

Reorganizing NIPA in light of a particular theoretical framework

Consider the following economy. The stand-in household has preferences ordered by

$$\sum_{t=0}^{\infty} \beta^t u(c_t, d_t, 1 - l_t)$$

where $c_t \geq 0$ is consumption; $d_t \geq 0$ is the household's stock of consumer durables including owner occupied houses; and $l_t \in [0, 1]$ is labor services sold to the market.

Investment in consumer durables, x_{dt} , and investment in capital goods, x_{kt} , are bought from the stand-in firm as is the consumption good. The household owns the capital and rents it to the stand-in firm. The household sells labor services to the stand-in firm. The accumulation equations for the capital stocks are

$$k_{t+1} = (1 - \delta_{kt}) k_t + x_{kt}$$

$$d_{t+1} = (1 - \delta_{dt}) d_t + x_{dt}$$

The stand-in firm's technology set is given by

$$c_t + x_{dt} + x_{kt} \leq F_t(k_t, l_t)$$

The functions $\{ F_t \}$ display constant returns to scale and are both concave and continuous. The factor inputs are non-negative, as outputs can not be transformed into inputs. Get U.S. data from <http://www.bea.doc.gov>.

Question: Reorganize U.S. national accounts and capital stock data for the period 1995 using this theoretical framework. You must develop the empirical counterparts of the theoretical elements. You have to decide what to do with the foreign sector and with the government sector *et cetera*. State precisely the mapping from reported statistics to a value of each variable in this theoretical framework and justify it.