Comments on “Comparing Wealth Effects” by Case, Quigley, and Shiller

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Outline

1. **DISCLAIMER**

   The opinions expressed in this paper are mine alone. They do not necessarily represent the opinions of the Board of Governors of the Federal Reserve System or its staff.
2. CQS construct two panels: a country and a U.S. state panel. I will focus my comments on the **U.S. state panel**.
3. Panels track **aggregate** consumption (C), income (Y), financial wealth (Q) and housing wealth (H)
4. CQS measure differential effects of H and Q on C, controlling for Y
5. Many household-level studies, aggregate studies find no difference

The CQS State Panel (and a few suggestions)

1. **Consumption:** Measuring state-level consumption is a major achievement. Identified with retail sales, constructed in part based on county sales tax receipts and retail employment
2. **Financial Wealth:** Divide flow of funds value for aggregate financial wealth among states using ICI surveys of mutual fund holdings across states.

   Suggestions:

   (a) Note that flow of funds value contains holdings by non-profits
   (b) Use SCF to correlate financial wealth and mutual fund holdings; financial wealth is highly skewed, a few rich people hold lots of individual stocks.
   (c) Use the geocodes in the 1983 public use SCF to check the 1986 division imputed based on the ICI; further, could ask the SCF group at the Fed to construct financial wealth totals for at least some states
3. **Housing wealth** 1990 Census values run forward and backwards using OFHEO and Case-Shiller HPIs; also use CPS homeownership rates
4. **Income** BEA's "QPI69"

CQS State Panel Result (and a few suggestions)

$$\Delta \log(C_{i,t}) = \underset{(0.50)}{0.003} \Delta \log(Q_{i,t}) + \underset{(3.94)}{0.038} \Delta \log(H_{i,t}) + \textit{more}$$

1. Cross-state rebalancing (heart of panel identification) happens only sporadically. To really convince that the evidence shows such a dramatic difference, I suggest reporting results at an annual frequency or even a lower frequency.
2. Not clear if results are weighted by population; have to assume that consumption is better measured in states with more people.

Common Unobserved Shocks to C and H

True aggregate relationship between H and C is given by this system of equations, where X is unobserved:

$$C = \alpha_0 + \alpha_1 H + \alpha_2 X + \epsilon,$$
$$H = \beta_0 + \beta_1 X + \nu$$

But we run this regression

$$C = a_0 + a_1 H + u$$

Then:

$$\widehat{a_1} = \alpha_1 + \alpha_2 / \beta_1$$

Measured effect will be **too large**

Candidate for "X": A Model of Regional Shocks

Assume **no direct relationship** between housing wealth and consumption; instead housing **capitalizes gains to regional total factor productivity.**

(State total output) $$Y_{i,t} = Z_{i,t} L_{i,t}^{\alpha},\ \alpha < 1$$

(State avg. wage) $$\textit{Wage}_{i,t} = \alpha Z_{i,t} L_{i,t}^{\alpha-1}$$

Here $Z_{i,t}$ is state total factor productivity (no capital). Shocks to regional productivity include oil-price shocks, government spending shocks, shocks to industries concentrated in certain areas, etc.

Literature on migration: Pop. flows respond to regional economic prospects; q.v. Gallin (forthcoming JOLE) who traces out labor supply curve with shocks to labor demand $\rightarrow$ oil prices.

Evidence for Unobserved Regional Shocks

Do house price changes **predict** changes in wages, immigration and other state-level indicators of economic strength:

$$\Delta \textit{Variable}_{i,t+j} = a_i + b_t + \rho \Delta \textit{Variable}_{i,t+j-1} + \alpha_j \Delta H_{i,t} + u_{i,t+j}$$

Variable	$\widehat{\alpha_4}$	$t-$ratio
Chapter 7 filing rate	-0.1361	-6.57
Unemployment rate	-3.8413	-5.17
Median log wages	0.0156	3.92
Population growth	0.0195	5.87
Per-capita personal income growth	0.0429	3.37

Suggestions for Overcoming Hidden Variable Problem

1. **Control for regional economic shocks** Look for direct measures of local business prospects; I suspect using Gallin's **oil price shock** series (states differ in their exposure to oil price shocks because of local employment patterns, oil price moves are pretty exogenous).
2. Use **spatial/geographic** information
   (a) Use spatial auto-correlation model: MD, VA, DC close together; CA, OR probably farther apart. Use measures of geographic distance and economic distance (house price in Atlantic City and Las Vegas move together more than Atlantic City and other NJ cities).
   (b) Smaller unit of analysis (county/city(; control for unobserved local shocks with regression discontinuity at state borders. Pence, Lehnert others discuss impact of state laws on house price growth.
3. Instead of **actual** changes in house prices, use residuals from regression of house price growth on **current** and **future** realizations of unemployment, wage growth and population.

4. Use residuals from Gallin-style migration model; migration **not related** to wages etc. can push up local house prices exogenously.