Four Levels of Intergenerational Indicators and the Total Support Ratio

Lili Vargha* (vargha@demografia.hu) and Robert I Gal*   * Hungarian Demographic Research Institute

Changing Age Structures

- Population aging will profoundly change the age structure of societies
- The two main reasons of aging: fertility decline and increasing survival at older ages
- They will result in fewer children and more older people while the working age population will also decline
- **How do different age groups acquire and use economic resources (Figure 1)?**
- **How will the structure of intergenerational resource reallocation change because of the changing age structure (Figure 2)?**

Support Ratios (SRs)

- Traditional demographic indicators of aging rely on fixed age groups
- Economic indicators incorporate age variation in productivity and consumption needs
- SRs are calculated by using the per capita age profiles (see Figure 1) and population data
- On the four levels: Pension SR, Fiscal SR, Economic SR and the newly introduced Total SR
- See previous results from Cutler et al 1990, Lee & Mason 2011, Miller 2011, Prskawetz & Sambt 2014

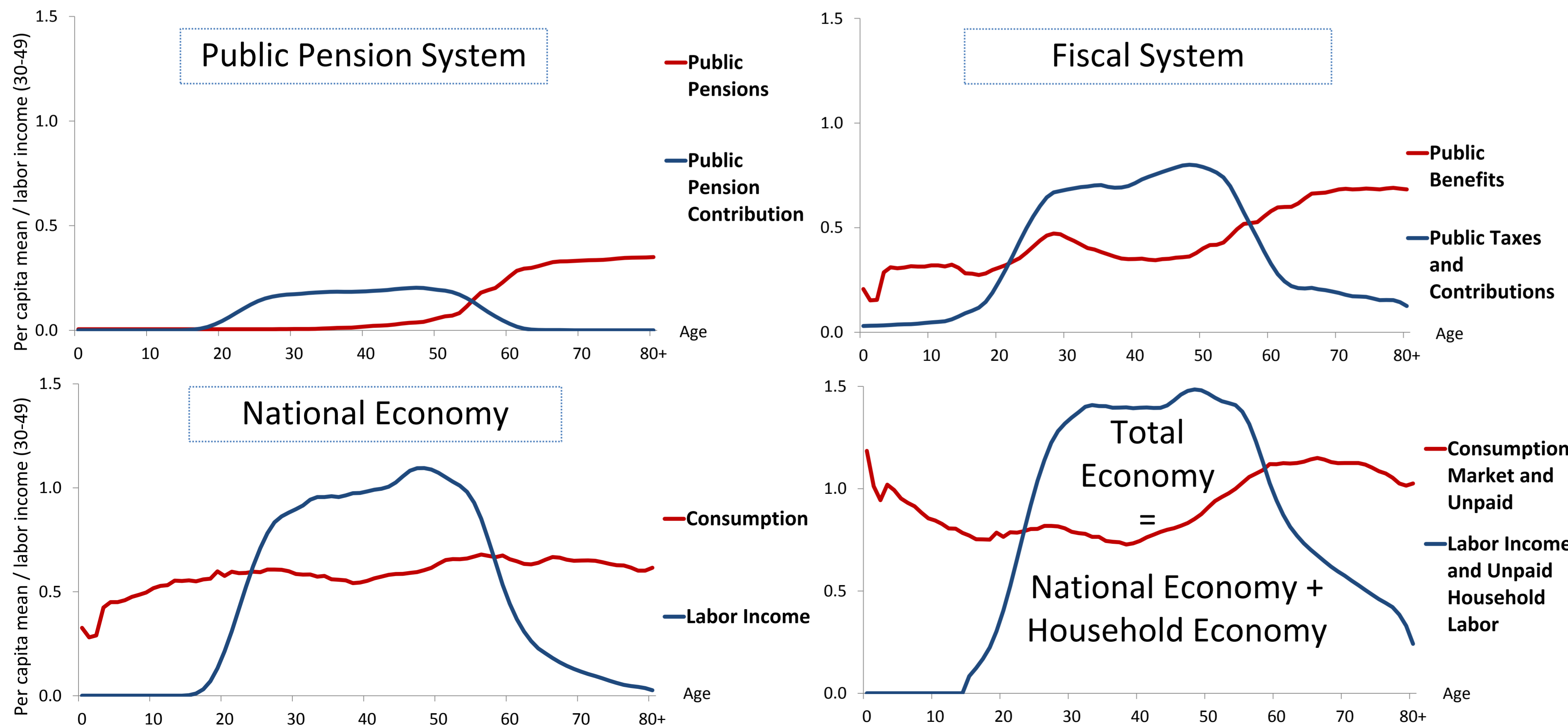## Figure 2. Projected Support Ratios for Hungary
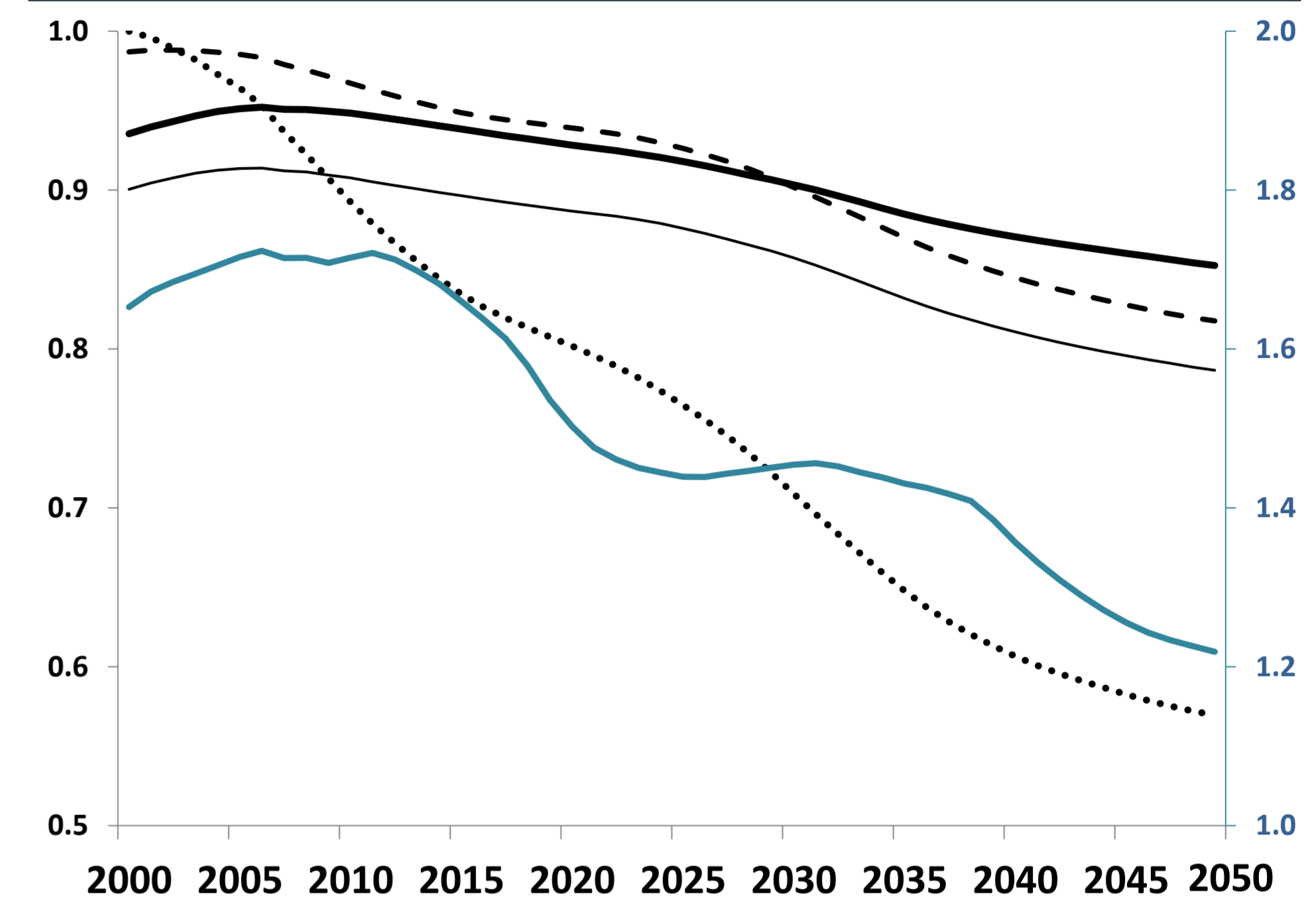
···· pension SR — - fiscal SR —— economic SR —— total SR —— demographic SR

Note: Demographic SR: ratio of population aged 20-64 to population aged 0-19 and aged 65+ for each year between 2000 and 2050 is plotted on the right axis in blue. For the other SRs populations are weighted by the age profiles presented on Figure 1. A ratio is calculated using these weighted numbers on each level of reallocation for every year and plotted on the left axis in black. Pension SR: weighted numbers of pension contributors / pensioners. Fiscal SR: weighted numbers of taxpayers / beneficiaries. Economic SR: weighted numbers of workers / consumers. Total SR: weighted numbers of paid and unpaid workers / consumers (incl.using of unpaid labor). Source: Authors' calculations; Pop. Projections by HDRI.

Figure 1. Four Levels of Intergenerational Reallocation: Per Capita Cross-Sectional Age Profiles (Means) for Hungary, 2000

Results

- The effects of aging are not so dramatic as often described, the public pension system however will require large adjustment
- The presented family of Support Ratios captures the effects of aging better than conventional demographic indicators, see Figure 2
- The level of intergenerational reallocation matters, see the differences on Figure 2
- People work in the household 'till they die' and once the value of unpaid household labor and consumption is incorporated into the reallocation system, a working potential of older people is demonstrated

Note: Values are normalized per capita averages. Source: Authors' calculations using National Accounts, public statistics, different large scale surveys. See National Transfer Accounts (NTA) project: Lee & Mason (2011). For the Household Economy time use survey and payroll survey is used for estimating the value of unpaid household labor and consumption by age. See Gal, Szabo & Vargha (2013)