

28th Annual Minsky Conference

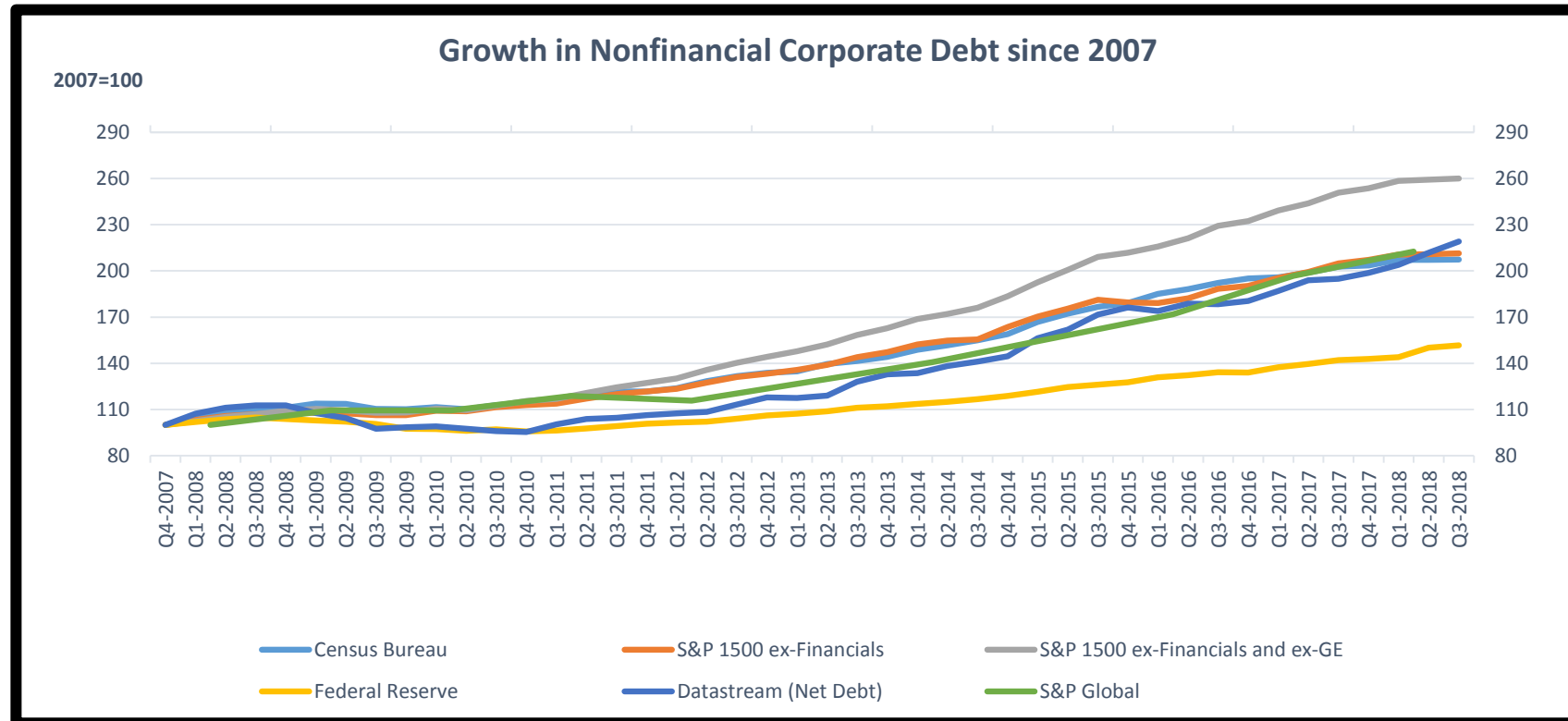
April 17, 2019

**Record Global Private Indebtedness and a
Global House Price Bubble**

Veneroso Associates

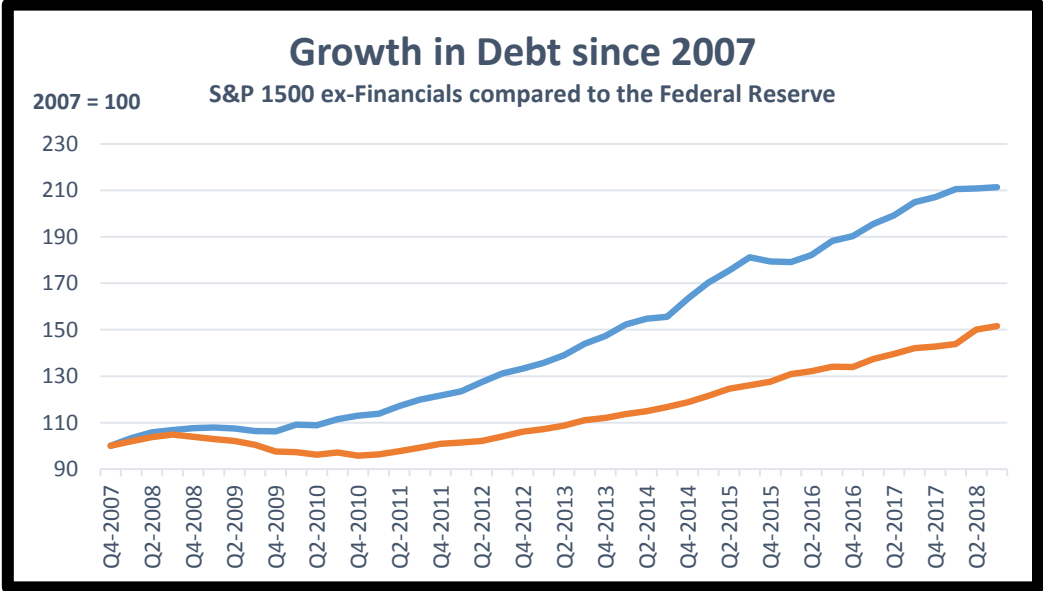
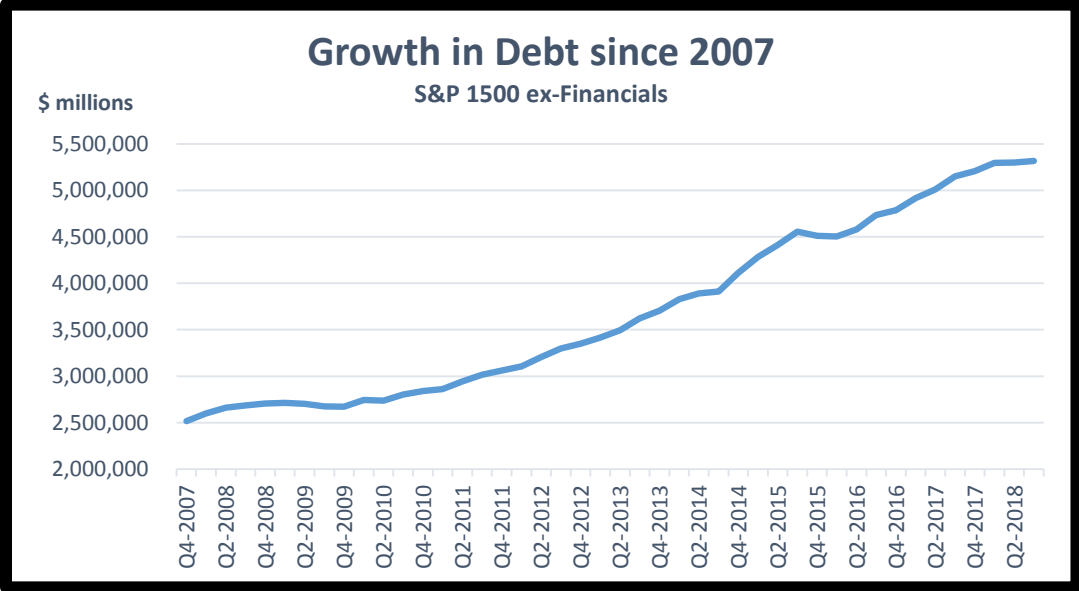
Where does U.S
indebtedness now stand?

The Federal Reserve estimates nonfinancial corporate debt has risen 52% since 2007. Five very large though different corporate balance sheets show such debt has increased by perhaps 130%.

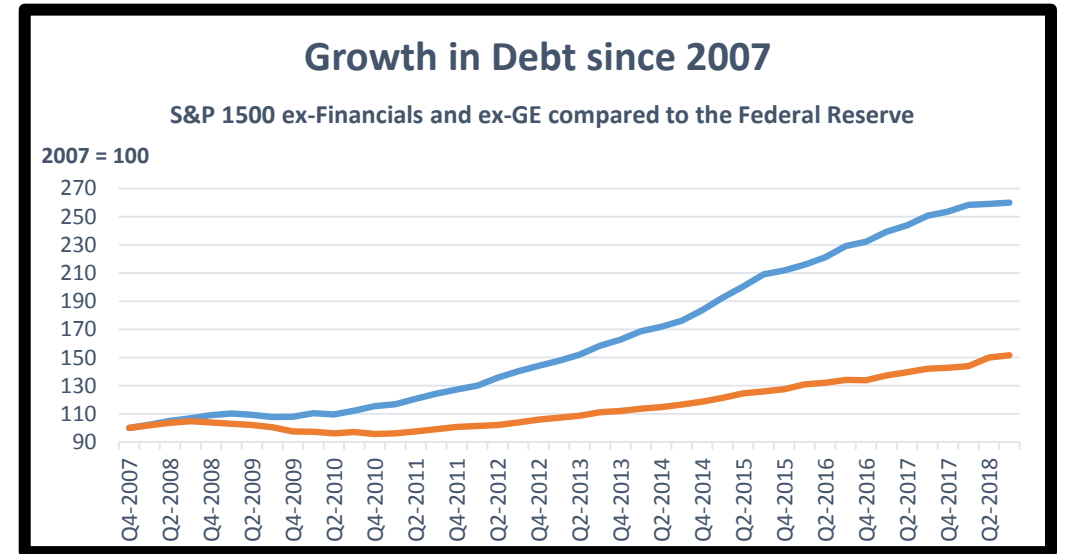
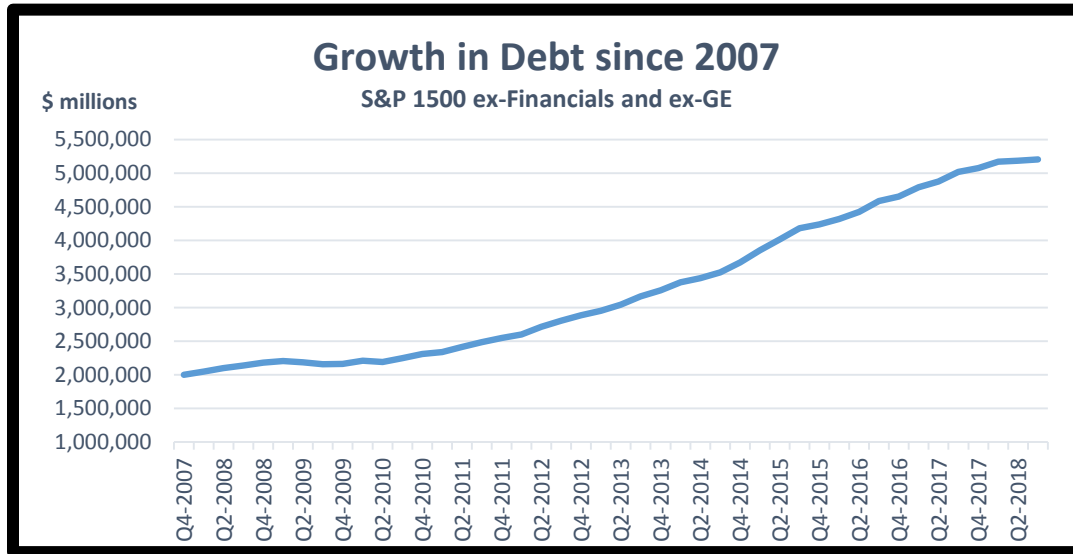


Census Bureau, Datastream, Standard & Poor's, Federal Reserve

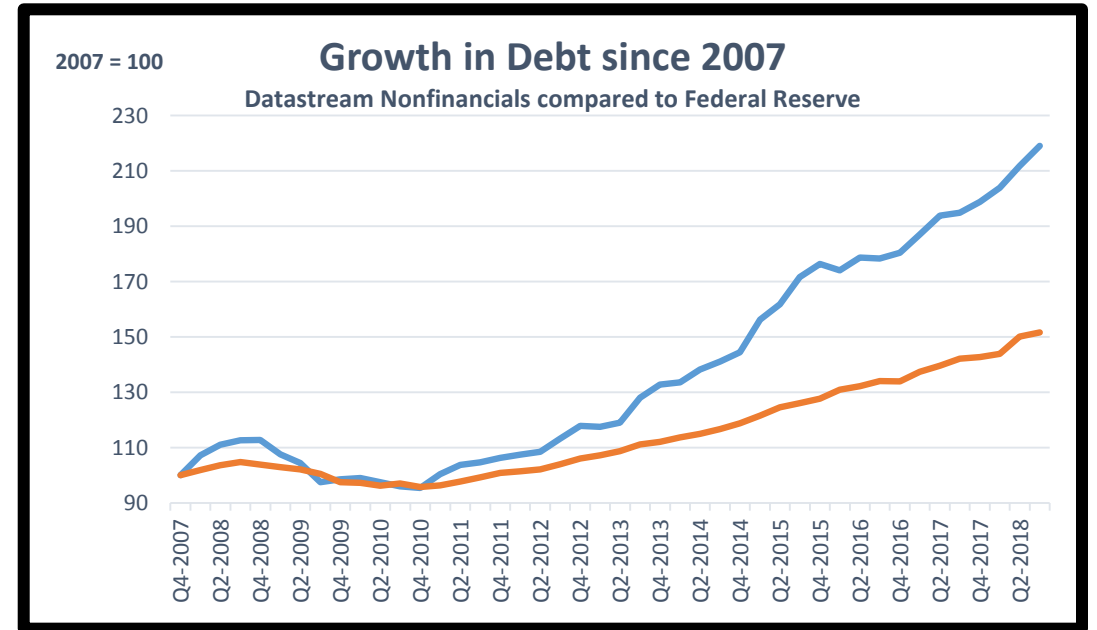
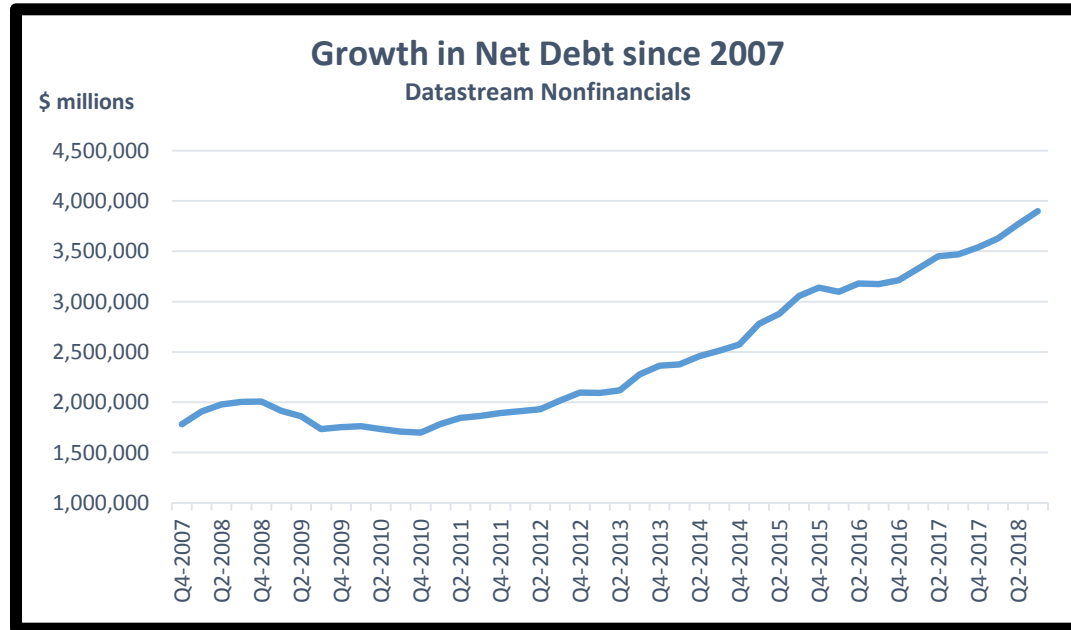
Here is the debt growth of the S&P 1500 ex-Financials compared to the Federal Reserve.



Excluding GE as well from the S&P 1500 balance sheet increases the growth rate of debt to 160% since 2007 due to the spin off of GE Capital, its financial subsidiary.

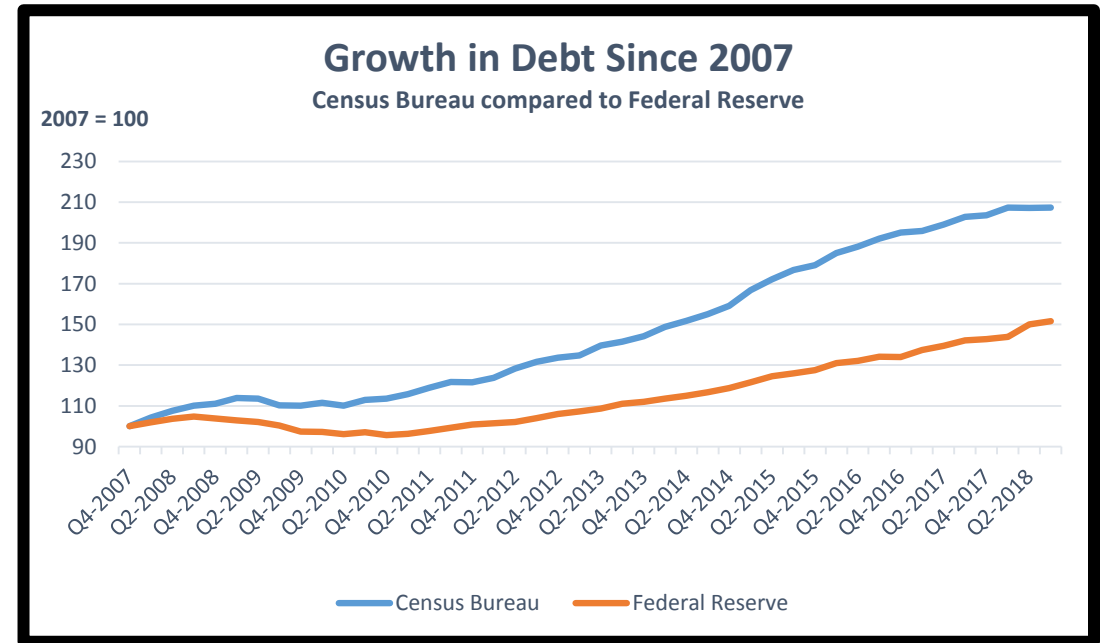
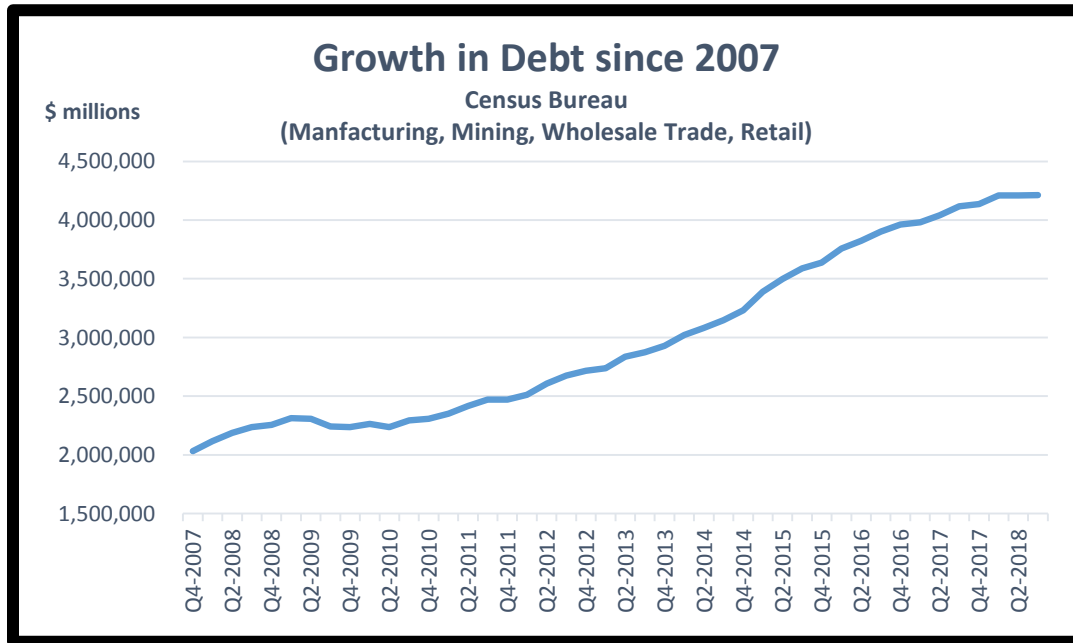


Here is growth in the NET debt for the universe of nonfinancial corporations in the Datastream database.



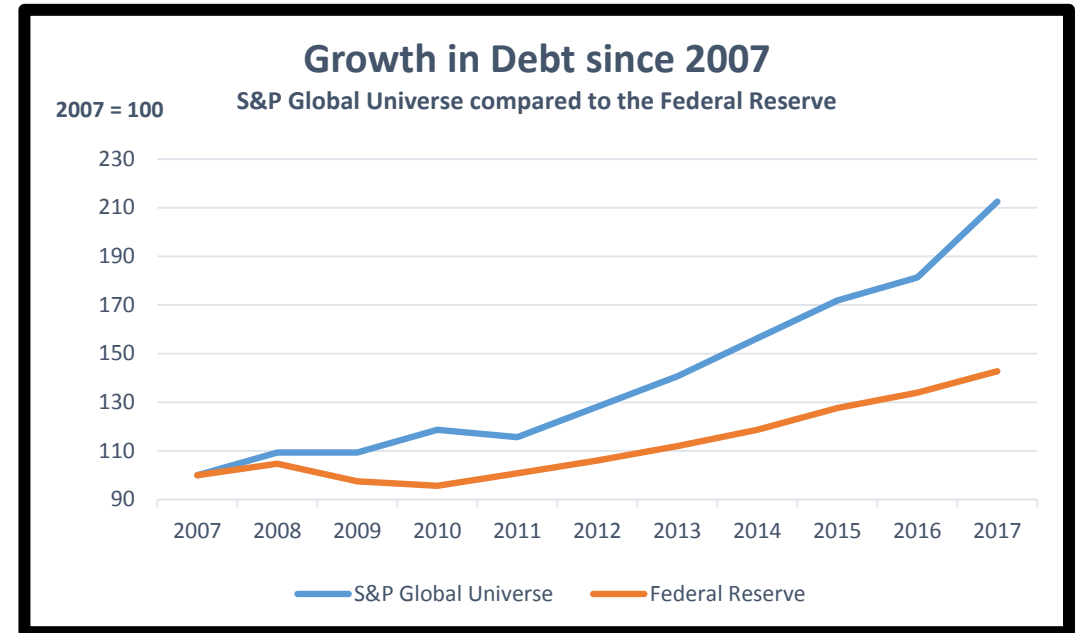
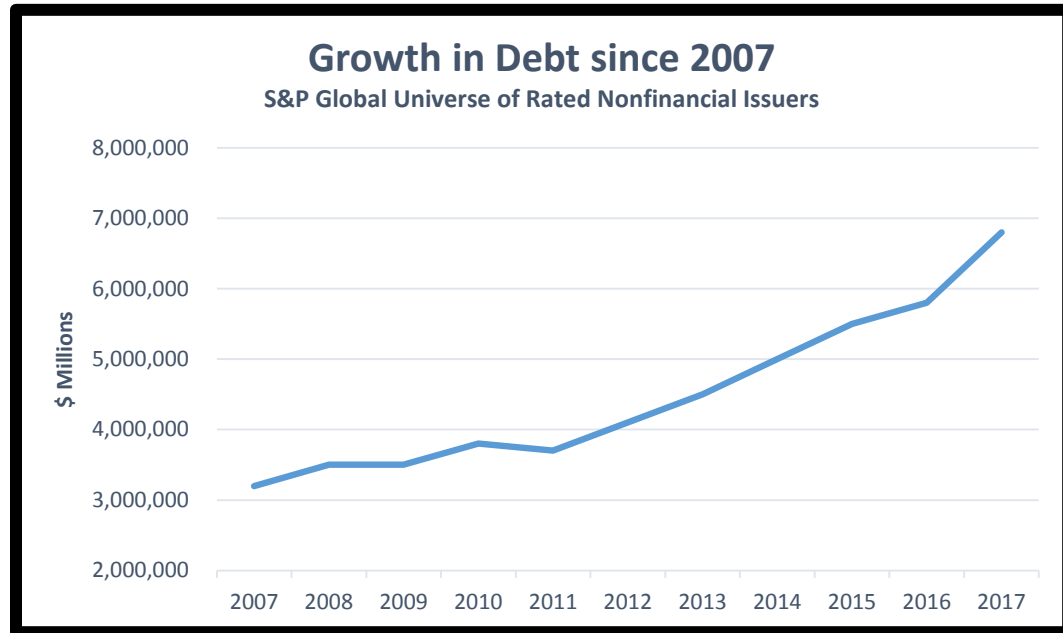
Datastream, Federal Reserve

A Census Bureau aggregate balance sheet of 11,400 nonfinancial corporations in 4 industries shows a similar 111% rise in debt since 2007.



Census Bureau, Federal Reserve

Here is S&P Global's universe of rated nonfinancial corporate issuers.
Their debt growth since 2007 is 112%.



Standard & Poor's, Federal Reserve

Where would overall private nonfinancial debt be if we assumed nonfinancial corporate debt has grown 120% since 2007 instead of the 52% that the Federal Reserve estimates and noncorporate nonfinancial business debt and household debt has grown as the Federal Reserve has estimated?

Where Is Private Nonfinancial Debt Today?			
Veneroso Associates estimate assumes nonfinancial corporate debt has grown 120% since 2007			
(\$ billions)	Federal Reserve Flow of Funds Estimates		Veneroso Associates Estimate
	2007 Q4	2018 Q4	2018 Q4
Nonfinancial Corporate Debt	6,339.7	9,758.7	13,947.4
% of GDP	43.2%	46.8%	66.8%
Nonfinancial Noncorporate Debt	3,775.1	5,484.6	5,484.6
% of GDP	25.7%	26.3%	26.3%
Total Business Debt (On Balance Sheet)	10,114.8	15,243.4	19,432.0
% of GDP	68.9%	73.1%	93.1%
Household Debt	14,242.5	15,627.7	15,627.7
% of GDP	97.0%	74.9%	74.9%
Total Private Nonfinancial Debt (excluding off balance sheet debt)	24,357.3	30,871.0	35,059.7
% of GDP	165.9%	148.0%	168.0%
Off Balance Sheet Debt	1,761.8	2,503.8	2,503.8
% of GDP	12.0%	12.0%	12.0%
Total Private Nonfinancial Debt (including off balance sheet debt)	26,119.1	33,374.8	37,563.5
% of GDP	177.9%	160.0%	180.0%

Federal Reserve, Veneroso Associates calculations

What if noncorporate nonfinancial business debt grew by 120% since 2007 as well?

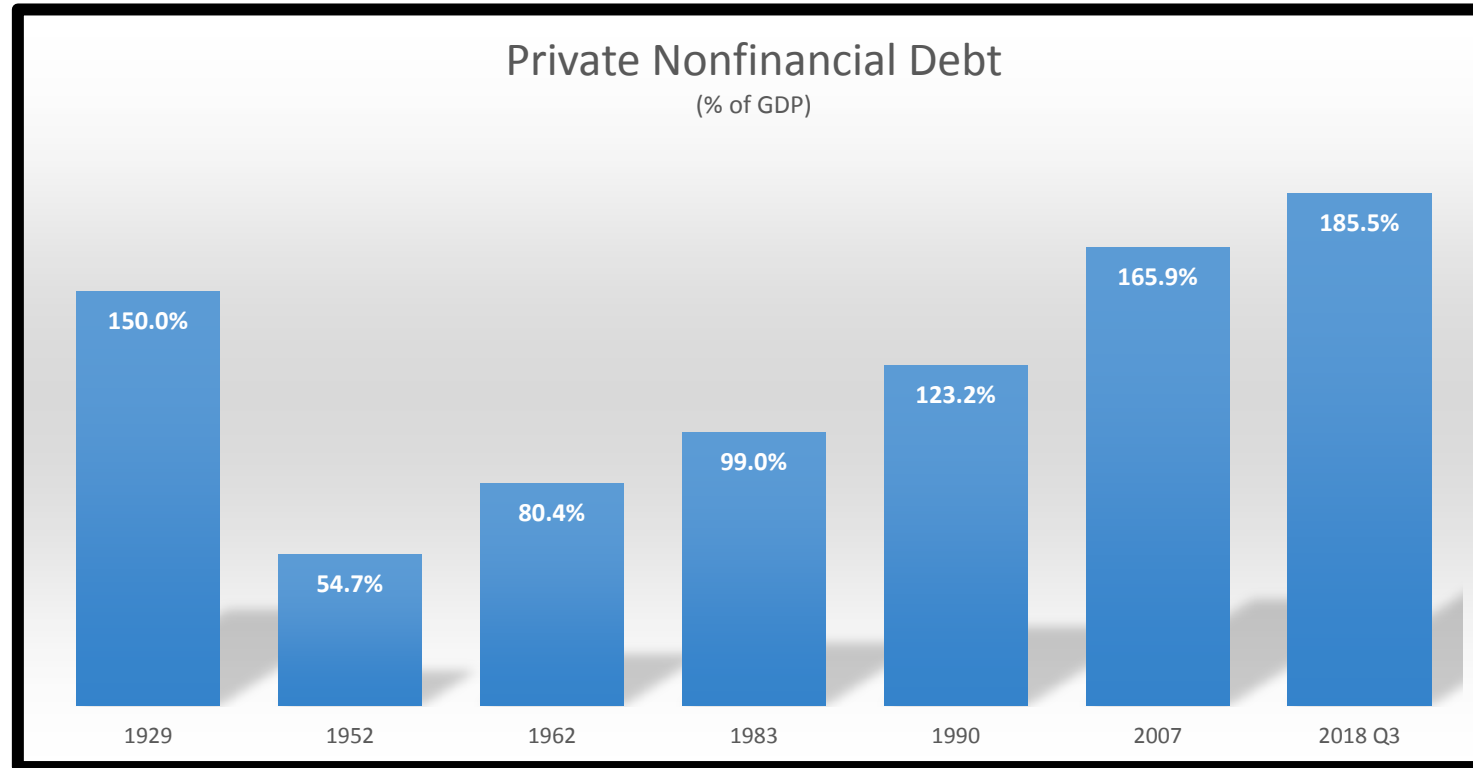
Where Is Private Nonfinancial Debt Today?			
Veneroso Associates estimate assumes nonfinancial corporate and noncorporate debt have grown 120% since 2007			
(\$ billions)	Federal Reserve Flow of Funds Estimates		Veneroso Associates Estimate
	2007 Q4	2018 Q4	2018 Q4
Nonfinancial Corporate Debt	6,339.7	9,758.7	13,947.4
% of GDP	43.2%	46.8%	66.8%
Nonfinancial Noncorporate Debt	3,775.1	5,484.6	8,305.3
% of GDP	25.7%	26.3%	39.8%
Total Business Debt (On Balance Sheet)	10,114.8	15,243.4	22,252.7
% of GDP	68.9%	73.1%	106.6%
Household Debt	14,242.5	15,627.7	15,627.7
% of GDP	97.0%	74.9%	74.9%
Total Private Nonfinancial Debt (excluding off balance sheet debt)	24,357.3	30,871.0	37,880.3
% of GDP	165.9%	148.0%	181.5%
Off Balance Sheet Debt	1,761.8	2,503.8	2,503.8
% of GDP	12.0%	12.0%	12.0%
Total Private Nonfinancial Debt (including off balance sheet debt)	26,119.1	33,374.8	40,384.1
% of GDP	177.9%	160.0%	193.5%

Federal Reserve, Veneroso Associates calculations

Our guess is that reality lies between these two alternative estimates of growth in noncorporate nonfinancial business debt.

Record Private Indebtedness Globally

The ratio of U.S. private debt to GDP reached 150% in 1929. A great financial crisis followed. The same ratio went somewhat higher in 2007 and a great financial crisis followed. The same ratio now is substantially higher than in both of those years.



1929: Irving Fisher, "Booms and Depressions"
1952, 1962, 1983, 1990 and 2007: Actual data from Federal Reserve Flow of Funds
2018 Q3: Assumes total business debt grows 104% from 2007 Q4 and adds Andrew Smithers' estimate of off-balance sheet debt (10% of GDP)

Deleveraging episodes with accompanying financial crises were quite common when private debt exceeded 150% of GDP. Japan with a private debt to GDP ratio of 221% in 1994 was thought to be an historical anomaly....

Deleveraging Cycles in Selected Economies			
	Private Debt/ GDP at t0	Deleveraging (% of GDP)	Duration (Years)
Advanced Economies			
Belgium (2001)	179	-20	5
Canada (1992)	150	-12	3
Canada (1997)	151	-17	8
Denmark (1988)	162	-32	10
Finland (1992)	167	-47	9
Ireland (1999)	150	-33	5
Japan (1994)	221	-37	11
Norway (1988)	167	-44	7
Norway (1998)	159	-5	3
Portugal (1983)	157	-63	7
Portugal (2001)	184	-16	4
Sweden (1990)	167	-44	7
Sweden (2001)	180	-17	4
U.S. (1988)	127	-18	10
Emerging Economies			
Korea (1997)	170	-44	8
Thailand (1997)	182	-74	5

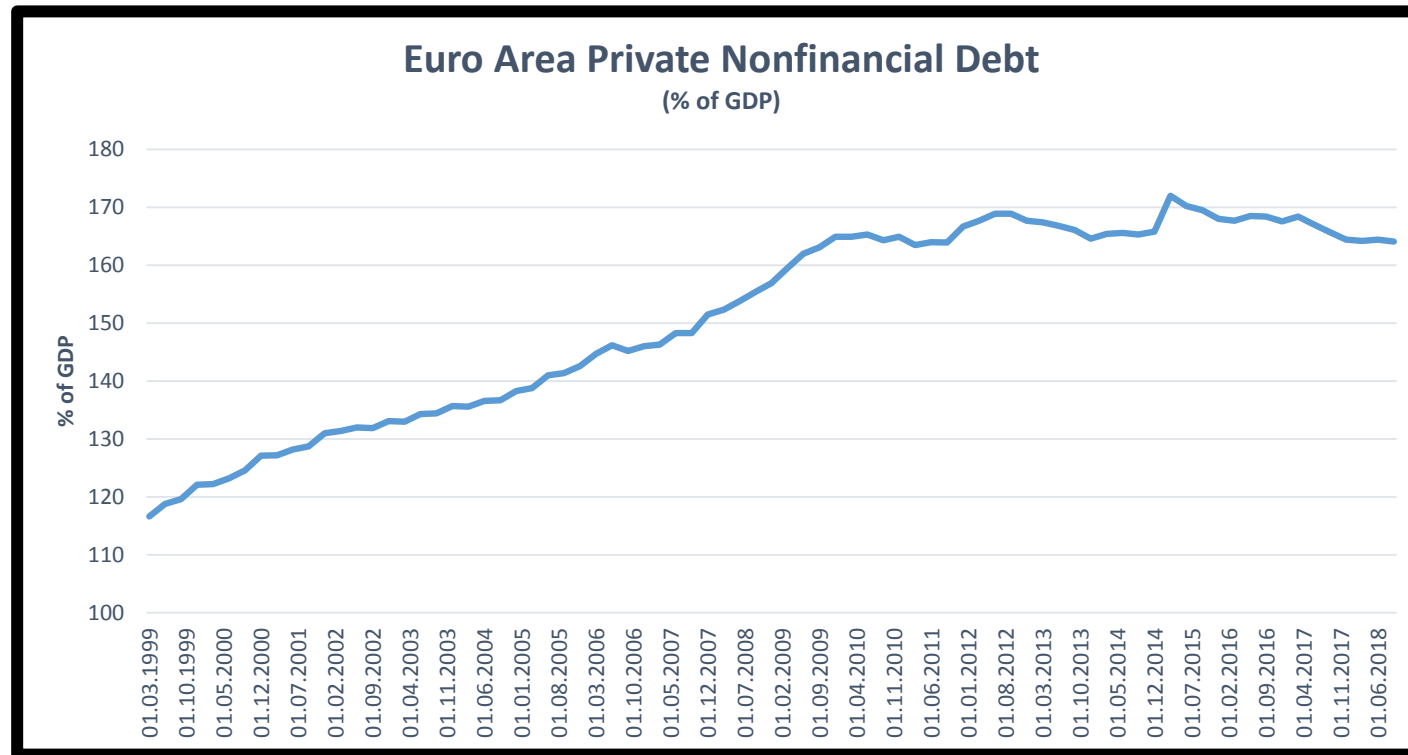
*IMF Working Paper, "Private Sector Deleveraging and Growth Following Busts",
Sally Chen et al, February 2015*

The ratio of private debt to GDP has risen significantly since 2007 in many economies. A number of them have approached or exceeded Japan's level in the early 1990's. The world is more indebted than it was in 2007 before the Great Financial Crisis. It has now become like Japan in the 1990's.

Private Nonfinancial Debt (% of GDP)				
Year End (except 2018)				
	1990	2001	2007	2018Q2
Advanced Economies				
Australia	120.9	140.8	188.2	195.3
Canada	138.2	153.7	162.1	214.6
Belgium	92.7	151.3	169.5	222.1
Switzerland	193.3	186.1	196.1	247.0
Denmark	148.7	164.7	230.7	229.4
Finland	128.8	117.5	145.2	183.0
France	128.9	142.8	156.9	202.5
Netherlands	162.8	216.2	231.9	275.5
Norway	171.0	163.8	201.8	241.4
Portugal	76.8	152.6	196.7	169.8
Spain	75.8	127.6	205.8	155.4
Sweden	156.1	161.5	191.0	245.6
Japan	211.2	185.8	161.3	157.5
United Kingdom	115.8	151.0	186.6	170.4
United States*	124.1	139.2	165.9	185.5
Emerging Markets				
China**	87.3	104.8	116.7	287.0
Korea	117.5	143.4	160.8	195.9
Malaysia	104.7	141.6	110.5	135.9
Singapore	101.7	137.3	115.2	164.3
Thailand	93.1	104.4	90.8	116.2

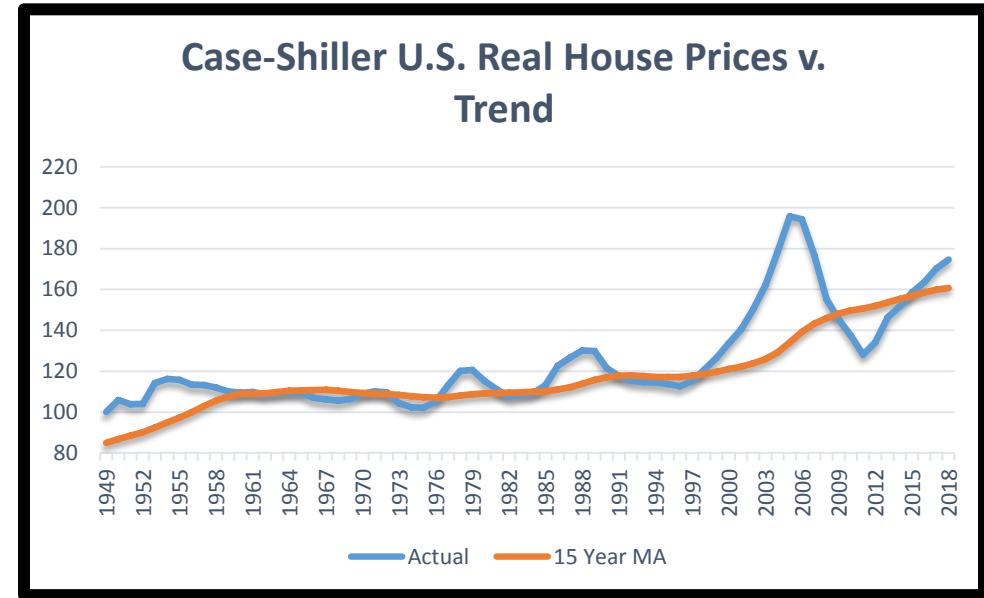
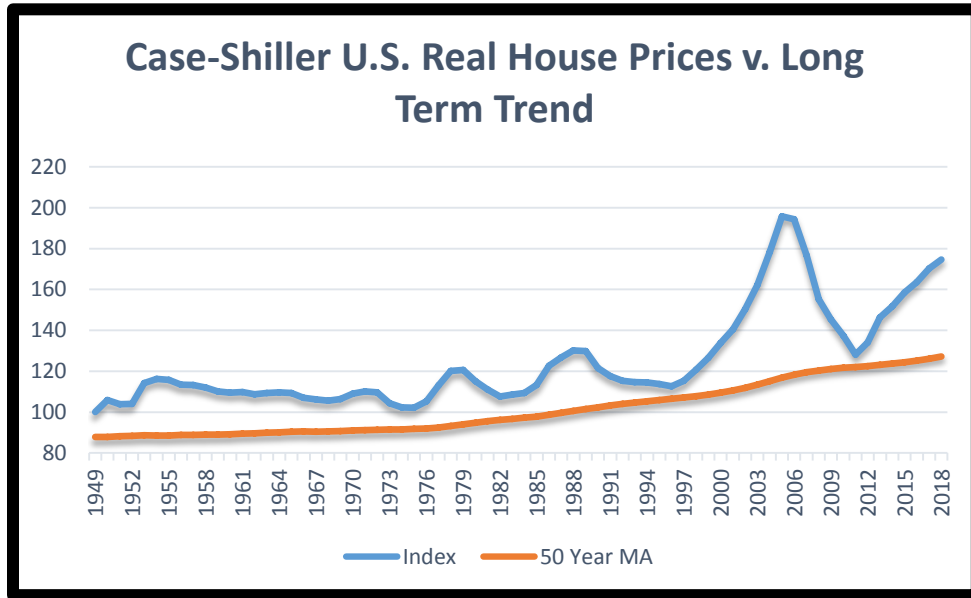
BIS,* Veneroso Associates estimate for U.S. 2018, **Victor Shih's estimate for private nonfinancial debt adjusted for potential overstatement of China's GDP, according to recent paper "A Forensic Examination of China's National Accounts", Wei Chen et al, Brookings Papers on Economic Activity, March 2019

After rising substantially into 2010, the Euro Area's overall ratio has remained above the 2007 peak according to official statistics. Interest coverage ratios and the proliferation of zombies across the region suggest the Eurozone's officially estimated debt levels are understated.



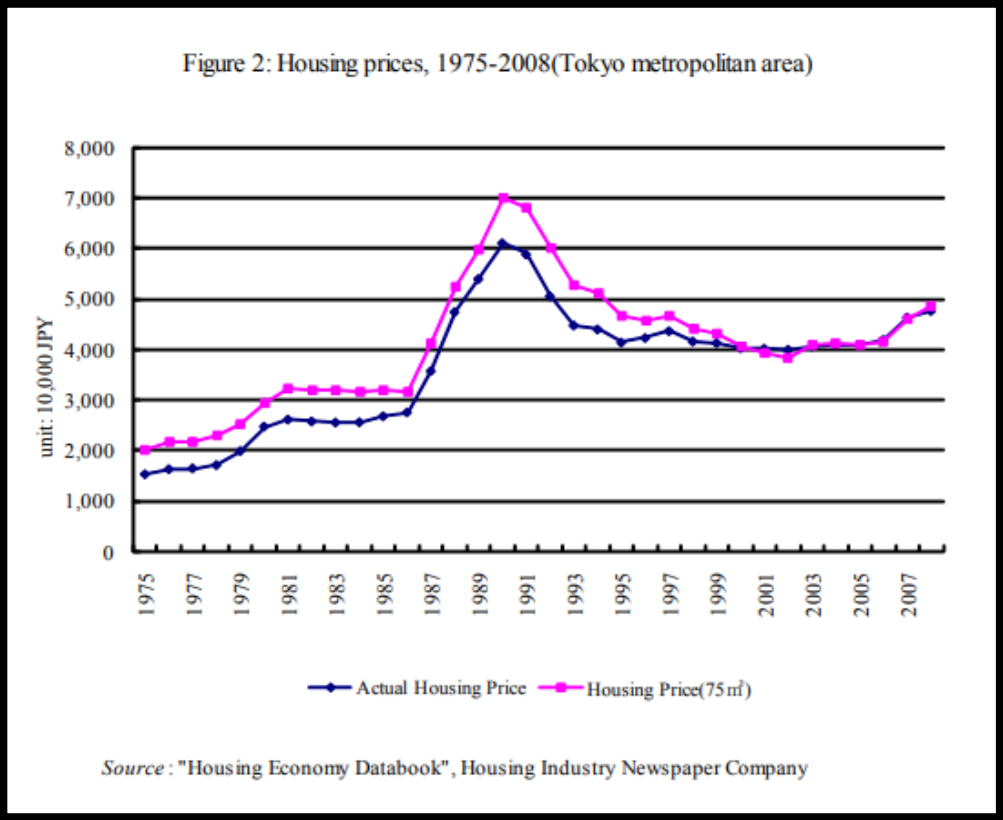
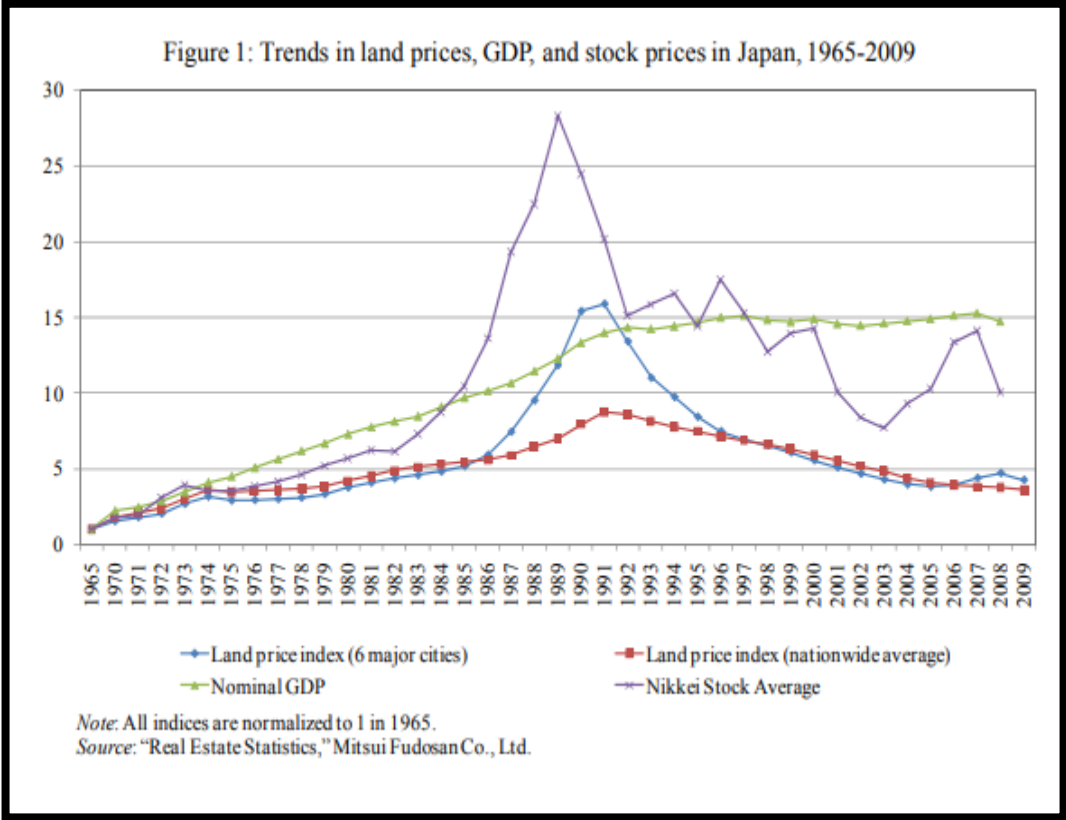
Global Real Estate Bubble

It is difficult to define and identify an asset bubble. Jeremy Grantham defines a bubble as a two standard deviation upside departure from a fundamental mean. But what is the appropriate mean to use?

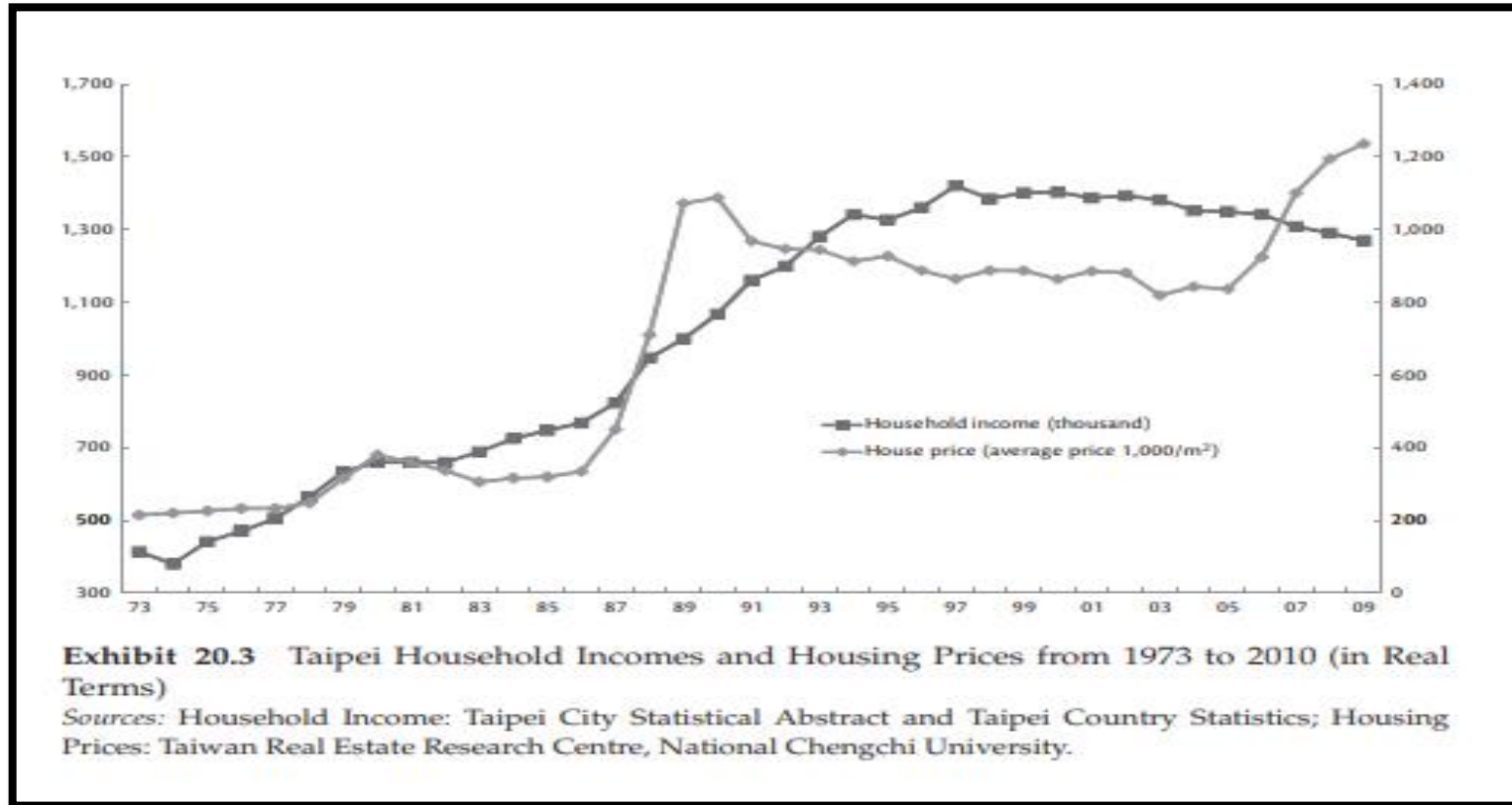


Robert Shiller Online Data

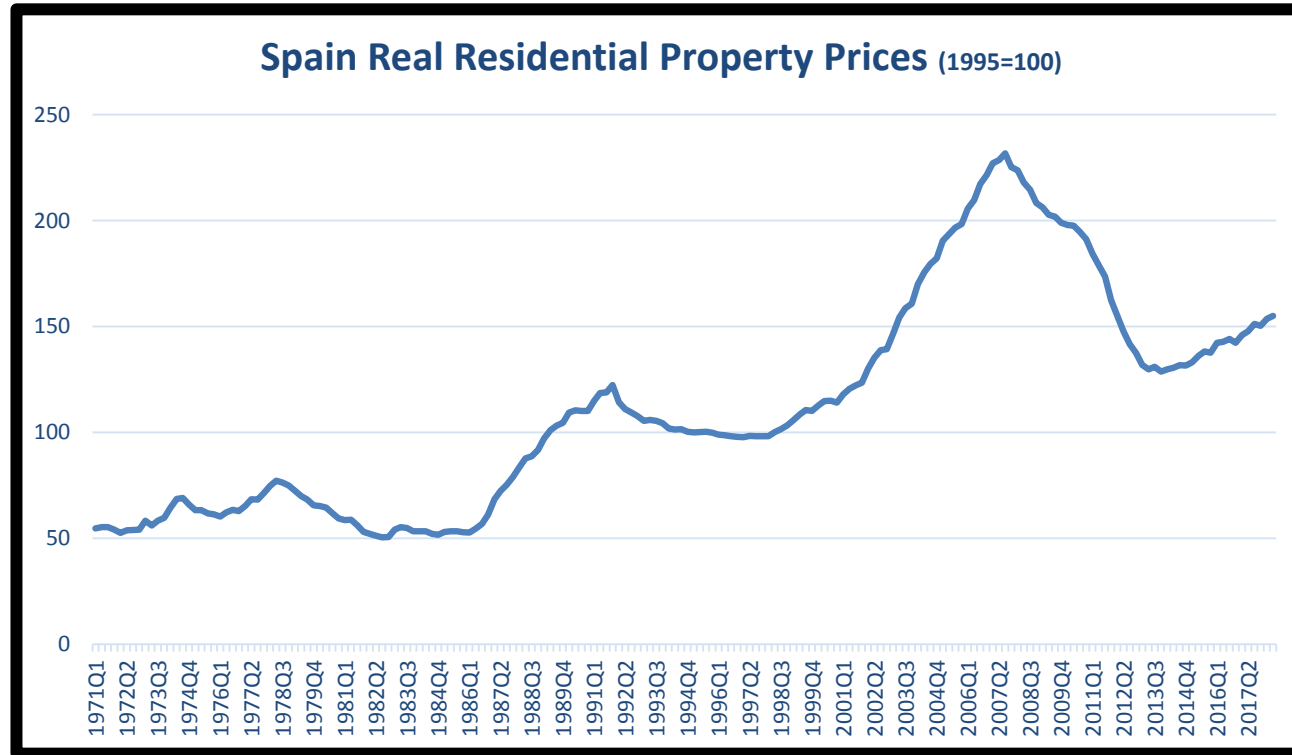
In some economies with extremely rapid income growth and scarce habitable land, fundamental home price values may follow a very positive upward trend. In Japan, home prices may have met this Grantham criteria for an asset bubble in the 1970's but may have been fundamentally justified. It was only when prices exploded in the 1980's that prices crashed and reverted to a much lower mean.



The same dynamics in Japan may have been present in Taiwan as well. We see a similar explosive rise in real home prices in the 1980's followed by a large and lasting decline.

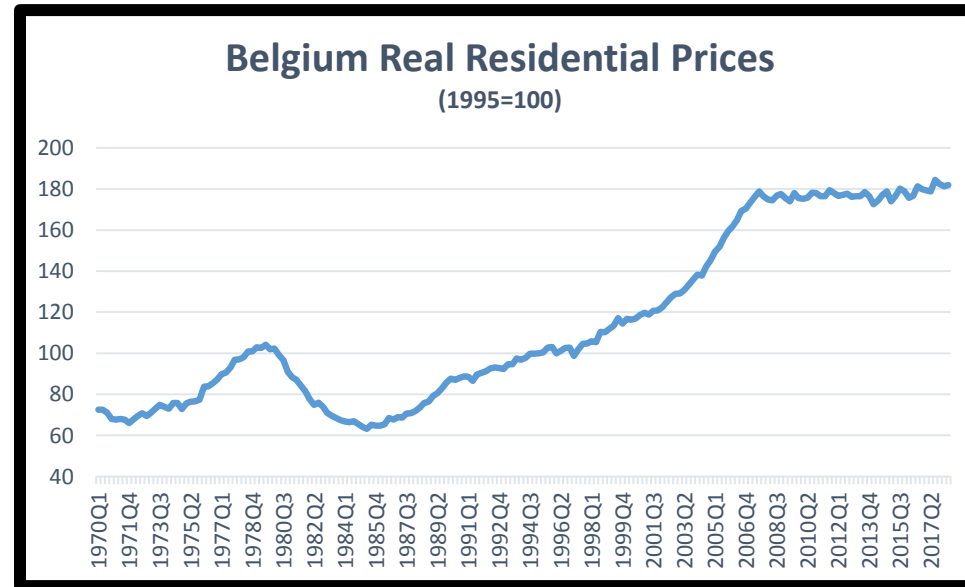
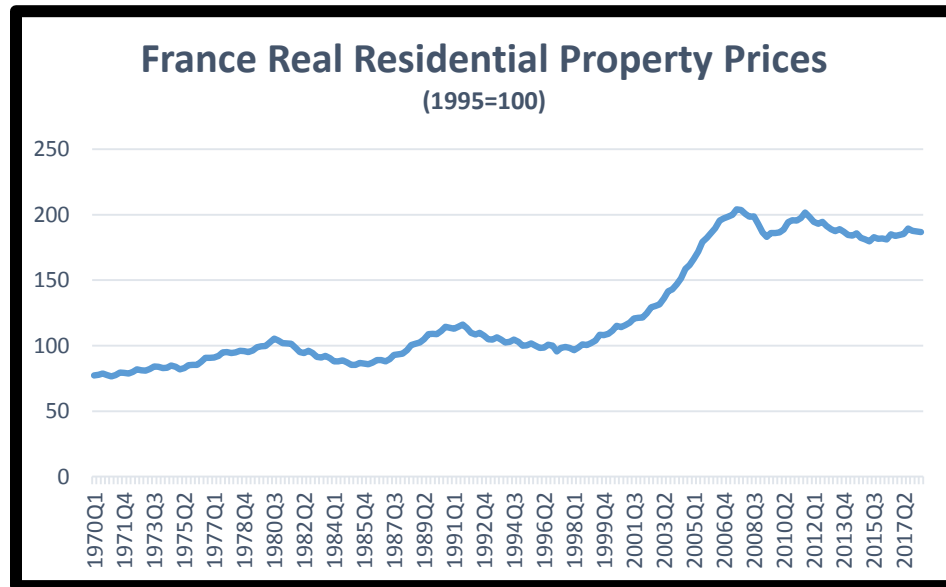


Spain has traced out a similar pattern to the U.S. housing market (first chart) but has had only a partial recovery following the 2008-2013 crash in prices.

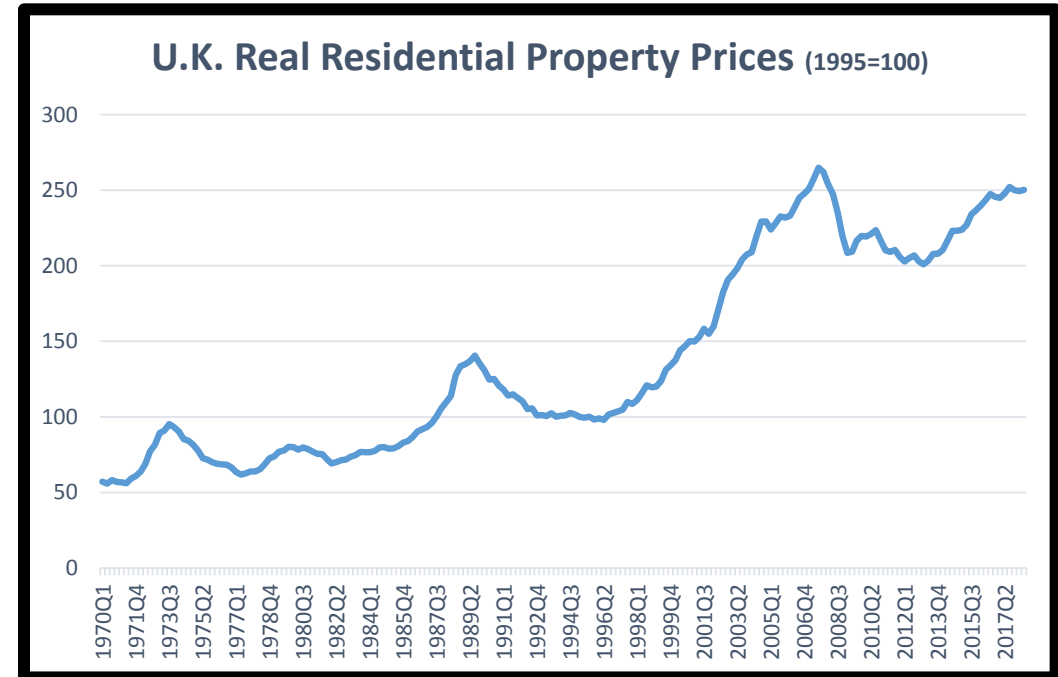
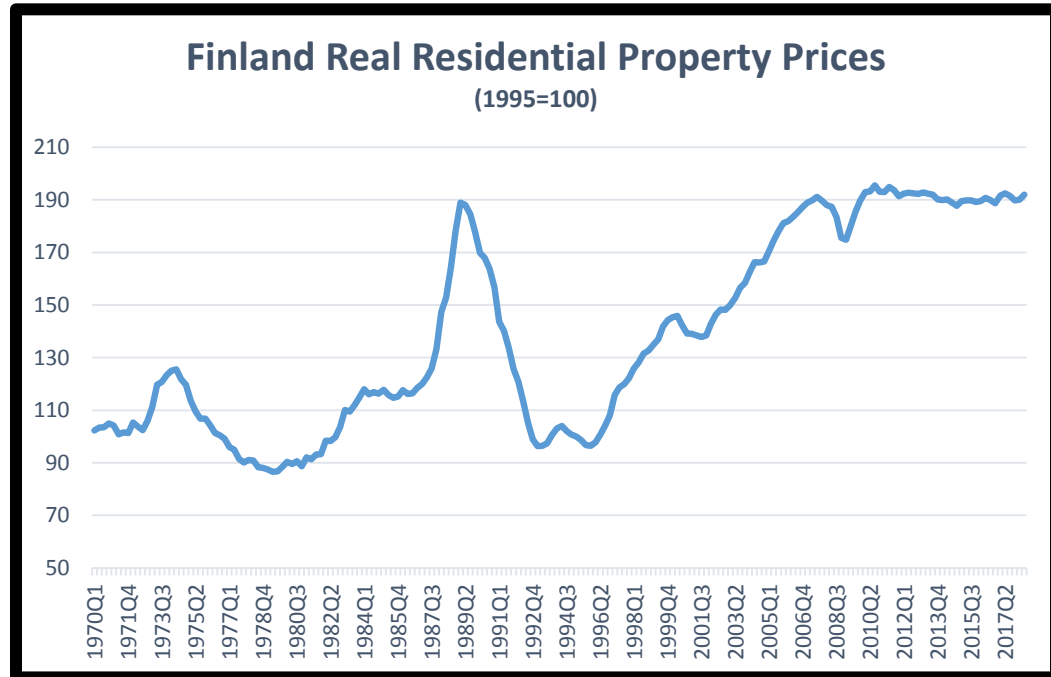


BIS, OECD

Some markets saw a near doubling in real prices from the mid-1990s to 2007 but have not experienced any sustained setbacks. France and Belgium are two examples...

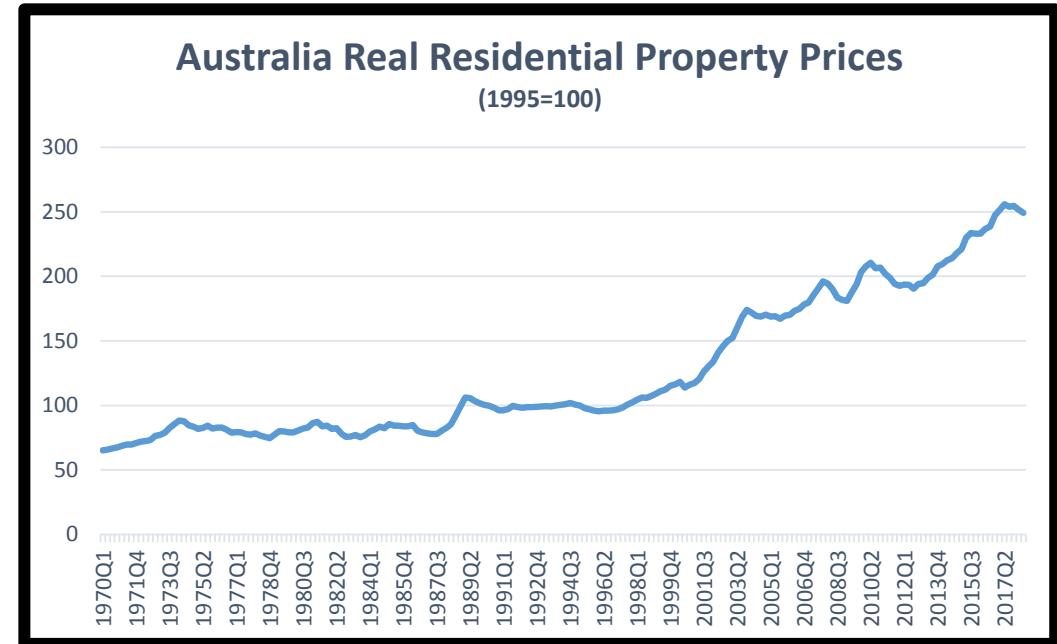
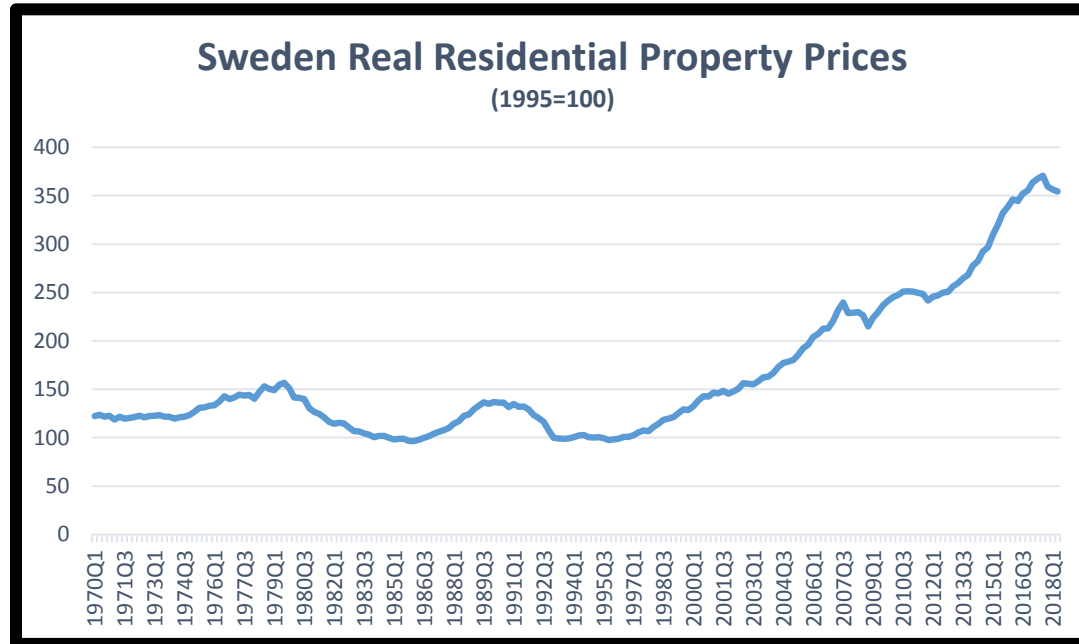


So are Finland and the U.K....



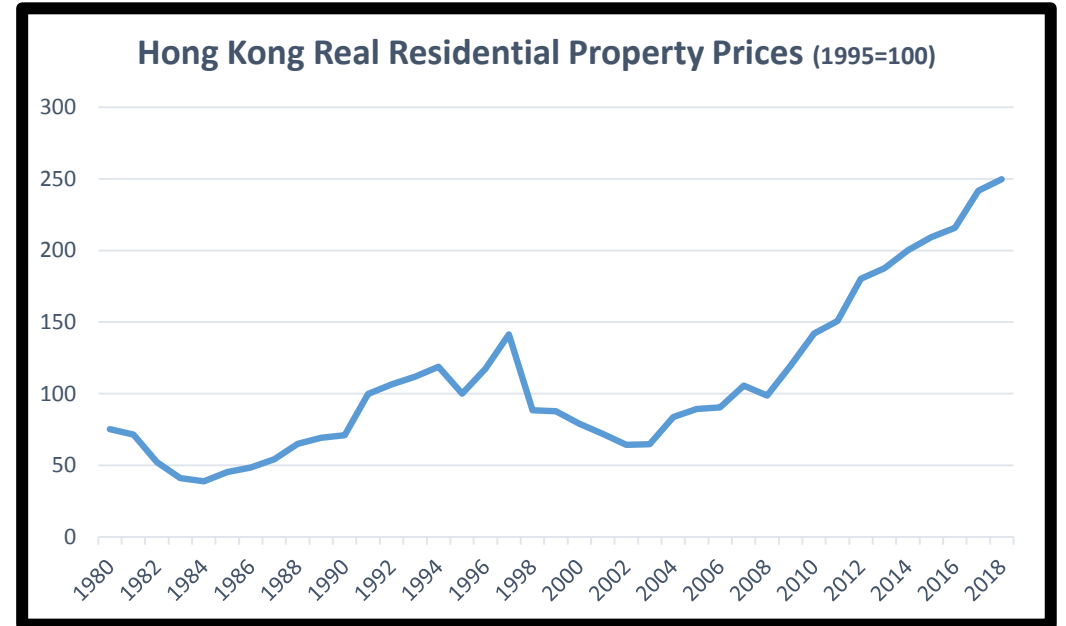
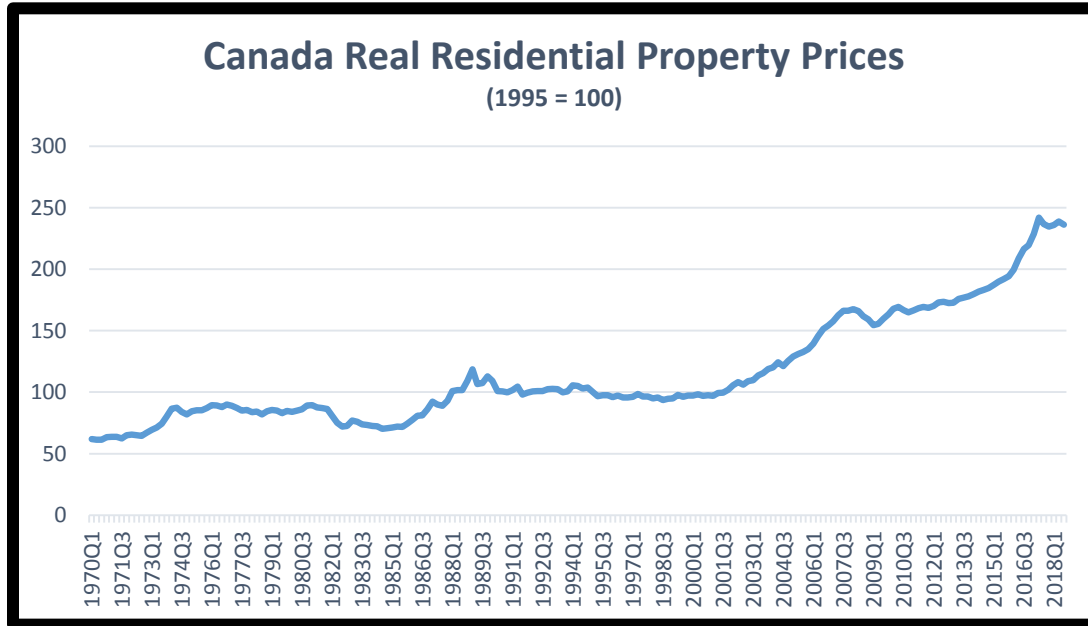
BIS, OECD

Residential prices in some economies have embarked on yet another major leg higher after the Great Financial Crisis....

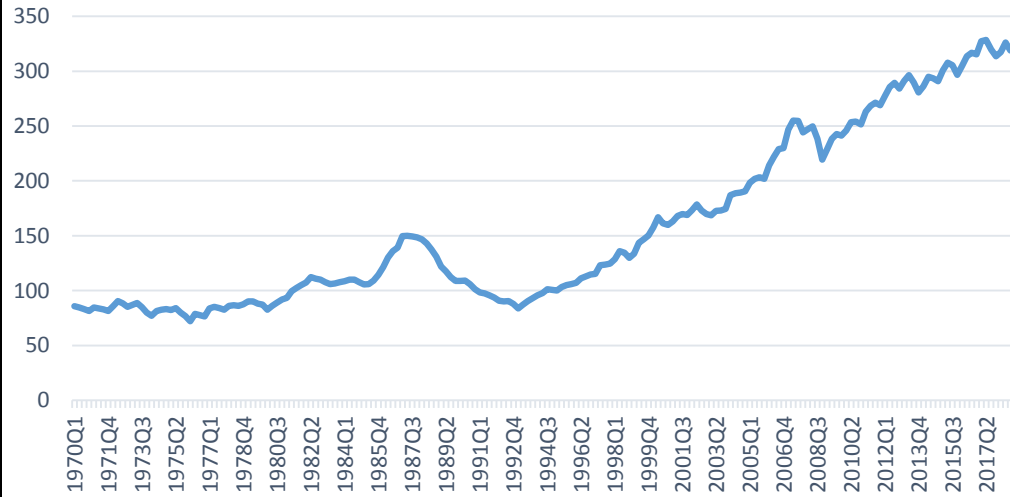


BIS, OECD

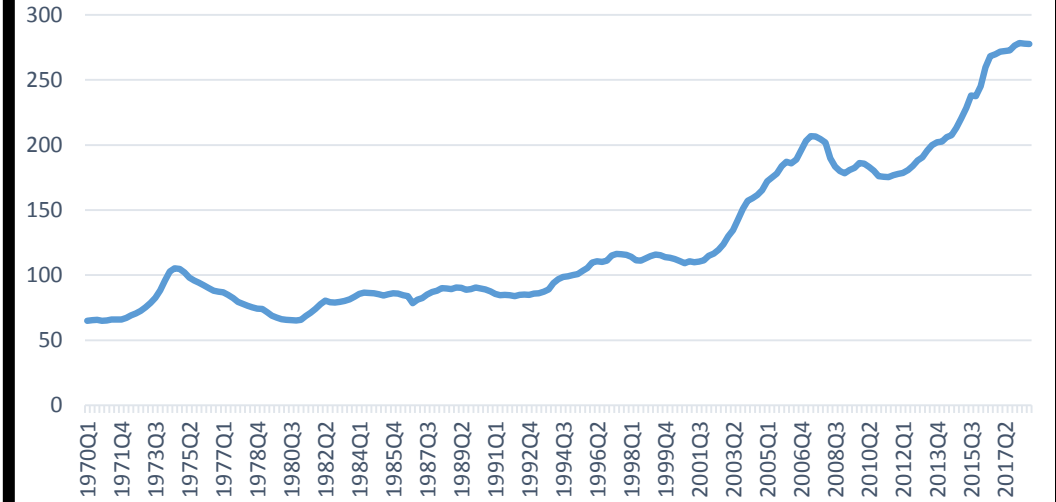
Concerns about house bubbles in Australia and Canada grab the most headlines but other countries have seen comparable price increases as well...only Hong Kong might be due to land scarcity...



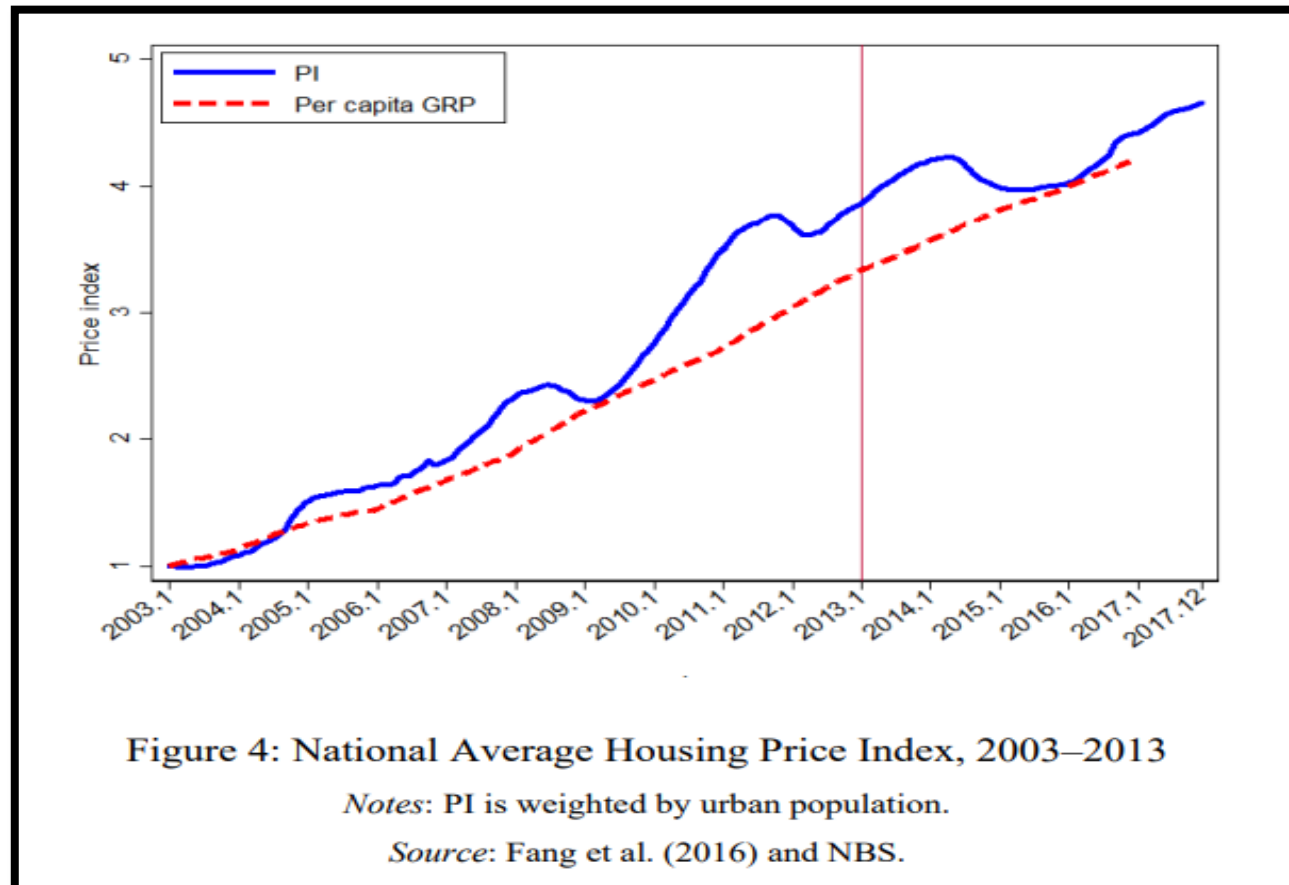
Norway Real Residential Property Prices (1995=100)



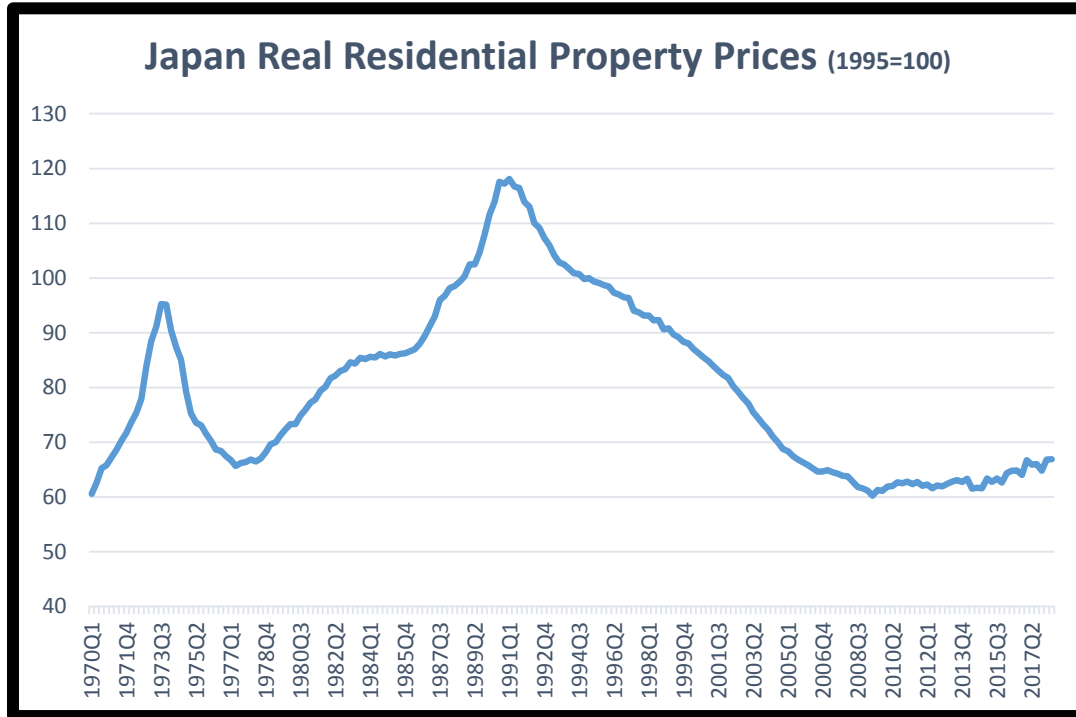
New Zealand Real Residential Property Prices (1995=100)



A private real estate market in China only began in the early 1990's. Nominal prices have soared nearly fivefold since 2003. Its property bubble may be larger than Japan's in the late 1980s because its ratio of property values to GDP now exceeds that of Japan's in 1991.



The declines in real estate prices following a bursting of a bubble can be very severe and never recover...



Thai prices have seen a recovery but still remain 15% below the peak reached in the early 1990's...

