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# Net Worth and Housing Equity in Retirement

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# Outline

- Growth in net worth in 2000s
    - Is it due to rising house prices?
    - Housing equity is a large portion of net worth
      - Cannot explain growth in net worth
      - Increases in house value taken out as debt
  - Consuming net worth at retirement
    - Housing wealth is dedicated to future consumption
    - How much of housing wealth is 'consumable'?
    - Did rising house prices lead to growth in consumable net worth?
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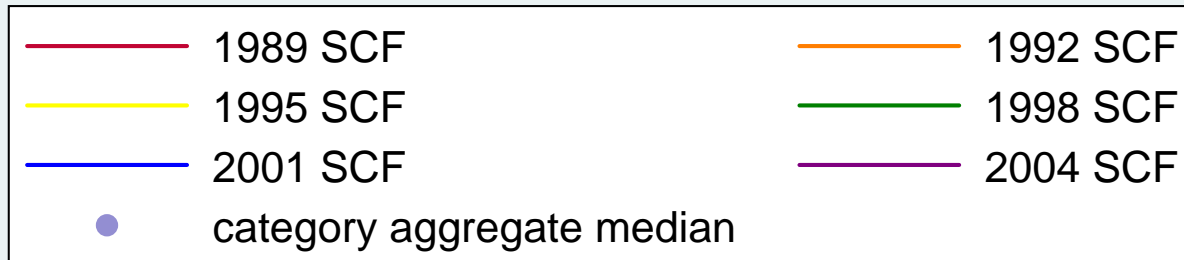
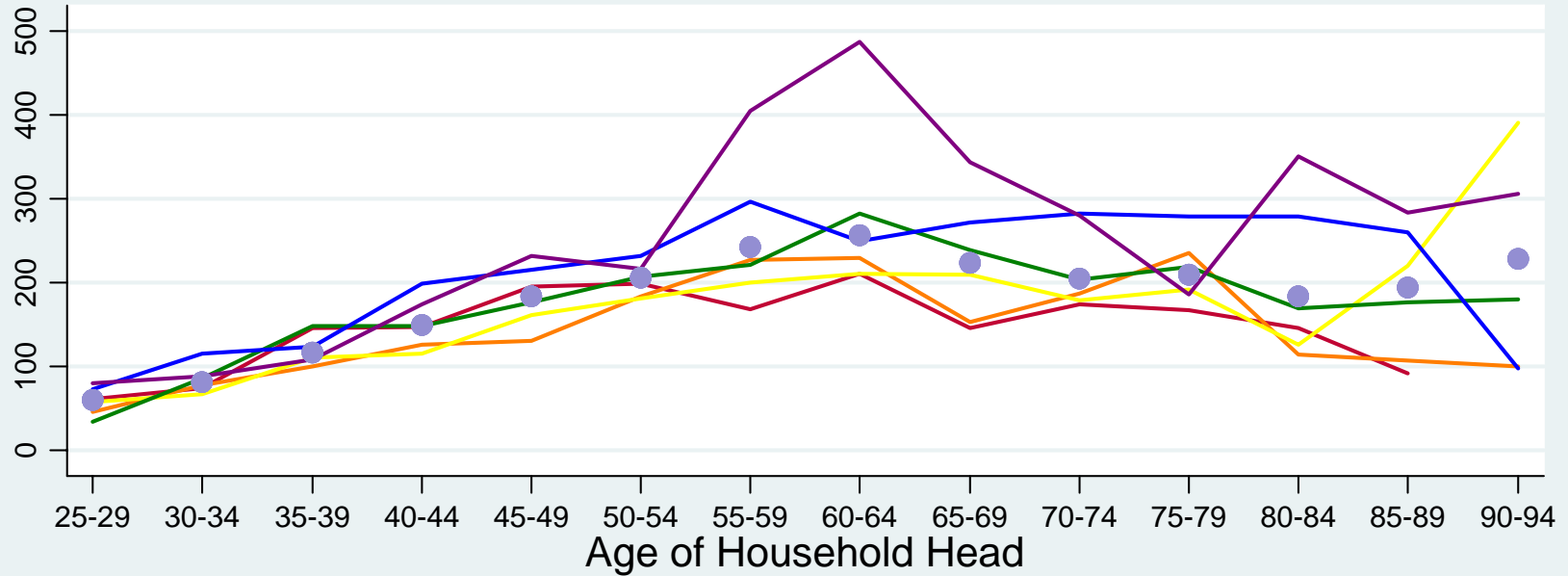
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# Data

- Survey of Consumer Finances
    - Every 3 years, 1989-2004
    - Good information on assets, liabilities
    - Dollar values inflated to 2004 using CPI-U-RS
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# Net Worth

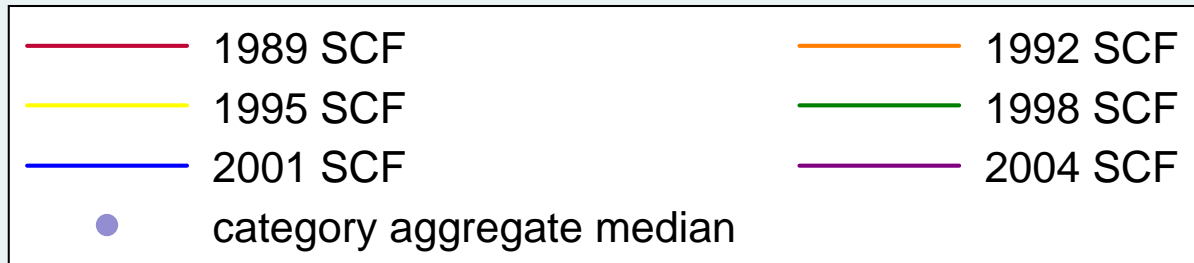
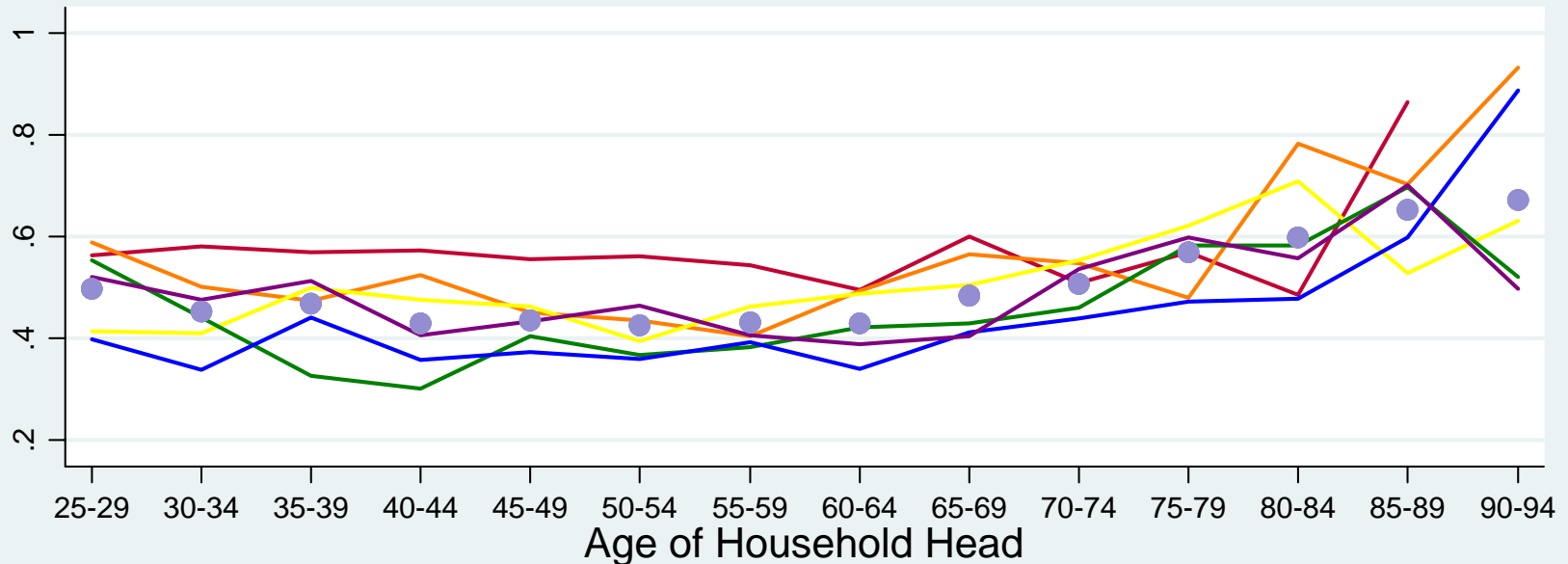
(weighted median for Households with Positive Net Worth)



median--Source: Survey of Consumer Finances 1989-2004. Values in graph are for home owners.  
 \*values based on <11 observations not used, net worth not restricted in original data set  
 Values in Thousands of 2004 Dollars

# Ratio of Home Equity to Total Net Worth

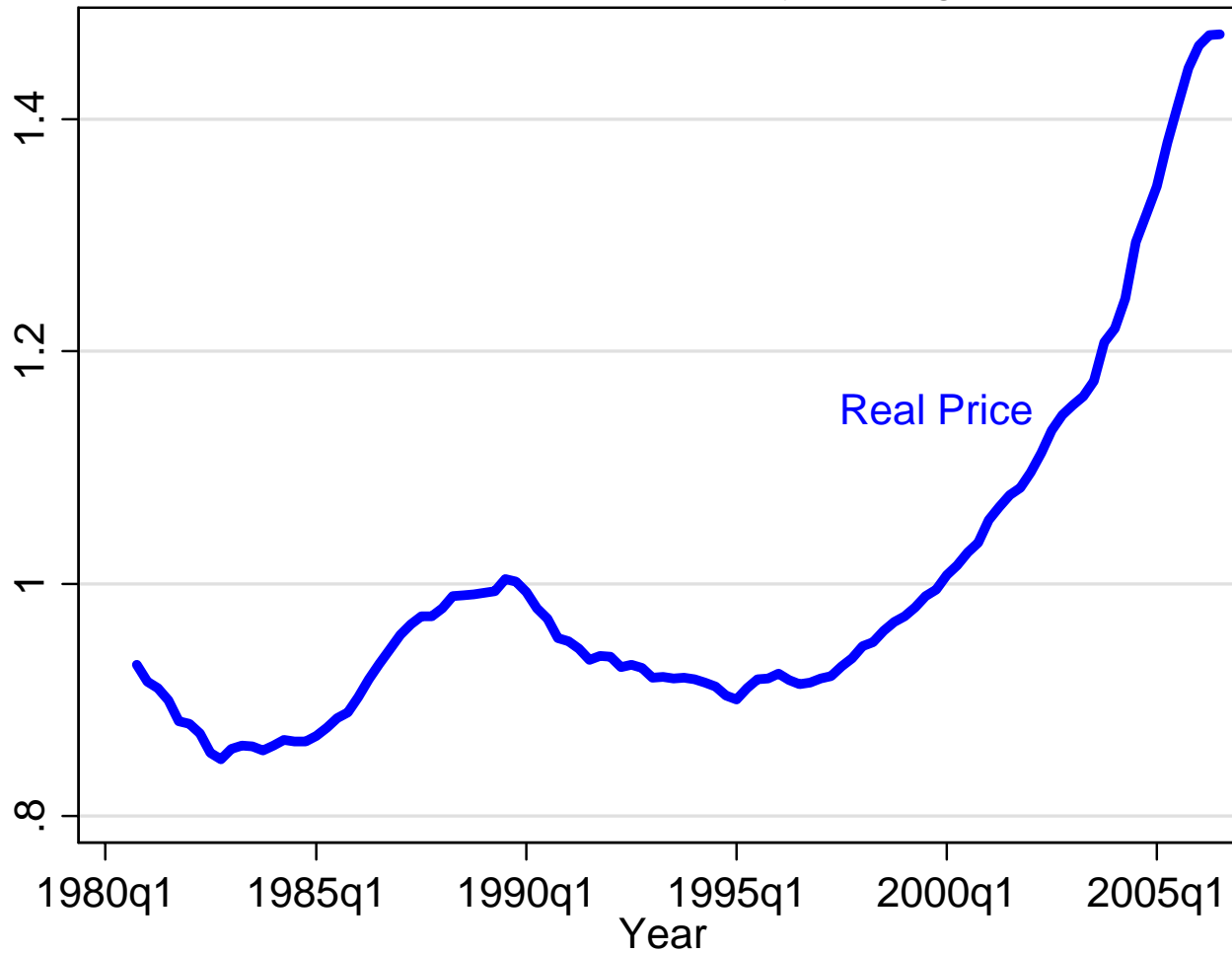
(weighted median for Homeowners with Positive Home Eq, Positive NW, and  $0 < HE/NW < 1$ )



median--Source: Survey of Consumer Finances 1989-2004.  
 \*values based on <11 observations not used

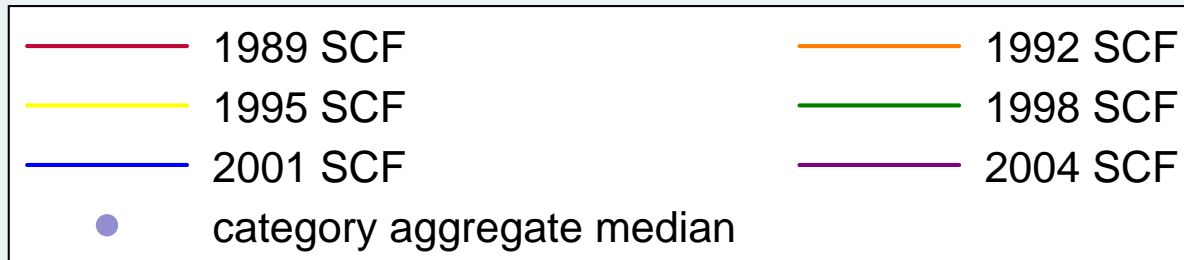
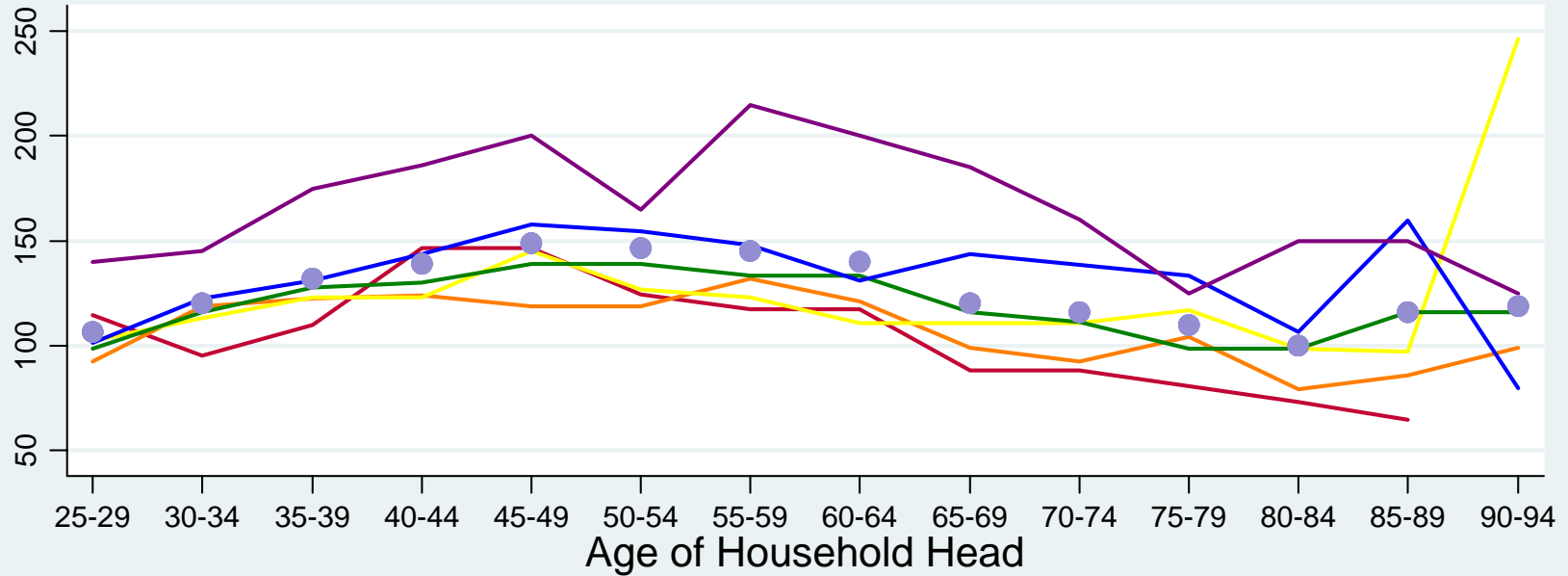
# Real US House Price Index

(Ratio normalized to 25-yr average)



Source: OFHEO Price Index, REIS Inc, BEA, BLS CPI Index-All Urban Consumers

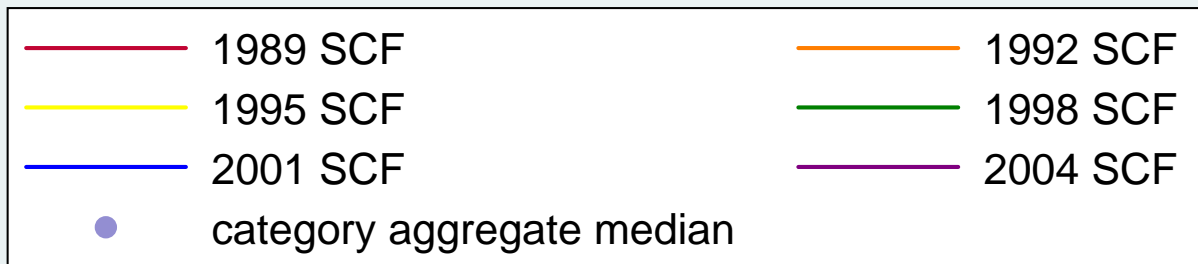
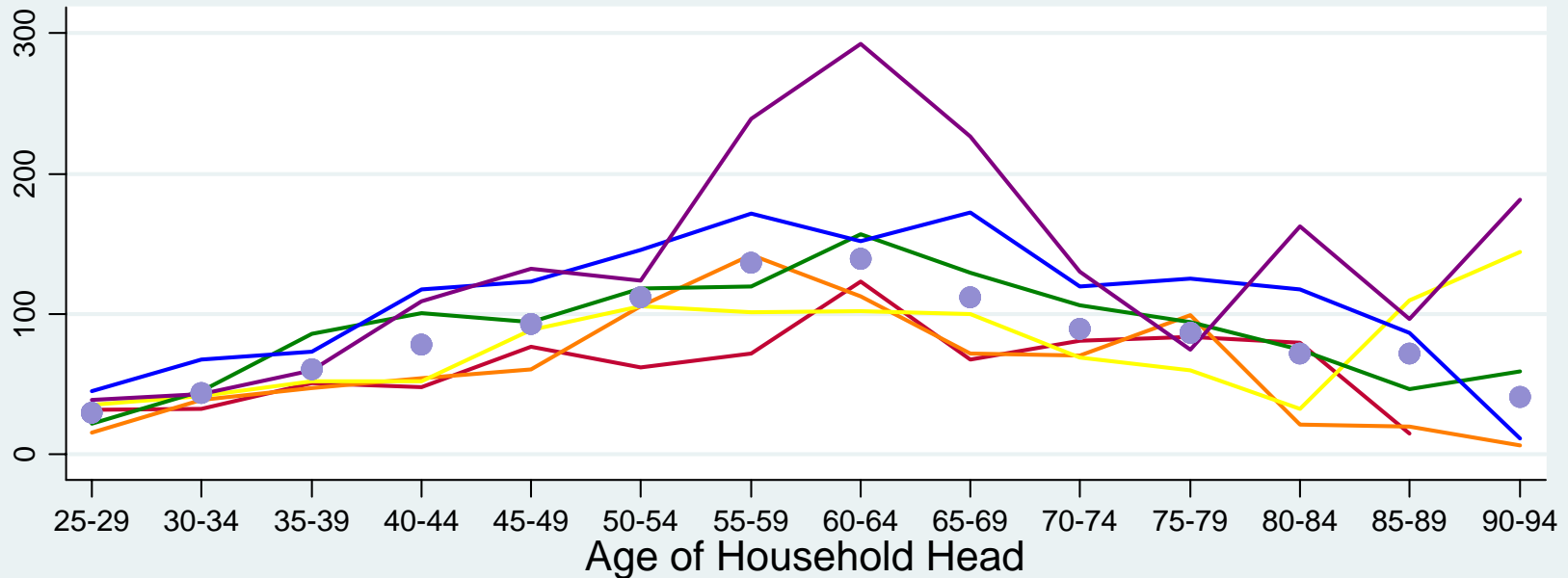
## Primary Residence Value (weighted median)



median--Source: Survey of Consumer Finances 1989-2004. Values in graph are for home owners.  
 \*values based on <11 observations not used, net worth not restricted  
 Values in Thousands of 2004 Dollars



## Net Worth - Home Equity for Homeowners with $NW > 0$ , $HE > 0$ , $0 < HE/NW < 1$

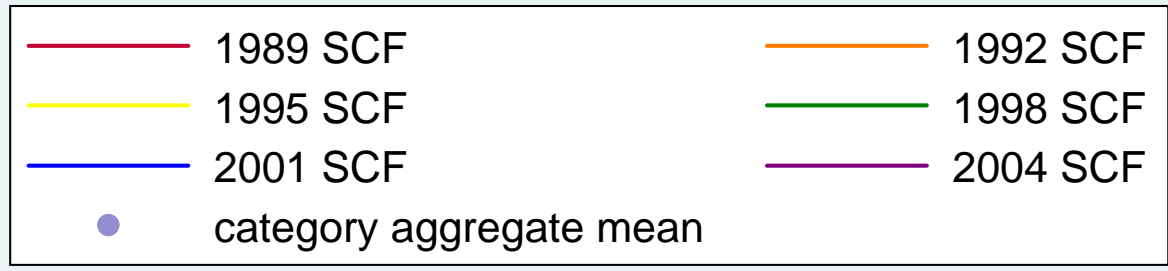
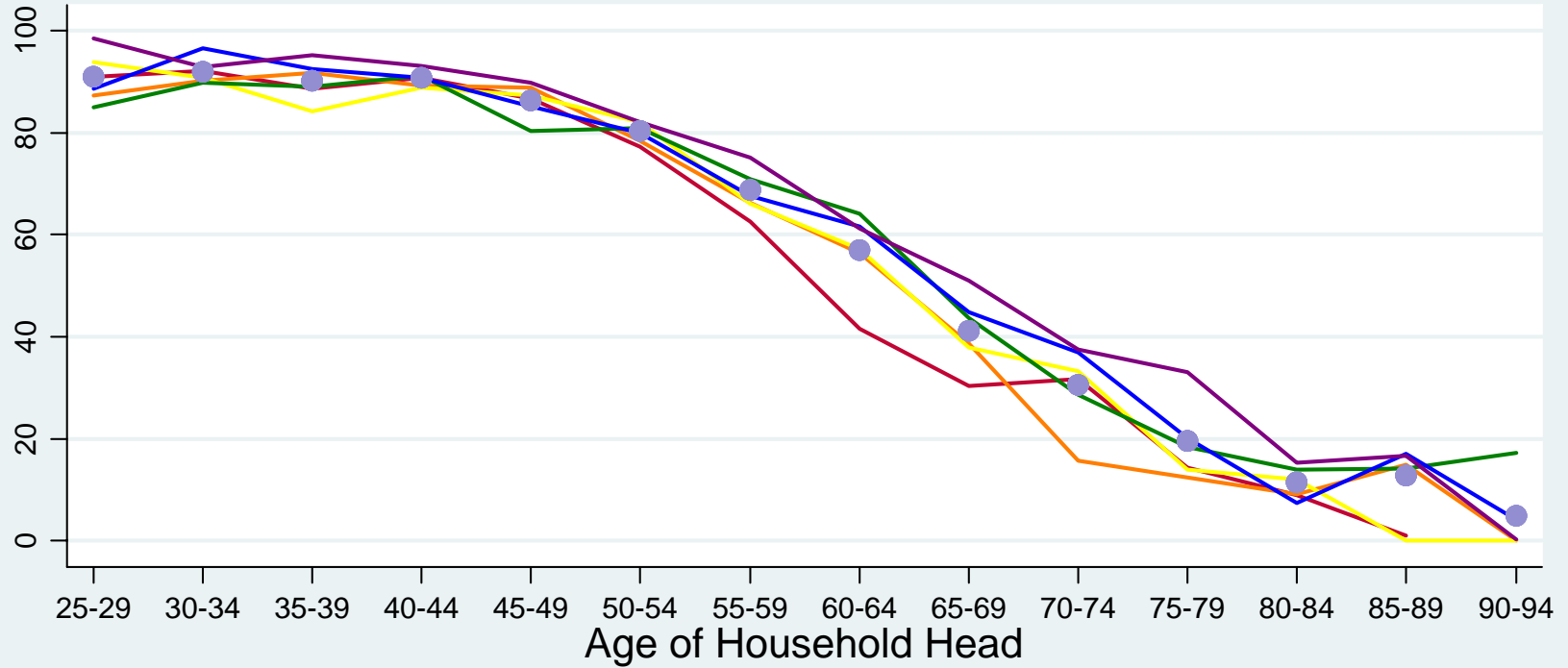


median--Source: Survey of Consumer Finances 1989-2004.

\*values based on <11 observations not used

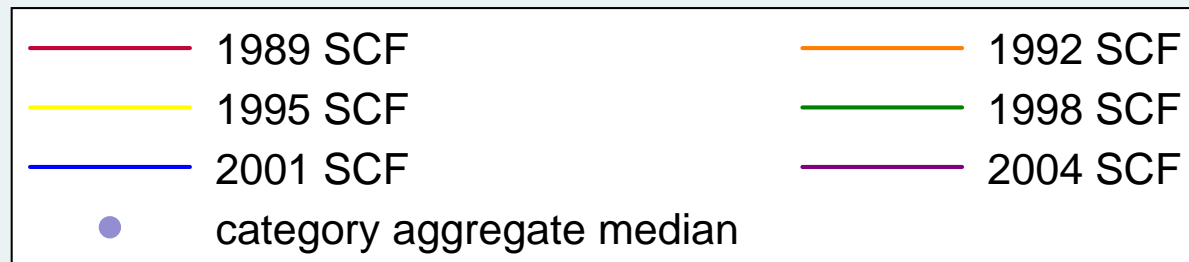
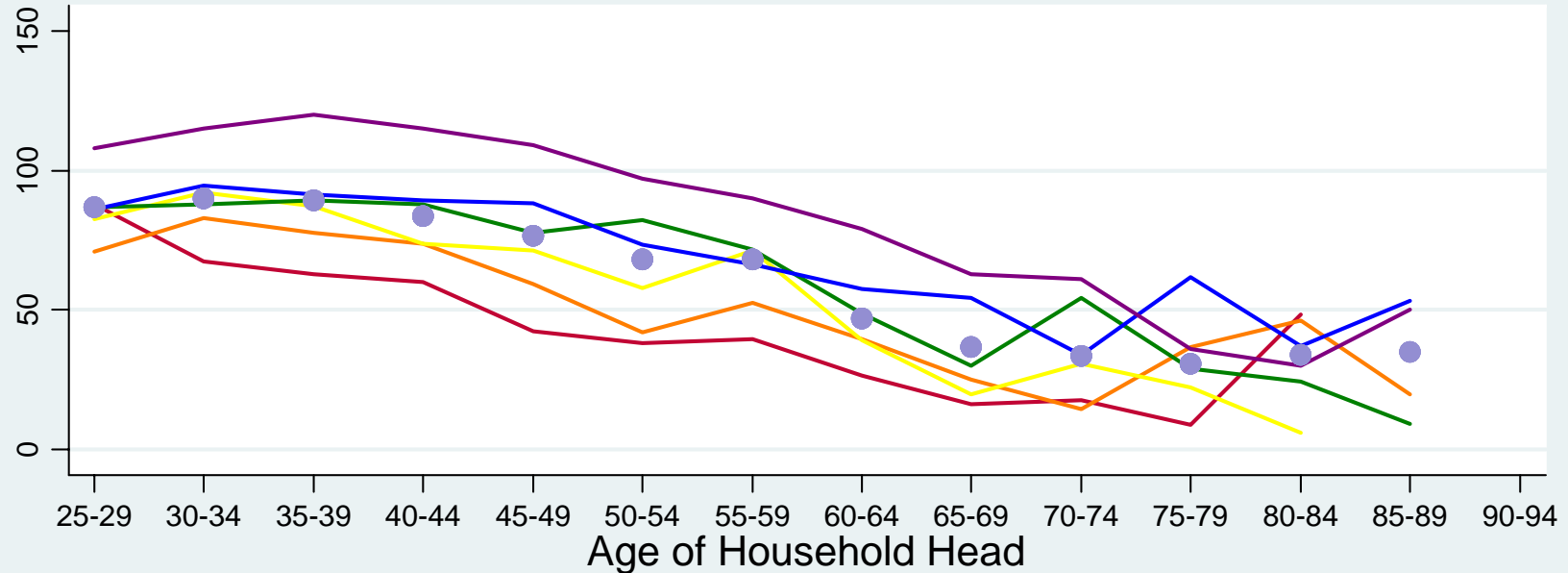
Values in Thousands of 2004 dollars. Values do not include farm, ranch, and mobile home dwellers.

## Percent of Households with Any Housing Debt



mean--Source: Survey of Consumer Finances 1989-2004. Values in graph are for home owners.  
 \*values based on <11 observations not used, net worth not restricted

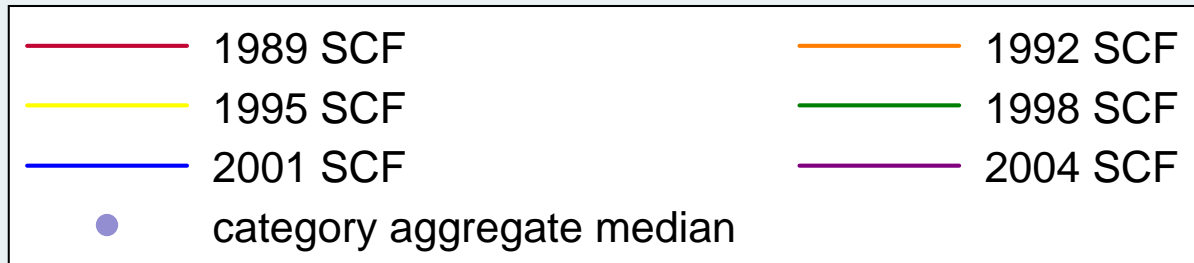
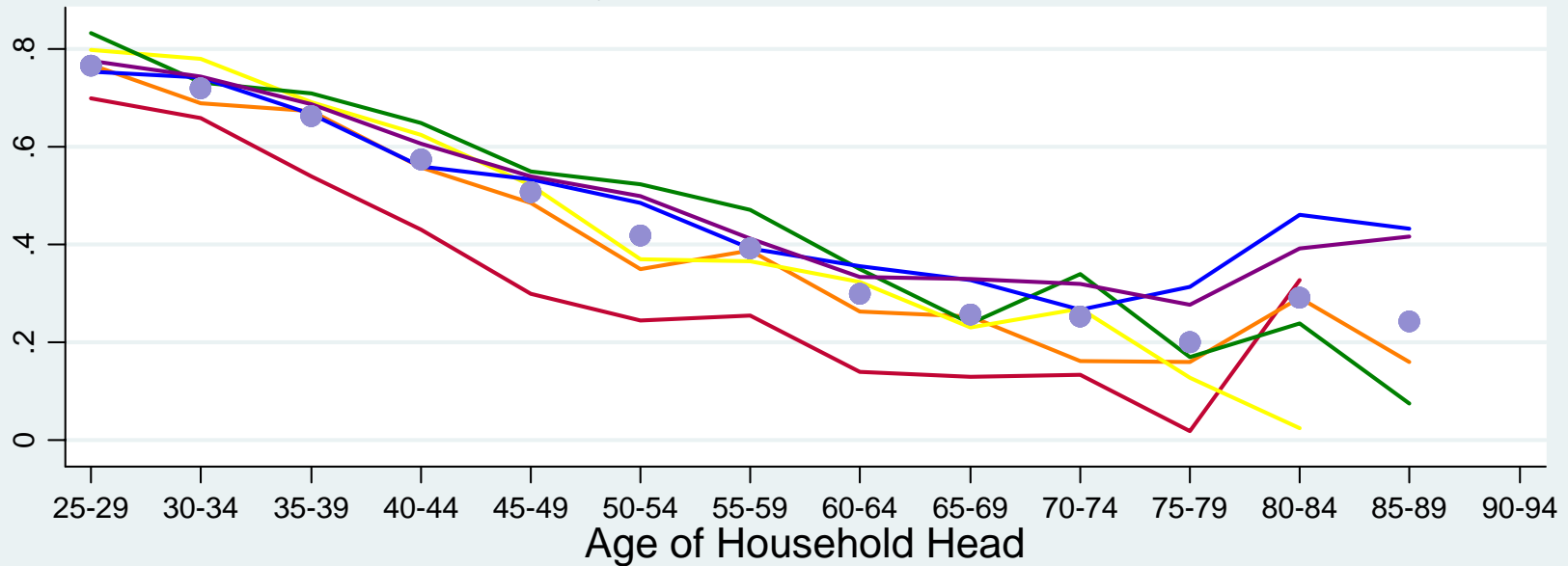
## Total Housing Debt for Households With Any Housing Debt (weighted median)



median--Source: Survey of Consumer Finances 1989-2004. Values in graph are for home owners.  
 \*values based on <11 observations not used, net worth not restricted  
 Values in Thousands of 2004 Dollars

# Ratio of Home Secured Loans to Home Value

(weighted median for Households with Positive Primary Residence Secured Debt)



median--Source: Survey of Consumer Finances 1989-2004. Values in graph are for home owners.  
 \*values based on <11 observations not used, net worth not restricted

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# Can housing equity be consumed?

## Assets

- Sell house
- Borrow against house

## Liabilities

pay PV future rent  
buy a smaller one

pay back debt

in both cases, pay off  
existing housing debt

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# 'Consumable' housing equity

- Compute maximum possible borrowing ('L') less existing housing debt
  - Loan compounds internally
  - Position settled at death
  - Even trade: House for debt
  - Risk neutral lender
- Depends on house value, interest rates, expected life

$$L = \sum_{t=a}^A \left[ (1+g)^{t-a} H_a \right] d(t|a) (1+m)^{-(t-a)}$$

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# Table 1: 'Upper-Bound' Housing Equity Available for Consumption

Age Category	'Available' Housing Equity		Median Ratio of 'Available' Housing Equity to House Equity	Median net worth using 'Available' Housing Equity	Median ratio of new Net Worth to standard Net Worth
	% > 0	Median Value if >0			
25-29	10.52	5,758	0.14	15,830	0.26
30-34	10.17	7,456	0.17	28,045	0.35
35-39	16.07	15,117	0.17	59,538	0.44
40-44	22.18	15,783	0.18	84,505	0.47
45-49	35.80	23,390	0.23	112,740	0.55
50-54	53.65	27,104	0.27	125,168	0.61
55-61	71.26	39,098	0.37	172,159	0.69
62-64	84.52	44,930	0.44	185,936	0.73
65-69	90.97	52,807	0.52	166,116	0.74
70-74	94.15	60,435	0.59	155,278	0.78
75-79	97.52	72,783	0.68	171,633	0.82
80-84	98.82	72,077	0.76	148,421	0.85
85-89	99.52	88,637	0.83	175,481	0.89
90-94	100.00	103,093	0.89	217,212	0.91
Median	52.66	44,231	0.44	143,866	0.74

## Table 3: Comparing 'Upper-Bound' and Actual Available Housing Equity: 2004 Only

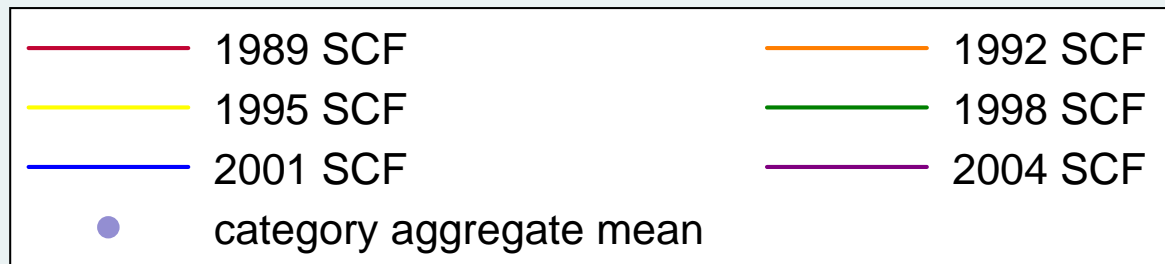
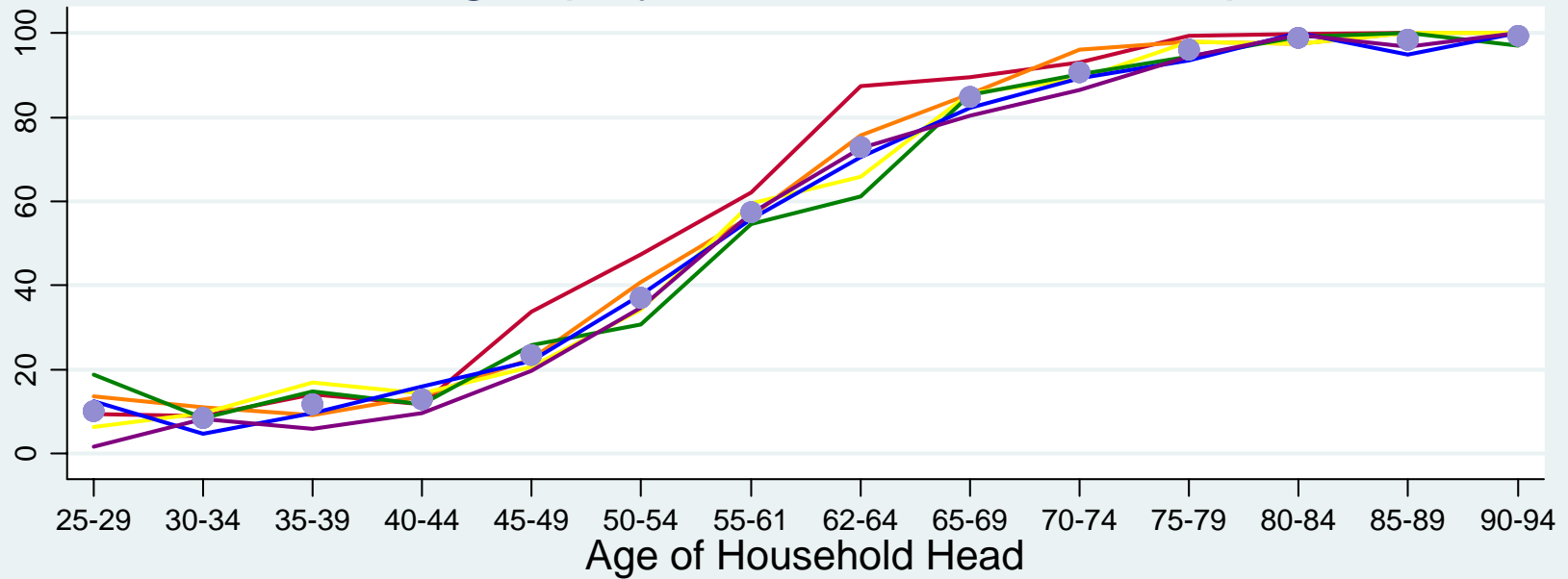
Age Category	Best-case Available Housing Equity		Reverse Mortgage Available Housing Equity	
	% > 0	Median Value if >0	% > 0	Median Value if >0
25-29	3.29	15,174	0.00	0
30-34	9.51	17,990	0.00	0
35-39	10.32	19,764	0.00	0
40-44	21.23	26,304	0.00	0
45-49	34.37	43,649	0.00	0
50-54	54.35	36,278	0.00	0
55-61	75.49	66,804	0.00	0
62-64	85.18	74,070	30.45	65,534
65-69	92.54	83,531	65.41	69,628
70-74	91.19	99,743	83.55	80,733
75-79	95.95	85,916	87.67	77,391
80-84	100.00	100,634	93.22	85,709
85-89	100.00	132,922	96.84	115,558
90-94	100.00	113,128	100.00	97,810
Total	42.65	67,017	22.49	81,194



## Table 4: Percent of Homeowners with Housing Equity Available for Consumption

<u>Age</u> <u>category</u>	<u>Year</u>						<u>Median</u>
	<u>1989</u>	<u>1992</u>	<u>1995</u>	<u>1998</u>	<u>2001</u>	<u>2004</u>	
25-29	9.0	13.9	6.1	17.1	15.0	3.3	10.5
30-34	9.3	14.4	11.0	11.4	5.3	9.5	10.2
35-39	20.1	15.4	23.3	15.4	12.3	10.3	16.1
40-44	25.4	27.4	24.2	16.3	19.8	21.2	22.2
45-49	48.9	43.2	35.6	32.5	27.6	34.4	35.8
50-54	65.3	65.5	58.9	39.9	44.5	54.4	53.7
55-61	78.6	76.2	72.7	63.6	63.0	75.5	71.3
62-64	93.6	90.5	83.2	72.7	78.3	85.2	84.5
65-69	94.6	94.6	91.2	87.8	85.1	92.5	91.0
70-74	94.8	99.0	95.0	94.7	90.1	91.2	94.2
75-79	100.0	99.5	100.0	96.5	94.6	96.0	97.5
80-84	100.0	97.5	97.5	99.5	98.2	100.0	98.8
85-89	100.0	100.0	100.0	100.0	97.0	100.0	99.5
90-94		100.0	100.0	100.0	100.0	100.0	100.0
Median	56.3	57.5	53.6	48.9	47.8	53.2	52.7

## Percent of Homeowners with Housing Equity Available for Consumption



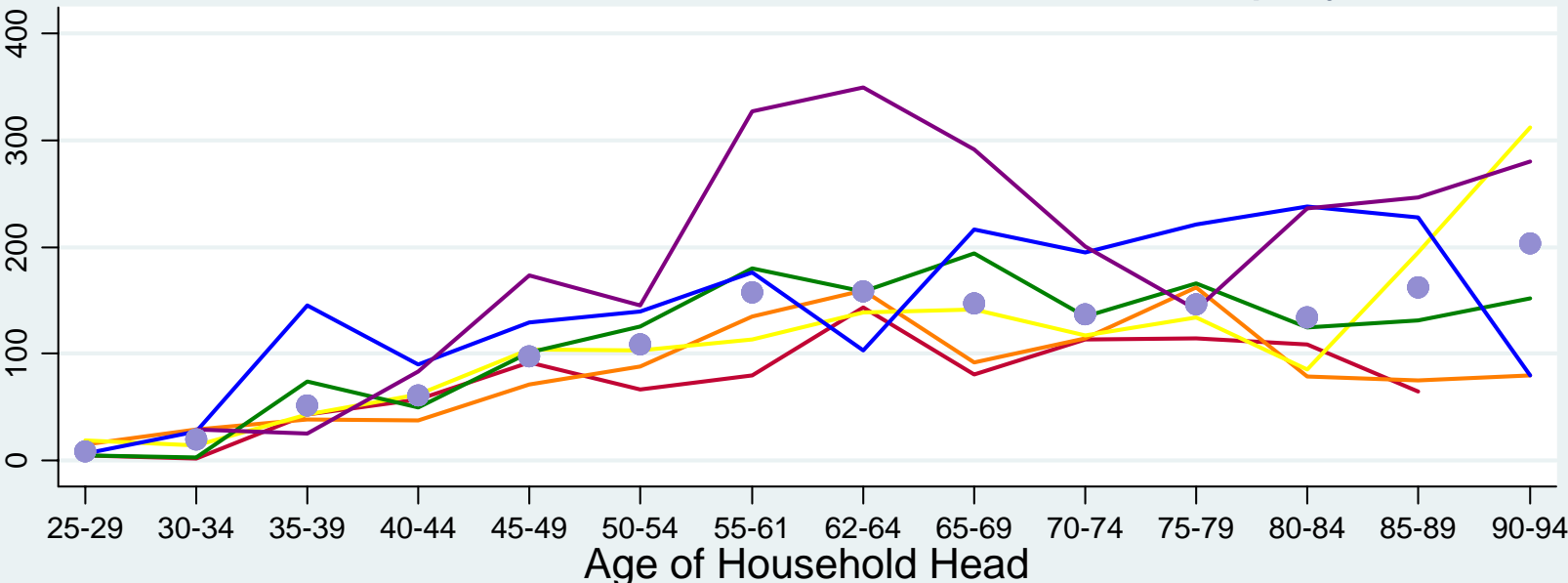
mean--Source: Survey of Consumer Finances 1989-2004.

\*values based on <11 observations not used  
(excluding farm, ranch, and mobile home dwellers)

**Table 5: Median Housing Equity Available for Consumption for Households with 'Available' Equity**

<u>Age category</u>	<u>Year</u>						<u>Median</u>
	<u>1989</u>	<u>1992</u>	<u>1995</u>	<u>1998</u>	<u>2001</u>	<u>2004</u>	
25-29	2,814	12,278	11,401	5,054	10,189	15,174	5,758
30-34	2,202	13,123	7,456	6,536	4,879	17,990	7,456
35-39	13,238	12,675	15,544	18,286	11,106	19,764	15,117
40-44	8,914	16,789	19,797	12,028	14,068	26,304	15,783
45-49	23,247	22,041	25,692	20,218	18,837	43,649	23,390
50-54	20,834	27,873	23,319	25,732	25,500	36,278	27,104
55-61	30,457	39,989	37,058	32,254	38,240	66,804	39,098
62-64	39,630	51,216	42,647	36,735	35,962	74,070	44,930
65-69	38,238	43,199	55,658	52,373	50,499	83,531	52,807
70-74	48,599	55,137	62,911	58,201	69,103	99,743	60,435
75-79	48,809	72,405	78,812	60,836	78,639	85,916	72,783
80-84	46,302	59,283	76,752	66,306	78,644	100,634	72,077
85-89	48,111	66,806	76,752	92,918	132,025	132,922	88,637
90-94		88,436	216,340	103,093	68,704	113,128	103,093
Median	31,560	41,065	43,578	43,092	46,182	67,018	44,231

# Median Net Worth Available for Consumption for Households with <<Available>> Equity

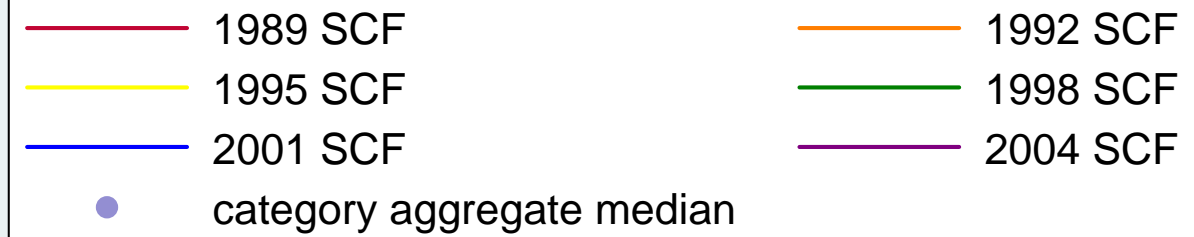
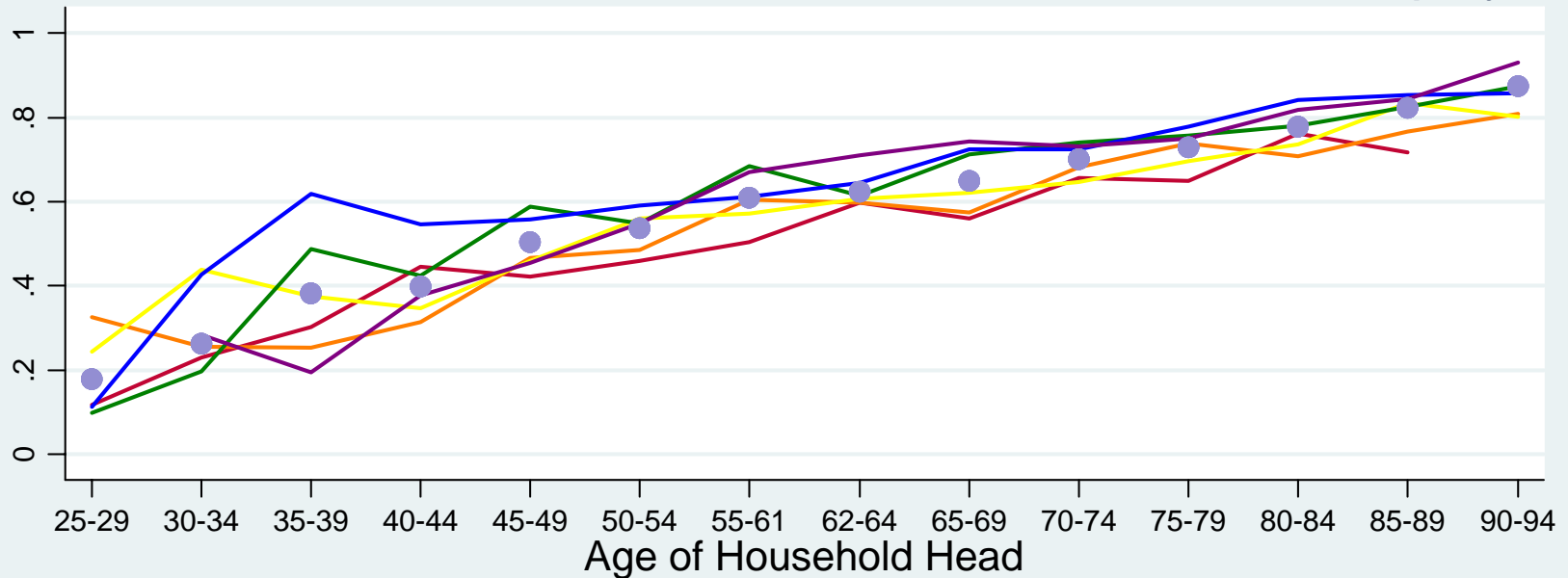


median--Source: Survey of Consumer Finances 1989-2004.  
 \*values based on <11 observations not used  
 Values do not include farm, ranch, and mobile home dwellers.

Table 6: Ratio of Net Worth Available for Consumption to Net Worth for Households with 'Available' Equity

<u>Age</u> <u>category</u>	<u>Year</u>						<u>Median</u>
	<u>1989</u>	<u>1992</u>	<u>1995</u>	<u>1998</u>	<u>2001</u>	<u>2004</u>	
25-29	0.18	0.33	0.35	0.16	0.17	0.45	0.26
30-34	0.30	0.35	0.37	0.34	0.46	0.41	0.35
35-39	0.34	0.39	0.45	0.53	0.54	0.47	0.44
40-44	0.43	0.42	0.43	0.54	0.55	0.49	0.47
45-49	0.45	0.50	0.55	0.55	0.58	0.55	0.55
50-54	0.54	0.60	0.65	0.59	0.63	0.64	0.61
55-61	0.58	0.72	0.66	0.72	0.69	0.74	0.69
62-64	0.71	0.72	0.72	0.68	0.70	0.79	0.73
65-69	0.68	0.73	0.75	0.76	0.77	0.81	0.74
70-74	0.77	0.80	0.76	0.79	0.77	0.81	0.78
75-79	0.77	0.85	0.82	0.80	0.83	0.84	0.82
80-84	0.85	0.84	0.85	0.83	0.87	0.88	0.85
85-89	0.83	0.87	0.91	0.87	0.89	0.90	0.89
90-94		0.90	0.88	0.91	0.89	0.96	0.91
Median	0.66	0.74	0.74	0.75	0.74	0.78	0.74

## Ratio of Net Worth Available for Consumption to Net Worth for Households with <<Available>> Equity



median--Source: Survey of Consumer Finances 1989-2004.  
 \*values based on <11 observations not used  
 Values do not include farm, ranch, and mobile home dwellers.

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# Conclusions

- Growing net worth tracks with rising house values
  - Housing equity does not grow as fast as net worth
    - Use of housing debt to rebalance portfolios
      - e.g. Coronado *et al* (2006)
  - Not all of housing equity can be consumed
    - Fraction available rises with age
    - Net worth should be corrected
    - Dampens rise in net worth 1998-2004
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