

Disaggregated Economic Accounts

Based on BFI Working Paper 2022-152, “[Disaggregated Economic Accounts](#),” by Asger Andersen, University of Copenhagen; Emil Toft Hansen, University of Copenhagen; Kilian Huber, Chicago Booth; Niels Johannesen, University of Copenhagen; and Ludwig Straub, Harvard University

This novel research improves upon current aggregate economic tracking measures to include disaggregated economic accounts that enrich our understanding of economic shocks and their effects.

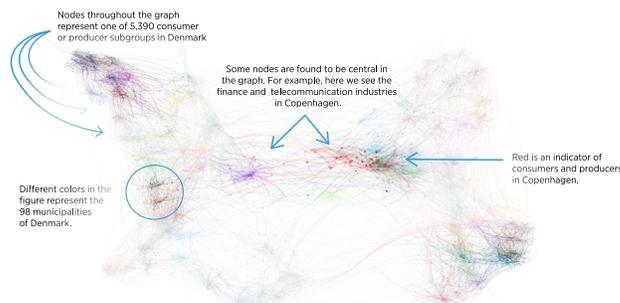
When researchers measure or track national economies, they do so by relying on a system of accounts that records how production is distributed among consumers, businesses, governments, and foreign nations. Pioneered nearly a century ago, these measures are formalized in the System of National Accounts (SNA), which incorporates a set of internationally agreed concepts, definitions, classifications, and accounting rules.

While useful for tracking broad measures like national consumption, income, and output, the SNA offers no system to comprehensively document bilateral consumption and income flows between disaggregated consumer and producer groups, only between producer groups. Put another way, the SNA contains little data measuring flows between smaller subgroups of the economy, like which consumers purchase goods from which producers, which producers pay income to which consumers, and how consumers and producers transact with the government and the rest of the world.

No mere technocratic issue, this absence of comprehensive disaggregated economic accounts has direct and important implications for policymakers. With an incomplete understanding of how shocks propagate across the economy, and of how they heterogeneously affect aggregate and distributional outcomes, policymakers are limited in their ability to set focused policies. Instead, policymakers must rely on broader policies that may miss the mark or otherwise result in unintended consequences.

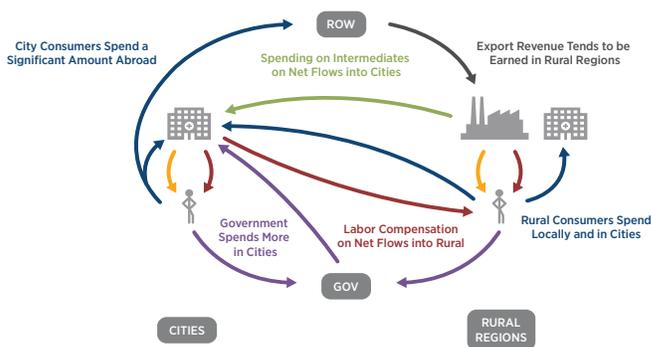
Figure 1 • A Look at the Disaggregated Circular Flow of Money in Denmark

A Look at the Disaggregated Circular Flow of Money in Denmark



Note: The disaggregated circular flow in this figure contains 5,390 nodes, one for each region-by-industry consumer and producer cell in Denmark. Nodes lying in the same region share the same color. Node size on the plot is proportional to the cell's economic size, measured as the square root of all inflows into the cell. Nodes are all consumer and producer cells in Denmark. The authors draw a link between two cells if the cell-to-cell flow is among the top five outflows per cell or the top inflow per cell. (Please see the working paper for more details.)

Figure 2 • Stylized Overview of the Circular Flow



Note: This figure provides a stylized overview of the facts documented in the working paper. Export revenue is largest in rural regions where it contributes to rural consumers' income. On net, consumer spending leaves rural regions toward cities where it contributes to the income of urban consumers working in service industries. Similarly, spending on intermediate goods on net flows toward cities. In turn, urban consumers spend a relatively large share of income abroad. The government transfers income to rural consumers, but spends on urban industries, so that, on net, resources flow into cities.

This new research addresses this gap. The authors develop “disaggregated economic accounts” for Denmark using various transaction and government microdata, including region-by-industry cells of consumers and producers, capturing rich heterogeneity in flows and shock incidence across regions and industries (see disaggregatedaccounts.com), to present facts on the circular flow of money across cells, including the following:

- Distance has a strong effect on consumer spending, labor compensation, and intermediates trade. Distance matters most for regular, in-person consumer spending (e.g., fuel, groceries) and less for travel-related spending (e.g., hotels) and remote services (e.g., insurance and telecommunication).
- Consumer spending flows toward cities—the population size of a consumer cell’s home region is almost always lower than the average size of regions receiving its spending.
- Spending abroad accounts for 12 percent of city consumers’ spending and 8 percent of rural consumers’ spending.
- Net exports make up a larger share of rural producers’ output (mostly manufacturers), while domestic sales are more important for city producers (mostly services).
- Net transfers by the government to consumers (transfers minus taxes) are larger in rural regions, but the government employs and purchases more in cities. On net, the government transfers resources into cities.

The authors also develop a model that allows them to study how shocks propagate across region-industry cells, improving on empirical

analysis that typically cannot disentangle all general equilibrium¹ propagation channels. In their application of the model, the authors focus on the aggregate and distributional effects of export demand shocks to find that:

- Producer cell-specific export demand shocks have vastly heterogeneous aggregate welfare effects. The aggregate effect depends on the shocked cell’s position in the disaggregated circular flow of money relative to consumers and producers that import from abroad.
- A uniform export demand shock to all producer cells has stronger direct incidence on sales of rural producers (because they export more) and on incomes of rural consumers (because labor is mostly local). However, spending by rural consumers disproportionately flows into cities, so urban consumers end up benefiting to a larger extent—in contrast to the direct incidence of the shock.
- Ultimately, the welfare of city consumers rises even more than that of rural consumers because the foreign spending of city residents is greater, despite the direct incidence favoring rural consumers.

Bottom line: This analysis of disaggregated economic accounts substantially enriches our understanding of shock propagation and may aid in the design of policy interventions. While much of the raw data required to construct disaggregated economic accounts are already collected in many advanced economies, further data processing is required. However, the social benefits of constructing disaggregated economic accounts may outweigh the costs.

¹ General equilibrium analysis is concerned with the simultaneous determination of prices and quantities in multiple inter-connected markets, as opposed to partial equilibrium analysis, which considers a single sector or market.

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bfi.uchicago.edu/working-paper/2022-152

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