# Rethinking the Social Accounting Matrix Structure for Household Footprints

Topic: New techniques, constructions and applications of Social Accounting Matrices
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Increasing household demand is the most important driver of increases in global emissions. It is paramount that the method used to calculate the household footprint is robust, accurate and uses the most appropriate source data and model structures. In this paper, I explore how the structure of the standard input-output table can be reconsidered in order to better determine the household footprint.

This paper presents a theoretical Social Accounting Matrix (SAM) with four methodological advances. Since households are consumers of government and capital products via household spend on taxation and savings, it can be argued that the Household Footprint should include the impact of these intangible expenditures. Firstly, I propose that the Social Accounting Matrix (SAM) with household demand as the sole exogenous variable is the most appropriate structure for calculating household consumption-based accounts since it captures all monetary flows in the economy and is not restricted to accounting for physical goods and services.

When calculating environmental impacts associated with consumption, the multiregional supply and use table (MSUT) is widely accepted as the most suitable structure for dealing with impacts embodied in traded goods and where industries produce one or more product types. SAMs have not explored multiregional flows at the same pace and intensity of input-output research, meaning they are limited in their use for understanding embodied impacts in trade. Secondly, I present a new multiregional SAM structure for the calculation of household footprints.

Thirdly, I demonstrate the dualities between footprints calculated using the new SAM structure and footprints calculated with traditional MSUT structures.

Surveys of household expenditure have the potential to be used to disaggregate footprints of household demand by different household types but the surveys often use different product classifications to the MSUT or SAM database. Finally, I show how a SAM structure can incorporate data from different classifications systems in a satisfactory solution.