

How Large Are Housing And Financial Wealth Effects?

A New Approach

Table Template

Christopher D. Carroll
ccarroll@jhu.edu
JHU

Misuzu Otsuka
misuzuotsuka@adb.org
ADB

Jiri Slacalek
jiri.slacalek@ecb.int
ECB

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Abstract

This paper presents a simple new method for measuring ‘wealth effects’ on aggregate consumption. The method exploits the sluggishness of consumption growth (sometimes interpreted as reflecting ‘habits’) to distinguish between immediate and eventual wealth effects. In U.S. data, we estimate that the immediate (next-quarter) marginal propensity to consume from a \$1 change in housing wealth is about 2 cents, with a final eventual effect around 9 cents, substantially larger than the equity wealth effect. We argue that our method is preferable to cointegration-based approaches, because neither theory nor evidence supports faith in the existence of a stable cointegrating vector.

Keywords: housing wealth, wealth effect, consumption dynamics, asset price bubbles

Table 1: Immediate Effect of Wealth on Consumption
 $\partial C_t = \alpha_0 + \alpha_1 \bar{\partial} B_{t-1} + \alpha_2 \bar{\partial} B_{t-1}^F + \alpha_3 \bar{\partial} B_{t-1}^H + \alpha_4 MU_{t-1} + \alpha_5 FF_{t-1}$

Next-Quarter Effect of \$1 Change in Wealth			Extra Variables		Test of	\bar{R}^2
Total $\bar{\partial} B_{t-1}$	Financial $\bar{\partial} B_{t-1}^F$	Housing $\bar{\partial} B_{t-1}^H$	Unemp Exp MU_{t-1}	Fed Fund FF_{t-1}	$\bar{\partial} B^F = \bar{\partial} B^H$	
0.017*** (0.004)						0.130
0.009*** (0.003)			0.086*** (0.032)	-0.399* (0.209)		0.222
	0.016*** (0.004)	0.039*** (0.011)			0.066	0.138
	0.008*** (0.003)	0.018** (0.008)	0.082** (0.034)	-0.411* (0.211)	0.271	0.225

Notes: Sample period is 1960Q1–2007Q4. Standard errors in parentheses. {*, **, ***}=Statistical significance at {10,5,1} percent. Coefficients on wealth variables reflect MPCs in the quarter following a wealth change: For example, the coefficient 0.0167 in the first row implies that a one dollar increase in wealth in the previous quarter translates into a 1.7 cent increase in consumption in the current quarter. The wealth variables are from the Flow of Funds balance sheets for the household sector. MU is the fraction of consumers who expect the unemployment rate to decline over the next year minus the fraction who expect it to increase. FF is the nominal Fed funds rate. The wealth and consumption variables were normalized by the level of consumption expenditures at $t-4$ to correct for the long-term trends in consumption and wealth. The equations without the extra variables exhibited serial correlation and so standard errors for those equations are corrected for serial correlation using the Newey–West procedure with 4 lags.

Table 2: Consumption Growth Momentum and the Eventual MPC

$$\partial C_{t+1} = c_0 + \chi \mathbf{E}_{t-1} \partial C_t + \varepsilon_{t+1}$$

Variables used to forecast $\mathbf{E}_{t-1} \partial C_t$	Consumption Growth Momentum Coefficient χ	Implied Eventual MPC out of		
		Total B	Financial B^F	Housing B^H
B	0.58** (0.23)	0.070		
$B,$ MU, FF	0.76*** (0.14)	0.048		
B^f, B^h	0.45** (0.20)		0.064	0.159
$B^f, B^h,$ MU, FF	0.71*** (0.13)		0.041	0.087

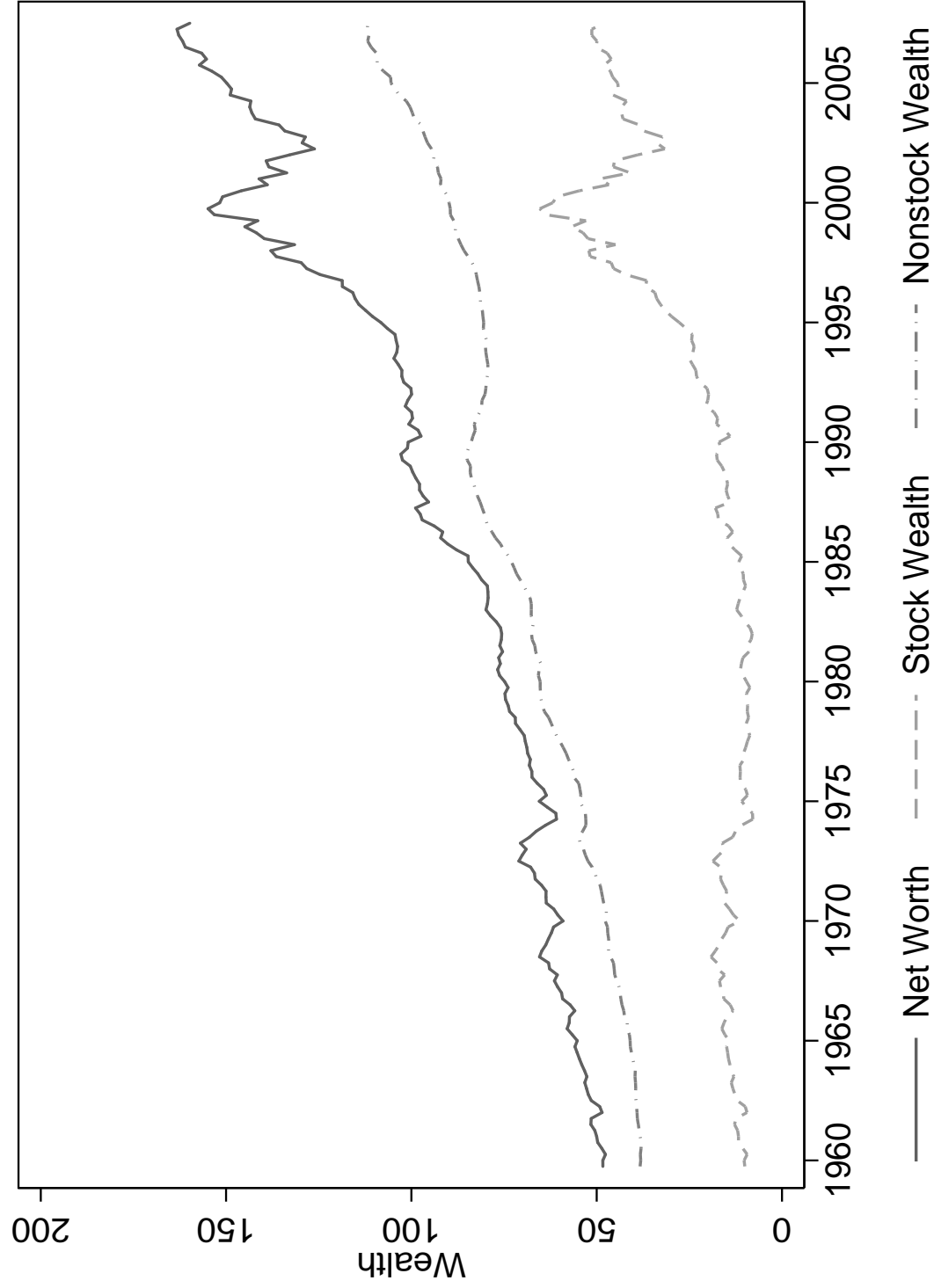
Notes: Sample period is 1960Q1–2007Q4. Standard errors are in parentheses. $\{*, **, ***\}$ = Statistical significance at $\{10, 5, 1\}$ percent. The eventual MPCs are calculated from the formula $\alpha_j / \chi(1 - \chi)$ where α_j is the corresponding next-quarter MPC estimated in table 1. Standard errors for all equations are heteroskedasticity and serial-correlation robust. When more instruments are used to forecast ∂C_t (for example, interest rate spread and the change in unemployment over the previous year), the estimate of χ tends to rise further and the standard error falls further. The measure of the change in wealth used for the regressions is the ∂B measure defined in the text, as this can be measured without an estimate of χ , unlike the $\bar{\partial} B$ measures used in the previous table.

Table 3: Wealth Effect on Consumption—Alternative Specifications

Model	χ	Immediate Effect of \$1 Change in Wealth			Eventual Effect of \$1 Change in Wealth			Test of $\bar{\partial}B^f = \bar{\partial}B^h$	\bar{R}^2
		Total $\bar{\partial}B_{t-1}$	Financial $\bar{\partial}B_{t-1}^f$	Housing $\bar{\partial}B_{t-1}^h$	Total $\bar{\partial}B_{t-1}$	Financial $\bar{\partial}B_{t-1}^f$	Housing $\bar{\partial}B_{t-1}^h$		
Alternative Instruments									
M1	0.731*** (0.149)	0.013*** (0.005)			0.066				0.301
M2	0.737*** (0.153)		0.011*** (0.004)	0.024** (0.010)		0.055	0.123	0.162	0.309
Instruments as of Time $t - 3$ and $t - 4$									
M3	0.634*** (0.199)	0.015*** (0.006)			0.063				0.301
M4	0.553*** (0.192)		0.013** (0.005)	0.029** (0.013)		0.053	0.118	0.194	0.306
Iterative Method									
M5	0.741*** (0.132)	0.009*** (0.003)			0.047				0.223
M6	0.719*** (0.131)		0.008*** (0.003)	0.018** (0.008)		0.041	0.087	0.273	0.224
Baseline									
M7	0.762*** (0.139)	0.009*** (0.003)			0.048				0.222
M8	0.711*** (0.132)		0.008*** (0.003)	0.018** (0.008)		0.041	0.087	0.271	0.225
Real Estate–Non-Real Estate Split									
M9	0.855*** (0.148)	0.007*** (0.002)	0.022 (0.014)			0.060	0.176	0.309	0.119

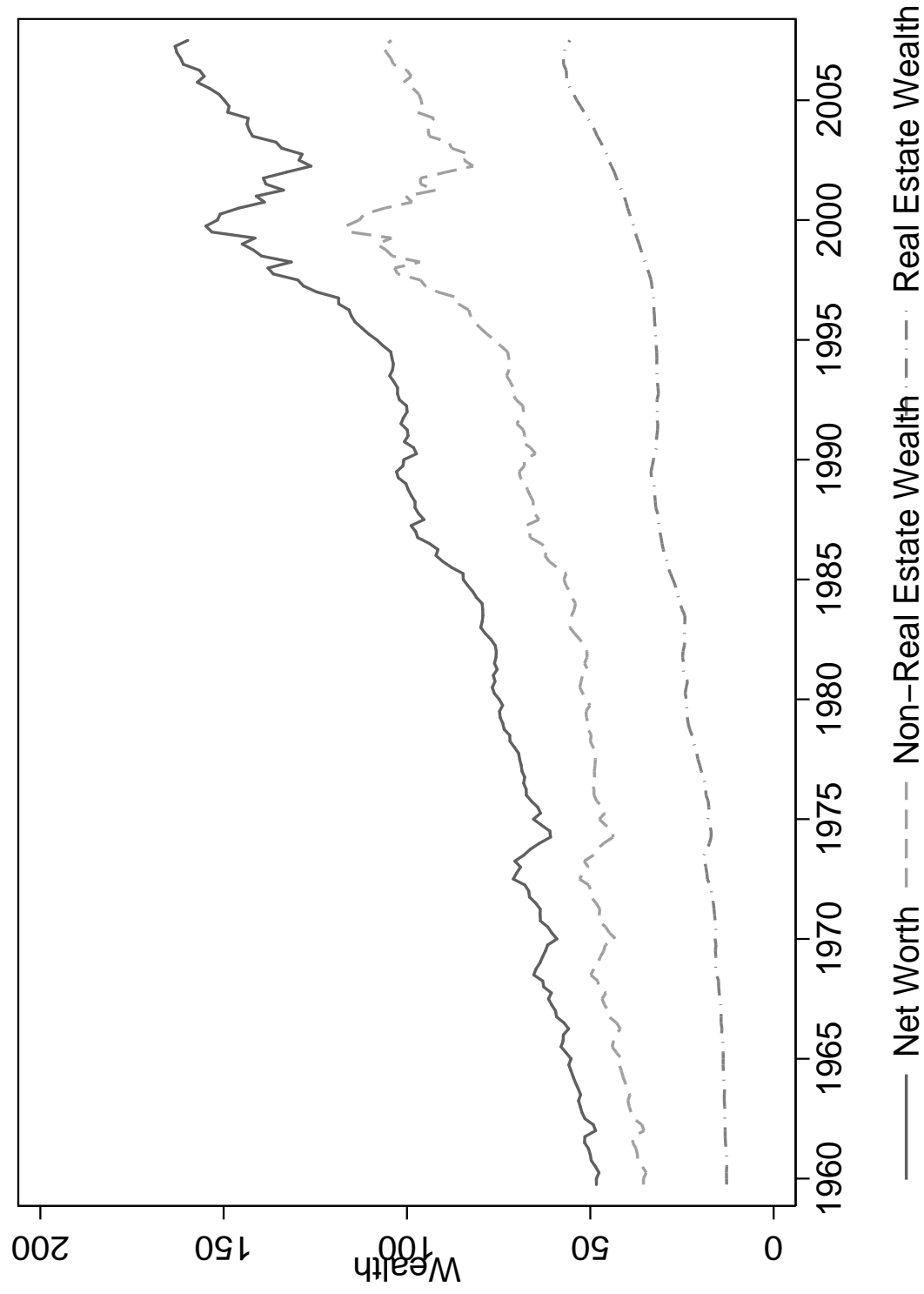
Notes: Sample period is 1960Q1–2007Q4. Standard errors in parentheses. $\{*, **, ***\}$ =Statistical significance at $\{10, 5, 1\}$ percent. Models M1 and M2 are estimated with an alternative instrument set which consists of growth rate of stock prices, change in unemployment rate, growth rate of disposable income and interest rate spread. Models M3 and M4 are estimated with lags $t - 3$ and $t - 4$ of these instruments. Models 5 and 6 are estimated using the iterative procedure described in section ??.

Figure 1: Components of Household Wealth—Stock–Non-Stock Split



Note: Per capita real wealth figures in thousands of year 2000 dollars. Net worth is our measure of total wealth.

Figure 2: Components of Household Wealth—Real Estate—Non-Real Estate Split



Note: Per capita real wealth figures in thousands of year 2000 dollars. Net worth is our measure of total wealth.