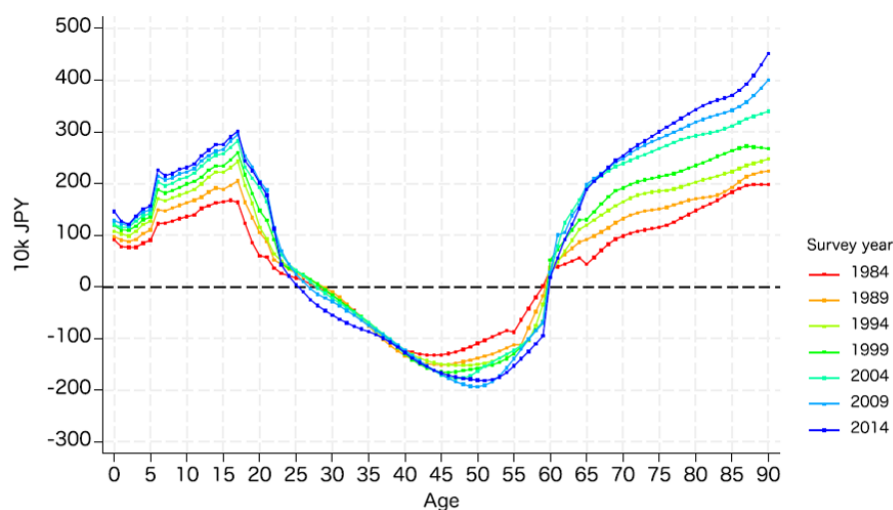


Fig. 1. Life-cycle deficit in Japan (1984-2014)
 Source: Fukai et al. (2024)

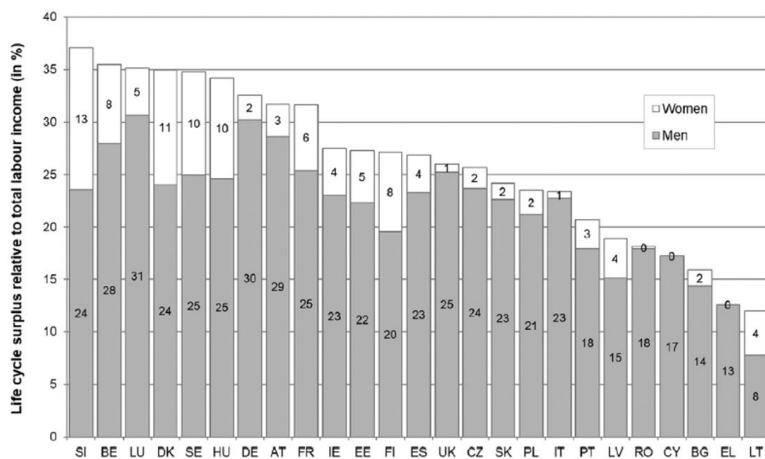


Fig. 2. Life-cycle surplus for men and women in EU countries in 2010
 Source: Sambt et al. (2021)

for men and 4% for women) compared to other EU countries, which limits both private and public transfer capacity. On the other hand, LCD is currently lower compared to Japan, due to the much lower average life expectancy, along with the associated age-related costs. The increase in longevity in Lithuania, if not accompanied by longer careers and higher economic surplus from the working age, will cause an increasing LCD and may further strain the public finances.

CONCLUSIONS AND POLICY IMPLICATIONS.

Both Japan and Lithuania face demographic ageing, but their economic responses differ. Japan’s high reliance on public transfers necessitates fiscal reforms to sustain social security. Lithuania, with its lowest economic surplus within the EU, must strengthen its labour market policies to support productivity, encourage lifelong employment and later retirement. Policies to attract

skilled immigrants could help counterbalance the demographic decline. Automation, workforce digitalization and AI-driven job creation are among the important solutions for both countries, and Japan is setting a good example in this sphere. Lithuania also needs to strengthen its social security system so that to reduce the necessity of private familial transfers. Both countries have specific features related to asset-based reallocations, i.e., the elderly in Japan benefit more from the interest payments on the national debt and from the distributed corporate profits, while Lithuania is distinguished by relatively high rates of home-ownership and private saving.

Finally, while the two studies use similar methodologies, a more robust comparison of the two countries, as well as a more detailed analysis for Lithuania are lacking and would strongly benefit both academic and policy debate on sustaining the costs of population ageing.

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