

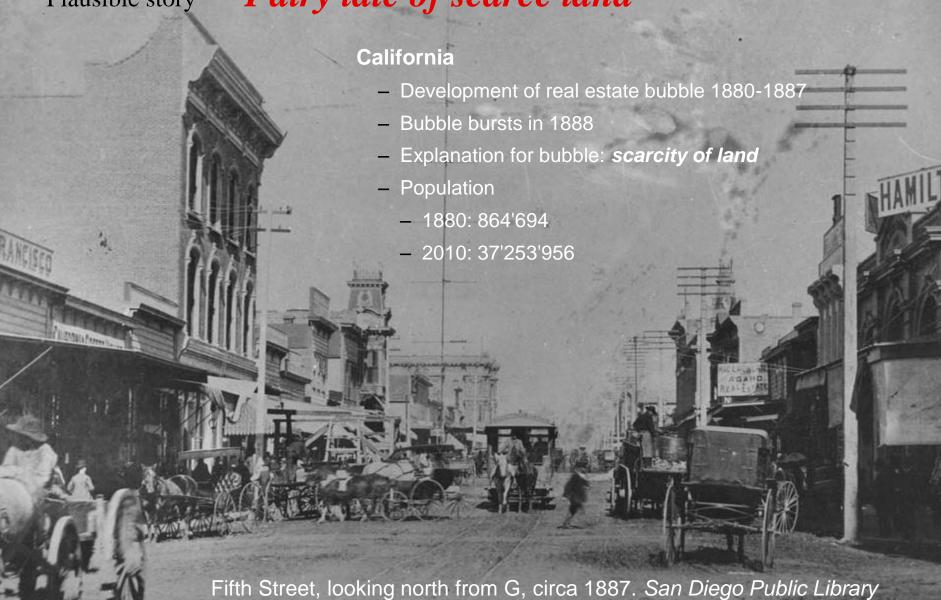
Detecting house price bubbles - UBS Swiss Real Estate Bubble Index

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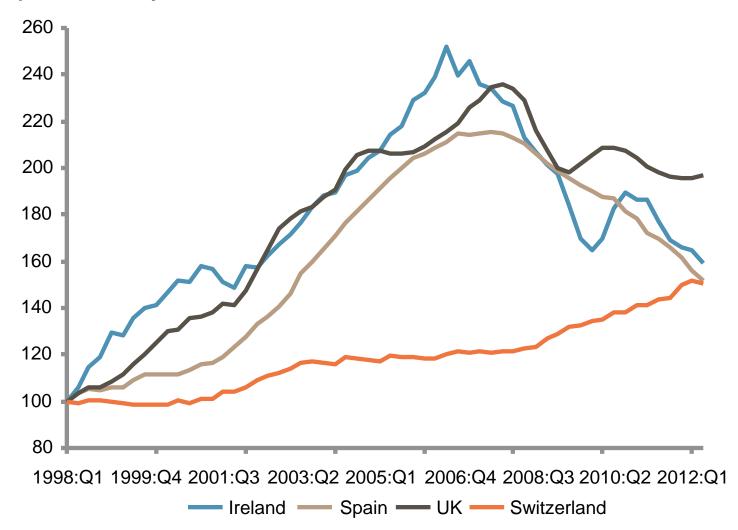






Burst real estate bubbles and Switzerland

Real price indices, year 1998 = 100

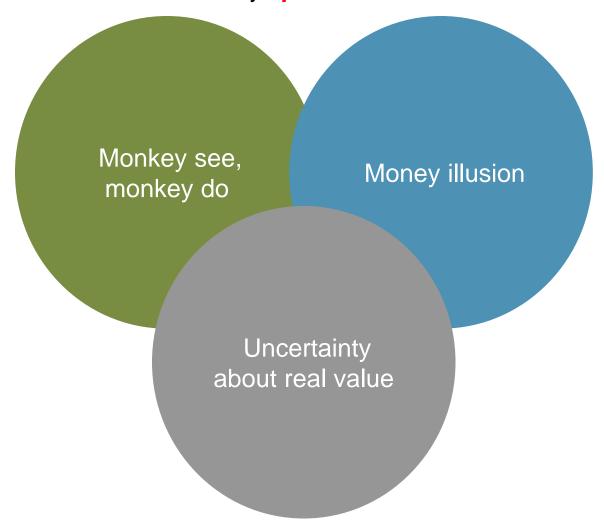




Sources: Dallas Fed, SNB, UBS

How is a real estate bubble *defined?*

A real estate bubble is a deviation of the market price from the fundamental value of an investment driven by **speculative** demand.





How a real estate bubble can be *detected?*

A real estate bubble should be not detected by its burst!

- 1. (Chart) Technical perspective
- 2. Fundamental perspective
- 3. Behavioral perspective



Are fundamental analyses *reliable?*

Analysed countries	Assessment in	Real price development		Ex-post
	OECD 2005*	till peak	since peak	analysis
USA		8,7%	-25,4%	×
Japan		-1,1%	-12,1%	×
Germany		-0,4%	-3,9%	✓
France		20,9%	-3,5%	✓
Italy		9,4%	-17,0%	×
UK		13,8%	-16,5%	\checkmark
Canada		46,6%	0,0%	✓
Australia		25,3%	-8,3%	×
Denmark		33,6%	-28,5%	×
Finland		14,7%	-5,5%	\checkmark
Ireland		21,6%	-36,9%	✓
Korea		13,8%	-1,3%	✓
Netherlands		7,9%	-16,4%	\checkmark
Norway		41,0%	0,0%	×
New Zealand		23,3%	-12,3%	√
Spain		12,7%	-29,5%	\checkmark
Sweden		34,2%	-5,7%	×
Switzerland		25,0%	0,0%	✓
Significantly overvalued				
Slightly overvalued			Miss	×
Not overvalued			Hit	✓



*Recent House Price Developments: The Role of Fundamentals OECD 2005: Economic Outlook 78

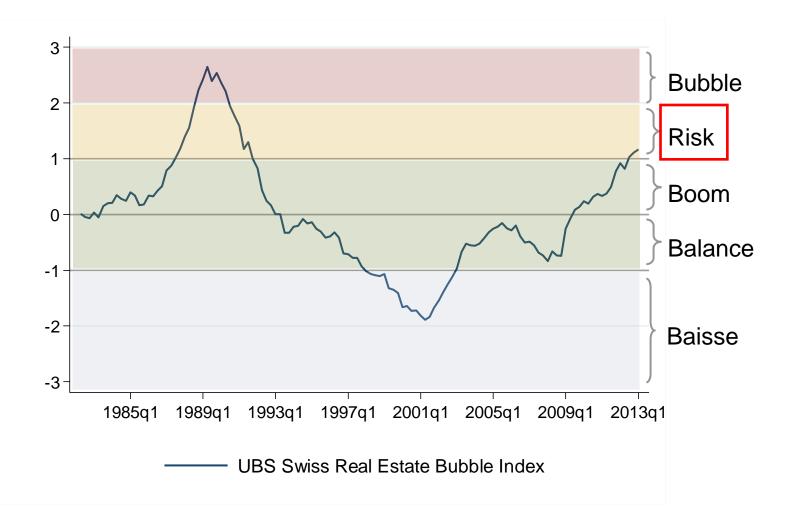
Indicator system of the UBS Swiss Real Estate Bubble Index

Transparent and clear methodology

- (Chart) Technical perspective
 - Owner-occupied housing prices in consumer prices
- Fundamental perspective
 - Ratio owner-occupied housing prices and rental costs
 - Ratio owner-occupied housing prices and household income
- Behavioral perspective
 - Loan applications (UBS) for buy-to-let properties
- Further indicators
 - Outstanding mortgages to income
 - Construction volume to GDP



UBS Swiss Real Estate Bubble Index – 1. Quarter 2013





Source: UBS

Regulatory measures to reduce mortgage risks

- New (qualitative) guidelines for mortgage business (SBVg, as at 1.1.2012)
- Guidelines regarding minimum requirements for mortgage lending (SBVg, 1.7.2012)
 - 1. Minimum share of own equity on collateral value of 10 per cent, which is not allowed to come from pension funds savings.
 - 2. The mortgage debt must be reduced in at least 20 years to 2/3 of the collateral value.
- New capital adequacy ordinance (as at 1.1.2013)
- Introduction of countercyclical capital buffer as at October 2013
 - Banks be obliged to hold a countercyclical capital buffer amounting to 1% of their riskweighted, direct or indirect mortgage-backed positions secured by residential property in Switzerland.
 - The banking industry will need to hold additional equity capital in the amount of CHF 2 billion. At a constant return on equity, new mortgages will become more expensive by 3-5 basis points.
 - 3. The countercycliccal capital buffer is still clearly below the suggestion in the ordinance which proposes that the capital buffer can amount to a maximum of 2.5% of banks' risk-weighted positions in Switzerland.



Conclusion

- The UBS Swiss Real Estate Bubble Index has become the Benchmark for the market evaluation in Switzerland
- The index meets with media interest national and international
- Transparent and clear methodology are the base for the success of the product
- Used intensly by internal and external risik boards and customer service
- The *regional risk map* which is linked with the index is used internally and externally (e.g. by pension funds) for portfolio management



Questions?



Thank you for your attention!

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