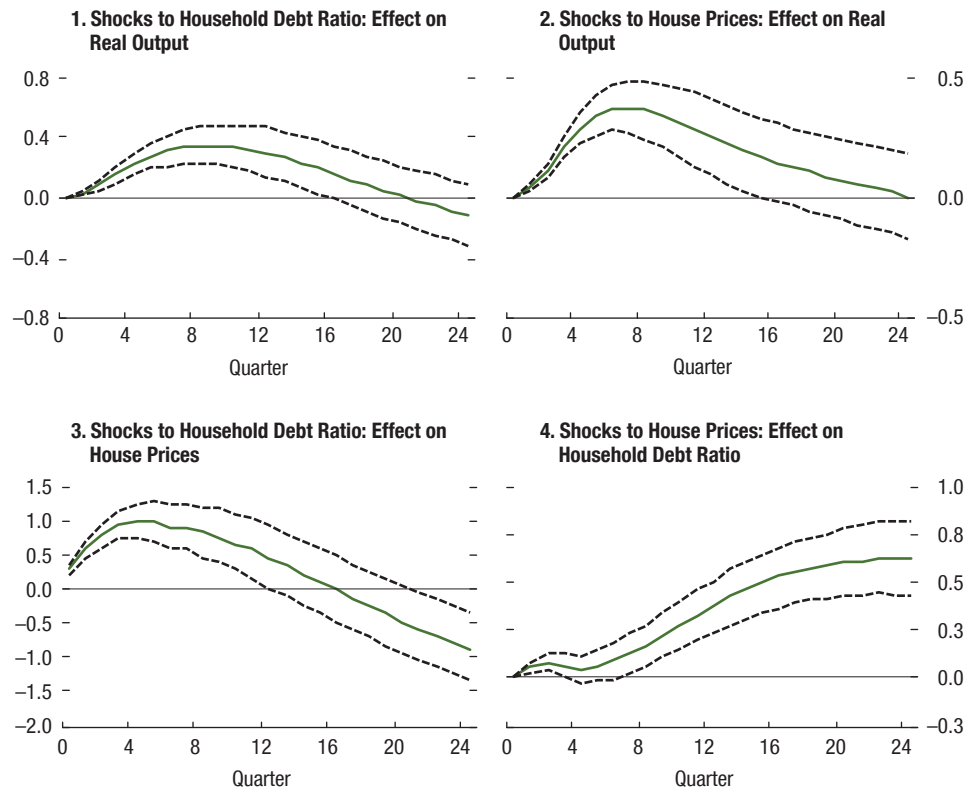


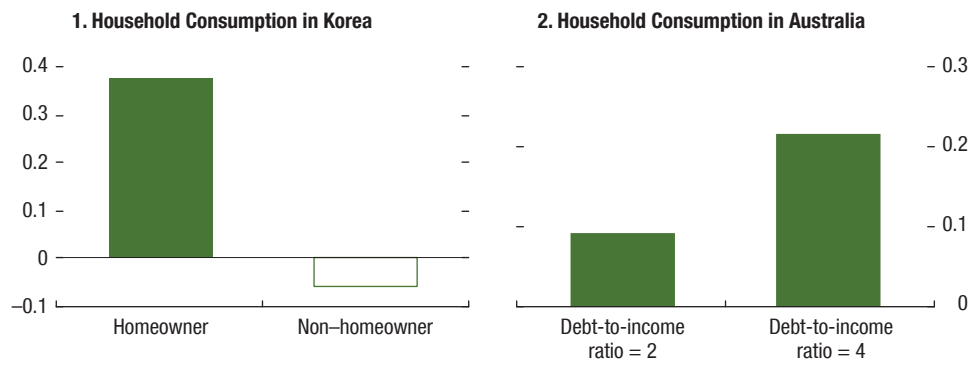
**Figure 2.4.1. Panel Vector Autoregression Dynamic Analysis**  
*(Percentage points)*



Source: IMF staff calculations.

Note: The figure presents impulse responses from a five-variable recursive panel vector autoregression with eight lags using quarterly data from 1998:Q1 to 2015:Q4, which includes country and time fixed effects. Shocks are identified using a Cholesky decomposition with the following order: log real GDP, corporate debt, household debt, log real house prices, and short-term interest rates. Household debt and corporate debt were scaled by GDP. The results are robust to a Nickell bias correction (using panel general method of moments techniques) and other specifications (for example, ordering, number of lags, changes instead of levels). Dashed lines represent 90 percent confidence intervals, computed using 500 Monte Carlo simulations.

**Figure 2.4.2. Consumption Response to House Prices**  
(Percent)



Sources: Australian Bureau of Statistics; Household, Income and Labour Dynamics in Australia; Korean Labor and Income Panel Study; Statistics Korea; and IMF staff calculations.

Note: For households in Korea, regression coefficients are obtained by regressing the percentage change in consumption on changes in the local house price index between 2008 and 2014. For households in Australia, regression coefficients are obtained by regressing the percentage change in consumption on changes in the local house price index between 2012 and 2015. In both analyses, controls include the percentage change in household income, debt, and other demographic information, as well as state-level changes in income over the same period. Samples of households in both countries are restricted to those tracked over the period covered. Low leverage corresponds to a debt-to-income ratio of 2 and high leverage corresponds to a debt-to-income ratio of 4. Standard errors are clustered at the state or province level.