Appendix
Additional Detail About the Charts

Chart 1. Ratio of Net Incurrence of Mortgages to Residential Gross Fixed Capital Formation, 1974–2007

The quarterly data for "gross fixed capital formation, residential" and for "net incurrence of liabilities, loans, long term (mortgages)" are from table "S.3.q Households and Nonprofit Institutions Serving Households" in the integrated macroeconomic accounts (IMAs). The ratio is calculated as follows.

$$Mortgage\text{-}to\text{-}Residential\ Investment\ Ratio_t = \frac{Net\ Incurrence\ of\ Mortgages_t}{Gross\ Fixed\ Investment, Residential_t}$$

Chart 2. Net Lending or Net Borrowing From Financial Accounts as a Percentage of National Disposable Income for Selected Sectors, 1996–2012

For all four sectors, the quarterly data for disposable income are from IMA table "S.1.q Total Economy—Current Account."

For households and nonprofit institutions serving households, the quarterly data for net acquisition of financial assets, net incurrence of liabilities, and "net lending (+) or borrowing (–), financial account" are from table S.3.q.

For nonfinancial corporate business, the quarterly data for net acquisition of financial assets, net incurrence of liabilities, and "net lending (+) or borrowing (–), financial account" are from IMA table "S.5.q Nonfinancial Corporate Business."

For financial business, the quarterly data for "net lending (+) or borrowing (–), financial account" are from IMA table "S.6.q Financial Business."

For rest of the world, the quarterly data for net acquisition of financial assets, net incurrence of liabilities, and "net lending (+) or borrowing (–), financial account" are from IMA table "S.9.q Rest of the World."

The share for each sector is calculated as follows.

$$Proportion\ of\ Net\ Acquisition\ of\ Financial\ Assets_t = \frac{Net\ Acquisition\ of\ Financial\ Assets_t}{Disposable\ Income_t} \times 100$$

$$Proportion\ of\ Net\ Incurrence\ of\ Liabilites_t = \frac{Net\ Incurrence\ of\ Liabilities_t}{Disposable\ Income_t} \times 100$$

$$Proportion\ of\ Net\ Lending\ or\ Borrowing_t = \frac{Net\ Lending\ or\ Borrowing_t}{Disposable\ Income_t} \times 100$$

Chart 3. Changes in the Household Sector's Ratio of Net Worth to Disposable Income and Private-Sector Demand, 1961–2012

The quarterly data for disposable income and for net worth are from IMA table S.3.q.
The ratio is calculated as follows.

$$\begin{aligned} Change\ in\ &Net\ Worth\text{-}to\text{-}Disposable\ Income\ Ratio_t \\ &= [\,ln(Net\ Worth_{t-1}/Disposable\ Income_t) \\ &- ln(Net\ Worth_{t-5}/Disposable\ Income_{t-4})\,] \times 100 \end{aligned}$$

The quarterly data for personal consumption expenditures (PCE) for durable goods, nondurable goods, and services are from national income and product accounts (NIPAs) table 2.3.5. The deflator is a price index for PCE from NIPA table 2.3.4. The data for private nonresidential fixed investment and for private residential fixed investment are from NIPA table 5.3.5.

The changes in the ratio are calculated as follows.

$$Growth\ of\ Durable\ Consumption_t = \left[ln\left(\frac{Durable\ Goods_t}{PCE\ deflator_t}\right) - ln\left(\frac{Durable\ Goods_{t-4}}{PCE\ deflator_{t-4}}\right) \right] \times 100$$

$$Growth\ of\ Nondurable\ and\ Services_t$$
$$= \left[ln\left(\frac{Nondurable_t + Services_t}{PCE\ deflator_t}\right) - ln\left(\frac{Nondurable_{t-4} + Services_{t-4}}{PCE\ deflator_{t-4}}\right) \right] \times 100$$

$$Growth\ of\ Nonresidential\ Fixed\ Investment_t$$
$$= \left[ln\left(\frac{Nonresidential\ Investment_t}{PCE\ deflator_t}\right) - ln\left(\frac{Nonresidential\ Investment_{t-4}}{PCE\ deflator_{t-4}}\right) \right] \times 100$$

$$Growth\ of\ Residential\ Fixed\ Investment_t$$
$$= \left[ln\left(\frac{Residential\ Investment_t}{PCE\ deflator_t}\right) - ln\left(\frac{Residential\ Investment_{t-4}}{PCE\ deflator_{t-4}}\right) \right] \times 100$$

Chart 4. Changes in the Household Sector's Ratio of New Worth to Disposable Income and Durable-Goods Consumption, 1961–2012

The quarterly data for nonfinancial assets for real estate and financial assets are from the "Revaluation Account" in IMA table S.3.q. The data for "change in net worth due to nominal holding gains/losses" are also from IMA table S.3.q.

The changes are calculated as follows.

$$Change\ in\ Net\ Worth\text{-}to\text{-}Disposable\ Income\ Ratio\ due\ to\ Holding\ Gains_t$$
$$= \frac{\Sigma_{i=1}^{4}\ Holding\ Gains_{t-i}}{Disposable\ Income_t}$$

$$Change\ in\ Net\ Worth\text{-}to\text{-}Disposable\ Income\ Ratio\ due\ to\ Other\ Changes_t$$
$$= \left(\frac{Net\ Worth_{t-1} - \Sigma_{i=1}^{4}\ Holding\ Gains_{t-i}}{Disposable\ Income_t}\right)$$
$$- \left(\frac{Net\ Worth_{t-5}}{Disposable\ Income_{t-4}}\right)$$

$$Change\ in\ Net\ Worth\text{-}to\text{-}Disposable\ Income\ Ratio\ due\ to\ Real\ Estate\ Holding\ Gains_t$$
$$= \frac{\Sigma_{i=1}^{4}\ Real\ Estate\ Holding\ Gains_{t-i}}{Disposable\ Income_t}$$

$$Change\ in\ Net\ Worth\text{-}to\text{-}Disposable\ Income\ Ratio\ due\ to\ Holding\ Gains$$
$$from\ Financial\ Assets_t$$
$$= \frac{\Sigma_{i=1}^{4}\ Financial\ Assets\ Holding\ Gains_{t-i}}{Disposable\ Income_t}$$

Chart A. Household Net Worth and Saving Rate, 1961–2011

The annual data for disposable income, net saving, and net worth are from IMA table "S.3.a Households and Nonprofit Institutions Serving Households."

    The ratio and the saving rate are calculated as follows.

$$Net\ Worth\text{-}to\text{-}Disposable\ Income\ Ratio_t = \frac{Net\ Worth_{t-1}}{Disposable\ Income_t}$$

$$Saving\ Rate_t = \frac{Net\ Saving_t}{Disposable\ Income_t}$$

Chart B. Holding Gains and Changes in New Worth, 1961–2011

The annual data for disposable income, net saving, and net worth are from IMA table "S.3.a Households and Nonprofit Institutions Serving Households."

    The ratios are calculated as follows.

$$Holding\ Gains\text{-}to\text{-}Income\ Ratio_t = \frac{Holding\ Gains_t}{Disposable\ Income_t}$$

$$Change\ in\ Net\ Worth\text{-}to\text{-}Disposable\ Income\ Ratio_t$$
$$= (Net\ Worth_t / Disposable\ Income_t) - (Net\ Worth_{t-1} / Disposable\ Income_{t-1})$$