Learning from the Crisis, 2007-20XX

Based on

S. Gjerstad and V. Smith

http://www.chapman.edu/ESI/wp/Recessions_1929_2007.pdf

and other ms' in progress

Experiments:
Markets for perishables (begin 1950s) and markets for durables (begin 1980s) :

•S&D for perishables: high efficiency, rapid equilibrium discovery in stationary environments, under private value information (public value information can slow convergence); robust to wide sampling of Ss; expectations adaptive, converge to rational.

• Asset markets: characterized by price bubbles, very slow equilibrium convergence in stationary environment; full public value information (transparency); robust to Ss; myopically rational—buy (sell) if current price rising (falling); expectations are long run adaptive to rational fundamentals, but the “long run” is long indeed compared with the S&D evidence above.

Server

Control | Experiment | Summary | Demo

Current Ask -

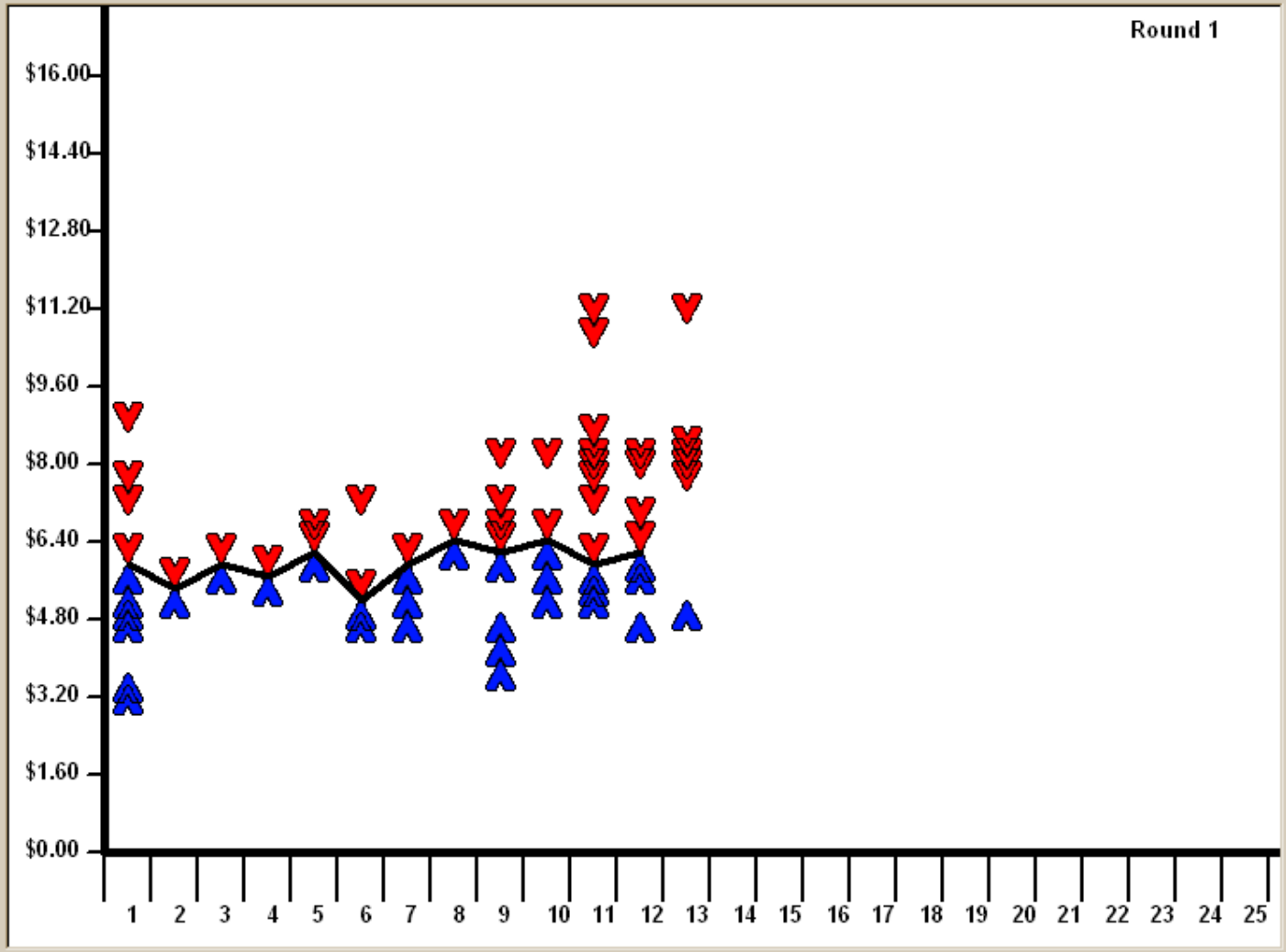
Current Bid -

Quantity Traded 12

ID

Bid / Ask

Submit



Price	Buyer	Seller
$6.00	B1	S5
$5.50	B4	S3
$6.00	B2	S4
$5.75	B3	S2
$6.25	B4	S5
$5.25	B1	S1
$6.00	B2	S6
$6.50	B6	S3
$6.25	B5	S6
$6.50	B5	S1
$6.00	B6	S2
$6.25	B3	S4

Reset

Load Data File

Ticks 10

Max Value 16

Min Value 0

Bids / Asks

Contract Line

Arrays

Round

\- 1 +

Control | Experiment | Summary | Demo

Current Ask: -

Current Bid: -

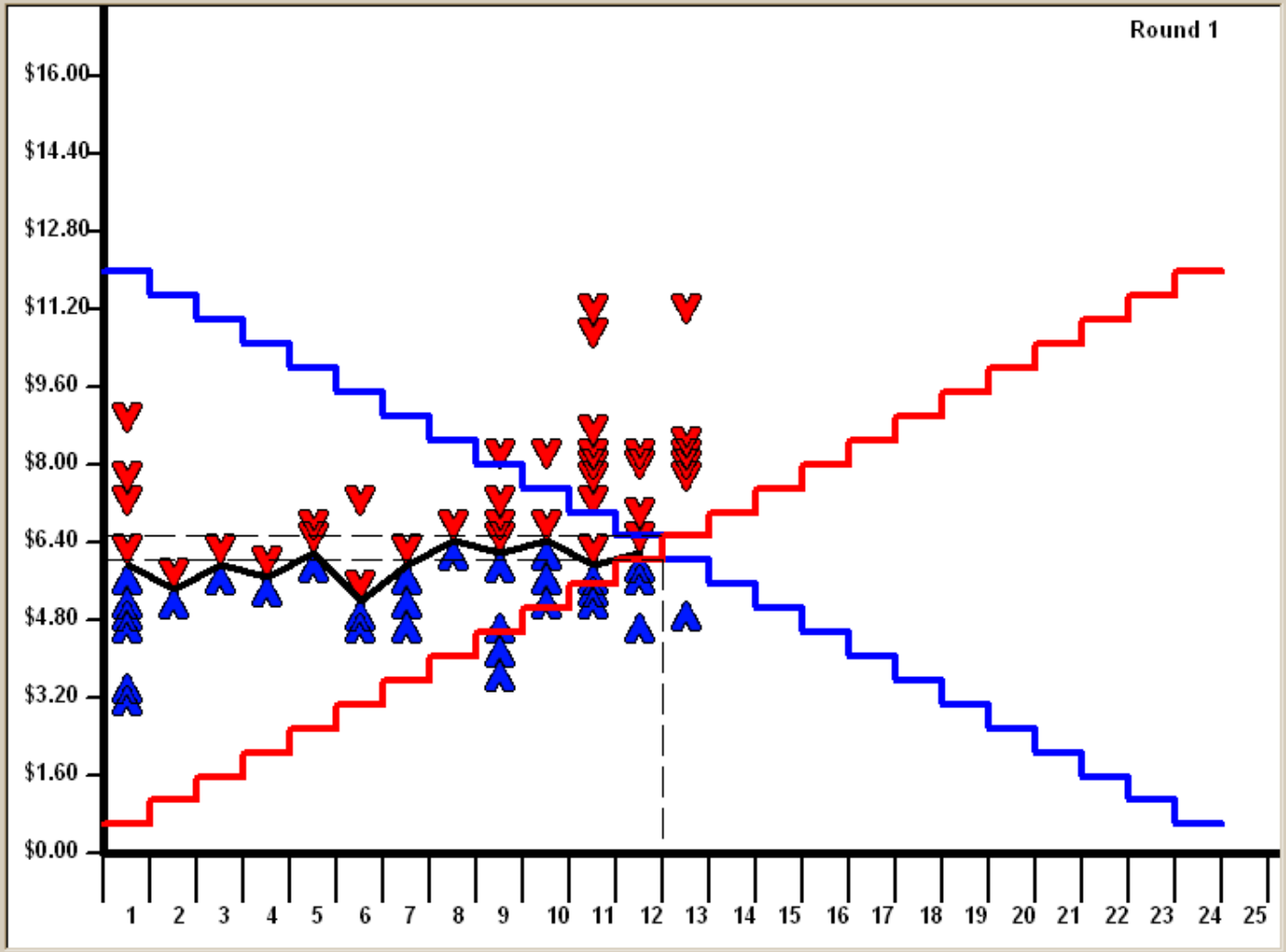
Efficiency: 100.00%

Quantity Traded: 12

ID

Bid / Ask

Submit



Price	Buyer	Seller
$6.00	B1	S5
$5.50	B4	S3
$6.00	B2	S4
$5.75	B3	S2
$6.25	B4	S5
$5.25	B1	S1
$6.00	B2	S6
$6.50	B6	S3
$6.25	B5	S6
$6.50	B5	S1
$6.00	B6	S2
$6.25	B3	S4

Reset

Load Data File

Ticks: 10

Max Value: 16

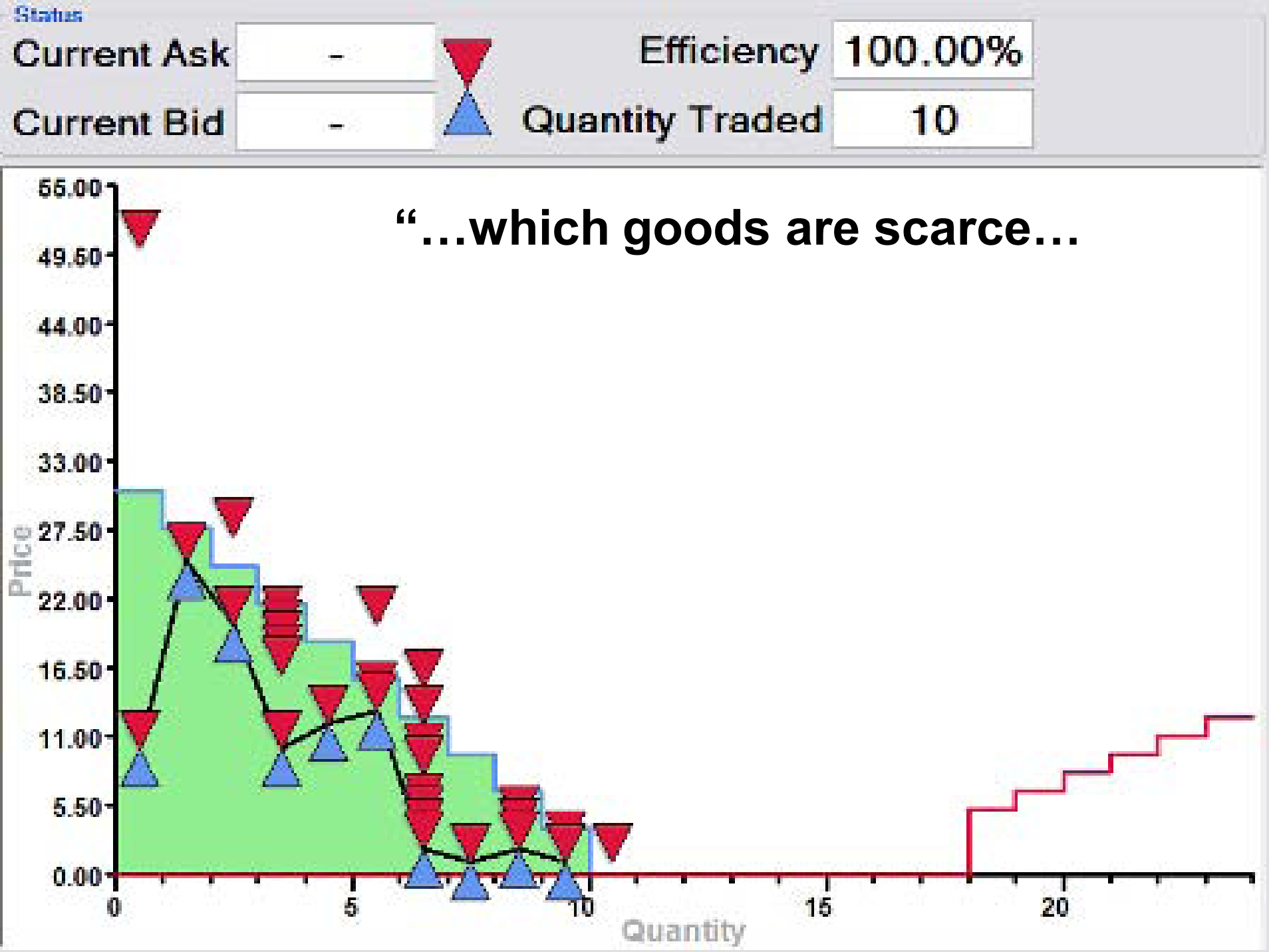
Min Value: 0

Bids / Asks

Contract Line

Arrays

Round: 1


Status
Current Ask
-
Current Bid
-
Efficiency
100.00%
Quantity Traded
10
"…which goods are scarce…
55.00
49.50
44.00
38.50
33.00
27.50
22.00
16.50
11.00
5.50
0.00
Price
0
5
10
15
20
Quantity

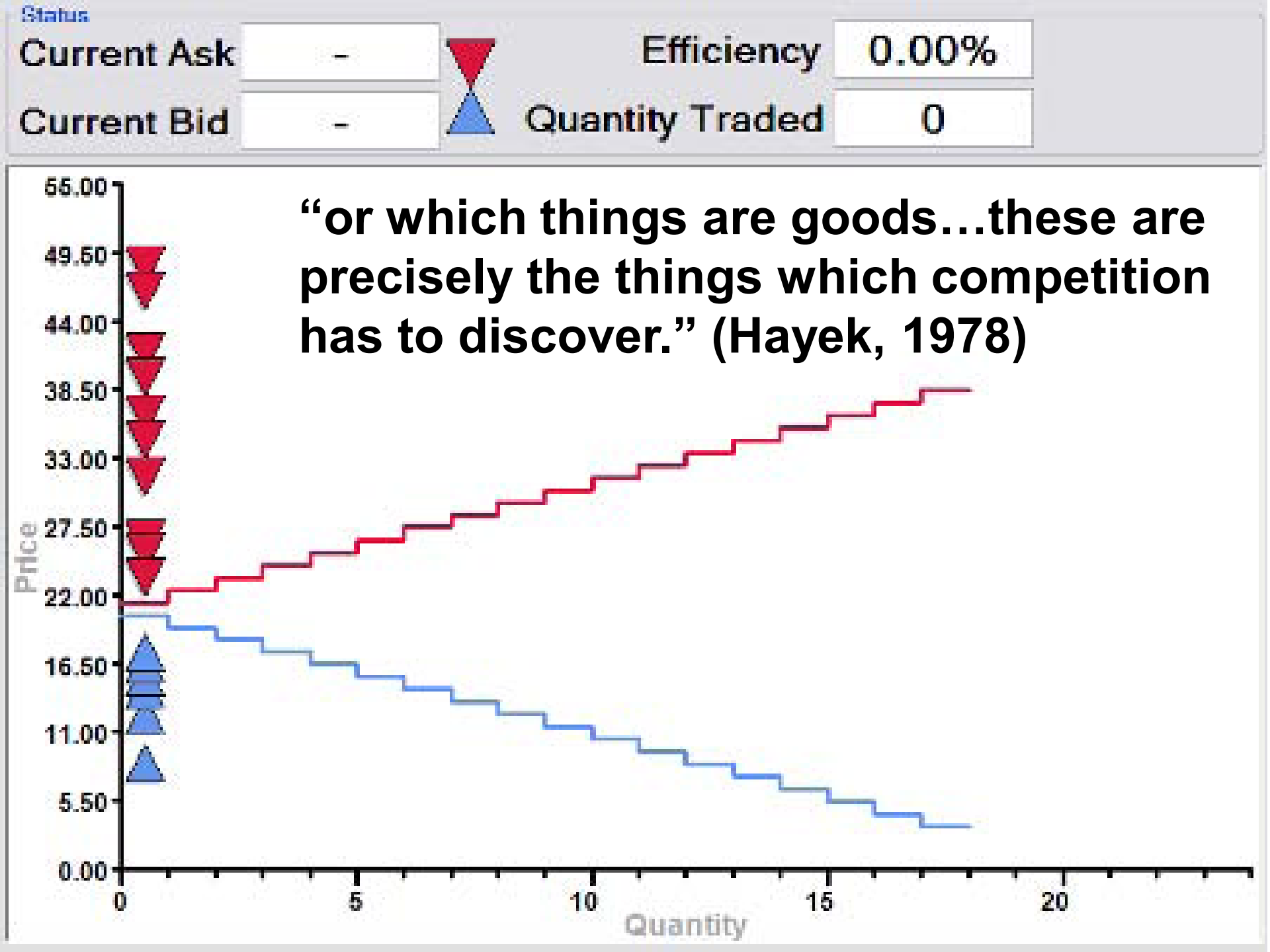

Status
Current Ask
-
Current Bid
-
Efficiency
0.00%
Quantity Traded
0
55.00
49.50
44.00
38.50
33.00
27.50
22.00
16.50
11.00
5.50
0.00
Price
0
5
10
15
20
Quantity
“or which things are goods…these are precisely the things which competition has to discover.” (Hayek, 1978)

CHART 1

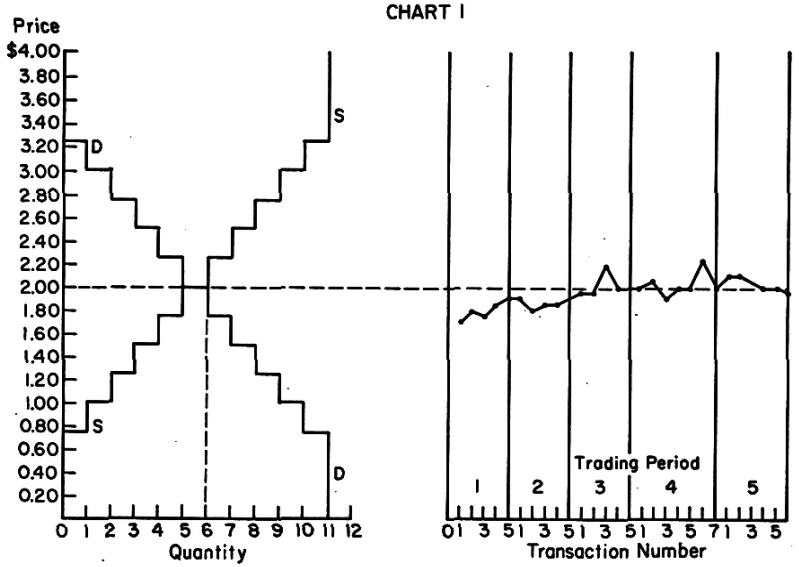


CHART 3

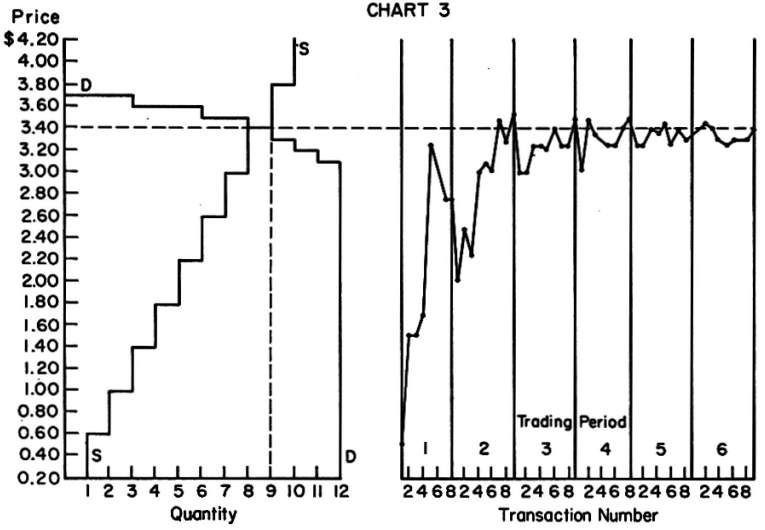
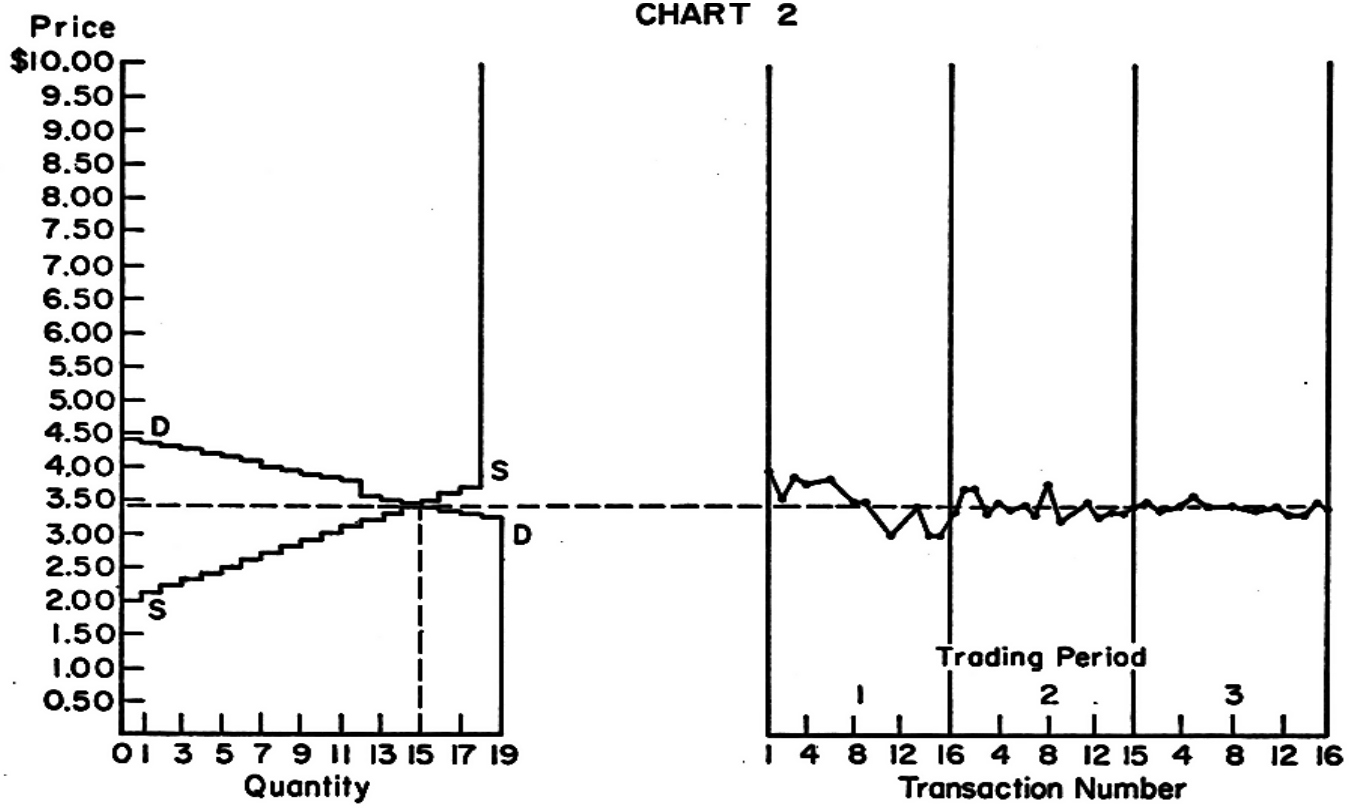
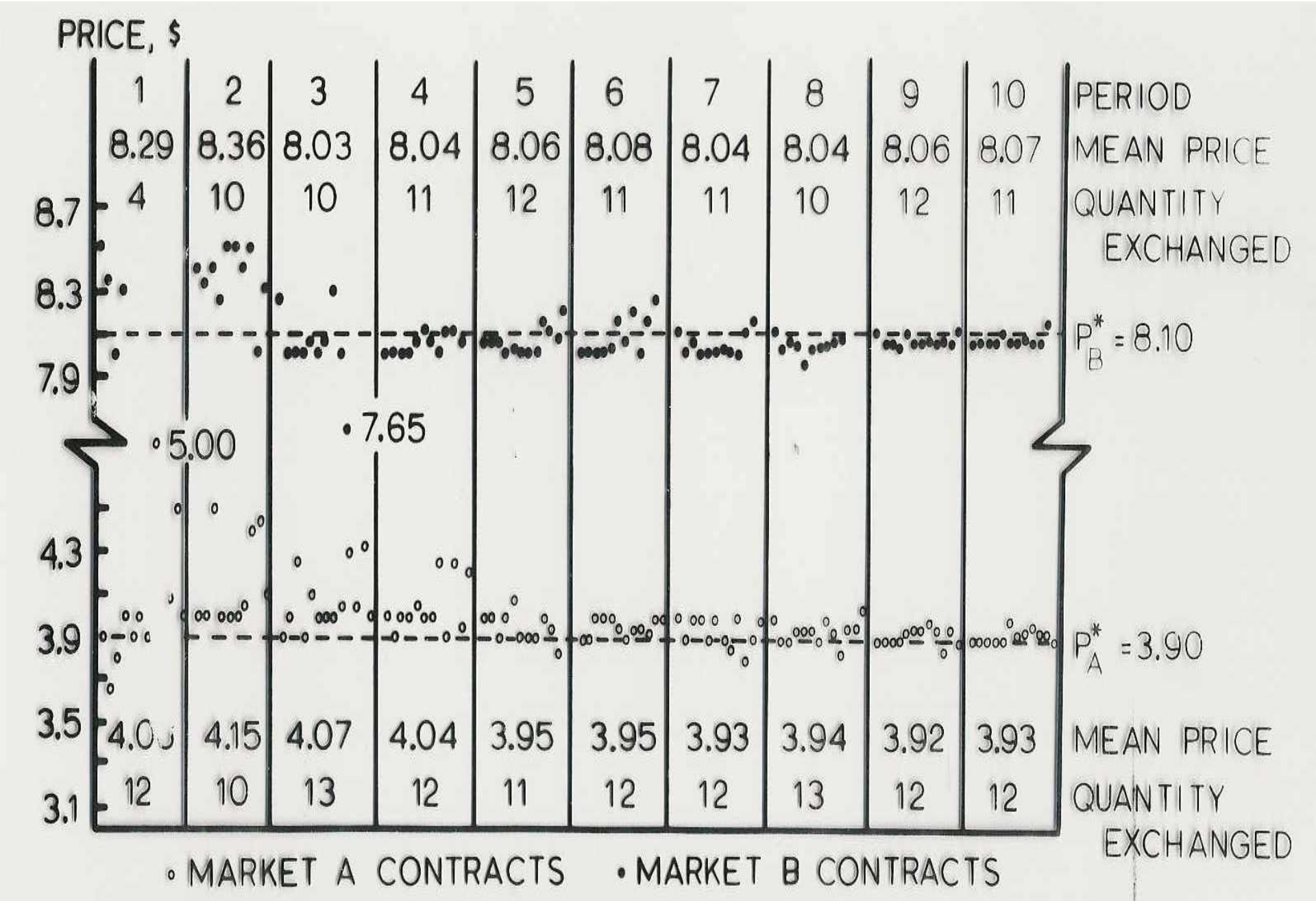


CHART 2



Two Good General Equilibrium: (Price A, Price B; Quantity A, Quantity B); one of 16 experiments, early 1980s



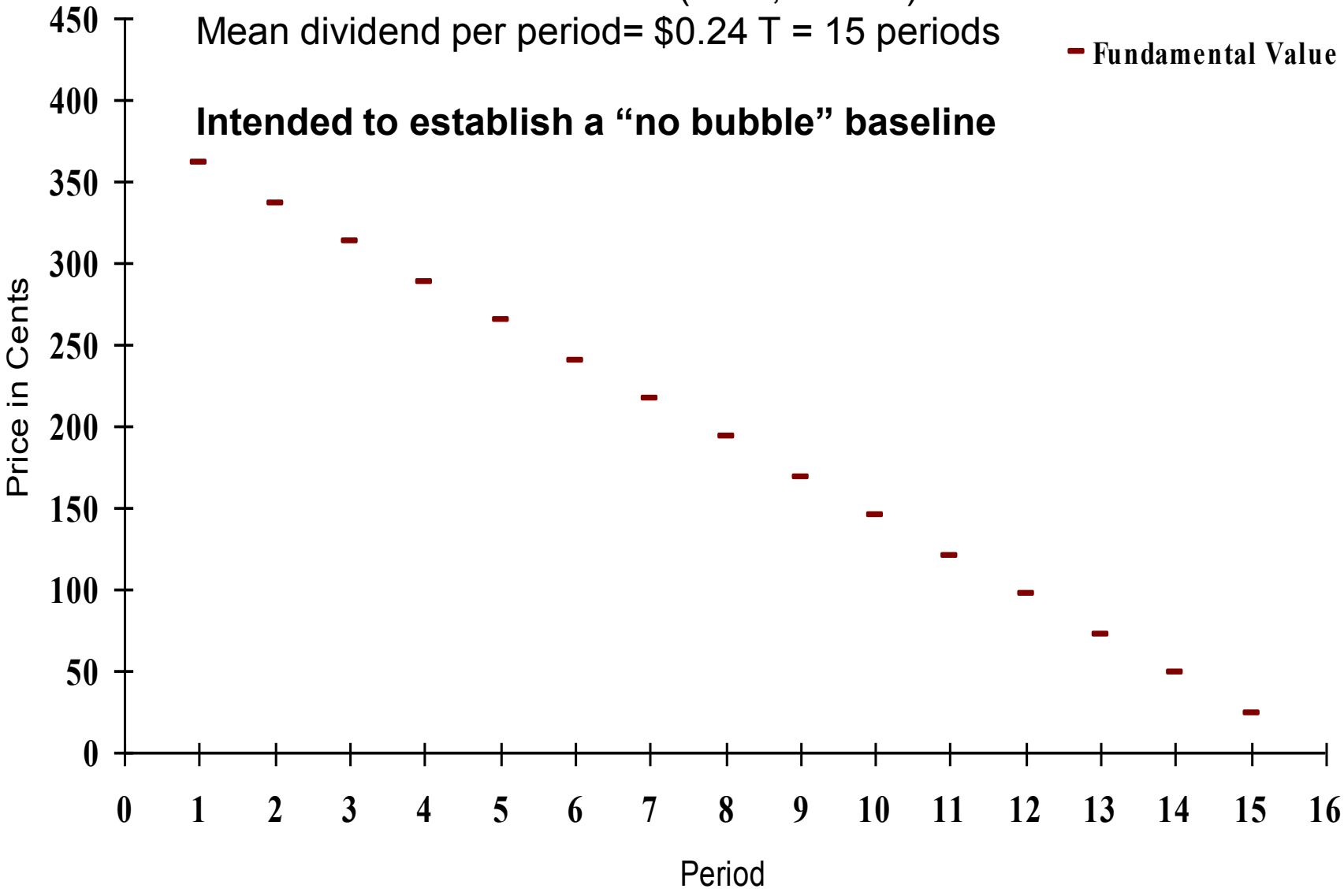
These experiments, 1950s to 1980s, changed our beliefs

We came to believe that decentralized markets with secure property rights do indeed work the miracle of specialization and exchange

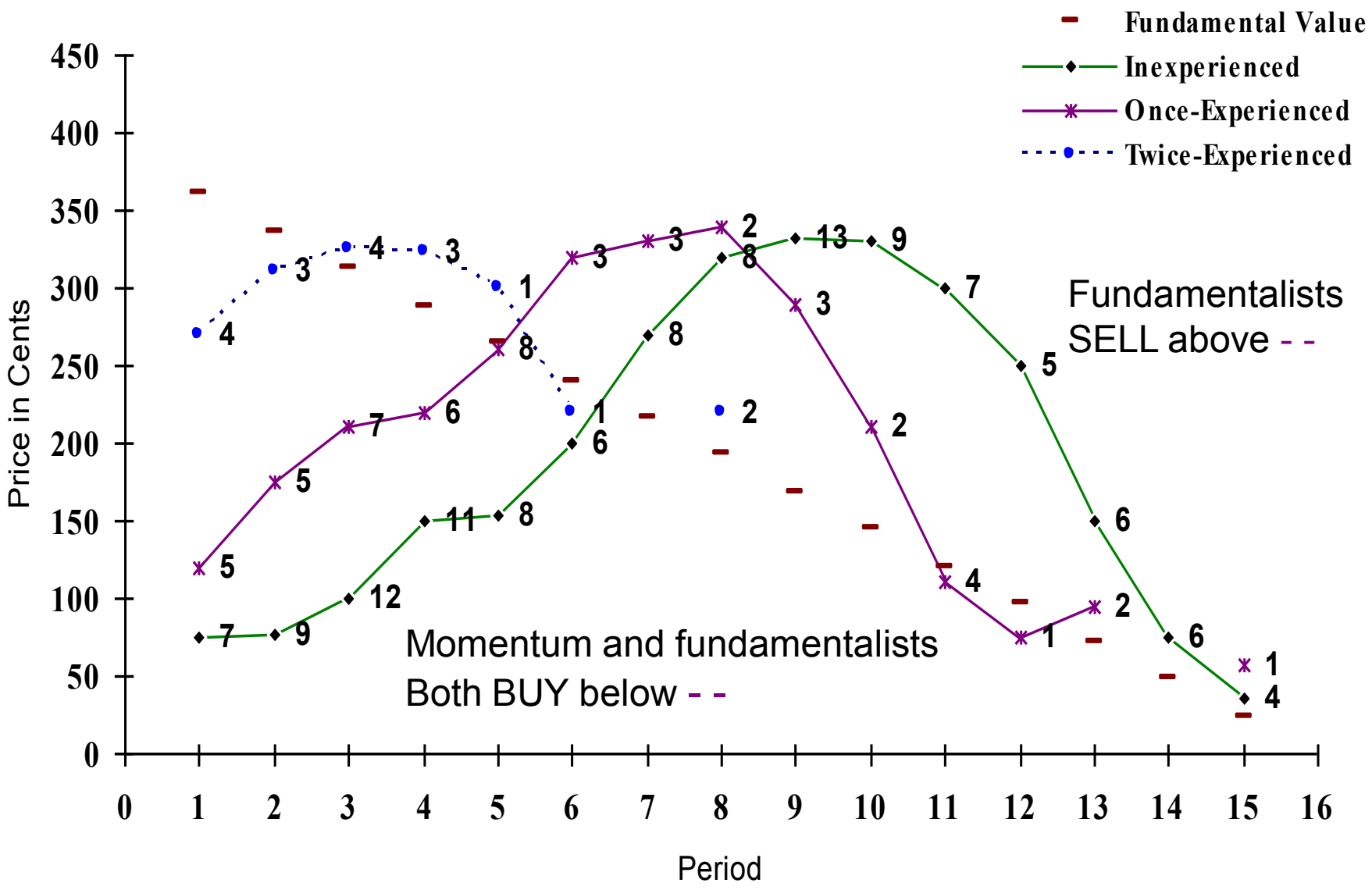
Then, in the 1980s we turned to the study of asset markets believing the above results would easily extend to asset trading under transparency.

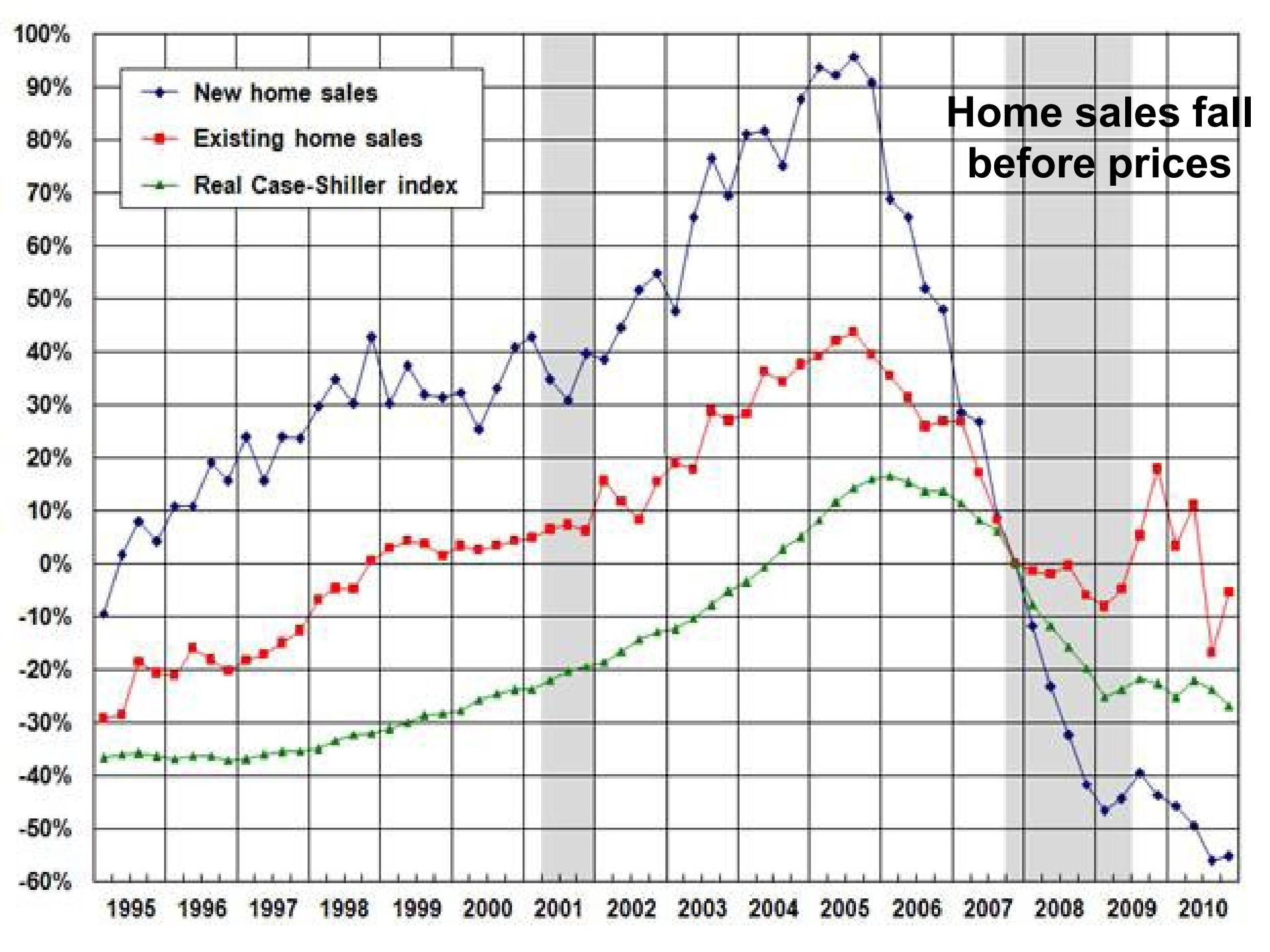
Each trader has endowment (cash, shares)
Mean dividend per period= $0.24 T = 15 periods

Intended to establish a “no bubble” baseline



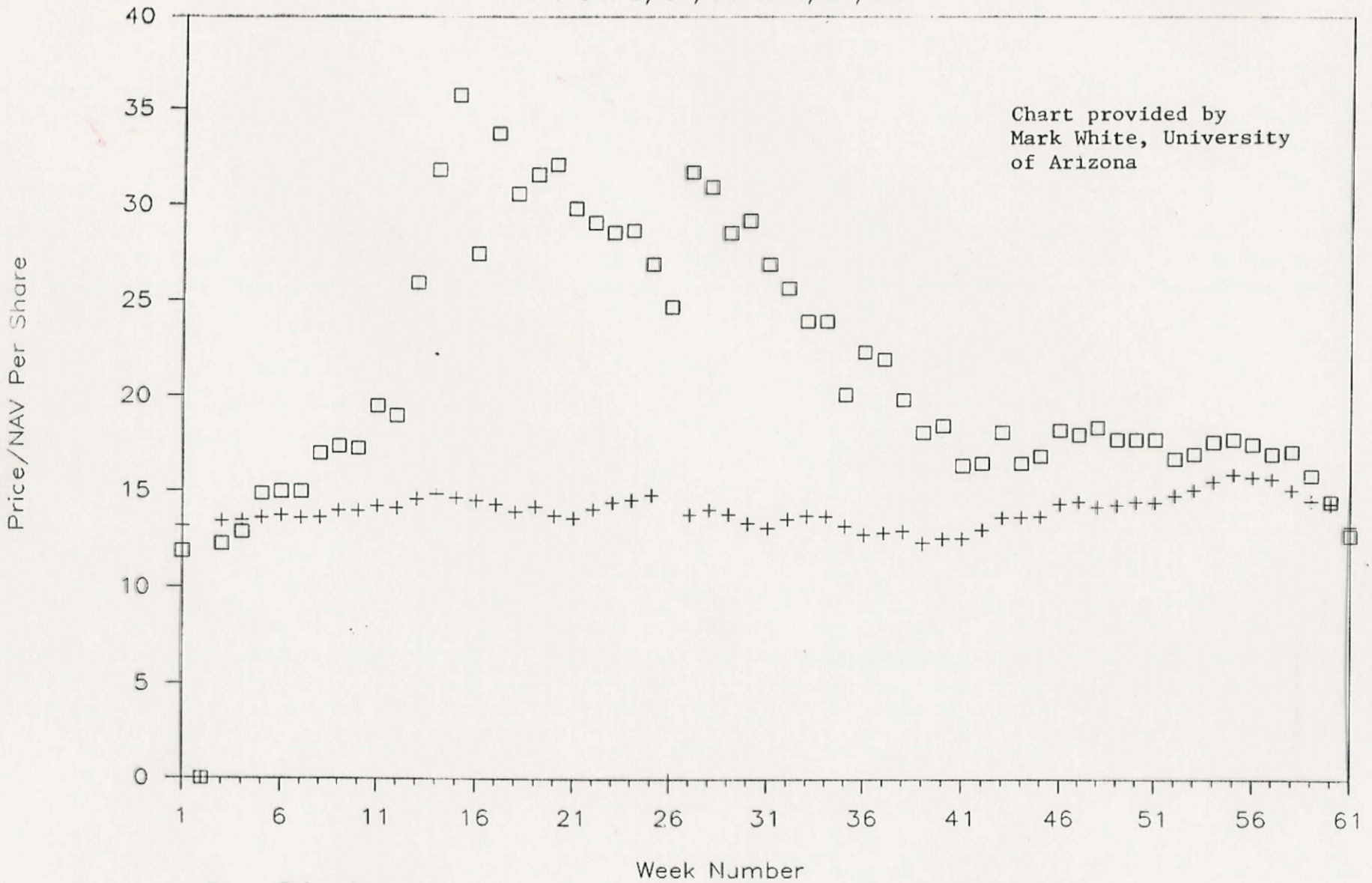
Asset Trading: Same Ss; three sessions



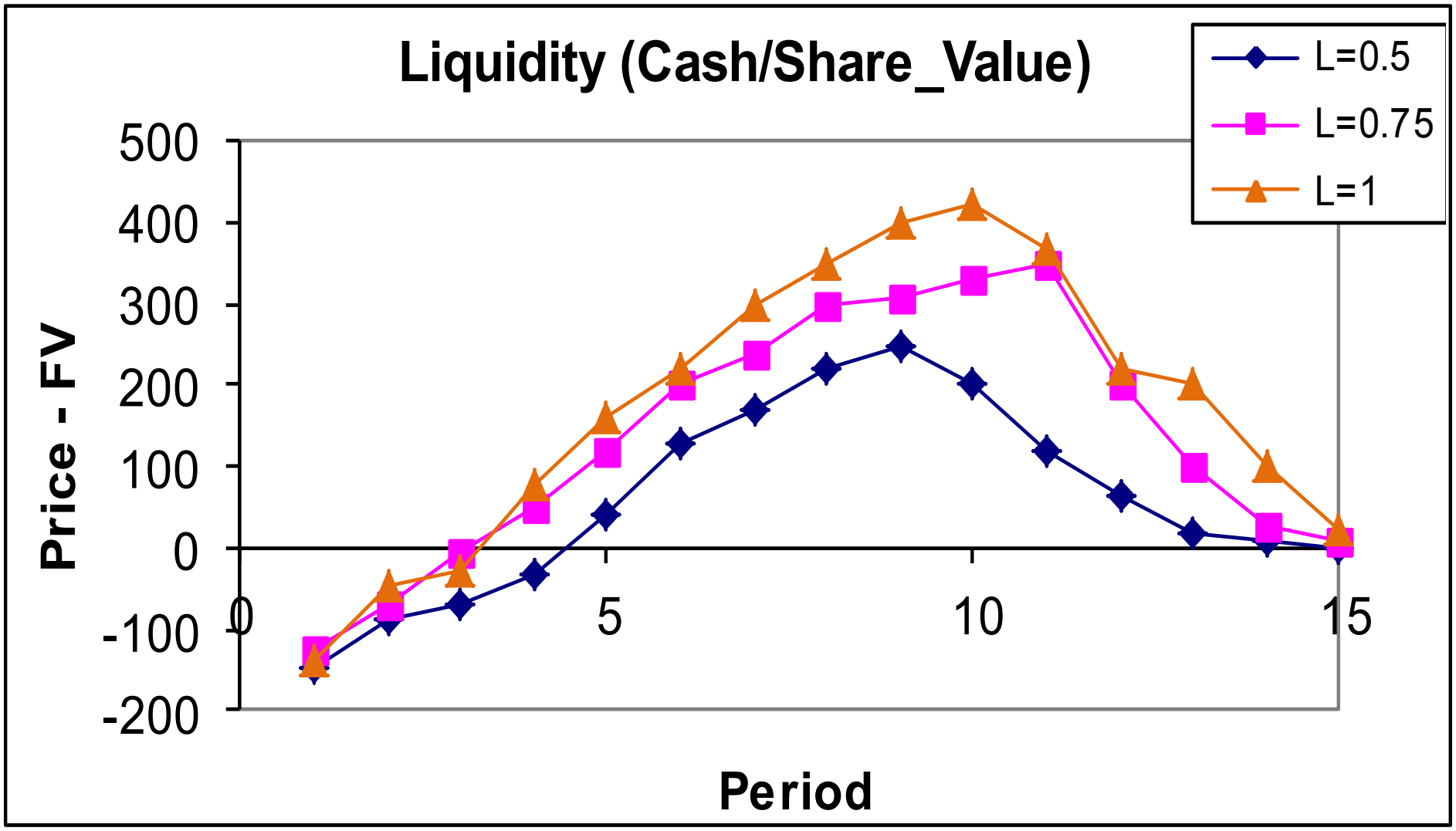

New home sales
Existing home sales
Real Case-Shiller index
Home sales fall before prices
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
-10%
-20%
-30%
-40%
-50%
-60%
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010

The Spain Fund Bubble and Crash: Prices

From 6/30/89 to 8/24/90



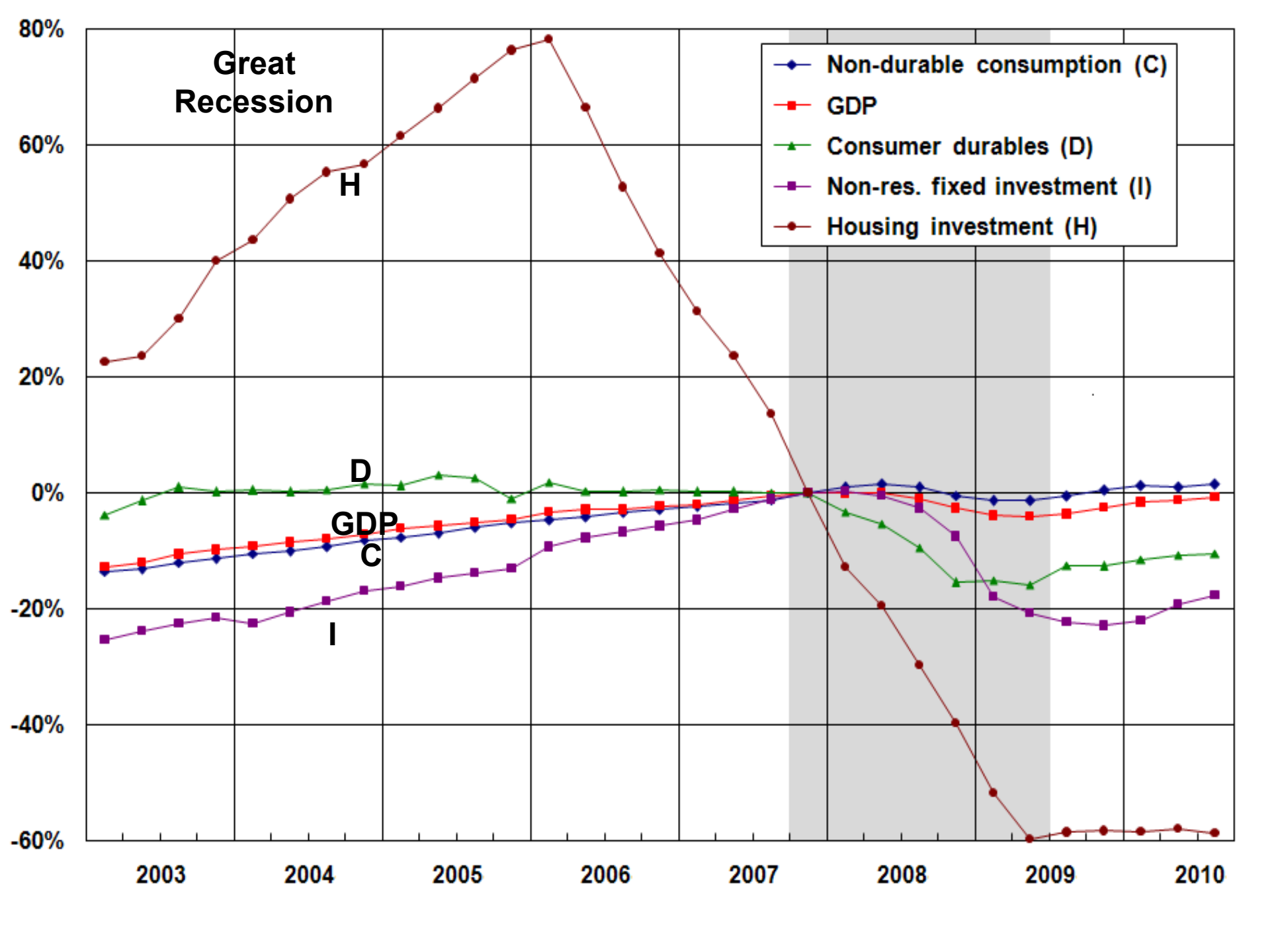
More cash relative to shares => Bigger bubble

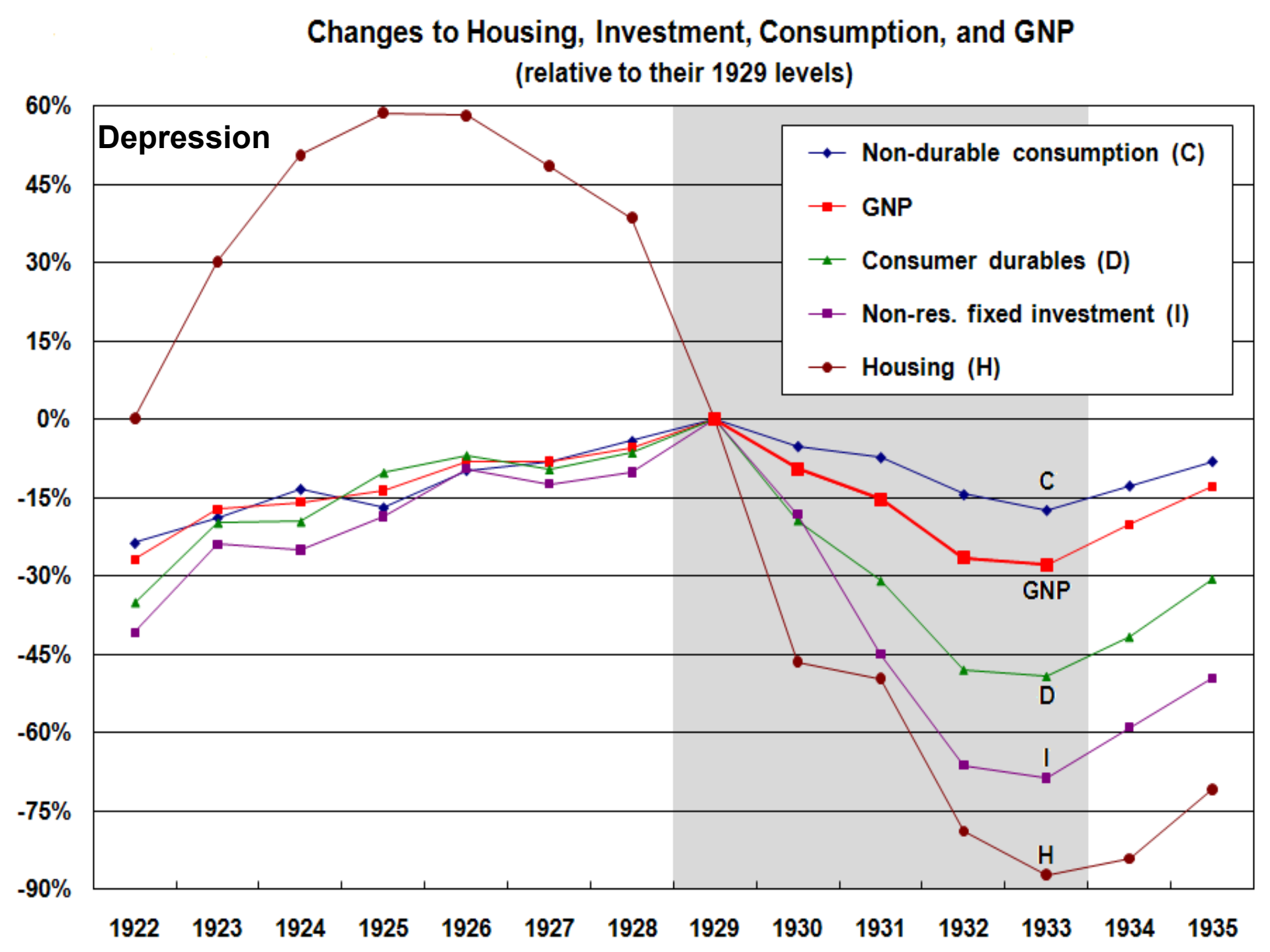


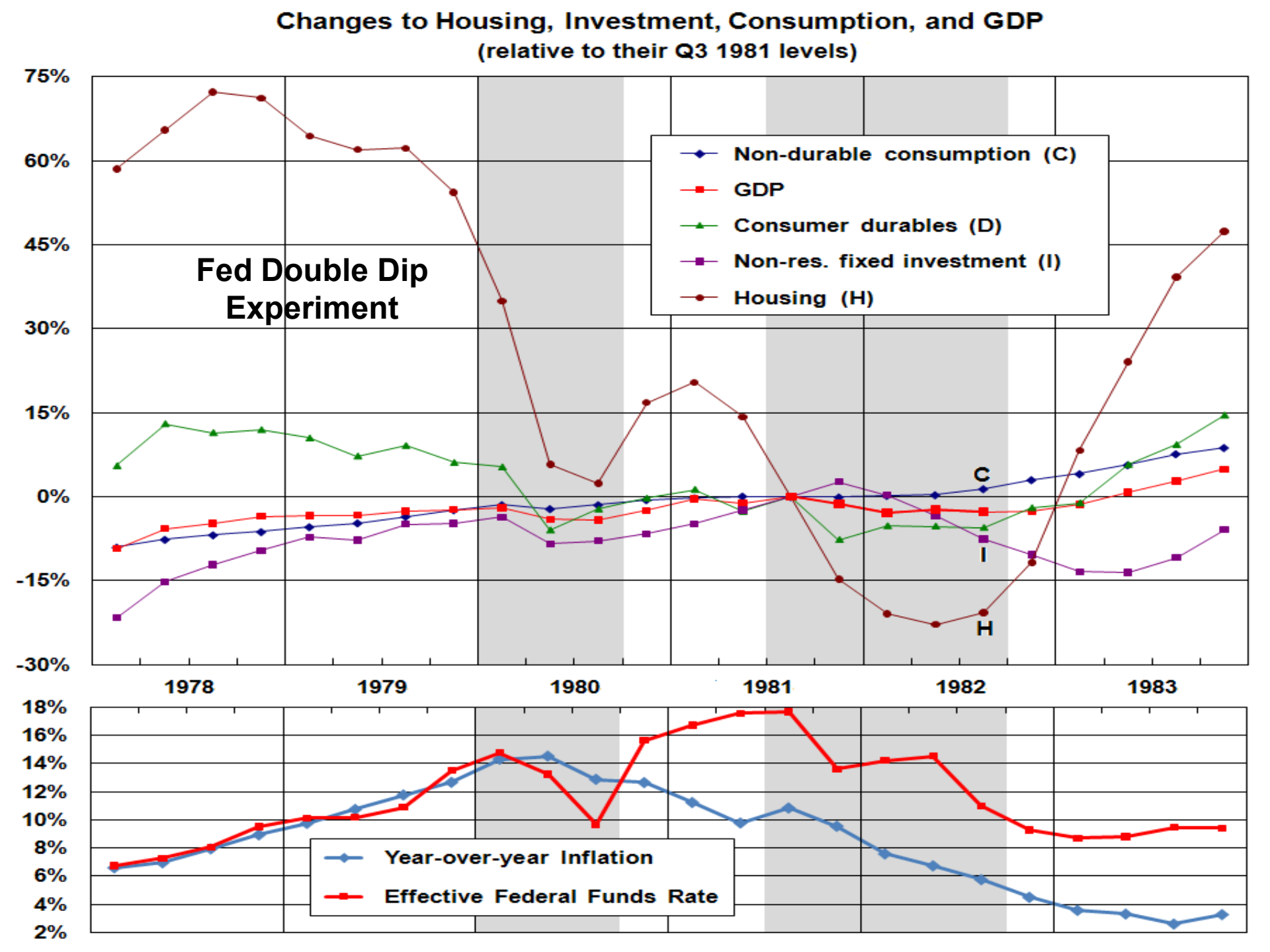
Parallels in the Economy: Markets for perishables and markets for durable goods

- **75% of (GDP – G) is composed of non-durable consumer services & goods (C); expenditures very stable over economic cycles. So, we were 75% right in our beliefs about S&D markets.**

- **Economic cycles originate from the other 25%; housing (H) mostly leads declines, with firm fixed investments (I) and consumer durables (D) more synchronized with declines. It is a major challenge to better understand these volatile markets and their financial foundations.**


Great Recession
Non-durable consumption (C)
GDP
Consumer durables (D)
Non-res. fixed investment (I)
Housing investment (H)
H
D
GDP
C
I
80%
60%
40%
20%
0%
-20%
-40%
-60%
2003
2004
2005
2006
2007
2008
2009
2010

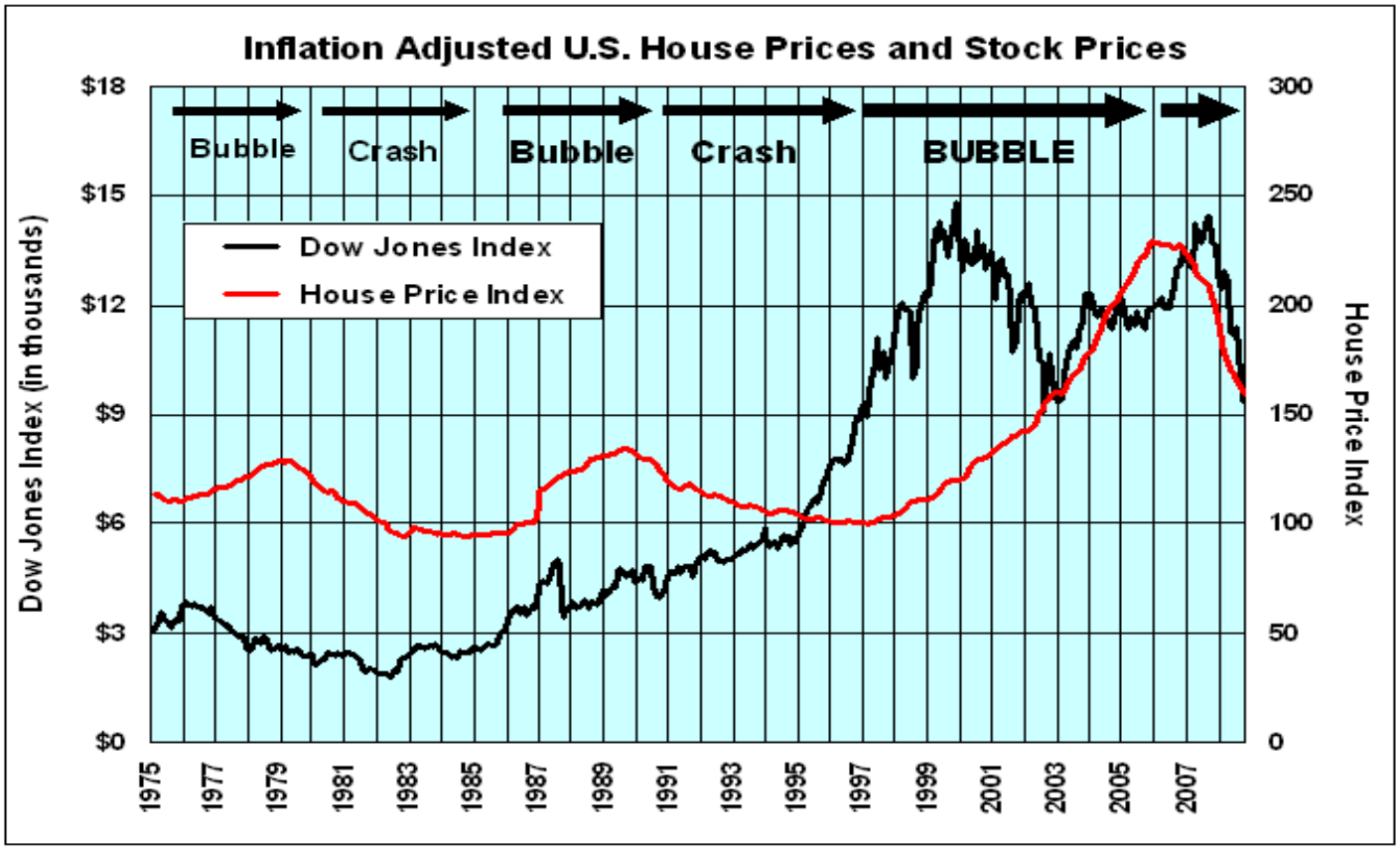

Changes to Housing, Investment, Consumption, and GNP
(relative to their 1929 levels)
Depression
Non-durable consumption (C)
GNP
Consumer durables (D)
Non-res. fixed investment (I)
Housing (H)
C
GNP
D
I
H
60%
45%
30%
15%
0%
-15%
-30%
-45%
-60%
-75%
-90%
1922
1923
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934
1935


Changes to Housing, Investment, Consumption, and GDP
(relative to their Q3 1981 levels)
Fed Double Dip Experiment
Non-durable consumption (C)
GDP
Consumer durables (D)
Non-res. fixed investment (I)
Housing (H)
C
I
H
75%
60%
45%
30%
15%
0%
-15%
-30%
1978
1979
1980
1981
1982
1983
18%
16%
14%
12%
10%
8%
6%
4%
2%
Year-over-year Inflation
Effective Federal Funds Rate

Stock vs Housing Bubbles

Ten trillion $ came off the value of stocks in the dotcom crash, 2000-2002, with hardly a dent in bank balance sheets; only a mild recession, 2001. Similarly, the crash, Oct 19, 1987 yielded no recession.

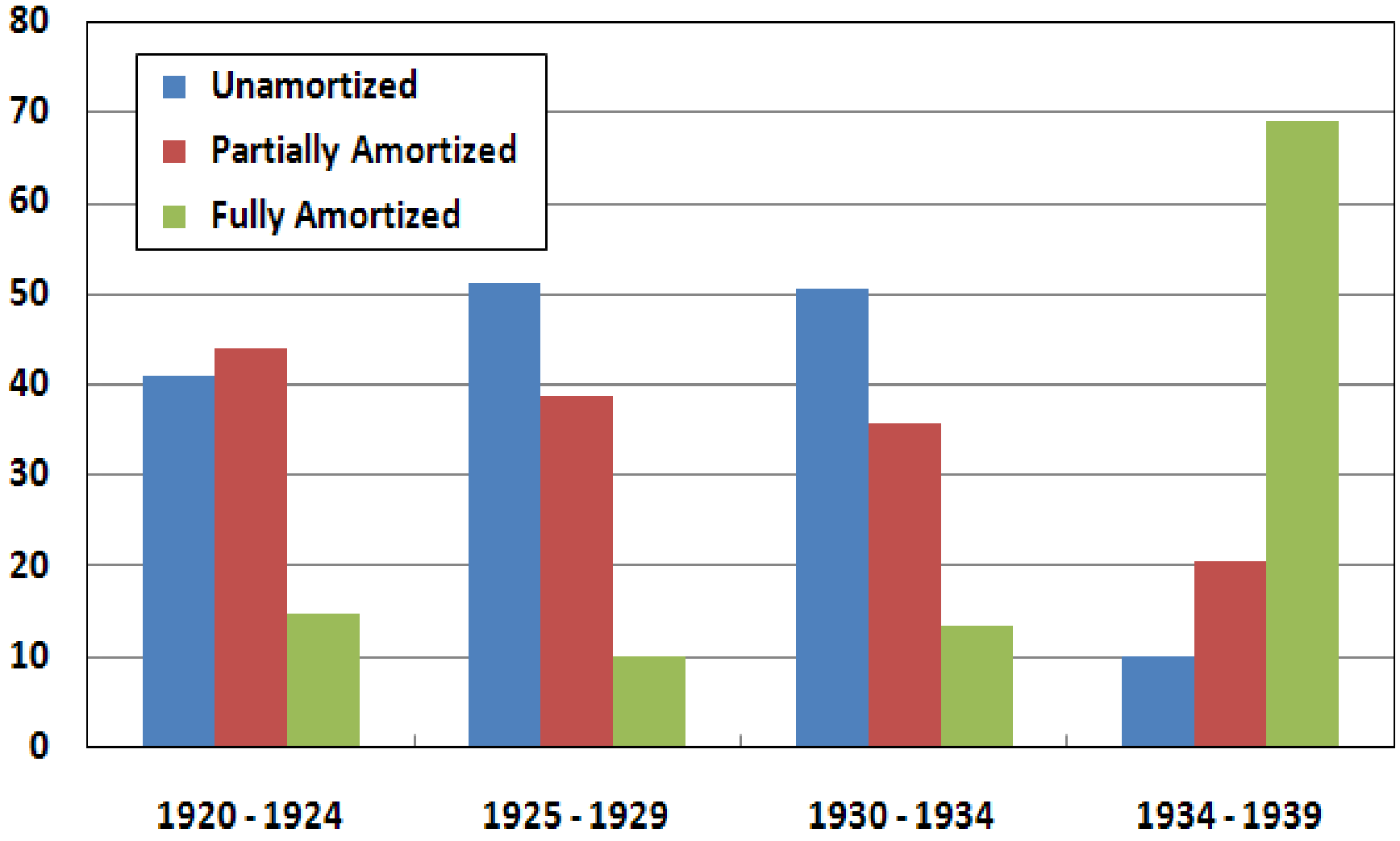
Three trillion $ came off the value of homes, 2006-7, the banks buckled; economy tanked; Fed intervened.

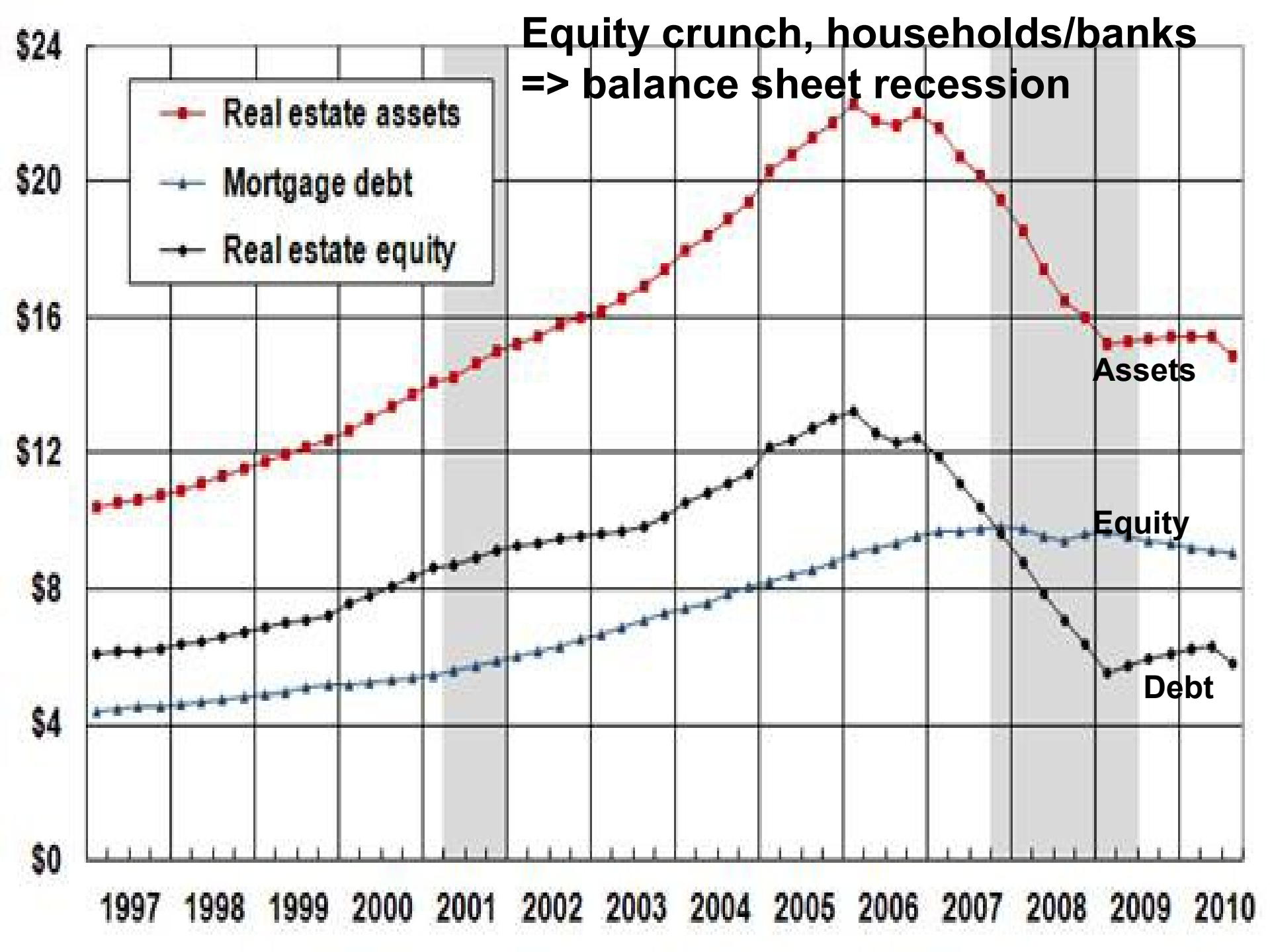


WHY? Adam Smith might say the difference was in "being rather the managers of other people's money than of their own (OPM)."(WN, vol II, p 741);here it was BankPM ***Securities Rules, found and retained:*** **In the stock market, access to OPM is constrained by property right rules: beginning in April, 1928, brokers and their banks) began raising minimum margin requirements to 50% on DJ stocks; NYSE required it of all its members in 1933; the SEC Act codified it in 1934. Hence, was OPM restricted.**

- ***Mortgage Rules, found but lost:*** **Banks in 1920s made predominantly interest only mortgage loans; in 1930s strong traditions supported amortization of mortgage loans, 30% down payments, and due diligence in mortgage originations. This tradition badly eroded; by 2005, 45 percent of first time home buyers (Core Logic data) made zero down payments—all OPM. Similarly, we had the spectacle of upfront fees for mortgage origination.**

Commercial Bank Mortgage Loans, 1920-1939
Data for Chart from Grebler et al (1956, p 231)

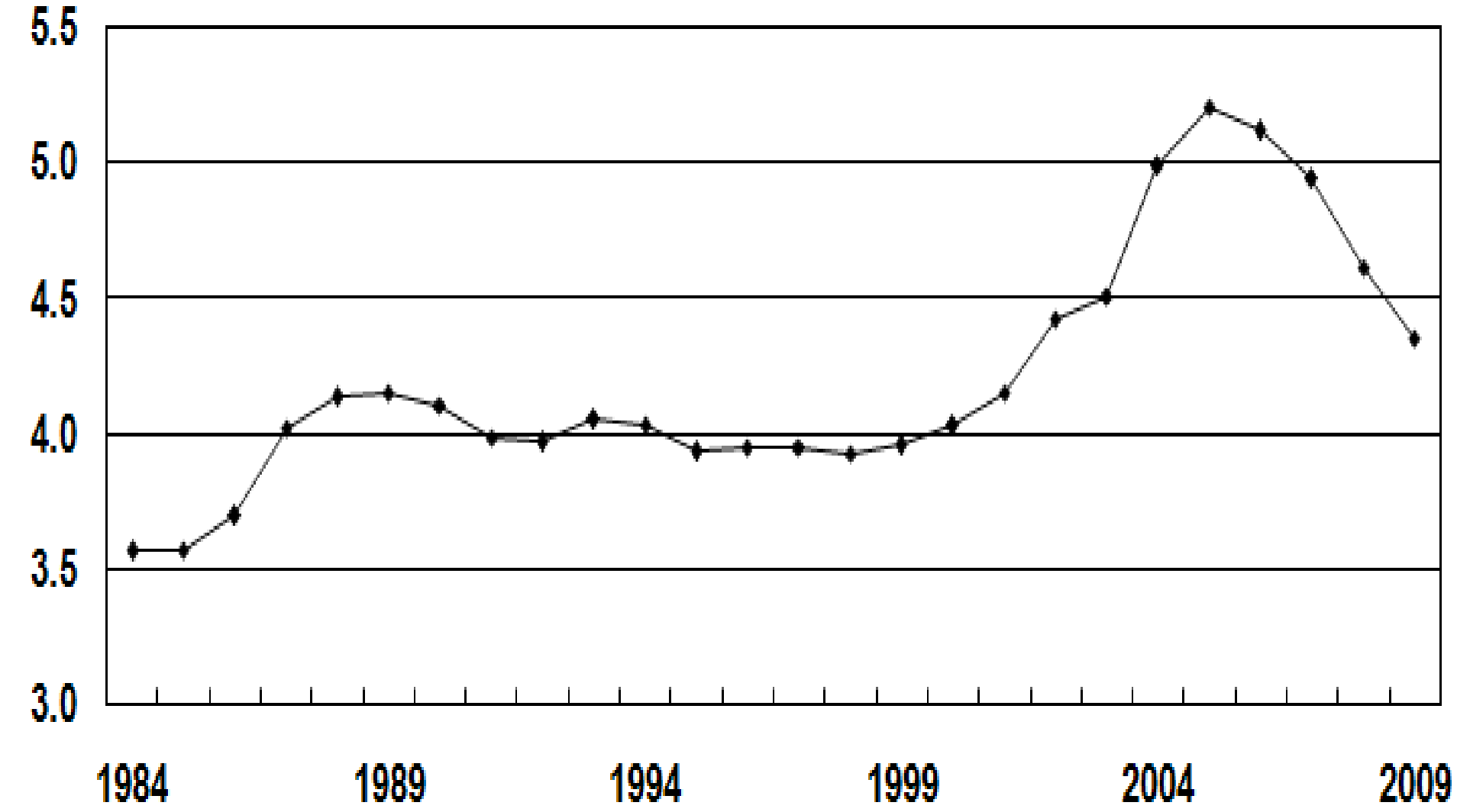



Equity crunch, households/banks
=> balance sheet recession
Real estate assets
Mortgage debt
Real estate equity
$24
$20
$16
$12
$8
$4
$0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
Assets
Equity
Debt

Biggest house-mortgage bubble & crash in 80 years, also fed by an unstable chain:

Originate Mortgage =>
Securitization (MBS) =>
Agency Rating =>
Derivative (CDS) “insurance”
Each link was fueled by expectations of rising house prices!

Ratio of median house price to median family income



What can be done?

- **Bubbles**: they are part of humanomics; we do not know how to prevent them, but you can contain their collateral damage to the economy by limiting people's use of OPM. Transparency doesn't work in lab, and is not plainly the problem.
- **Property rights & mortgage origination:** No Sadek, "Quick Loan Funding;" Origination fees should mimic the time profile of borrower principal payments; if 20% down, then 20% of fee is up front, 80% escrowed in proportion to principal payments over life of loan. Interest only loan with 10 year balloon, no fee until yr 10, if & only if loan is paid.

Derivative (CDS) "insurance." Two Flaws:

(1) **Not collateralized;** they were exempt from registration and margin requirements as securities; hence vulnerable to the risk that seller A can't deliver on his promise to pay B because C can't deliver on her promise to pay A. Each node in the network has to be buffered with a cash reserve margin. This property right rule limits each borrower's private return-seeking from jeopardizing system downside risk.

(2) **Business risks are not insurable.** We learned this from Frank Knight decades ago: decision-makers or their principals must have a residual equity claim on the consequences of decision. Otherwise decision-making has no filtering function. Hence, mortgage originators had an incentive to sell junk loans to investors who believed they were magically insured against default. The fix above is based on the hypothesis that originators would bear the same risk as the lender.

Securitization (MBS). The MBS concept creates a broad liquid mortgage market. Fix mortgage origination incentives with property rights that restrict up front collection, as above, and the MBS is ok.

Agency Ratings. Ratings agencies are obsolete; once you fix the mortgage origination incentives, CDS information markets will be better sources of default information than rating agency models; each trader in the CDS market can use his own model with his own money on the line.