

Appendix

US Sectors: Methodology and Sources

A.1 Data for Sectoral Corporate Concentration

A.1.1 *Corporate Employment*

Employment of top 100/200 corporations (ranked by number of employees) is from COMPUSTAT database (series DATA29). Primary and secondary sector is defined as SIC codes less than 3999, while the service sector is defined as SIC codes between 4000 and 8999.

A.1.2 *Total Sectoral Employment*

Data for primary and secondary sectors is from Bureau of Economic Analysis (BEA) Tables 6.5 B–D, full-time equivalent employees by industry. Employment data for private service sector from BLS online, series CES0800000001. See Fig. A.2 for the composition of these sectors.

A.2 Energy Consumption per Labor Hour

A.2.1 *Energy*

Sector energy consumption is from Energy Information Administration (EIA) Table 2.1a, energy consumption estimates by sector. However, following the methodology developed by Giampietro, Mayumi, and Sorman (in *The Metabolic Pattern of Societies: Where Economists Fall Short*) the EIA categories are reorganized into more functional end-use categories (Fig. A.1). Giampietro et al. call this the MuSIASEM approach (multiscale integrated analysis of societal and ecosystem metabolism).

This recategorization mainly involves the reallocation of transportation sector energy consumption to the household and service sector. Energy used for nonwork

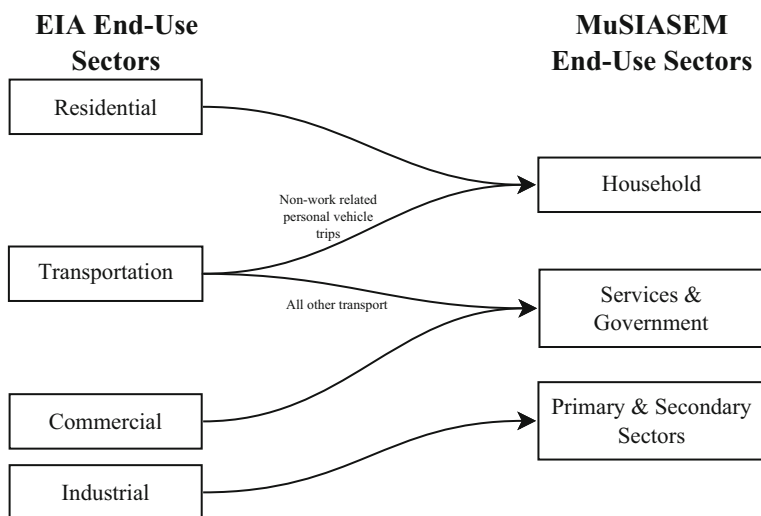


Fig. A.1 Recategorizing energy consumption

related personal vehicle use is allocated to the household sector and is calculated using Eq. A.1 (where VMT stands for vehicle mile trips).

$$\text{Household transportation} = \frac{\text{Nonwork related VMT}}{\text{Total VMT}} \cdot (\text{Personal vehicle energy use}) \quad (\text{A.1})$$

All remaining transportation energy is allocated to the service sector. Data for vehicle mile trips is from the 2009 National Household Travel Survey, Table 6. Data between points is interpolated linearly while data prior to 1969 is extrapolated linearly from the 1969–1983 trend. Data for personal vehicle energy consumption for the period 1970–2010 is derived from numerous editions of the EIA *Annual Energy Outlook* using light-duty vehicle energy consumption. Data for the period 1949–1969 uses fuel consumption for passenger car and four-tire vehicles from the Department of Transportation, Table VM-201A.

Note: The category *four-tire vehicles* is introduced in 1966 at a nonzero value. Data prior to 1966 is estimated by exponential extrapolation.

A.2.2 Labor Hours

Sectoral labor hours are from BEA Tables 6.8 A–D (Persons engaged in production). All values are indexed to Table 6.8 C and multiplied by $40 \text{ h/week} \times 52.1775 \text{ weeks/year}$. Note that the service sector is defined to include

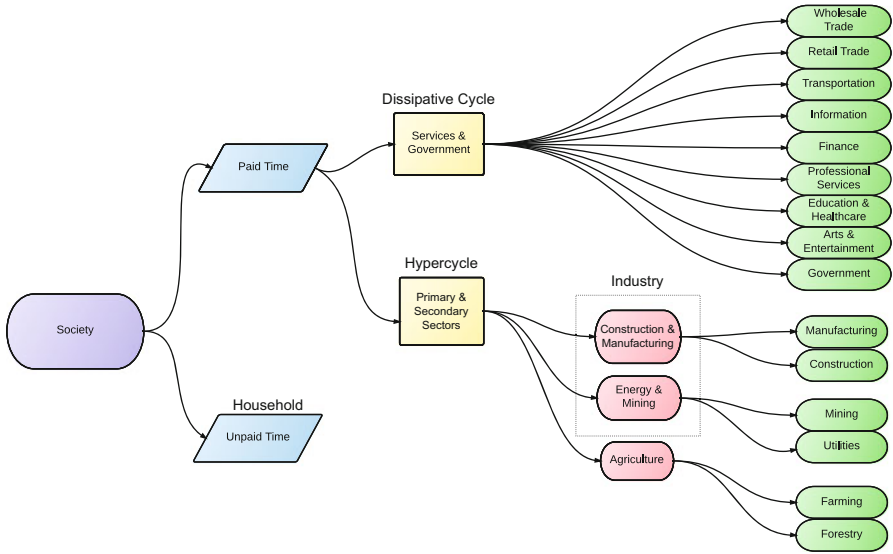


Fig. A.2 Mapping MuSIASEM sectors onto subsectors

government. This is because energy statistics do not distinguish between private and public consumption. See Fig. A.2 for MuSIASEM sectors onto subsectors.

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