P opulation ageing across the advanced economies (though not in large parts of Africa and Asia) has become a growing concern for academics, policy-makers and the public at large. More specifically, the question of the economic and financial sustainability and the intergenerational fairness of contemporary public policy constellations and socio-economic models has come to the fore against the backdrop of low or declining fertility rates and large cohorts of longer-living elderly citizens. Yet efforts to empirically conceptualise and measure intergenerational sustainability and fairness have often gone in different directions and have not always added to a greater cohesion, or clarity, of knowledge. This special issue on "Measuring Intergenerational Justice for Public Policy" aims to take stock of such efforts, and to provide an overview of where we stand today.

The first two articles, both winners of the 2016/17 Demography Prize, focus on the dominant methodologies for thinking empirically about intergenerational fairness and sustainability. The first article is a general overview essay on Generational Accounting, authored by Laurence Kotlikoff, a founding father of this methodology. Kotlikoff notes that since David Ricardo's work, it took another century and a half for economists to develop models capable of realistically tracking the impact of policies on the welfare of current and future generations. Today, large-scale, dynamic computable general equilibrium models remain too stylised to provide much more than a qualitative sense of generational impacts. To fill this gap, Kotlikoff and others have pioneered the use of available data to directly measure the fiscal treatment of current and future generations. Kotlikoff's essay surveys these efforts over the past three decades to quantify generational fiscal burdens using both fiscal gap and generational accounting. On the whole, he is optimistic about the pace of progress, thanks in part to the acute if belated awareness by economists that intergenerational fairness is a topic of both policy importance and moral urgency. But Kotlikoff notes that conventional approaches based on concepts of national debt and deficits remain dominant in government practices even though governments are able to manipulate what to keep off their books. This points to the need to study power and governance in research on intergenerational fairness.

The second article, by Natalie Laub and Christian Hagist, applies Generational Accounting to analyse whether and to what extent current policies put heavier burdens on the shoulders of future generations compared to current generations. Specifically, they study the impact of recent reforms in pay-as-you-go pension systems in Norway, Poland and Germany. They find that reforms have reduced the implicit debt to be paid by future generations in all cases, but the burden is shared differently. In Norway current pensioners have to contribute to enhancing financial sustainability, while Poland and Germany seem to be more politically constrained by the electoral power of pensioner-voters: reforms have put in place "grandfathering clauses" that protect current pensioners at the expense of younger generations.

In the last article, Róbert Gál and Judit Monostori present an insightful and concise taxonomy of empirical indicators of economic sustainability and intergenerational fairness, summarised from their earlier wide-ranging survey of over 80 indicators.<sup>1</sup> They neatly organise their taxonomy along four different scope conditions: specific public programmes, the general government, the market economy, and the total economy, which adds the household economy (the output of unpaid household labour). The article shows that indicators of sustainability are based all too often on ad hoc partitioning of the life cycle, exemplified by the standard practice of letting adulthood start at 15 or 18, and old age at 65. Surveying significant advances in the measurement of ageing by Warren Sanderson and Sergei Scherbov and others,<sup>2</sup> Gál and Monostori instead propose indicators that mitigate or eliminate the ad hoc nature of partitioning. More importantly still, they demonstrate that the conclusions the observer is led to draw regarding sustainability and intergenerational fairness can be different, sometimes radically, depending on the level of analysis. Taking the five largest EU countries, they show that seemingly worrying levels of unsustainability in the pension system can go hand in hand with modest sustainability worries at the level of the economy. Building on earlier work by Gál et al.,3 they also show that conclusions on the very direction of intergenerational resource transfers simply reverse when the scope of analysis moves from public policies to the total economy including households. In 17 European countries, the elderly population gets significantly higher per capita net transfers through public channels than children do. But if intra-familial transfers of cash and, crucially, time, are taken into account, this pro-elderly bias flips over entirely. Children now receive more transfers per capita than the elderly. The value of investments in human capital and other intra-familial transfers is so important that they frequently reverse the results of a more narrow public policy analysis. Thus the key message from Gál's earlier work is corroborated: Europe is a continent of "pro-elderly welfare states within child-oriented societies."4 This highlights an important further conclusion we can draw from this special issue. Since different levels of analysis may lead to very different conclusions, discussing families of related indicators is the more cautious approach to measuring intergenerational justice.

## Notes

1 Gál/Monostori (2016): see page 85. 2 Sanderson/Scherbov (2013): see page 86.

3 Gál/Vanhuysse/Vargha (2018): see page 85.

4 Ibid.

Pieter Vanhuysse (University of Southern Denmark) Antony Mason (IF) Jörg Tremmel (University of Tübingen) Markus Rutsche (University of St. Gallen) Maria Lenk (FRFG)