Wealth distribution and household economies of scale: Do families matter for inequality?

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ABSTRACT

The distribution of wealth is an increasingly widely accepted measure of social policy outcomes. At the same time, concepts such as asset-poverty feature in growing number of contributions in the literature on poverty measurement. However, in contrast to the "income world", where equivalence scales are a popular tool to account for household scale effects in consumption, the role of the household in moderating wealth inequality and -poverty remains unclear. Yet, exploring how wealth translates into wellbeing may be crucial for analysing and designing redistributive policy instruments.

Previously, the need to develop equivalence scales for wealth has been highlighted (Sierminska & Smeeding, 2005). While some accounts find little evidence on substantial effects of household size adjustments on inequality (trends) (Kuhn, Schularick, & Steins, 2020), other contributions have shown that household size adjustments matter for analysing wealth and its distribution (Fessler, Lindner, & Segalla, 2014; OECD, 2013; Sierminska & Smeeding, 2005). However, it is unclear on what basis such adjustments should be made. On the realm of income, adjusting household level income information for household size is a widespread practice. Typically, authors use the OECD equivalence scale (OECD, 2018). In contrast, when it comes to wealth, there is no universally accepted approach. A variety of different practices exist, ranging from a per-capita approach (Davis & Hu, 2006), no equivalisation at all (F. Cowell, Nolan, Olivera, & Van Kerm, 2017) to applying the income scale (Jäntti, Sierminska, & Van Kerm, 2013; OECD, 2013). Most conceptual comments on the measurement of wealth and its distribution leave this choice to be determined by the purpose of the analysis (F. Cowell, Nolan, Olivera, & Kerm, 2017; F. A. Cowell & Van Kerm, 2015; Sierminska, Smeeding, & Allegrezza, 2013).

In this paper, I argue that family institutions have substantial ramifications for the measurement of wealth inequality. Supporting this claim, this article develops and estimates wealth economies of scale to adjust wealth for household size. Scale effects are a relevant concept regarding wealth, as recent research consistently shows that assets enter individual utility not only through consumption possibilities but also directly (Camerer, Loewenstein, & Prelec, 2005; Gechert & Siebert, 2020). This is the case when people hold wealth because of intergenerational transfer motives or social status, for example.

The paper sets out to test whether the link between household composition and wellbeing differs between households where wealth is primarily a means to smooth consumption, and households that hold wealth as an end in itself. The model of the "capitalistic spirit" wealth accumulation motive, originally developed to explain high savings rates of the rich, provides a simple framework to study the share of wealth each household holds for

non-consumption purposes (Carroll, 1998; Francis, 2009). The level of wealth held by an agent is the key to the model: Non-consumption savings are particularly important at the top of the distribution. Since affluent households in particular hold a lower share of their wealth for consumption purposes, the wealth scale effects will be particularly relevant for them. In contrast, consumption-savers at the bottom end of the distribution hold most assets for consumption purposes. Therefore, the scale effects for consumption will be most important for this class of households.

By offering a concept of economies of scale for wealth rather than an ad-hoc approach, this paper on scale effects measurement for wealth contributes in several ways. In a first step, I devise an adjusted version of the "capitalist spirit" model to accommodate household size effects and better match empirical patterns of saving behaviour. The second contribution consists of estimating wealth economies of scale, and the other model parameters. Using those estimates, I apply the wealth scale effects to wealth components identified by the model to be non-consumption wealth. All other assets are adjusted using conventional income economies of scale. Finally, this paper explores the implications of this household size adjustment for wealth inequality and asset poverty. The analysis draws on data from the German Socio-Economic Panel and recovers the structural model parameters using Bayesian statistical methods.

As opposed to approaches hitherto employed to adjust for household size when measuring wealth inequality, taking into account the equivalence scales developed in this approach has more pronounced implications for wealth inequality. Indeed, I find almost perfect economies of scale among households holding wealth for non-consumption purposes. This implies that a given amount of family wealth bestows similar benefits on all family members. In contrast, consumption-savers sharing goods purchased by running down wealth have more limited opportunities to exploit scale effects, as consumption is more rivalrous.

A better understanding of the way households structure the link between resources and wellbeing will be not only of academic relevance. Firstly, the household-size adjustment proposed here is essential to monitoring inequality and poverty. It allows accounting for changes in the composition of households at different parts of the distribution when it comes to the measurement of outcomes. Indeed, current approaches are indifferent towards such developments, and hence fail to acknowledge the significance of economies of scale for measurement. Yet, such trends may be important, especially in the analysis of the extent to which wealth inequality is changing, which again informs discussions on the timeliness of redistributive policies. Secondly, studying the additional wealth required by larger households to be equally well off compared to smaller households also has implications for taxation. Indeed, similar to income taxation, many models of wealth taxation include tax advantages for couples. For example, married couples file jointly for the Swiss wealth tax. In order to correct for potentially higher tax burden, significant provisions to reduce the tax liability for married couples exist. Yet, the absence of economies of scale established in this treatment point towards a more moderate approach towards such tax reductions. Indeed, if affluent partners enjoy perfect scale effects for wealth, the excess burden of joint filing (i.e. potentially paying a higher marginal tax rate), seems justified. Therefore, measuring wealth scale effects is essential for a sophisticated analysis of the redistributive effects of policies and their welfare implications.

References

Camerer, C., Loewenstein, G., & Prelec, D. (2005). Neuroeconomics: How neuroscience can inform economics. *Journal of economic Literature*, *43*(1), 9–64.

Carroll, C. D. (1998). *Why do the rich save so much?* (Working Paper No. 6549). NBER. Cambridge Massachusetts. Retrieved November 23, 2021, from https://www.nber.org/system/files/working_papers/w6549/w6549.pdf

Cowell, F., Nolan, B., Olivera, J., & Kerm, P. V. (2017, October 19). *Wealth, Top Incomes, and Inequality*

Cowell, F., Nolan, B., Olivera, J., & Van Kerm, P. (2017). *National wealth: What is missing, why it matters* (First edition) (K. Hamilton & C. Hepburn, Eds.). Oxford: Oxford University Press.

Cowell, F. A., & Van Kerm, P. (2015). Weatlh inequality: A survey. *Journal of Economic Surveys*, *29*(4), 671–710

Davis, P., & Hu, Y.-W. (2006). Funding, Saving and Economic Growth. In G. L. Clark, A. H. Munnell, & M. Orszag (Eds.), *Oxford handbook of pensions and retirement income*. Oxford: Oxford University Press.

Fessler, P., Lindner, P., & Segalla, E. (2014). *Net wealth across the euro area - why household structure matters and how to control for it* (Working Paper No. 1663). ECB. Frankfurt am Main.

Francis, J. L. (2009). Wealth and the capitalist spirit. *Journal of Macroeconomics*, *31*(3), 394–408

Gechert, S., & Siebert, J. (2020). Preferences over wealth: Experimental evidence. *Journal of Economic Behavior & Organization*.

Jäntti, M., Sierminska, E., & Van Kerm, P. (2013). The Joint Distribution of Income and Wealth. In J. C. Gornick & M. Jäntii (Eds.), *Income inequality: Economic disparities and the middle class in affluent countries*. Stanford, California: Stanford University Press.

Kuhn, M., Schularick, M., & Steins, U. I. (2020). Income and Wealth Inequality in America, 1949–2016. *Journal of Political Economy*, *128*(9), 51.

OECD. (2013, June 12). *OECD Guidelines for Micro Statistics on Household Wealth*

OECD. (2018). What are Equivalence Scales? Retrieved December 5, 2019, from http://www.oecd.org/els/soc/OECD-Note-EquivalenceScales.pdf

Sierminska, E., & Smeeding, T. (2005). Measurement issues: Equivalence scales, accounting framework and reference unit. In *LWS Workshop*. Construction and Usage of Comparable Microdata on Wealth: The LWS, Perugia, Italy.

Sierminska, E., Smeeding, T. M., & Allegrezza, S. (2013). The Distribution of Assets and Debt. In J. C. Gornick & M. Jäntii (Eds.), *Income inequality: Economic disparities and the middle class in affluent countries*. Stanford, California: Stanford University Press.