The Distribution of Household Wealth

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Summary

The distribution of wealth or net worth across households may have been an underlying consideration in congressional deliberations on various policy issues ranging from taxation to social welfare. Household wealth is of particular importance to the well-being of the elderly as labor income typically falls upon retirement and some retirees are able to use accumulated assets (e.g., certificates of deposit and mutual funds) to maintain their standard of living. Congress has enacted tax incentives to help people amass savings to be drawn once they have retired. For a variety of reasons, however, some elderly among other households find themselves without sufficient wealth to maintain their customary, or some socially acceptable, living standard in the face of expected and unexpected events. Congress has developed several publicly funded programs that supplement the income and other assets of these households (e.g., retirement, disability, and health benefits under Social Security).

The distribution of wealth across U.S. households is far from equal, according to data from the Survey of Consumer Finances (SCF) in which the Federal Reserve Board (Fed) sponsors every three years. Two summary measures are mean and median household net worth. (Median net worth is the point in the overall distribution of household wealth above and below in which one-half of all households lie. It is a better indication of the wealth of the "typical" household than is the mean, which can be greatly affected by the upper end of the distribution.) Mean household wealth has been consistently and substantially above the median. In 2007, for example, mean household net worth was $556,800 while median household net worth was $120,800. The large gap between the two measures suggests substantial concentration of wealth at the high end of the distribution.

A more detailed picture of inequality emerges from examining the share of total wealth held by households in selected percentiles of the distribution. If wealth were distributed equally, the share of households in the wealth distribution (e.g., the top 1%) would be the same as its share of total net worth (in this example, 1%). Instead, in 2007, the wealthiest 1% of households accounted for one-third of total net worth. The next 4% of households (the 95th to 99th percentile) held more than one-fourth of total net worth. Taken together then, in 2007, the top 5% of wealth owners accounted for about 60% of all wealth accumulated by households.

Wealth also has become increasingly concentrated in recent decades, according to the SCF. The share of wealth in the top 10% of the distribution grew from 67% in 1989 to 72% in 2007, with declines occurring among the remaining 90% of wealth-owning households. Households in the 50th to 90th percentile had the largest decrease: their share of total wealth fell from 30% to 26%.

To assess the impact of the financial crisis and consequent recession on household wealth, the Fed reinterviewed respondents to the 2007 SCF shortly after the recession ended. According to results released in March 2011, the net worth of most households decreased during the recession. Expressed in 2009 dollars, mean household wealth fell from $595,000 in 2007 to $481,000 in 2009, and median wealth fell from $125,000 to $96,000. Declines in home and stock prices seemingly contributed to the drop in net worth. As homes are a more widely held asset than stocks, the bursting of the housing bubble appears to have played the bigger part in reducing household wealth between 2007 and 2009. Although stock prices have rebounded since then, continuing problems in the real estate market suggest that it will be a drag on the wealth of homeowners for some time to come.

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Introduction

Policymakers may be concerned about the wealth of U.S. households because of the relationship of wealth to economic well-being:

> Wealth serves critical economic security functions. It is a store of future income, in the case of retirement, unemployment, illness or injury and thus allows families to smooth consumption over their lifetimes, even when incomes and expenses change. ...Families with *sufficient* wealth also need not worry about the basic necessities of life and may focus on longer term economic opportunity.[1] [italics added for emphasis]

But how much wealth is *sufficient* for a family's economic security? And, will tax and transfer policies that enable more families to be economically secure over their lifetimes change their work, saving, and investment behavior, including the ability to undertake entrepreneurial opportunities? In other words, will moving toward a more equal distribution of wealth than exists today affect the capacity of the economy to grow by reducing incentives to work and invest?[2]

Those in the public policy community appear to have formed quite different views about what represents an equitable or fair distribution of wealth and about the impact of redistribution on long-term economic growth. "Disagreements about the optimal level of wealth inequality underlie policy debates ranging from taxation to welfare."[3]

To help inform these debates, this report analyzes data on the trend in the distribution of wealth across U.S. households over the past two decades. It then turns to an examination of the roles of stock and home ownership in wealth accumulation since 1990, paying particular attention to their effects during the 2007-2009 recession. The report closes with a review of explanations for the accumulation and distribution of wealth across households.

The Distribution of Household Wealth

Data regarding the distribution of wealth are limited. There are some data available from estate tax returns,[4] but these reflect only the small proportion of the population that is subject to the tax.[5]

Perhaps the most comprehensive source of data on household wealth is the triennial Survey of Consumer Finances (SCF). Every three years, the Federal Reserve Board (Fed) in cooperation

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[1] Christian E. Weller and Amy Helburn, *Public Policy Options to Build Wealth for America's Middle Class*, Political Economy Research Institute, Working Paper no. 210, November 2009, p. 1.

[2] Trend or potential economic growth is dependent on the rate of labor force and productivity growth. Labor productivity is dependent on the state of technology and the size of the capital stock which is, in turn, dependent on the rate of investment. For more information, see CRS Report RS21480, *Saving Rates in the United States: Calculation and Comparison*, by Craig K. Elwell.

[3] Michael I. Norton and Dan Ariely, "Building a Better America—One Wealth Quintile at a Time," *Perspectives on Psychological Science*, vol. 6, no. 1 (2011), p. 9.

[4] See, for example, Wojciech Kopczuk and Emmanuel Saez, "Top Wealth Shares in the United States: 1916-2000, Evidence from Estate Tax Returns," *National Tax Journal*, vol. 57, no. 2 (2004), pp. 445-488.

[5] The estate tax exemption was $3.5 million in 2009, and 0.7% of all deaths incurred estate and gift tax liability, according to CRS Report RS20593, *Asset Distribution of Taxable Estates: An Analysis*, by Steven Maguire.

with the Treasury Department sponsors the SCF.[6] The survey is designed to gather detailed information on the level and composition of household assets, liabilities, and income. The SCF over-samples high-income households to better capture data on those near the top of the distribution. "For instance, in the 2007 sample, the net worth of the wealthiest household was over $1.4 billion, and the household with the highest income earned more than $119 million. These huge numbers are unheard of in any other sample."[7] Although the SCF has been criticized in some quarters for overstating the extent of wealth inequality,[8] this report examines the distribution of household wealth or net worth (i.e., the value of assets minus liabilities) based on data from this cross-sectional survey.[9]

The 2007 SCF was completed as the economy entered a financial crisis, and results from the 2010 SCF will not be available until 2012. To assess the impact of the consequent (December 2007-June 2009) recession on the wealth of U.S. households, the Fed took the somewhat unusual step of reinterviewing respondents to the 2007 survey shortly after the recession ended. Results of the follow-up survey of the 2007 panel of households are discussed separately from results of the regularly collected cross-sectional SCF from 1989 to 2007, which appear immediately below.[10]

Mean and Median Household Net Worth

The relationship between the mean and median of a distribution provides an indication of its general shape. In this case, mean net worth is total household wealth divided by the number of wealth-owning households. Median net worth is the mid-point in the overall distribution of households owning wealth. In other words, if all wealth-owning households are ranked from poorest to richest, median wealth would be that of the household in the exact middle of the distribution. The median is a better indication of the net worth of the typical household than is the mean, which can be greatly affected by the upper end of a distribution.

[6] Data from the Survey of Consumer Finances are available at http://www.federalreserve.gov/pubs/oss/oss2/scfindex.html.

[7] Javier Diaz-Gimenez, Jose-Victor Rios-Rull, and Andy Glover, "Facts on the Distribution of Earnings, Income, and Wealth in the United States: 2007 Update," *Federal Reserve Bank of Minneapolis Quarterly Review*, vol. 34, no. 1 (February 2011), p. 2.

[8] Diana Furchtgott-Roth, Senior Fellow and Director of The Hudson Institute's Center for Employment Policy, stated that the Survey of Consumer Finances (SCF) excludes "the 97% of federal income taxes paid by the top half of income earners and the many 'transfer payments,' such as food stamps, housing assistance, [and] Medicaid." (*The Wealth Inequality Mirage*, October 7, 2010, is available at http://www.hudson.org/index.cfm?fuseaction=publication_details&id=7388#.) The SCF also excludes the present value of future benefits from Social Security and traditional pension plans.

[9] The SCF counts both financial and nonfinancial (real) assets. Financial assets include the value of checking and savings accounts; stocks, bonds, and mutual funds; annuities and life insurance; and tax-deferred retirement accounts (e.g., individual retirement accounts and 401(k) accounts). Real assets include the value of principal residences, corporate and non-corporate businesses, vehicles (e.g., cars, trucks, boats, and airplanes), and miscellaneous valuables (e.g., antiques, jewelry, and coins). Liabilities include home mortgages and consumer debt (e.g., credit card balances and auto and student loans).

[10] Findings derived from the follow-up survey appear in the section entitled "The Distribution of Assets" because of the impact of home and stock price depreciation on net worth between 2007 and 2009. Results are also presented separately from those based on previously collected surveys because the 2007-2009 data are expressed in 2009 dollars while the 1989-2007 data are expressed in 2007 dollars.

As shown in mean household wealth in each year was substantially greater than the median. This indicates considerable concentration of wealth throughout the 1989-2007 period among households in the upper tail of the overall distribution.

Mean household wealth increased to a greater extent than did median household wealth over time, which suggests that the distribution of household wealth became more unequal. While real mean net worth increased by 82% between 1989 and 2007 (from $305,200 to $556,000), real median household net worth increased by only 59% (from $75,500 to $120,300).

Table 1. Mean and Median Household Net Worth, 1989-2007

(constant 2007 dollars)

Year	Mean	Median
1989	$305,200	$75,500
1992	270,300	71,700
1995	286,300	77,700
1998	360,700	91,300
2001	467,100	101,200
2004	492,000	102,200
2007	556,000	120,300

Source: Arthur B. Kennickell, *Ponds and Streams: Wealth and Income in the U.S., 1989 to 2007*, Finance and Economics Discussion Series (FEDS) Working Paper 2009-13, Federal Reserve Board, Washington, DC, January 2009.

Share of Total Net Worth by Percentile of Wealth Owners

A more detailed picture of the degree of inequality emerges from examination of the share of total net worth held by various percentiles of the wealth distribution. If wealth were distributed equally, the proportion of households in the wealth distribution would be the same as its proportion of total net worth. For example, the top 5% of wealth-owning households would account for 5% of total net wealth.

The distribution of wealth in the United States is far from equal, according to the SCF data. As shown in the upper panel of **Table 2**, the top 1% of households in the wealth distribution accounted for one-third of total net worth in 2007. The next 4% of households (the 95th to 99 percentile) held more than one-fourth of all wealth. Taken together then, in 2007, the top 5% of wealth-owning households accounted for 60% of the total wealth that households had accumulated.

Net worth was also more concentrated in 2007 than in 1989. The share of wealth held by the top 10% of wealth owners grew from 67.2% in 1989 to 71.5% in 2007, with declines occurring in the remaining 90% of households. The largest decrease occurred among households in the 50th to 90th percentile of the wealth distribution whose share of total net worth fell from 29.9% in 1989 to 26.0% in 2007. In contrast, households in the bottom half of the distribution experienced a slight decline in their share of total net worth (from 3.0% to 2.5%) over the 18-year period.

Table 2. Share of Total Net Worth by Percentile of Wealth Owners, 1989-2007

Percentile of the Net Worth Distribution	Household Net Worth						
	1989	1992	1995	1998	2001	2004	2007
				Share of Total Net Worth			
0% to 50%	3.0%	3.3%	3.6%	3.0%	2.8%	2.5%	2.5%
50% to 90%	29.9	29.6	28.6	28.4	27.4	27.9	26.0
90% to 95%	13.0	12.5	11.9	11.4	12.1	12.0	11.1
95% to 99%	24.1	24.4	21.3	23.3	25.0	24.1	26.6
99% to 100%	30.1	30.2	34.6	33.9	32.7	33.4	33.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
				Minimum Net Worth			
0% to 50%	<0	<0	<0	<0	<0	<0	<0
50% to 90%	68,800	64,200	71,300	85,600	93,200	92,900	116,000
90% to 95%	519,300	457,400	478,000	572,900	794,000	827,600	895,000
95% to 99%	902,400	847,600	829,700	1,015,800	1,392,200	1,393,000	1,867,000
99% to 100%	3,354,400	3,172,700	3,156,000	4,291,700	6,246,800	6,006,000	8,272,000

Source: Arthur B. Kennickell, *Ponds and Streams: Wealth and Income in the U.S., 1989 to 2007*, FEDS Working Paper 2009-13, Federal Reserve Board, Washington, DC, January 2009.

The Distribution of Assets

Equality of asset ownership varies across households depending on the type of asset. As shown in **Table 3**, vehicles appear to be the most equally distributed asset.[11] Business equity and such financial assets as stocks and bonds appear to be the most unequally distributed assets.

In addition to accumulating wealth through saving of current income, those who own assets may see their wealth grow due to rising asset prices. The distribution of such assets as stocks and homes has implications for who benefits from their appreciation and who is harmed by their depreciation.

The Effect of Stock and Housing Price Appreciation on the Saving Rate in Recent Decades

The appreciation of stock and home values during the 1990s and into the first decade of this century may have substituted for saving from current income as a means of increasing household wealth. A number of studies estimated a close connection between the decline in the household saving rate during the 1990s and the rapid rise in equity prices.[12] The median value of stock held

[11] Vehicles are defined in the SCF to include cars, sport utility vehicles, trucks, motorcycles, recreational vehicles, boats, airplanes and helicopters.

[12] CRS Report R40647, *The Fall and Rise of Household Saving*, by Brian W. Cashell.

directly and indirectly[13] by households more than doubled in real terms (rising from $14,500 to $35,000 in 2007 dollars) between 1989 and 2007.[14] The share of households owning stock increased from almost 32% to a little more than 51% over the 18-year period, which likely is related to employers' increased offering of 401(k) and other defined-contribution retirement plans in lieu of traditional (defined-benefit) pension plans. Stock ownership nonetheless remains far more common among households in the upper tail of the wealth distribution: almost 80% of the value of corporate stock is held by the wealthiest 10% of households (see the last row of **Table 3**). Thus, if appreciation in equity prices substituted for saving out of current income, it did so for a small proportion of the population. And, it was the wealthiest households who stood to benefit more than others from the rise in stock prices.

Rapidly rising housing prices through mid-decade may explain why the saving rate remained low once equity prices stopped steadily increasing after 2000.[15] The real median value of primary residences almost doubled (rising from $112,700 to $200,000 in 2007 dollars) between 1989 and 2007.[16] Studies estimated that appreciation in housing prices drove up the value of residential assets, which substituted for saving out of current income as a way to accumulate wealth.[17]

Although the share of households owning their primary residences grew much less (5 percentage points to 69%) than the share owning stock (19 percentage points to 51%) over the 18-year period, residential assets are much more equally distributed than stock. As shown in **Table 3**, the wealthiest 10% of households held 38.5% of the gross equity in principal residences compared with 78.9% of the value of stock. Households in the next 40% of the distribution (the 50th to 90th percentile) held 48.9% of the gross equity in principal residences compared with only 19.6% of the value of stock. Thus, if appreciation in house prices substituted for saving out of current income, it did so for a much larger proportion of the population than did stock price appreciation. And, it was households in the upper half (rather than the top 10%) of the wealth distribution who stood to benefit more than others from the rise in housing prices.

[13] Indirect holdings include retirement accounts (e.g., individual retirement accounts and employer-sponsored accounts such as 401(k) plans), mutual funds, and other managed assets (e.g., annuities).

[14] Federal Reserve Board, 2007 Survey of Consumer Finances, public use data.

[15] CRS Report RS21480, *Saving Rates in the United States: Calculation and Comparison*, by Craig K. Elwell.

[16] Federal Reserve Board, 2007 Survey of Consumer Finances, public use data.

[17] CRS Report R40647, *The Fall and Rise of Household Saving*, by Brian W. Cashell.

Table 3. Shares of Net Worth, Assets, and Liabilities by Percentile of Wealth Owners, 2007

Net Worth and Its Components	Percentile of the Net Worth Distribution				
	0 to 50%	50 to 90%	90 to 95%	95 to 99%	99 to 100%
Net Worth	2.5	26.0	11.1	26.6	33.8
Assets	6.1	29.0	10.6	24.7	29.6
—Financial Assets	2.7	25.1	12.4	28.2	31.5
Liquid Assets[a]	6.5	33.0	11.4	26.2	22.9
CDs	3.1	46.6	11.5	23.7	15.1
Savings Bonds	6.0	55.4	11.3	19.7	7.5
Other Bonds	0.0	1.5	4.8	31.2	62.4
Stocks	0.6	9.0	8.0	30.5	51.9
Mutual Funds	0.4	11.6	10.3	30.9	46.7
Retirement Accounts[b]	3.8	36.7	16.9	28.0	14.5
Life Insurance	6.5	38.5	13.3	19.4	22.4
Annuities and Trusts	0.9	19.4	13.5	26.7	39.4
Other Financial Assets	5.8	27.4	10.0	25.8	31.0
—Nonfinancial Assets	7.8	31.1	9.6	22.8	28.7
Vehicles	28.6	45.9	8.0	10.9	6.6
Principal Residence	12.6	48.9	11.0	18.1	9.4
Other Residential Property	2.2	23.4	14.6	35.2	24.6
Nonresidential Real Estate	1.1	17.0	10.8	35.2	35.8
Net Business Equity	0.4	6.0	5.5	25.5	62.7
Other Nonfinancial Assets	3.7	20.2	10.5	22.3	40.0
Debt	26.7	46.6	7.7	13.7	5.3
Principal Residence[c]	25.3	50.1	7.6	12.9	4.1
Other Residential Property[d]	5.8	34.8	12.9	32.9	13.6
Installment Debt	52.8	35.5	4.3	3.2	4.2
Other Lines of Credit	10.8	36.7	3.0	16.7	32.8
Credit Card Balance	43.1	45.8	5.6	4.3	1.2
Other Debt	28.9	22.5	6.6	17.6	24.5
Memo: Equity[e]	1.5	19.6	12.4	30.5	36.0

Source: Arthur B. Kennickell, *Ponds and Streams: Wealth and Income in the U.S., 1989 to 2007*, FEDS Working Paper 2009-13, Federal Reserve Board, Washington, DC, January 2009.

a. Holdings of checking, savings, money market, and call accounts.

b. IRAs, Keogh accounts, and other pensions accounts where withdrawals or loans may be taken (such as 401(k) accounts).

c. Mortgage and home equity loans secured by principal residences.

d. Mortgages secured by residential real estate other than principal residences.

e. Total value of direct and indirect holdings of corporate stock.

The Effect of Stock and Housing Price Depreciation on Household Net Worth During the 2007-2009 Recession

To assess the impact of the financial crisis and consequent recession on household net worth, respondents to the 2007 SCF were reinterviewed shortly after the recession ended. According to results released in March 2011, most households (63%) experienced a loss in net worth between 2007 and 2009. The median percentage decrease in wealth among these households was 45%.[18]

The broad-based downward shift of the wealth distribution over the two-year recessionary period is reflected by reductions in mean and median summary measures. Mean net worth dropped from $595,000 in 2007 to $481,000 in 2009 (expressed in 2009 dollars). Median household net worth fell from $125,000 in 2007 to $96,000 in 2009 (expressed in 2009 dollars).

Among financial assets, the median value of stocks fell most sharply (by 23%). Among nonfinancial assets, vehicles (26%), business equity (24%), and equity in nonresidential property (23%) experienced percentage declines in median value comparable to that of stock. Although the median value of primary residences fell to a lesser extent (12%), its absolute value dropped by $18,700, much more than that of any other financial or nonfinancial asset.

Decreases in the value of home equity and stock as well as business equity appear to have greatly contributed to the overall decline in net worth during the recession. Primary residences as a proportion of total assets fell by 1.5 percentage points. Stock and business equity's share dropped by 4.7 percentage points. However, with homes being a much more widely held asset than stock and business equity, housing price depreciation appears to have had the larger role in changes in household wealth during the 2007-2009 recession.

The impact on household wealth of the real estate bubble that burst in the second half of the 2000s can be seen from data disaggregated by census region. "In percentage terms, losses [in net worth] tended to be greatest for families living in the west, a reflection in large part, of the relatively greater declines in real estate prices in that region."[19] Although stock prices have rebounded in recent years, continuing problems in the real estate market suggest that it will be a drag on the wealth of homeowners for some time to come.

Explanations of the Accumulation and Distribution of Wealth

Researchers typically use the distribution of income as a starting point for understanding the accumulation and distribution of wealth. Because the higher the household's income the greater

[18] Jesse Bricker, Brian Bucks, and Arthur Kennickell, et al., *Surveying the Aftermath of the Storm: Changes in Family Finances from 2007 to 2009*, Federal Reserve Board, Finance and Economics Discussion Series Working Paper 2011-17, March 2011.

[19] Ibid., p. 9.

will tend to be its net worth, those at the upper end of the income distribution are generally better positioned to set more aside and thus accumulate greater wealth than those at the lower end of the income distribution.[20] As shown in **Table 4**, almost 85% of households in the top 10% of the income distribution saved in 2007 compared with a little more than one-third of those in the bottom 20% of the income distribution.

Despite income and wealth generally increasing in tandem, wealth is distributed much more unequally than income. The ratio of the mean to median is an indicator of the degree of inequality in a distribution because, as previously mentioned, the mean can be greatly affected by the upper end of the distribution. In this case, the ratio of mean to median income is 1.8 and the ratio of mean to median net worth is 4.6—2½ times the income ratio. The much larger net worth ratio indicates that wealth is much more concentrated than income.

Table 4. Household Income and Net Worth by Income Class, 2007

Percentile of Income	Income ($ in thousands)		Net worth ($ in thousands)		Percentage of Households Who Saved
	Median	Mean	Median	Mean	
All families	47.3	84.1	120.8	556.8	56.5
less than 20%	12.3	12.3	8.8	105.9	34.1
20% to 40%	28.8	28.3	37.8	134.5	44.9
40% to 60%	47.3	47.3	88.4	210.6	57.9
60% to 80%	75.1	76.6	204.7	372.6	66.5
80% to 90%	114.0	116.0	357.5	614.2	73.0
90% to 100%	206.7	396.4	1,120.1	3,305.6	84.8

Source: Federal Reserve Board, 2007 Survey of Consumer Finances, public use data.

Analysts generally add some model of household saving behavior to income because it does not adequately explain differences in wealth accumulation across households. Most models of saving behavior begin with some variation of what economists refer to as the life-cycle model. Early in life when earnings are relatively low, most of (if not more than) current income is consumed and the rate of saving is low. As income rises during an individual's working life, saving also tends to rise and wealth accumulates. Upon retirement, income falls and so does saving as retirees draw down wealth to maintain living standards in their remaining years.

The model helps resolve an apparent inconsistency in saving behavior. One, those with higher incomes tend to have higher saving rates at any given point in time, but two, the saving rate has not risen as incomes have increased over time. The model, nevertheless, falls short of completely explaining observed saving behavior and of explaining why wealth is so highly concentrated.[21]

[20] Income in the SCF includes wages and salaries; self-employment and farm income; returns from real estate, partnerships and subchapter S corporations, trusts and estates; interest and dividends; realized capital gains and losses; pension, Social Security, annuity and disability payments; payments from unemployment insurance or workers' compensation; and alimony and child support.

[21] Marco Cagetti and Mariacristina De Nardi, "Wealth Inequality: Data and Models," *Macroeconomic Dynamics*, vol. 12, suppl. 2 (2008), pp. 285-313.

In an effort to improve the model's explanatory power, researchers have examined reasons other than retirement for which people may save. One such motive is precaution, that is, to accumulate wealth for the proverbial rainy day. Some models therefore have included saving to maintain living standards during unpredictable events (e.g., job loss and divorce).[22] Although models that include a precautionary reason for wealth accumulation can account for a distribution of wealth that is more unequal than the distribution of income, they do not provide a complete explanation.[23] This has led analysts to further expand the model to include other explanatory variables for the greater concentration of wealth.

One factor that seems to contribute to inequality in the wealth distribution is entrepreneurship.[24] Although business owners are a small proportion of the population regardless of how they are defined, the group comprised between 54% and 81% of the top 1% of the wealth distribution in 1989, which means entrepreneurs generally are much wealthier than the rest of the population.[25] The researchers further found that the self-employed accumulate more wealth because it is difficult for them to borrow capital to start or expand firms. Their results suggest that the tightness of borrowing constraints and bequests by entrepreneurs to their children affect the number of business owners, firm size, and the degree of wealth inequality in the population.

Bequests of not only assets but also human capital may play a role in explaining the greater concentration of wealth compared to income. Although unplanned (involuntary) bequests do not appear to produce a more unequal distribution of wealth, planned (voluntary) bequests do.[26] The desire of the wealthiest households to leave bequests to their children seemingly prompts them to save at a high rate and helps to explain why households in the very upper tail of the wealth distribution do not consume all their assets even when very old. In addition, highly skilled parents may be able to pass on some of their greater earnings ability to their children, perhaps because wealthy parents are not as affected as lower-skilled parents by educational borrowing constraints.

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[22] Luis Cubeddu and Jose-Victor Rios-Rull, "Families as Shocks," *Journal of the European Economic Association*, vol. 1, no. 2-3 (April-May 2003), pp. 671-682.

[23] Vincenzo Quadrini and Jose Victor Ríos-Rull, "Understanding the U.S. Distribution of Wealth," *Federal Reserve Bank of Minneapolis Quarterly Review*, spring 1997, pp. 22-36.

[24] Vincenzo Quadrini, "Entrepreneurship, Saving and Social Mobility," *Review of Economic Dynamics*, vol. 3, no. 1 (2000), pp. 1-40.

[25] Marco Cagetti and Mariacristina De Nardi, "Entrepreneurship, Frictions, and Wealth," Journal of Political Economy, vol. 114, no. 5 (October 2006), pp. 835-870.

[26] Mariacristina DeNardi, "Wealth Inequality and Intergenerational Links," *The Review of Economic Studies*, vol. 71, no. 3 (July 2004), pp. 743-768.