THE HOUSING BUBBLE

CHAPTER 11

HOUSING AND THE BUBBLE

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  - Lead to a financial crisis which made things work
- Before thinking about the bubble, we need to worry about the financial markets behind housing and housing itself

HOW MUCH IS A HOUSE REALLY WORTH

- "location, location, location"
  - Amenities of a Community
  - Neighboring Property
- Amenities of Home
  - Size
  - Lot Size
  - Bedrooms
  - Bathrooms
  - Pool/Trees/Appliances
  - Age of Expensive replacements
    - Roof
    - Carpet
    - Heating & Air Conditioning

FINANCIAL INSTITUTIONS AND MORTGAGES

- Now how do you pay for houses?
- Very few people pay cash for a house but need to borrow the money for it-a mortgage
- Things used to be much simpler:
  - Typically you borrowed from your local bank
  - You needed to put down 20%
  - The bank holds onto the mortgage
  - If you default the bank forecloses on your house
  - Banks tend to lose money on foreclosures so they want to make sure you are a good bet to pay it off
- Things have changed in a number of ways

DEFAULT

- What we worry about with mortgages is that homeowner will default
- If I have positive equity in my house, I would generally want to sell the house rather than default
- However, suppose I owe $200,000 on a $150,000 house.
- I may prefer just to stop making payments
- Then the bank forecloses and kicks you out
- This is costly to the bank because:
  - You don't just leave immediately it takes time and often lawyers to actually get you out of the house
  - Once the house has been foreclosed upon it will typically sell for less
  - Banks don't like being landlords

MORTGAGES

- Traditional (Until late 80s)
  - 80% Loan to Value
  - 15, 20, & 30 Year payouts
- Traditional (now)
  - 90%-100% Loan to Value
  - 15, 20, & 30 Year payouts
- Interest Only
  - 100% Loan to Value
  - Interest portion of payment for first 5 to 10 years
- Negative Amortization
  - 100% Loan to Value
  - About half of interest portion for first 5 to 10 years

TRADITIONAL MORTGAGE

Payment Number	Traditional Mortgage		
	Payment	Interest	Balance
0			250,000
1	1,342	1,042	249,700
2	1,342	1,040	249,398
3	1,342	1,039	249,095
4	1,342	1,038	248,791
358	1,342	17	2,667
359	1,342	11	1,336
360	1,342	6	0

INTEREST ONLY MORTGAGE

Payment Number	Interest-Only for 5 Years		
	Payment	Interest	Balance
0			250,000
1	1,042	1,042	250,000
2	1,042	1,042	250,000
59	1,042	1,042	250,000
60	1,042	1,042	250,000
61	1,461	1,042	249,580
62	1,461	1,040	249,159
122	1,461	920	220,371
123	1,461	918	219,827
358	1,461	18	2,905
359	1,461	12	1,455
360	1,461	6	0

NEGATIVE AMORTIZATION

Payment Number	Negative Amortization 5-years		
	Payment	Interest	Balance
0			250,000
1	521	1,042	250,521
2	522	1,044	251,043
3	523	1,046	251,566
4	524	1,048	252,090
59	588	1,175	282,661
60	589	1,178	283,250
61	1,656	1,180	282,775
62	1,656	1,178	282,297
358	1,656	21	3,291
359	1,656	14	1,649
360	1,656	7	0

WHY INTEREST ONLY OR NEGATIVE AMORTIZATION?

- The problem with both of these is that your payments are lower today but higher five years from now
- Why would anybody want to do that?
  - My income will hopefully go up and I can afford more
  - The value of my home will go up which allows me to take out a home equity loan this is a way of taking advantage of the fact that I am making a lot of money when the value of my home goes up
- Now both of these things sound good when wages and house values are going up, but sound really bad if home prices fall or if you lose your job due to a recession

SECURITIZATION

- The local bank typically does not hold the homebuyer's mortgage anymore
- Since late 1960s/early 1970s Fannie Mae and Freddy Mac bundle a bunch of mortgages together creating a new financial instrument and then sell shares in those
- This gives some geographic diversity in holdings
- However, banks no longer have incentive to make sure borrowers are a good bet
- More than that, buyers of these securities think they are safe-but maybe not

CREDIT DEFAULT SWAP

- There was some concern about defaults in mortgages
- Credit default swaps emerged as insurance against the loss of principal
- If you are holding a mortgage I can sell you a CDS which is insurance, if the loan defaults I pay you money
- This was good for people holding mortgages so helped keep the bubble going
- However it was Unregulated
- Many financial institutions sold these, so they had to foot the bill if they failed
- If suddenly their value fell, banks were in trouble

HOW TO MAKE A BUBBLE

- Fundamental Determinants of Housing Value
  - Location
  - Amenities
  - Interest rate
- Non-Fundamental Determinants
  - Expectations that prices will rise in the future causing increased demand now. This is a prescription for a bubble.

ARE THESE HOUSES AFFORDABLE?

	Median Family Income	Median Sale Price of an Existing Single-Family Home	Annual Mortgage Payments (30 years, 6% interest)	Homeowners Insurance*	Property Tax*	Total Annual Housing Costs	Home Costs as a Percentage of Income
Phoenix	$64,200	$257,400	$18,519	$2,000	$4,000	$24,518.92	38.19%
Los Angeles	$59,800	$589,200	$42,391	$2,000	$4,000	$48,390.62	80.92%
Washington	$97,200	$430,800	$30,994	$2,000	$4,000	$36,994.36	38.06%
Miami	$49,200	$365,500	$26,296	$2,000	$4,000	$32,296.29	65.64%
Las Vegas	$63,900	$297,700	$21,418	$2,000	$4,000	$27,418.34	42.91%
Cleveland	$62,100	$130,000	$9,353	$2,000	$4,000	$15,352.99	24.72%
Dallas	$65,000	$150,900	$10,857	$2,000	$4,000	$16,856.66	25.93%

MOST AFFORDABLE

- 1. Lima, Ohio
- 2. Cumberland, Maryland
- 3. Youngstown, Ohio
- 4. Canton, Ohio
- 5. Davenport, Iowa

LEAST AFFORDABLE

1. Salinas, California
2. Santa Barbara, California
3. Los Angeles, California
4. Anaheim, California
5. Merced, California

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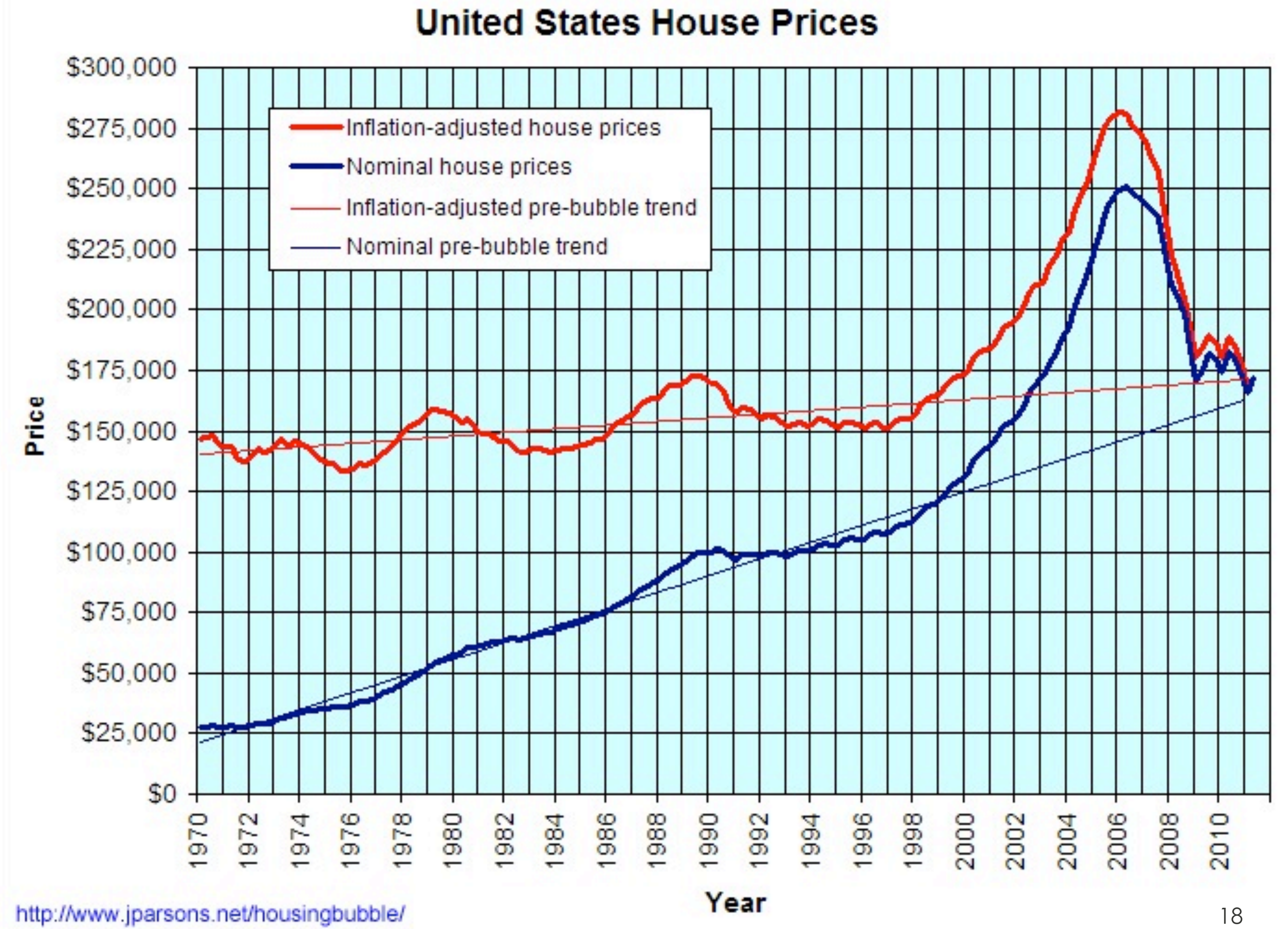
3) When the price falls, the expectation of future increases ends.
4) The ability to borrow equity to make payments ends and more homes are on the market.
5) Repeat steps 1) through 5)


United States House Prices
Inflation-adjusted house prices
Nominal house prices
Inflation-adjusted pre-bubble trend
Nominal pre-bubble trend
$300,000
$275,000
$250,000
$225,000
$200,000
$175,000
$150,000
$125,000
$100,000
$75,000
$50,000
$25,000
$0
Price
1970
1972
1974
1976
1978
1980
1982
1984
1986
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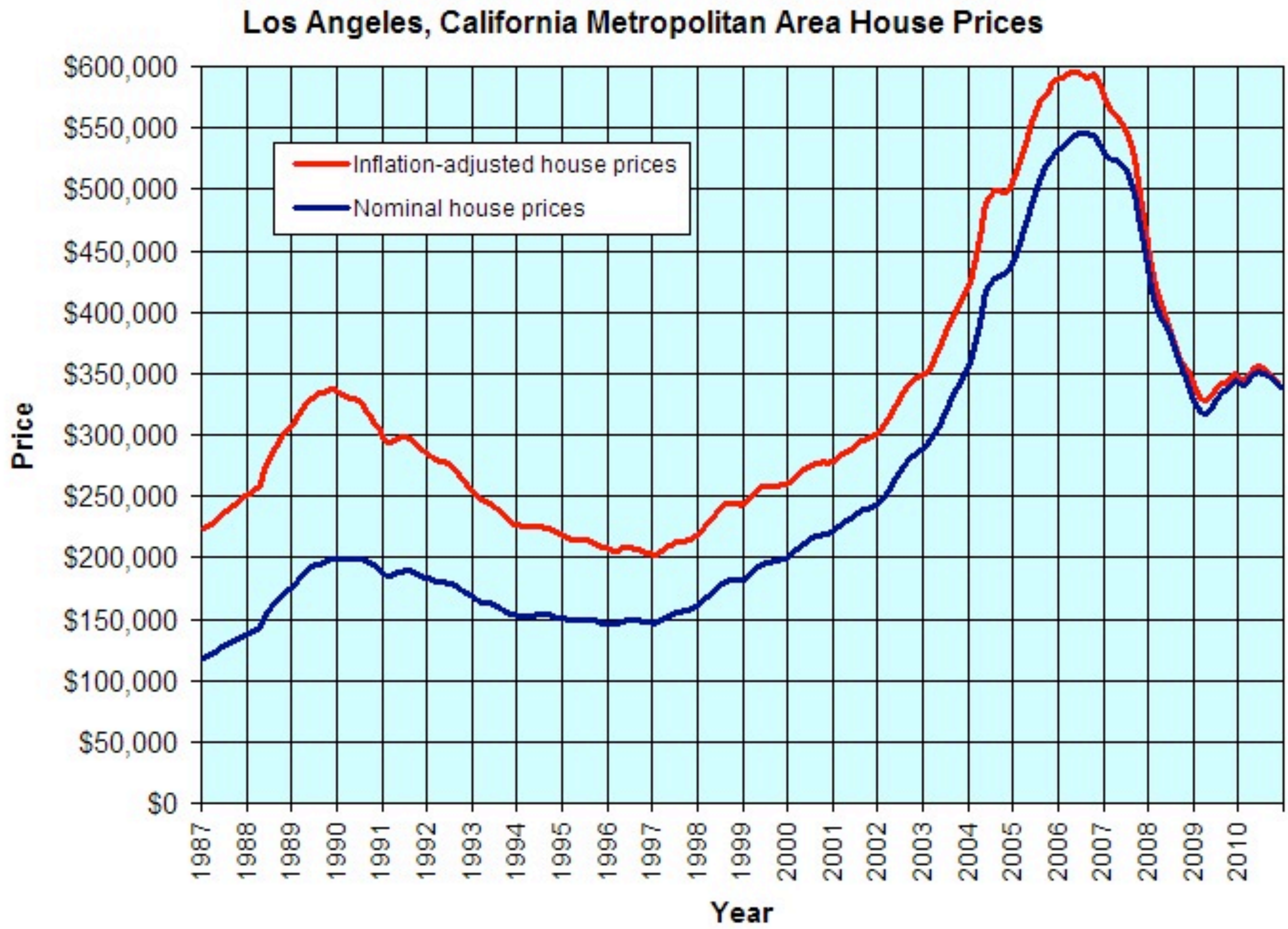
2006
2008
2010
Year
http://www.jparsons.net/housingbubble/



Los Angeles, California Metropolitan Area House Prices
Inflation-adjusted house prices
Nominal house prices
Price
$600,000
$550,000
$500,000
$450,000
$400,000
$350,000
$300,000
$250,000
$200,000
$150,000
$100,000
$50,000
$0
1987
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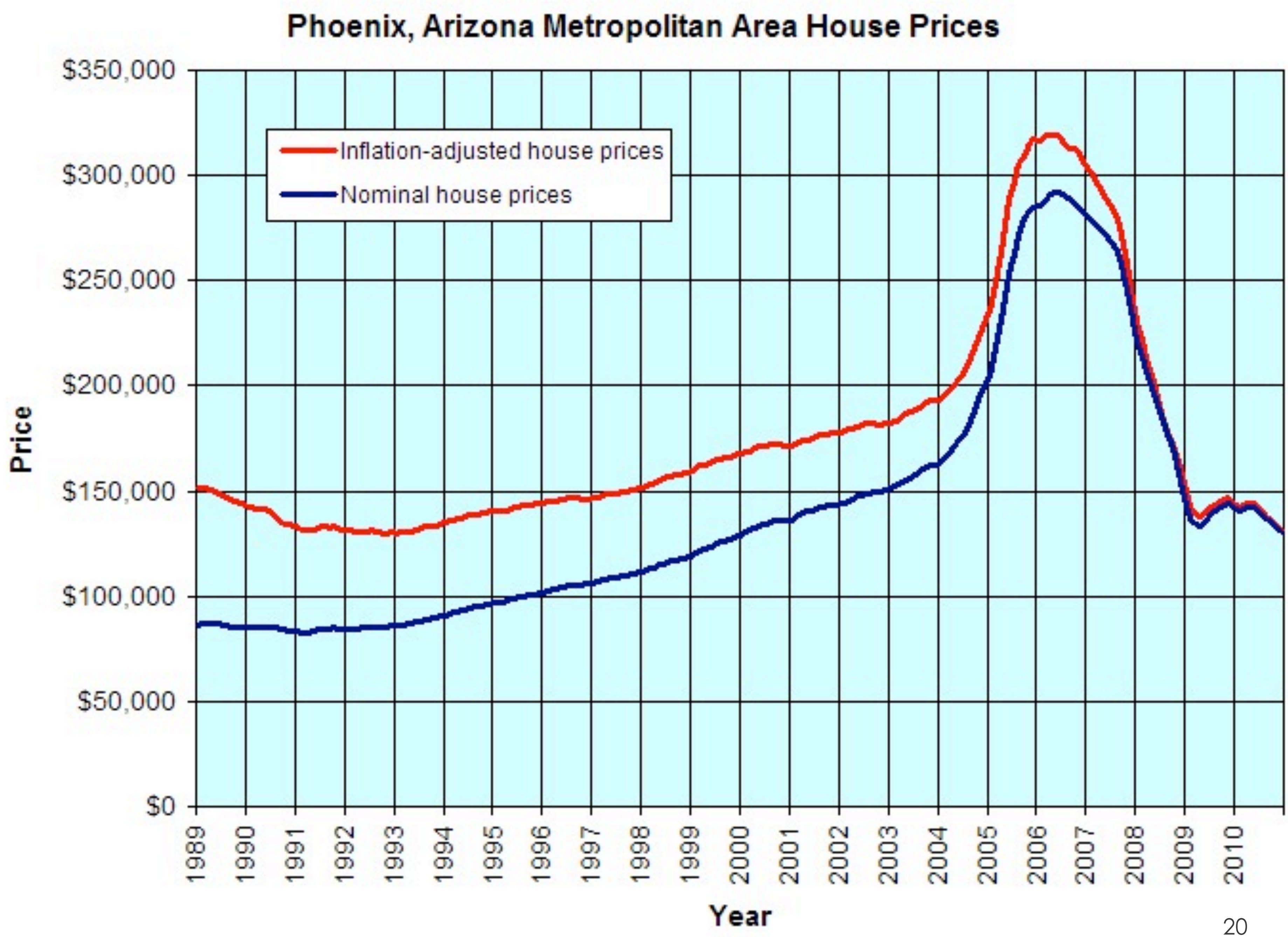
Year


Phoenix, Arizona Metropolitan Area House Prices
Inflation-adjusted house prices
Nominal house prices
Price
$350,000
$300,000
$250,000
$200,000
$150,000
$100,000
$50,000
$0
1989
1990
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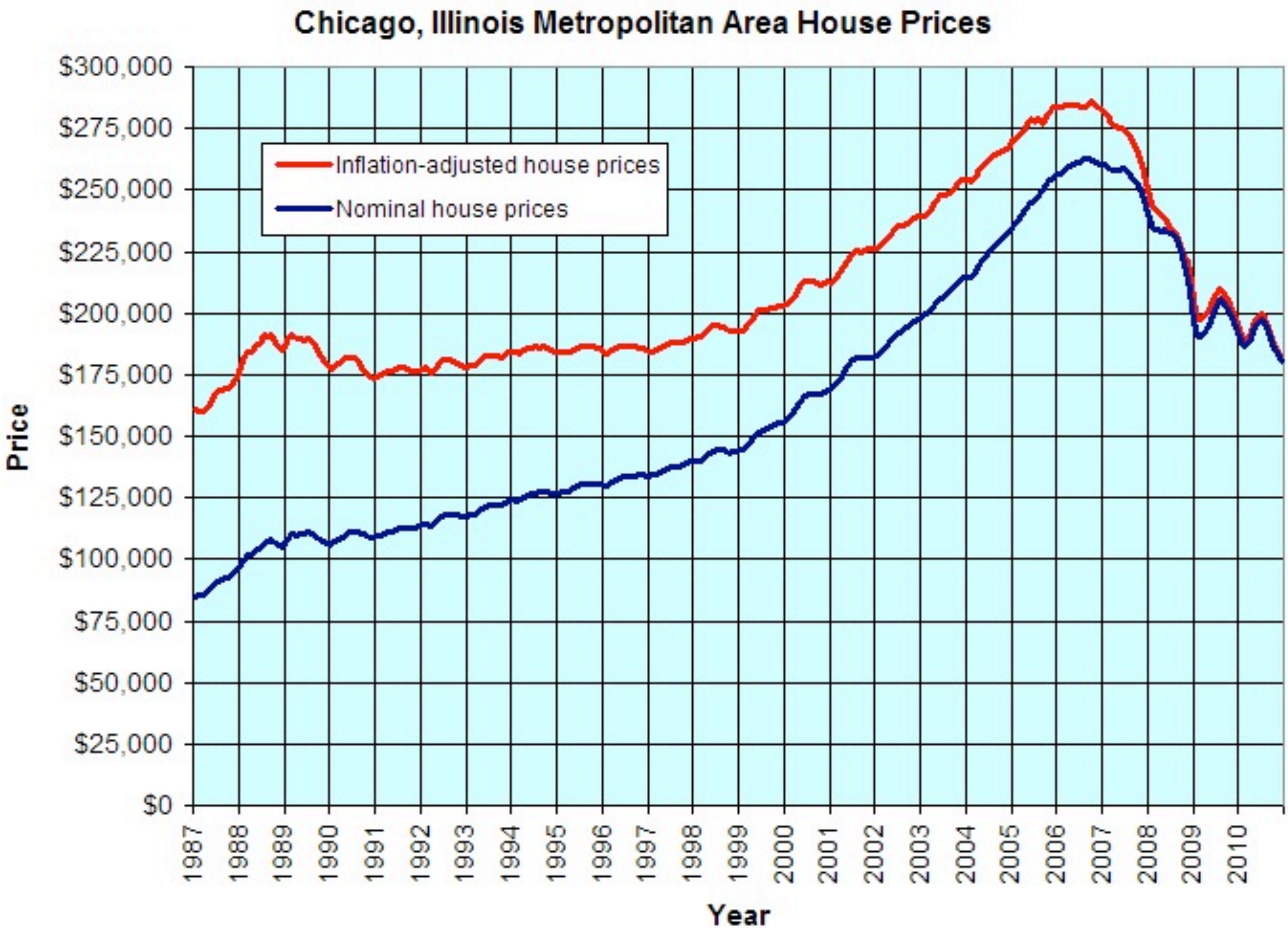

Chicago, Illinois Metropolitan Area House Prices
Inflation-adjusted house prices
Nominal house prices
Price
$300,000
$275,000
$250,000
$225,000
$200,000
$175,000
$150,000
$125,000
$100,000
$75,000
$50,000
$25,000
$0
1987
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2006
2007
2008
2009
2010
Year

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- Lower aggregate demand
  - Less equity to buy large ticket items, vacations etc.
  - Higher interest rates because of higher default rates

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- Lower aggregate demand
  - Less equity to buy large ticket items, vacations etc.
  - Higher interest rates because of higher default rates
- Lead to a large financial crisis
  - Banks were holding large numbers of mortgages and credit default swaps
  - They thought they were safe
  - But then the value of these assets suddenly fell a lot
  - But then banks balance sheets are in trouble, their assets are not as large as their debts so they potentially fail
  - If one bank fails that is bad, but if all fail at once we have a potential disaster
  - This lead to the bank bailouts