

GENDER, MARRIAGE, AND ASSET ACCUMULATION IN THE UNITED STATES

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ABSTRACT

Wealth accumulation has important implications for the relative well-being of households. This article describes how household wealth in the United States varies by gender and family type. Evidence is found of large differences in observed wealth between single-female-headed households and married couples. Although some of this gap reflects differences in observable characteristics correlated with gender and wealth – such as position in the life cycle, education, and family earnings – controlling for these characteristics reduces but does not eliminate the estimated wealth gap. The wealth holdings of single females in the US, controlling for these same characteristics, are also significantly lower than the wealth holdings of single males. In contrast, observed wealth gaps between genders in a sub-sample of young households disappear when controlling for observable characteristics, suggesting either that in the US these gaps are disappearing for younger households or that these gaps do not emerge until later in life.

KEYWORDS

Wealth, gender, family structure

JEL Codes: D3, J16, J12

INTRODUCTION

Across many different countries, marriage has historically been viewed as a source of financial security, particularly for women (see Linda Waite and Maggie Gallagher [2000] for the United States), and large differences in economic well-being by gender and marital status persist. For example, in the US in 2003, 28 percent of single-female-headed households had a family income below the poverty line compared to 13.5 percent of single-male-headed households and only 5.8 percent of married couple households. Kebin Wu (2005) documents that poverty rates are significantly higher among women in all but two of the developed countries included in the Luxembourg Income Study. A great deal of attention has been paid in economics literature to differences in income and poverty by gender in many developed countries, but particularly in the US (e.g., Francine D. Blau

and Lawrence Kahn 1997; June O'Neill 2003; Quinn Moore and Heidi Shierholz 2004; Wu 2005). Much less attention has been paid to differences in wealth accumulation along gender and family structure lines – a notable omission because, as discussed in a recent survey paper by Edward N. Wolff in the *Journal of Economic Perspectives* (1998), wealth is an important indicator of well-being for several reasons. Wealth provides a source of direct financial income. It can provide a means for consumption if assets are converted to cash or liquidity in times of economic stress. Wealth in the form of owner-occupied housing provides services directly to its owners. For these reasons, it is critical to understand how wealth holdings differ across households.

Despite the importance of wealth accumulation to the financial security of families, to date, there has been no analysis that examines wealth differences by marital status and gender in any country. It is not clear to what extent observed differences in wealth holdings by family type reflect underlying differences in other factors correlated with both wealth and family type – such as education, race, or the presence of children – yet it is important to examine the source and impact of these discrepancies, which are, in fact, far-reaching. For example, as one important motive for wealth accumulation is to finance retirement, factors influencing wealth accumulation differentials by gender and marital status may have important implications for differences in well-being among the elderly. In this article, we examine wealth holdings of American households by gender and family type.

Table 1 begins to shed light on this topic by providing a snapshot of wealth differences by marital status and gender in the Panel Study of Income Dynamics (PSID), a US survey that collects detailed household-level data on wealth. In 2001, the average total net worth of married households (US\$262,929) was more than twice that of households headed by single individuals (US\$112,547 for female-headed and US\$119,861 for male-headed). However, the distribution of wealth is highly skewed in the US, with a large percentage of total wealth held by a small percentage of the

Table 1 Average household wealth as measured in the 2001 Panel Study of Income Dynamics (N = 5,290 households)

	<i>Mean</i>	<i>25th percentile</i>	<i>Median</i>	<i>75th percentile</i>
All households	\$193,119	\$10,650	\$76,000	\$236,500
By type of household				
Single female head	\$112,547	\$1,500	\$29,500	\$135,000
Single male head	\$119,861	\$1,900	\$29,000	\$122,250
Married couple	\$262,929	\$39,500	\$136,101	\$355,000

Note: Households with wealth in the top and bottom 1 percent of the total wealth distribution and any missing data are dropped.

population, and therefore it is important to look at the relationship between marital status, gender, and wealth throughout the wealth distribution. Table 1 shows that the median wealth of married couple households, at US\$136,101, is more than four times that of households headed by single individuals, at roughly US\$29,000. At the 25th percentile, the wealth of married couples is US\$39,500, which is more than 20 times as large as that of the single male and female-headed households. Figure 1 plots the distribution of wealth by family type and similarly shows that generally, the wealth distributions of single-headed households are substantially lower than the wealth distribution of married couples. In addition, the wealth of single households headed by males is quite similar to single households headed by females, despite the fact that single female households are much more likely to contain children (23 percent) than male-headed households (13 percent).

In this article, we use data from the PSID to provide descriptive information on how the accumulated wealth of households varies by gender and family type in the US. The US provides an interesting case study since large increases in female education and labor force participation, as well as a decreasing gender wage gap, might be expected to reduce inequality in wealth. Changes in wealth inequality observed in the US may be predictive of changes in other developed countries. Though not presently possible, in the future, we will be able to make comparisons across countries using the Luxembourg Wealth Study, a project which will construct a database of comparable wealth measures across countries. We find evidence throughout the wealth distribution of large differences in observed wealth between households headed by single females and

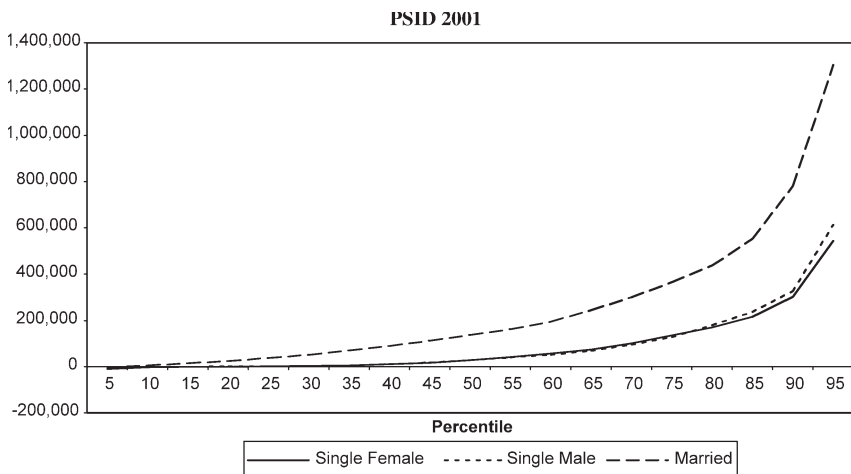


Figure 1 Wealth distribution by family type, 5th to 95th percentiles

households headed by married couples. Although some of this gap reflects differences in observable characteristics that are correlated with both gender and wealth – such as position in the life cycle, education, inheritances, and family earnings – controlling for these characteristics reduces but does not eliminate the wealth gap. In addition, by controlling for these same characteristics, we find that the wealth holdings of single females are also significantly lower than the wealth holdings of single males. Results from a sub-sample of young households (with heads between 25 and 39 years of age) provide no evidence of wealth gaps by gender or family type. This finding could reflect one of two possibilities. First, perhaps these gaps in wealth do not emerge until later in life. Second, it is possible that the relationship between marital status, gender, and savings has changed and that wealth gaps do not exist in the younger cohorts. Our data do not allow us to distinguish adequately between these two possibilities.

BACKGROUND

Wealth, or assets A , in period $t+1$ can be expressed in the following manner:

$$A_{t+1} = (1 + r)(A_t + Y_t - C_t) \quad (1)$$

where r is the rate of return on investments, Y_t denotes income in period t , and C_t denotes consumption in period t . This expression illustrates that differences in wealth across households can occur for three reasons. First, some households may enter the period with a greater stock of assets, perhaps as a result of inherited wealth. Second, households may receive different rates of return on their assets due to differences in portfolio allocation. Third, households may differ in the amount they save.

The amount households save will vary for a variety of reasons. Standard models of the allocation of consumption over time suggest that savings will depend on a family's stage in the life cycle (Franco Modigliani and Richard Brumberg 1954; Milton Friedman 1957). Households that wish to smooth their consumption over time will save during working years in order to finance consumption after retirement. In addition, family saving for expenditures such as children's college education is life-cycle related. This suggests that a family's position in the life cycle will strongly affect its savings behavior and wealth accumulation. Empirical evidence suggests that the life cycle savings model applies well to white, urban, educated, middle-class wealth accumulation, but does not apply to the poorest households, many of which have no assets, or to the wealthiest households, which often inherit wealth (Edward N. Wolff 1981).

Income also affects wealth accumulation through savings. In a given period, two households with the same savings rate but different levels of

income will accumulate different levels of wealth. Additionally, precautionary savings in the presence of risk aversion may increase wealth accumulation in certain households (Stephen P. Zeldes 1989; Miles S. Kimball 1990). If there is some uncertainty regarding future income and if liquidity constraints exist that may prevent a household from borrowing, then risk-averse households may accumulate additional wealth now in order to prevent a future drop in consumption caused by an income shock. Households are therefore likely to differ in saving rates depending on these preferences and their current consumption needs in the presence of liquidity constraints.

Gender differences in wealth could result from any of the above factors. Nevertheless, a persistent gender gap exists in earnings, so women would be expected to accumulate lower levels of wealth, even holding savings rates constant (see, e.g., Blau and Kahn 1997; O'Neill 2003; Moore and Shierholz 2004). There is also evidence that returns to savings might vary by gender; research suggests that women invest their portfolios more conservatively, which may result in lower returns to wealth.¹ In addition, recent work by Candida G. Brush et al. (2002) suggests that, in the US, a relative lack of social networks impedes women's access to the venture capital industry, causing women who own businesses to be left out of this particular avenue of wealth creation.

In addition, since total net worth includes equity in a household's main residence, any discrimination in mortgage lending markets could lead to gender differences in wealth. Helen F. Ladd (1998), in a survey of the evidence of discrimination on mortgage lending in the US, discusses explicit bank policies prior to the 1974 Equal Credit Opportunity Act (ECOA) that treated women less favorably than men. She reports that evidence of differential treatment of women in mortgage lending was visible in data from the early 1970s, but seems to have disappeared after passage of the ECOA prohibited sex-based classifications in lending. However, recent work by Judith K. Robinson (2002) finds evidence in mortgage lending of gender and family structure discrimination that depends on race. Her results imply that white couples face discrimination if the wife is in the labor market, while African-American couples appear to face discrimination if the wife stays at home. Similar patterns are true for single-female-headed households. Single African-American women appear to fare better in mortgage lending if they have children, while white single mothers are at a relative disadvantage.

While there has been a great deal written on the precarious financial situation of women, there has been relatively little analytical work examining such wealth differentials by gender as outlined briefly above.² Particularly important to an analysis of wealth differences by gender is attention to family structure. Phillip B. Levine, Olivia S. Mitchell, and James F. Moore (2000) address this in an analysis of the Health and Retirement

Study (HRS), a panel dataset that follows US households during the years before and after retirement. They find sizeable gender gaps in both current and projected retirement income. They also find that US households headed by unmarried men and unmarried women accumulated considerably less wealth than households of married couples, even after controlling for differences in household size. Joseph P. Lupton and James P. Smith (2003) use the HRS to analyze the relationship between household type and asset accumulation and find that married households in the US have more than twice the net worth of other types of households.

In this paper, we use OLS and quantile regression to estimate differences in the distribution of wealth gaps by gender and by family type for the US. We examine the extent to which these gaps can be eliminated by controlling for differences in education, the presence of children, inheritances, family earnings, and other characteristics. We also analyze a cohort of younger households and repeated cross sections of households over time to look for evidence that the relationship between wealth and observable characteristics, family type, and gender may be changing.

DATA

The PSID, collected by the Institute for Social Research at the University of Michigan, began in 1968 with a national sample of approximately 5,000 US households. Since then, the PSID has attempted to follow all the individuals from those households, including children of the original respondents as they begin their own families. Respondents were asked questions on demographics and employment information every year between 1968 and 1996, and every other year from 1997 to the present. In addition, the US's National Institute on Aging sponsors the collection of detailed supplements on household wealth. We focus primarily on wealth data from 2001, but we examine data from 1994 and 1999 later in the article to discuss changes in wealth patterns over the 1990s.

Table 2 provides summary statistics for the dataset.³ The PSID sample for 2001 includes observations on 5,290 households.⁴ Individual-level statistics provided are for the household head, which is generally, but not always, listed as male for married couples.^{5,6} The average age of the household head is 50, and household heads average roughly 13 years of education. Single females are listed as the head for 29 percent of the surveyed households, and single males are listed as the head for 18 percent. Families in the sample have an average total net worth of US\$193,119. Net worth in the PSID is defined to include the household's main home and second home; other rental real estate and land contract holdings; equity in cars, trucks, boats, and motor homes; farms or businesses; stocks, mutual funds, investment trusts, and stocks in Individual Retirement Accounts (IRA); savings and checking accounts, money market funds, certificates of deposit,

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Table 2 Summary statistics in 2001 Panel Study of Income Dynamics

	<i>Mean</i>	<i>Standard deviation</i>
Non-housing net worth	127,601	249,059
Total net worth	193,119	303,587
Single female head	0.29	–
Single male head	0.18	–
Married head	0.53	–
Married before	0.42	–
Age of head	49.93	15.88
Has children < age 18	0.33	–
Has children ages 18 to 24	0.19	–
Has children ages 25 +	0.39	–
Years of education	13.05	2.94
Black	0.13	–
Hispanic	0.06	–
Family earnings	47,366	55,948
Received inheritance	0.05	–
N	5,290	

Notes: Households with wealth in the top and bottom 1 percent of the total wealth distribution and any missing data are dropped. For married households, age, education, race, and ethnicity are of the household head.

government savings bonds, and Treasury bills; corporate bonds; cash value of life insurance policies, valuable collections for investment purposes, and rights in a trust or estate; less mortgage debt, credit card debt, and other debt on such assets. The one important component of wealth that is not included in the PSID measure is pension wealth (including both public and private pensions). This could be an important omission for our analysis, since recent evidence suggests large differences in pension wealth by gender (e.g., Levine, Mitchell, and Moore 2000).

There are several other limitations of the PSID data. First, the PSID does not over-sample the very wealthy, where a great deal of the wealth in the US is concentrated. As a result, the PSID has been shown to accurately depict household wealth except for the top 1 percent of the wealth distribution, which is missing from the data (Erik Hurst, Ming Ching Luoh, and Frank P. Stafford 1998; Wolff 1998; F. Thomas Juster, James P. Smith, and Frank Stafford 1999). In addition, wealth data in any household survey is considered to be particularly noisy (Juster, Smith, and Stafford 1999), although the PSID uses an innovative unfolding bracket technique to help deal with non-response and therefore to provide better estimates of wealth.⁷

Finally, one major disadvantage with any large dataset on household wealth is that it is not possible to assign ownership of assets to particular individuals within married couples. As such, our analysis cannot tell us

much about the financial well-being of married women, even though the literature in feminist economics emphasizes the importance of looking at intrahousehold inequality (see, e.g., Rae Blumberg 1988; Lawrence Haddad and Ravi Kanbur 1990; Amartya Sen 1990; Frances Woolley 1993; Shelley A. Phipps and Peter Burton 1994).

DIFFERENCES IN WEALTH BY GENDER AND FAMILY TYPE

Full sample

First we regress wealth on a constant and indicator variables for family type:

$$Wealth_i = \alpha + \beta_1 SingleFemale_i + \beta_2 SingleMale_i + \epsilon_i \quad (2)$$

The omitted family structure category is the married couple. Since wealth data in the PSID is collected at the household level, it is impossible to separate wealth holdings into those assets owned by the husband and those owned by the wife. Because of this, we assume that marital assets are consumed jointly and disregard any issues associated with family bargaining and allocation of resources within the household. Our dependent variable is total net worth.⁸ These regressions are run on samples of households with heads aged 25 and older.⁹

As discussed earlier, the distribution of wealth in the United States is highly skewed; many households have little or no wealth, and a great deal of wealth is concentrated at the top portion of the distribution. Ordinary Least Squares (OLS) regression provides estimates of differences in the conditional mean of an outcome variable associated with differences in a covariate. While this is useful, because the mean can be greatly affected by very high values at the top of the wealth distribution, estimates from OLS may not provide an accurate characterization of differences in most of the wealth distribution.

It might also be the case that the covariate of interest has differential effects along the distribution of the outcome variable. In this article, we are particularly interested in estimating differences throughout the distribution of wealth between households headed by married couples, households headed by single females, and households headed by single males. It could be the case that most of the wealth distribution of single households was indistinguishable from that of married households. At the same time, it could also be true that that the distributions diverge in the upper 25th percent of the distribution, with married couples having higher upper quartile wealth than single households. Indeed, Figure 1 shows that the difference in wealth by family type is not uniform across the distribution of wealth. OLS results that indicate mean wealth for single households was

lower would provide a misleading picture of the differences for all but the top quarter of the wealth distributions.¹⁰

Because of this, we estimate four models. We first estimate models by OLS. We then use quantile regression to estimate models at the 25th percentile, the median, and the 75th percentile of wealth. Because policy-makers may be particularly interested in understanding whether gender and marital status are important determinants of wealth at the lower tail of the wealth distribution, quantile regression is particularly useful.¹¹ Whereas OLS estimates the relationship of a variable to the conditional mean of the dependent variable, quantile regression estimates this relationship at any point in the conditional distribution, such as the median (the 50th percentile). By estimating regressions at various quantiles, we estimate a vector of coefficients for different quantiles of the wealth distribution.

Results for OLS regressions of total net worth can be found in Table 3. Results for regressions of the 25th, 50th, and 75th percentiles are in Table 3a. We first discuss Column 1 in each table, which provides results from these simple regressions with no covariates. These results are exactly equivalent to the simple tabulations of net worth by family type provided in Table 1, and their analysis reveals that household type plays a large role in

Table 3 OLS regression of net worth of households ages 25 + in 2001 PSID

	(1)	(2)	(3)
Single female	-150,382** (10,729)	-125,294** (10,595)	-87,307** (11,321)
Single male	-143,069** (12,503)	-75,288** (12,041)	-39,649** (12,289)
Age		14,418** (1,728)	12,371** (1,696)
Age squared		-76** (16)	-55** (16)
Previously married		-38,047** (10,500)	-39,790** (10,289)
Has children		11,182 (9,275)	4,361 (8,775)
< age 18			
Has children ages		-21,186** (10,738)	-29,471** (10,407)
18 to 24			
Has children ages		19,909 (12,883)	32,049** (12,580)
25 +			
Years of education		25,925** (1,649)	20,965** (1,705)
Black		-58,231** (11,580)	-49,954** (11,540)
Hispanic		-17,183 (15,622)	-2,864 (15,304)
Had inheritance		137,895** (27,326)	135,012** (27,002)
Earnings			1.07** (0.12)
Constant	262,930** (7,740)	-595,698** (50,209)	-557,172** (48,652)
R ²	0.06	0.23	0.26
F Test	0.35	16.55**	15.25**
N	5,290	5,290	5,290

Notes: **Denotes statistical significance at the 5 percent level; *denotes statistical significance at the 10 percent level. Standard errors are in parentheses. Sample excludes households with wealth in the top or bottom 1 percent and any missing data. For married households, age, education, race, and ethnicity are of the husband.

Table 3a Quantile regression of net worth of households ages 25 + in 2001 PSID

	25th percentile			50th percentile (median)			75th percentile		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Single female	-38,000** (1,041)	-38,516** (3,239)	-19,776** (3,222)	-106,601** (6,497)	-62,440** (5,867)	-31,478** (5,894)	-220,000** (14,243)	-126,292** (11,039)	-66,471** (10,694)
Single male	-37,600** (1,237)	-31,470** (3,626)	-12,385** (3,519)	-107,601** (7,702)	-42,813** (6,383)	-14,645** (6,370)	-232,750** (16,916)	-85,913** (12,274)	-38,881** (11,792)
Age	4,485** (540)	4,485** (540)	3,861** (522)	7,791** (939)	7,791** (939)	5,563** (922)	10,314** (1,687)	10,314** (1,687)	7,991** (1,687)
Age squared	-27** (5)	-27** (5)	-20** (5)	-38** (8)	-38** (8)	-18** (8)	-35** (16)	-35** (16)	-10 (15)
Previously married	-12,884** (2,653)	-12,884** (2,653)	-15,264** (2,573)	-21,880** (5,047)	-21,880** (5,047)	-22,287** (4,936)	-35,732** (10,269)	-35,732** (10,269)	-41,511** (9,632)
Has children < age 18	-761 (2,755)	-761 (2,755)	-496 (2,710)	4,775 (5,133)	4,775 (5,133)	3,197 (5,027)	19,406* (10,322)	19,406* (10,322)	15,277 (9,590)
Has children ages 18 to 24	802 (2,911)	802 (2,911)	608 (2,842)	-8,872 (5,445)	-8,872 (5,445)	-8,744 (5,328)	-5,803 (10,929)	-5,803 (10,929)	-14,432 (10,214)
Has children ages 25 +	6,055* (3,412)	6,055* (3,412)	7,099** (3,286)	7,167 (6,214)	7,167 (6,214)	15,609** (6,104)	13,271 (12,040)	13,271 (12,040)	31,420** (11,175)
Years of education	6,216** (400)	6,216** (400)	3,376** (411)	13,627** (762)	13,627** (762)	8,819** (773)	22,354** (1,646)	22,354** (1,646)	17,033** (1,589)
Black	-18,385** (3,230)	-18,385** (3,230)	-14,735** (3,122)	-33,152** (5,845)	-33,152** (5,845)	-29,224** (5,722)	-56,516** (11,804)	-56,516** (11,804)	-45,956** (10,959)
Hispanic	-7,092 (4,855)	-7,092 (4,855)	-4,496 (4,763)	-6,808 (9,345)	-6,808 (9,345)	557 (9,239)	-15,190 (17,903)	-15,190 (17,903)	3,039 (17,464)
Had inheritance	55,541** (5,570)	55,541** (5,570)	53,420** (5,198)	110,848** (10,147)	110,848** (10,147)	99,211** (9,937)	231,004** (20,668)	231,004** (20,668)	184,685** (19,428)

(continued)

Table 3a (Continued)

	25th percentile			50th percentile (median)			75th percentile		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Earnings			0.65** (0.02)			1.02** (0.04)			1.48** (0.08)
Constant	39,500** (538)	-168,476** (14,443)	-154,280** (13,865)	136,101** (3,463)	-318,496** (26,041)	-263,443** (25,591)	355,000** (7761)	-413,044** (52,830)	-393,276** (49,443)
Pseudo R ²	0.03	0.08	0.10	0.05	0.15	0.17	0.06	0.19	0.22
F test	0.08	3.50*	4.16**	0.01	8.09**	6.21**	0.44	8.92**	4.72**
N	5,290	5,290	5,290	5,290	5,290	5,290	5,290	5,290	5,290

Notes: **Denotes statistical significance at the 5 percent level; *denotes statistical significance at the 10 percent level. Standard errors are in parentheses. Sample excludes households with wealth in the top or bottom 1 percent and any missing data. For married households, age, education, race, and ethnicity are of the husband.

wealth differences. The mean wealth holdings of single-female-headed households are roughly US\$150,000 less than that of married couple households. The 25th, 50th, and 75th percentiles of wealth of single-female-headed households are US\$38,000, US\$106,601, and US\$220,000 lower than married couple households, respectively. Similar differences are observed between the wealth holdings of single-male-headed households and married couple households. The difference between the results at the mean, the 25th, 50th, and 75th percentile again reflect the skewed nature of wealth distributions.

In these simplest regressions, gender appears to be a less important factor than marital status in determining differences in wealth. The F-statistic at the bottom of each column is from a Wald test of the linear hypothesis that the coefficient on single male is equal to the coefficient on single female (see Jeffrey M. Wooldridge 2002). For all four models without covariates, the value of this statistic is below the appropriate critical value, indicating that there is no statistical evidence that the wealth holdings of single-female-headed households are different from those of households headed by single men.

However, there are a variety of factors that are likely to be correlated with both family type and net wealth. In order to compare the wealth of similar households that differ only by the gender and marital status of the household head, we next estimate equations of the form:

$$Wealth_i = \alpha + \beta_1 SingleFemale_i + \beta_2 SingleMale_i + \gamma X_i + \epsilon_i \quad (3)$$

where the X vector includes a number of household characteristics. We control for life-cycle effects on wealth accumulation by controlling for the age and age squared of the household head, as well as indicator variables for whether the household head has children under the age of 18, between the ages of 18 and 24, or older than 25. We also include a dummy variable that indicates whether anyone in the household has received a gift or inheritance of US\$10,000 or greater in the past five years. In addition, Equation (3) controls for years of educational attainment of the household head, as well as race and Hispanic ethnicity. It also includes a measure of whether the household head was married before; this indicator variable is equal to one for widowed, divorced, and separated households and is also equal to one for a married head who is not in his or her first marriage.

We are also interested in the extent to which differences in wealth are due to differences in earnings. However, because households choose their labor supply as a function of wealth, earnings are endogenous. Therefore, a simple regression coefficient on earnings cannot be interpreted as causal. The same concern may apply to marital status and the presence of children. Because of this, these regressions should be thought of as descriptive. They

are meant to identify correlations and are not meant to imply causality. Instead, they are provided to examine how much of the difference in wealth across gender and family type is associated with differences in other observable characteristics. Because family earnings are particularly problematic, we estimate these regressions both with and without family earnings. The results without earnings are in Column 2 of Tables 3 (for OLS) and 3a (for quantile regressions), and the results with earnings are in Column 3.

The estimated coefficients on the covariates are of the signs that would be expected across the four models. Wealth increases with age but at a decreasing rate. Also, in general, the relationship between children and wealth holdings depends critically upon the age of those children, providing further evidence in support of life-cycle theories of wealth accumulation. The presence of minor children is not statistically correlated with wealth levels,¹² but having children aged 18 to 24 is associated with lower wealth for all percentiles except the 25th, consistent with a story that suggests that individuals save in order to pay for children's college educations. The presence of grown children is associated with greater wealth holdings. Higher levels of education are associated with higher wealth, while previous marriages are negatively correlated with wealth holdings. Consistent with previous research, African-American households have lower levels of wealth (e.g., Blau and Graham 1990; Barsky et al. 2001). Not surprisingly, receipt of an inheritance is associated with significantly higher wealth.

Though we observed similar patterns for most of the covariates in the OLS and quantile regressions, in certain instances the magnitudes varied a great deal. For example, the large coefficient on years of schooling on wealth holdings at the mean (US\$20,965 in Column 3 of Table 3) is significantly larger than the coefficient at the median (US\$8,819 in Column 3 of the second panel in Table 3a), suggesting that these effects in the OLS regression are driven heavily by individuals at the upper end of the wealth distribution.

The estimated difference in wealth across family types decreases from Column 1 to Column 2 when all covariates except earnings are added. In the OLS results, the coefficient on single female falls from $-US\$150,382$ to $-US\$125,294$. Sizeable decreases in this coefficient also occur at the median and 75th percentiles, though not at the 25th percentile. However, the gap in wealth due to family type does not disappear. In all four specifications, households headed by single women have significantly lower wealth than households headed by married couples. Not surprisingly, the gap increases in magnitude as we move to higher percentiles of the wealth distribution. These results suggest that the wealth gap between single-female-headed households and married couples is sizable, but that a significant portion of the gap may be reflecting differences in observable characteristics that are correlated with gender and marital status, like

education and inheritances. However, even when holding these observable characteristics constant, a large wealth gap exists between single households and married households.

In addition, as is evidenced by the F-statistics at the bottom of each column, once these observable characteristics are controlled for, single-female-headed households have significantly lower levels of wealth than single-male-headed households. This is true at the mean as well as at the 25th, 50th, and 75th percentiles. The set of results with and without covariates suggests that there is no gender gap in the raw distribution of wealth of single male and single female households. However, if we were to compare households from each of these two groups with identical characteristics, we would observe a strong and significant gender gap.

Inclusion of family earnings (Column 3) plays a large role in reducing the estimated wealth gap between single and married households across the distribution. In all models, the estimated coefficients decline in magnitude, though they are still sizable and statistically significant. The coefficient of –US\$31,478 on single female households in the median regression implies that even after controlling for observable differences, including earnings, median wealth of households headed by single females differs from median wealth of married households by roughly 40 percent of overall median wealth. The inclusion of earnings has little effect on the gender wealth gap among single households across most of the distribution, evidenced by the fact that the difference between the coefficients on single female households and single male households remains approximately the same.

The large effect of family earnings on the marital wealth gap, but not the gender gap, could be due to the difference across these types of households in the number of adults since married couple households will have more adults than single households. To explore this further, we ran an additional set of regressions with an alternate dependent variable of wealth divided by the number of adults in the household.¹³ It is not clear that this is the “correct” measure of wealth if we are concerned about gender differences in well-being. For instance, two individuals may not need twice as much wealth to maintain the same level of well-being because of economies of scale.¹⁴ This is even more important given that our measure of total net worth includes equity in the family’s main home. However, we present results from this regression in Table 4 (for OLS) and 4a (for quantile regressions) to provide a comparison to our earlier results.

The patterns that emerge for the control variables are similar to those found in Table 3. However, the effects of family type differ a great deal. If the dependent variable of interest is wealth per the number of adults in the household, it appears that single-male-headed households generally accumulate the most wealth, once we control for all variables. In all cases except the 25th percentile, the wealth of single-male-headed households is significantly higher than that of married couples. In addition, once we

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Table 4 OLS regression of per adult net worth of households ages 25 + in 2001 PSID

	(1)	(2)	(3)
Single female	-22,934** (7,840)	-16,007** (7,323)	2,045 (7,568)
Single male	-19,424** (9,862)	15,230 (9,732)	32,166** (9,805)
Age		8,224** (1,209)	7,251** (1,195)
Age squared		-39** (11)	-29** (11)
Previously married		-8,420 (6,374)	-9,249 (6,279)
Has children < age 18		5,671 (5,705)	2,430 (5,521)
Has children ages 18 to 24		-38,685** (5,992)	-42,623** (5,940)
Has children ages 25 +		4,973 (8,537)	10,742 (8,443)
Years of education		15,635** (1,041)	13,278** (1,070)
Black		-41,562** (9,121)	-37,628** (9,113)
Hispanic		326 (8,752)	7,130 (8,686)
Had inheritance		78,855** (15,884)	77,485** (15,766)
Earnings			0.51 (0.06)**
Constant	123,163** (3,758)	-383,443** (34,427)	-365,006** (33,906)
R ²	0.0034	0.1875	0.2048
F test	0.09	8.3**	7.8**
N	5,290	5,290	5,290

Notes: **Denotes statistical significance at the 5 percent level; *denotes statistical significance at the 10 percent level. Standard errors are in parentheses. Sample excludes households with wealth in the top or bottom 1 percent and any missing data. For married households, age, education, race, and ethnicity are of the husband.

control for earnings, there is no statistically significant difference between the wealth of single-female-headed households and married couples in this alternative specification at either the mean or the median, and there are opposing effects at the two ends of the distribution. Single-female-headed households fare worse than married couple households at the 25th percentile but fare better than married couple households at the 75th percentile, once we control for all observable characteristics. However, it is clear that gender still plays a large role, as in all cases (except at the 75th percentile) the wealth holdings per capita of single-female-headed households are statistically lower than those of single-male-headed households.

One potential implication of these results is that, for the poorest women, single motherhood is most associated with lower levels of wealth. When controlling for earnings and other observable characteristics, the 25th percentile of per person wealth in households headed by single women is about US\$5,000 less than the 25th percentile of per person wealth among married households. Given that a measure of per person wealth “over-controls” for family size, this estimate likely understates the difference in well-being by family type at the lower end of the wealth distribution. Those women who are the most vulnerable financially are at even greater financial risk when they are unmarried.¹⁵

Table 4a Quantile regression of per adult net worth of households ages 25 + in 2001 PSID

	25th percentile			50th percentile (median)			75th percentile		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Single female	-15,950** (733)	-14,169** (1,716)	-5,278** (1,836)	-39,725** (3,640)	-15,637** (3,203)	1,823 (2,694)	-44,500** (12,201)	-14,398** (6,462)	19,072** (6,631)
Single male	-15,750** (869)	-10,482** (1,899)	-1,468 (2,011)	-38,725** (4,298)	-4,743 (3,494)	9,342** (2,911)	-65,500** (14,556)	4,348 (7,381)	14,719* (7,688)
Age	2,186** (287)	1,657** (304)	1,657** (304)		3,631** (513)	1,990** (422)		6,838** (1,055)	1,500 (1,030)
Age squared	-12** (3)	-12** (3)	-7** (3)		-12** (5)	5 (4)		-22** (9)	24** (9)
Previously married	-4,892** (1,420)	-4,892** (1,420)	-5,951** (1,500)		-8,876** (2,753)	-8,168** (2,258)		-13,326** (5,819)	-38,832** (5,945)
Has children <age 18	104 (1,491)	104 (1,491)	1,209 (1,560)		5,577** (2,799)	4,495* (2,293)		13,438** (5,859)	12,535** (5,779)
Has children ages 18 to 24	-5,207** (1,552)	-5,207** (1,552)	-4,758** (1,618)		-13,852** (2,971)	-14,516** (2,438)		-27,916** (6,373)	-27,927** (6,462)
Has Children ages 25 +	3,029* (1,800)	3,029* (1,800)	5,148** (1,912)		5,342 (3,390)	4,857* (2,789)		1,655 (6,998)	29,274** (7,067)
Years of education	3,365** (214)	3,365** (214)	2,007** (241)		7,572** (417)	5,177** (354)		13,269** (952)	9,867** (986)
Black	-9,995** (1,682)	-9,995** (1,682)	-8,081** (1,772)		-22,409** (3,191)	-17,820** (2,611)		-43,377** (6,957)	-43,029** (6,851)
Hispanic	-2,570 (2,636)	-2,570 (2,636)	-907 (2,790)		-469 (5,149)	4,560 (4,158)		-592 (10,469)	-13,228 (11,732)
Had inheritance	32,509** (2,900)	32,509** (2,900)	33,783** (3,001)		67,340** (5,532)	68,007** (4,516)		132,796** (12,242)	133,084** (11,967)
Earnings	0.30** (0.01)	0.30** (0.01)	0.30** (0.01)		0.52** (0.02)	0.52** (0.02)		0.79** (0.04)	0.79** (0.04)

(continued)

Table 4a (Continued)

	25th percentile			50th percentile (median)			75th percentile		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Constant	17,250** (380)	-89,694** (7,591)	-77,431** (8,083)	61,725** (1,939)	-176,517** (14,218)	-140,959** (11,692)	163,500** (6,661)	-306,261** (30,601)	-176,452** (29,813)
R ²	0.0155	0.0639	0.0781	0.0165	0.1277	0.1459	0.008	0.1728	0.1919
F test	0.04	3.41*	3.28*	0.04	8.36**	5.95**	1.62	5.43**	0.29
N	5,290	5,290	5,290	5,290	5,290	5,290	5,290	5,290	5,290

Notes: **Denotes statistical significance at the 5 percent level; *denotes statistical significance at the 10 percent level. Standard errors are in parentheses. Sample excludes households with wealth in the top or bottom 1 percent and any missing data. For married households, age, education, race, and ethnicity are of the husband.

Does the wealth gap persist for the youngest cohort?

While the results presented above for the full PSID sample control for age, there are reasons to believe that gender and family type differences in wealth holdings among younger cohorts might differ systematically from those found in the full sample. First, rates of completion of higher education have converged among men and women. Between 1990–1 and 2000–1, the number of bachelor's degrees awarded to men increased by 6 percent, while those awarded to women rose by 21 percent (US Department of Education NCES 2002). Currently more women than men earn associate, bachelor's, and master's degrees. Second, the past 40 years have seen large increases in labor force participation rates of women between the ages of 25 and 40. This is partly due to the increase in labor force participation of women with small children. In 1960, 19 percent of women with children under the age of 6 were in the labor force. By 1999, this rate had increased to 61 percent (Francine D. Blau, Marianne A. Ferber, and Anne E. Winkler 2002). Finally, there have been significant increases in women's age at first birth, which rose three years between 1970 and 2000 (T. J. Matthews and Brady E. Hamilton 2002).

Tables 5 (for OLS) and 5a (for quantile regressions) provide results from net worth regressions that restrict the sample to those households with a head who was between the ages of 25 and 39 in 2001. The results with no covariates still show that single households have significantly lower levels of total net worth than married households and that there is no wealth gap by gender except at the 75th percentile. Similar to the results for the full sample, when all covariates other than earnings are added, the negative effect of being in a single-headed household relative to married couples declines but is still present. However, when we control for differences in earnings among the younger sample, there are no statistical differences in wealth by family structure or gender. The coefficients on single-female- and single-male-headed households are small and not significant, and the F-test of differences between single females and single males reveals no evidence of any statistical differences by gender.

Disentangling age and cohort effects

Our results in the previous sections suggest that even after controlling for differences in observable characteristics, including earnings, there are large wealth gaps by gender and marital status throughout the wealth distribution. In addition, our results show that these gaps do not appear when analyzing the sub-sample of the population that is aged 25 to 39. Although simple tabulations of the wealth holdings of this younger cohort show a large gender wealth gap, single women in this age group do not have lower average wealth than either married couples or

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Table 5 OLS regression of net worth of households ages 25 to 39 in 2001 PSID

	(1)	(2)	(3)
Single female	-82,483** (12,017)	-61,678** (12,123)	-13,531 (13,268)
Single male	-60,138** (14,497)	-33,644** (12,156)	5,359 (13,012)
Age		10,257** (1,409)	8,485** (1,298)
Previously married		-22,826** (11,588)	-19,918* (11,152)
Has children <age 18		7,325 (12,160)	5,908 (11,697)
Has children ages 18 to 24		-43,629** (12,238)	-39,475** (11,645)
Years of education		10,807** (2,092)	3,932** (1,885)
Black		-28,118 (17,776)	-20,582 (17,719)
Hispanic		-39,173** (10,142)	-26,820** (10,432)
Had inheritance		132,617** (42,749)	128,639** (40,257)
Earnings			1.25** (0.19)
Constant	123,517** (8,681)	-363,060** (52,239)	-300,934** (45,796)
R ²	0.0366	0.1459	0.22
F test	2.45	3.59*	1.66
N	1750	1750	1750

Notes: **Denotes statistical significance at the 5 percent level; *denotes statistical significance at the 10 percent level. Standard errors are in parentheses. Sample excludes households with wealth in the top or bottom 1 percent and any missing data. For married households, age, education, race, and ethnicity are of the husband.

male-headed households, once we control for earnings and other observable characteristics.

There are two possible explanations for this. First, this could be a cohort effect. The current population of young women could be saving more or receiving higher rates of return on their savings than their counterparts in earlier cohorts. This would imply that future generations of retired women might be in an improved financial position than the current cohort of retired women. A second possibility is that wealth gaps do not emerge until later in life. Previous research on wealth has discussed the difficulty of disentangling age, time, and cohort effects (e.g., John Ameriks and Stephen P. Zeldes 2001). In particular, since the age of individual i in period t is equal to the current year minus her year of birth, it is impossible to identify all three effects simultaneously without making additional identifying assumptions.

To partially address this, we use a sample of pooled data from the 1994, 1999, and 2001 waves of the PSID. We control for whether the individuals are in the “young” age group (ages 25 to 39) as well as for year effects that will pick up any changes in wealth accumulation patterns over this time period. We also interact the year effects and the age group effects with our variables for gender and family type. This will allow us to identify whether the relationship between wealth, gender, and marital status has changed over this time period. The 1990s are a particularly important period of time

Table 5a Quantile regression of net worth of households ages 25 to 39 in 2001 PSID

	25th percentile			50th percentile (median)			75th percentile		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Single female	-11,000** (534)	-10,908** (2,340)	442 (1,855)	-35,900** (2,763)	-28,104** (4,412)	763 (3,532)	-115,000** (10,235)	-56,034** (8,449)	-3,351 (7,725)
Single male	-10,425** (544)	-7,721** (2,205)	1,869 (1,736)	-31,400** (2,770)	-19,059** (4,336)	3,400 (3,410)	-86,200** (10,162)	-37,637** (8,329)	4,987 (7,584)
Age		1,000** (207)	1,034** (153)		2,829** (394)	2,130** (305)		7,780** (808)	6,021** (722)
Previously married		-1,901 (2,057)	-1,666 (1,569)		-3,955 (4,166)	-4,330 (3,212)		-17,164** (8,537)	-18,643** (7,632)
Has children < age 18		2,522 (1,750)	5,245** (1,368)		6,026 (3,665)	6,328** (2,808)		11,537 (7,268)	14,408** (6,479)
Has children ages 18 to 24		95 (3,518)	-52 (2,996)		-1,086 (7,266)	-4,920 (5,874)		-24,064 (14,733)	-13,673 (13,381)
Years of education		939** (318)	-164 (262)		3,924** (652)	-61 (519)		7,415** (1,486)	3,098** (1,248)
Black		-3,334 (2,157)	-2,137 (1,674)		-11,806** (4,355)	-6,301* (3,331)		-30,641** (8,559)	-23,145** (7,741)
Hispanic		-1,703 (2,873)	2,830 (2,160)		-6,271 (5,810)	-976 (4,546)		-30,849** (11,867)	-11,062 (10,306)
Had inheritance		23,721** (3,893)	33,172** (3,035)		88,019** (7,462)	74,013** (5,772)		161,703** (15,318)	191,556** (13,265)
Earnings			0.49** (0.01)			0.90** (0.03)			1.43** (0.06)

(continued)

Table 5a (Continued)

	25th percentile			50th percentile (median)			75th percentile		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Constant	11,000** (271)	-35,031** (7,350)	-47,872** (5,561)	41,000** (1,400)	-103,275** (15,348)	-80,265** (11,844)	138,000** (5,322)	-236,148** (34,171)	-216,249** (29,187)
R ²	0.0103	0.0202	0.0522	0.0332	0.073	0.1262	0.0526	0.1389	0.1985
F test	0.76	1.58	0.52	1.78	3.39**	0.49	5.48**	3.72*	0.96
N	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750

Notes: **Denotes statistical significance at the 5 percent level; *denotes statistical significance at the 10 percent level. Standard errors are in parentheses. Sample excludes households with wealth in the top or bottom 1 percent and any missing data. For married households, age, education, race, and ethnicity are of the husband.

to examine, since an unprecedented appreciation in the value of stocks over this time period led many households to accrue capital gains that were both large and unexpected. In addition, this period witnessed a large increase in the number of households investing in stocks (e.g., James M. Poterba 2001; Purvi Sevak 2004).

Results from this specification, controlling for earnings and all other covariates, are found in Table 6.¹⁶ The coefficients on the year dummies suggest that average wealth levels had been rising over the 1990s for the upper half of the wealth distribution. The coefficient on the indicator for whether the individuals are between 25 and 39 is negative and generally statistically significant, again providing evidence of life-cycle motivations in wealth accumulation. The interaction between age and the year effects suggests that although wealth accumulation has been increasing over the 1990s, this effect is significantly lower for young households.

The coefficient on the interaction between the “single female” and “young” categories is positive and statistically significant, largely offsetting the negative coefficient on “single female.” The same pattern emerges for young single males. This is consistent with our results for 2001 presented in Tables 5 and 5a and suggests that wealth gaps due to both gender and marital status do not persist in the younger cohort. This could be an age effect or a selection effect. One possibility is that differences in wealth grow over the life-cycle. An alternate possibility is that this is due to a recent trend in the United States of delaying first marriages. It is possible that those young people who married are systematically different from singles on some omitted characteristics that are correlated with wealth.

Finally, we analyzed the interaction of our family type variables with the year effects. At the mean, 25th percentile, and median, these variables are generally not significant, suggesting that the relationship between wealth, family type, and gender did not change over the 1990s, a decade that saw large shifts in wealth accumulation patterns. However, the negative and significant coefficients in the regression of the 75th percentile imply that differences in the 75th percentile of wealth between married households and both groups of single households grew over the 1990s. This is not surprising, since the largest wealth gains over the period were made in the stock market. In order for a household to have made such gains, they had to have had significant investments at the start of the period. This is mostly likely to have been the case for households in the upper part of the wealth distribution, and our results would be consistent with the observation that married households were more likely to have these investments than single individuals.

CONCLUSION

Despite the legal, social, and economic gains that women in the United States have made in recent decades, a statistically and qualitatively

Table 6 OLS and quantile regression of net worth of households ages 25 + in 1994, 1999, and 2001 PSID

	OLS			25th percentile	50th percentile (median)	75th percentile
Single female	-106,185** (9,072)	-32,686** (2,511)	-55,650** (3,630)	-63,802** (7,231)		
Single male	-77,464** (10,754)	-29,229** (3,158)	-52,651** (4,585)	-63,310** (9,215)		
Young	-10,266 (9,666)	-11,498** (2,779)	-26,193** (3,968)	-120,285** (8,519)		
Year = 1999	20,736** (10,008)	-1,314 (1,855)	-1,904 (2,760)	46,811** (5,804)		
Year = 2001	32,302** (10,386)	2,830 (1,832)	8,947** (2,764)	71,108** (5,829)		
Single female*1999	-9,366 (11,381)	1,833 (3,005)	-1,115 (4,356)	-48,980** (9,014)		
Single male*1999	-11,670 (11,924)	3,489 (3,639)	4,022 (5,276)	-44,665** (10,754)		
Single female*2001	-14,653 (12,232)	-4,752 (3,078)	-9,452** (4,442)	-40,922** (8,832)		
Single male*2001	-1,643 (13,834)	-952 (3,744)	514 (5,393)	-61,083** (11,138)		
Young*1999	-19,496** (8,718)	-4,330 (2,666)	-3,914 (3,834)	-7,961 (8,186)		
Young*2001	-22,736** (9,762)	-7,331** (2,743)	-11,366** (3,950)	-23,992** (8,283)		
Young*single female	120,528** (8,310)	38,935** (2,742)	71,655** (3,958)	105,240** (8,435)		
Young*single male	101,095** (10,043)	35,726** (3,101)	63,489** (4,452)	119,697** (9,164)		
R ²	0.28	0.07	0.17	0.23		
N	17,187	17,187	17,187	17,187		
F male	3.35*	2.72*	5.67**	0.23		
F female	0.00	0.23	2.20	0.00		

Notes: **Denotes statistical significance at the 5 percent level; *denotes statistical significance at the 10 percent level. Standard errors are in parentheses. "Young" is ages 25 to 39. Sample excludes households with wealth in the top or bottom 1 percent and any missing data. All regressions include all control variables found in earlier regressions.

significant wealth gap persists between households based on both gender and marital status. Our analysis of data from the 2001 PSID reveals households headed by married couples have more than twice the mean wealth as households headed by single females and that these large differences are present across the wealth distributions. Using OLS and quantile regressions, we find that these wealth gaps are reduced but not eliminated by the addition of controls for life-cycle factors, education, and family earnings. In fact, differences in observable characteristics between family types are associated with no more than half of the family type wealth gap. In addition, our quantile regression results imply very different magnitudes of the wealth gap than do our OLS regressions, illustrating the importance of using quantile regression when examining a variable with a skewed distribution, like wealth. The wealth holdings of single females and single males appear quite similar throughout the wealth distribution, but inclusion of control variables leads to large and significant gaps in wealth among singles by gender.

In contrast with these results for the entire sample, an analysis of young households whose heads are between 25 and 39 years of age indicates that observed wealth gaps disappear for this cohort when controlling for observable characteristics correlated with gender, family type, and wealth. This suggests that these younger households may be systematically different than their older counterparts. Perhaps they are saving more or investing more aggressively. Increases in female educational attainment, increases in the age at marriage, and delays in childbearing, are other possible explanations for why we do not observe wealth gaps for this younger cohort. In this case, other countries which are currently making gains in female educational attainment and experiencing similar demographic shifts may find convergence in wealth patterns by gender and marital status over time as well. However, it could instead indicate that these wealth gaps do not emerge until later in life. Our data do not allow us to adequately distinguish between these two possibilities, but determining which is the case has important policy implications for the financial well-being of women. Cross-country comparisons might help shed further light on this important question.

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NOTES

- ¹ It has been argued that observed differences in risk preferences have a basis in evolutionary biology, in that there are large differences by sex in returns to investments in reproductive success. For women, the highest returns in reproductive success have traditionally come from a low-risk strategy of investing in parenting effort, while for men at times a higher risk strategy of investing in mating effort can have a higher payoff (see Catherine C. Eckel and Phillip J. Grossman 2002). For examples of gendered approaches to such risk in an economic frame, see Vickie L. Bajtelsmit and Jack L. VanDerhei 1997; Richard P. Hinz, David D. McCarthy, and John A. Turner 1997; Nancy Ammon Jianakopulos and Alexandra Bernasek 1998. However, Leslie E. Papke (2004) finds no evidence that women are more conservative investors than men.
- ² There has, however, been a great deal of interest in wealth differentials by race (e.g., Francine D. Blau and John W. Graham 1990; Joseph G. Altonji, Ulrich Doraszelski, and Lewis Segal 2000; Robert Barsky, John Bound, Kerwin Charles, and Joseph Lupton 2001).
- ³ All summary statistics are calculated using the appropriate weights.
- ⁴ To limit the effects of outliers, we trim the distribution and exclude the top and bottom 1 percent.
- ⁵ Originally, if a PSID family contained a husband-wife pair, the husband was arbitrarily designated the head to conform to census terminology. As new heads are chosen, the head must be at least 16 years old and the person with the most financial responsibility for the family unit. However, if this person is female and she has a husband, then he is designated as head even, if she has the most financial responsibility. If she has a boyfriend with whom she has been living for at least one year, then he is head. However, if the husband or boyfriend is incapacitated and unable to fulfill the functions of head, then the family unit will have a female head. This essentially means that in most cases married couple households are headed by men.
- ⁶ In the PSID, cohabiting opposite-sex couples are treated like married couples except for in the first wave they appear in the study, where they are labeled as either the boyfriend or girlfriend of the head. Our “married couple” category therefore includes long-term cohabiting partnerships. However, the PSID does not allow us to identify same-sex cohabiting couples in our sample.
- ⁷ If a respondent answers “don’t know” or refuses to state a dollar value for a given wealth variable, they are routed through a series of what are referred to as “unfolding brackets.” For example, if they do not know the balance in their IRA, they may be asked: “Is it more than \$50,000 or less than \$50,000?” Based on their response to the

- first question, they are asked if the balance is more or less than some other value. These answers provide interval values for the true value of the asset.
- ⁸ Results using an alternate definition of wealth (total net worth not including equity in main residence) are qualitatively similar.
- ⁹ All regressions are run using the appropriate weights.
- ¹⁰ Gary Chamberlain's (1994) examination of the union wage premium is a good illustration of how OLS can be misleading. He estimates a union wage premium of 28 percent at the first decile of income. The premium declines with income and is negligible at the top deciles. The OLS estimate of the mean union wage premium is 15.8 percent. While it is correct to interpret that the mean wage of union members is 15.8 percent higher than that of non-union workers, it would be incorrect to conclude that unions typically increase the wages of workers because the OLS estimate is being driven by differences seen only at the lower tail of the conditional distribution.
- ¹¹ See Roger Koenker and Kevin F. Hallock (2001) for a non-technical discussion of quantile regression, and see Roger Koenker and Gilbert Bassett (1978) for the econometric derivation.
- ¹² The predicted effect of children on wealth is ambiguous. It has been argued that people with children should save more, since children encourage forward-looking behavior. Bequest motives might also cause individuals with children to save more. However, consumption may increase due to goods that children need, and parents may reduce labor supply when children are small. In addition, these effects might be expected to vary over the life cycle. See James P. Smith and Michael P. Ward (1980) or Joseph P. Lupton and James P. Smith (2003) for detailed arguments.
- ¹³ We also re-estimate regressions with our original dependent variable, but with an additional control for the number of adults in the household. The results are very similar to the results presented in Tables 3 and 3a. These results are available from the authors upon request.
- ¹⁴ We have also estimated our models adjusting wealth by alternative equivalence scales (see Constance Citro and Robert T. Michael 1995). Our main results are similar to those in Table 3, though they differ slightly in some specifications. These results are available upon request.
- ¹⁵ The R-squareds on the regressions in Tables 3 and 4 are on the lower side, ranging from 0.09 to 0.25, suggesting that most of the differences across households in wealth accumulation are not explained by the variables in our model. One possibility is that a great deal of wealth comes from inheritances. In fact, J. Bradford DeLong (2003) estimates that 43 percent of wealth in the United States is inherited. Though we control for whether the household received an inheritance in the past five years, it is likely that this measure does not fully reflect the extent to which inheritances affect wealth.
- ¹⁶ The coefficients on the control variables are largely unchanged in these specifications and are omitted from the table.

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