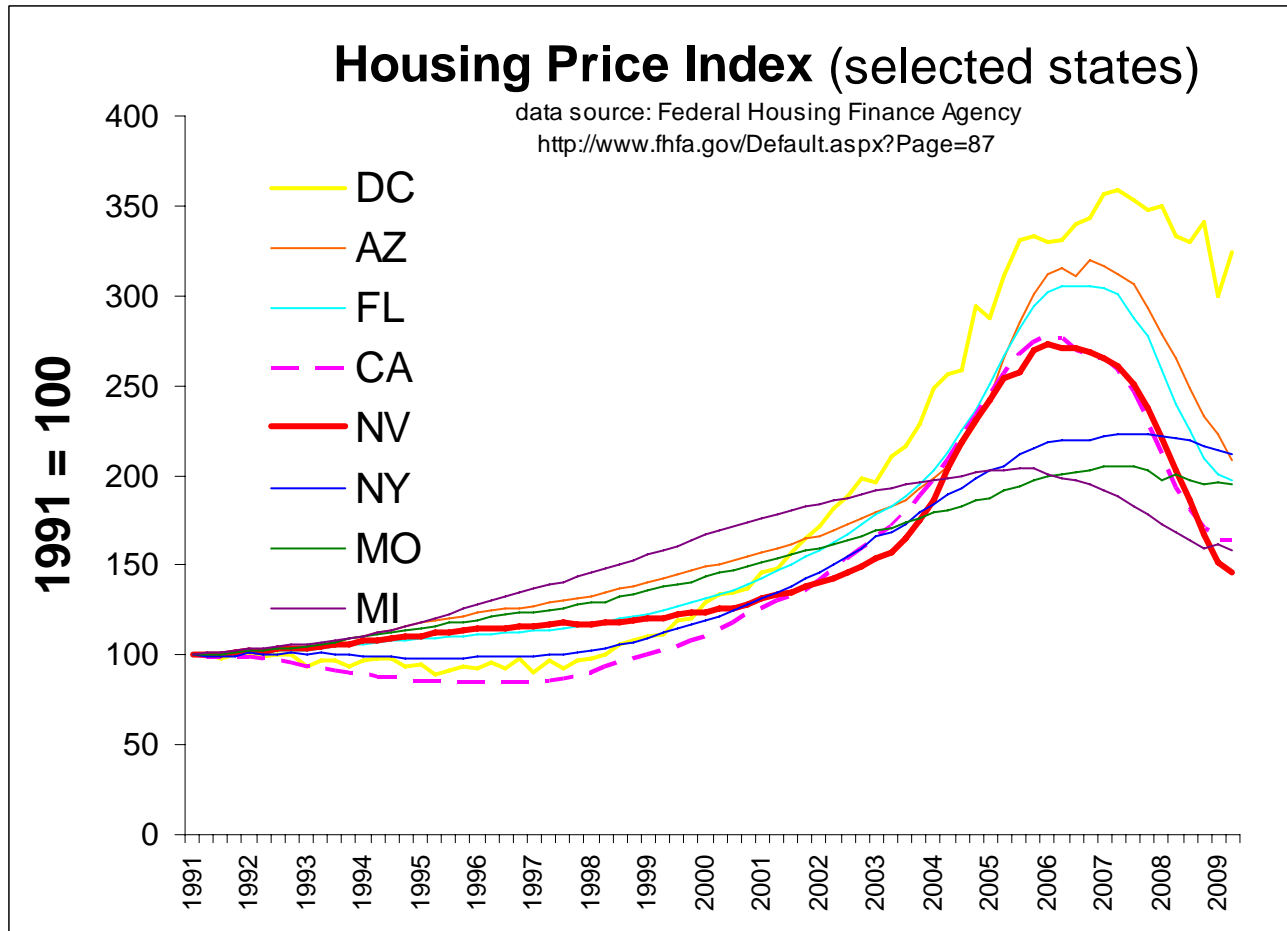


**KEY Exam 1 TAKE-HOME Problems**

9/23/09

1. Some people think that Nevada’s housing market has performed worse than any other state’s housing market. To verify if these citizens are correct USE the data to:

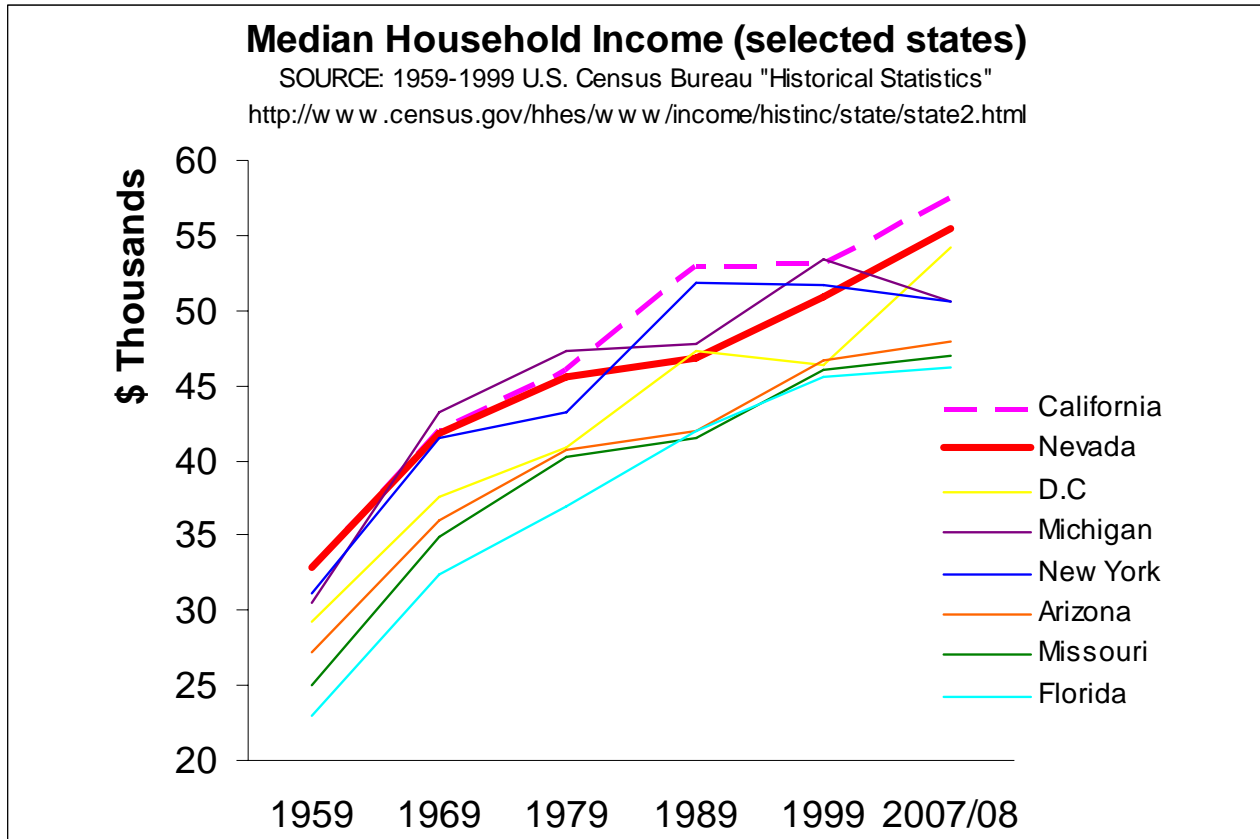
- (a) Create a very informative, completely labeled graph to illustrate how Nevada’s housing prices have evolved over the past two decades compared to “SELECTED OTHER STATES”
- (b) Explain what this view of the data shows.
- (c) Conclude: In what state (among the selected states) have **housing prices risen the highest?** Fallen first? Fallen the lowest? Fallen the most?



Housing price index	AZ	CA	DC	FL	MI	MO	NV	NY
max	320.11	277.06	358.4	305.82	203.92	204.9	<b>273.49</b>	223.28
min (since '06)	208.66	163.31	299.49	197.34	157.85	195.11	<b>146.01</b>	211.94
% chng	53%	70%	20%	55%	29%	5%	<b>87%</b>	5%

According to this data, among the eight states shown, Nevada housing prices did not rise the most over the last two decades. **Housing prices rose the most in Washington DC and rose the least in Michigan (MI) and Missouri (MO).** They starting falling first in California, Nevada (and Missouri). But as of the most recent quarter, Nevada’s housing price index is the lowest. Relative to our peak at 273% above 1991 prices, **our housing prices fell the most (87%)** among these eight states. In sum: **people who think Nevada’s housing market has performed worse may be correct.**

2. Other people say that Nevada's housing prices have simply appreciated (risen) along with Nevada's median household income. To verify if these citizens are correct USE THE DATA to
- Create a very informative, completely labeled graph to illustrate how median income in Nevada has changed over the past two decades compared to median income in "SELECTED OTHER STATES".
  - Explain what this view of the data shows.
  - Conclude: In what state (among the selected states) did **median income** rise the highest? Rise the least? Fall the least? Fall the most?



According to this data, **Median Household income in California is now the highest** among the eight states shown. In 1959, Nevada's median income was relatively high. In 2007/8, it is still one of the highest. Nevada's median household income has risen from \$46,755 in 1989 to \$55,440/year in 2007/8, a 19% increase. Over the same period Nevada's housing prices rose 173% (according to the data for Question 1). *People who say housing prices have simply risen along with Nevada's median household income appear to be incorrect.* Housing prices have risen a lot more than median income in our state.

3. Yet a third group of people think housing prices are ‘out of whack,’ that they appreciated (rose) more than Nevada’s median household income. To verify if these citizens are correct, USE THE DATA to:
- Create an INDEX of median household income in 2007-08 relative to 1989. (The first calculation is already done for you as an example). Now divide the Housing Price Index (listed for the selected states for you) by your new Median Income Index. (The first calculation is already done for you as an example).
  - Explain. What does it show that your graphs/answers for questions 1 & 2 do not show?
  - Conclude: In what state (among the selected states) did **housing prices rise fastest relative to median household income**? Rise the least? How does Nevada compare?

	2007-8 income INDEX wrt 1989	2007 Q4 housing price index wrt 1991	Home price index % Income index
D.C	115%	347.90%	303.80%
Arizona	114%	293.40%	256.80%
Florida	110%	277.00%	251.90%
New York	98%	223.30%	228.60%
California	109%	229.40%	211.30%
<b>Nevada</b>	<b>119%</b>	<b>237.50%</b>	<b>200.30%</b>
Missouri	113%	202.40%	179.30%
Michigan	106%	178.10%	168.50%

Nevada’s median household income has risen from \$46,755 in 1989 to \$55,440/year in 2007/8, a 19% increase. Over the same period Nevada’s housing prices are higher by 138%. **Among the eight states shown, however, Nevada’s housing prices have are NOT the most ‘out of whack’** The ratio of the two indexes shows that DC’s housing prices rose the most relative to DC median income, and Arizona, Florida, New York, and California’s markets are more ‘out of whack’ than ours. **This is something we couldn’t ‘see’ in the two graphs.**