FIRST PRINCIPLE OF SOUND INVESTING

THERE IS NO SAFE INVESTMENT
Government bonds may not be paid back as promised
Bank deposits may not be paid back as promised
Paper money loses its value through inflation
Real estate values may suffer enormous declines

"There is **no such thing as a perfectly safe investment**…
A radical change in conditions may render bad even
investments commonly considered perfectly safe."
Ludwig von Mises, *Human Action* (1949)

The notion of safe investments has powerful supporters

STATEMENTS REAFFIRMING SAFETY OF INVESTMENTS

INVESTMENT	SAFE?
GOVERNMENT BONDS	• "Though a truly **risk-free asset** exists only in theory, in practice most professionals and academics use **short-dated government bonds**." *(wikinvest.com)* • "Both [current European banking regulation and plans to implement Basel III in the EU] treat **government bonds** of member states as **risk-free**, highly liquid assets and exclude them from capital requirements and large exposure regimes." *(DIW Berlin, October 2012)*
BANK DEPOSITS	• "We want to tell savers that their **deposits are safe**." (*Angela Merkel, Chancellor of Germany, 5.10.2008*) • The "Central Bank of Cyprus wishes to stress that **any action aimed at** reducing, depriving or **restricting the property rights of depositors**, contradicts … the Constitution of the Republic of Cyprus and … the European Convention of Human Rights … Hence, any suggestion to the contrary is not only legally unfounded but it **cannot merit serious consideration**." *(Central Bank of Cyprus, 11.2.2013, six weeks before bank deposits were partially confiscated)*
CASH	"We can be proud to have a **stable and credible currency**. There is no crisis of the euro. Instead, what we are currently observing in parts of the euro area is first and foremost a fiscal crisis." *(Jean-Claude Trichet, ECB President 2003-11, 15.5.2011)*
REAL ESTATE	• "We've **never had a decline in house prices** on a national basis. So, what I think what is most likely to happen is that house prices will slow, maybe stabilize." *(Ben Bernanke, FED Chairman 2006-13, in July 2005, one year before house prices started declining by 30%)* • "Nobody ever lost from investing in real estate." *(Greek folk wisdom widely believed until 2009)*

Most countries have defaulted or restructured their debt at least once

NUMBER OF DEFAULTS OR RESTRUCTURINGS OF PUBLIC DEBT (EXTERNAL AND DOMESTIC)

Until 2008

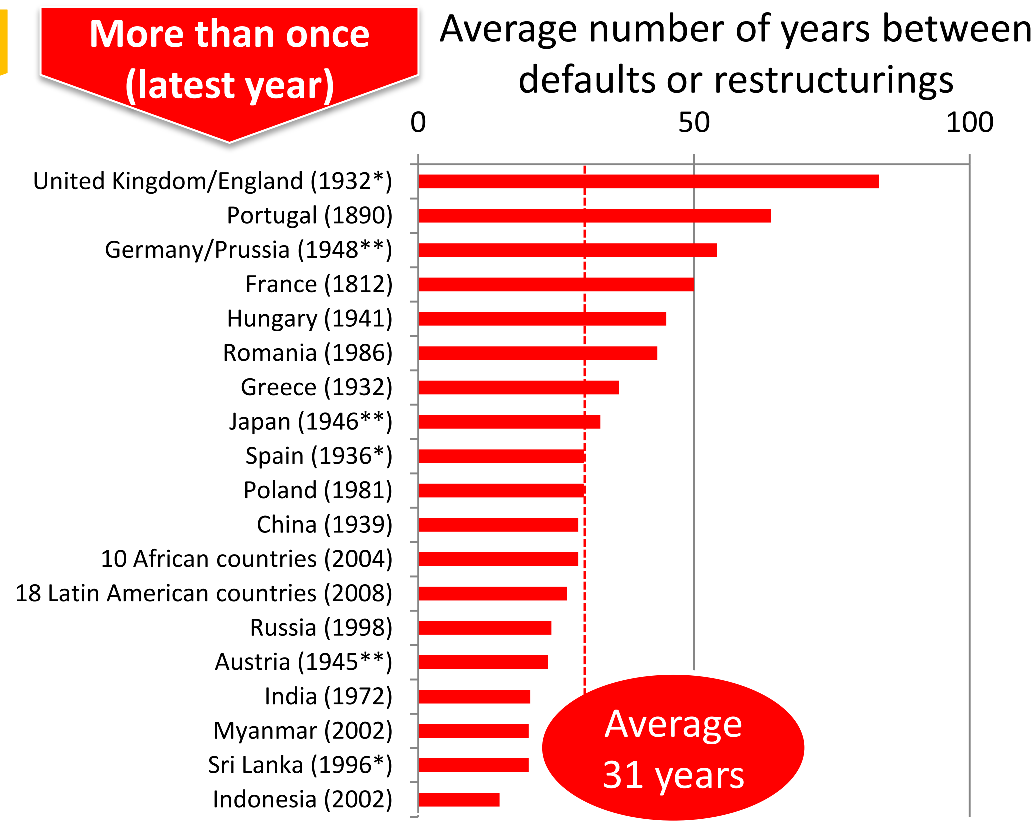
Never

Belgium
Finland
Ireland
Luxembourg
Norway
Switzerland
Australia
Canada
New Zealand
Korea
Malaysia
Mauritius
Singapore
Taiwan
Thailand

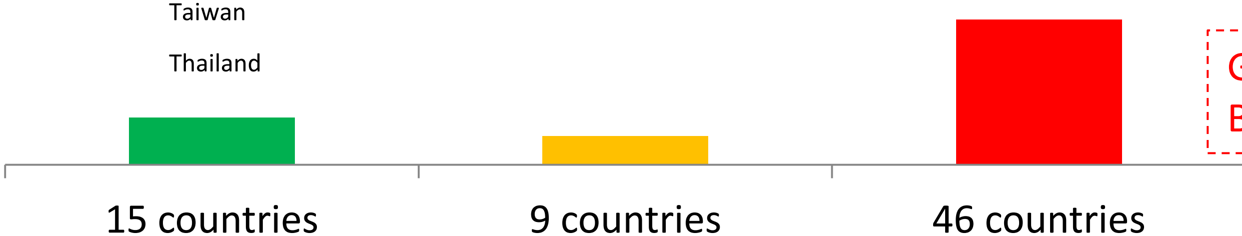
Once (year)

United States (1790*)
Sweden (1812)
Denmark (1813*)
The Netherlands (1814)
Tunisia (1867)
Italy (1940)
The Philippines (1983)
Zambia (1983)
Algeria (1991)

More than once (latest year)



GOVERNMENT BONDS MAY NOT BE PAID BACK AS PROMISED



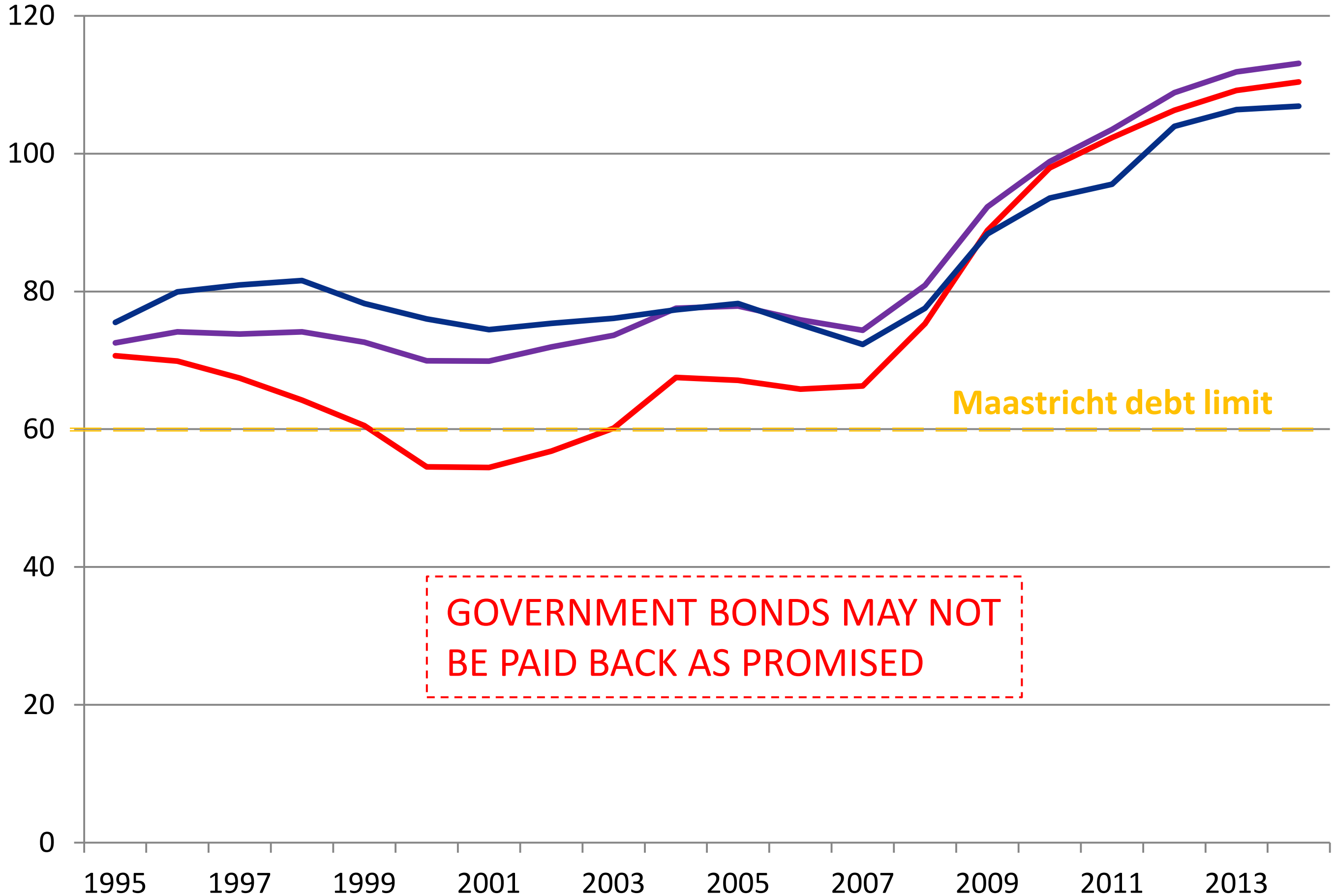
Source: Reinhart/Rogoff (2009, chapters 6,7); own research and calculations

* Domestic debt only ** Currency reform

Strong growth in government debt makes future defaults more likely

OECD GENERAL GOVERNMENT GROSS FINANCIAL LIABILITIES

In % of nominal GDP



"The government pays interest on **capital that has been consumed and no longer exists**... Nobody believes that the states will eternally drag the burden of these interest payments. It is obvious that sooner or later **all these debts will be liquidated** in some way or other, but **certainly not by payment of interest and principal** according to the terms of the contract."
Ludwig von Mises,
Human Action (1949)

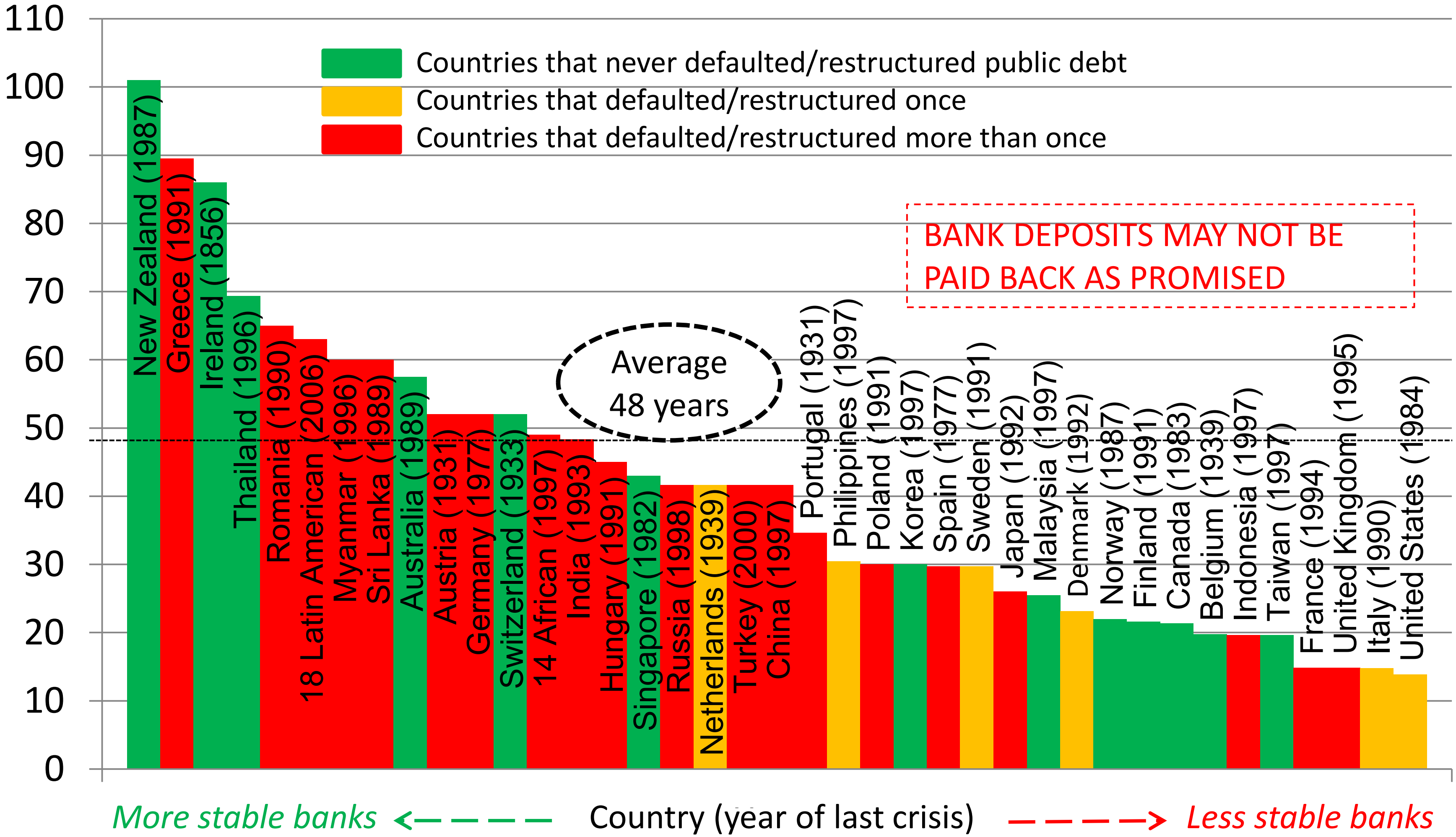
Source: OECD Economic Outlook database

Even the most solvent countries suffer regular banking crises

AVERAGE NUMBER OF YEARS BETWEEN BANKING CRISES*

From 1800 or independence until 2008

SAME SAMPLE AS DEFAULT DATA



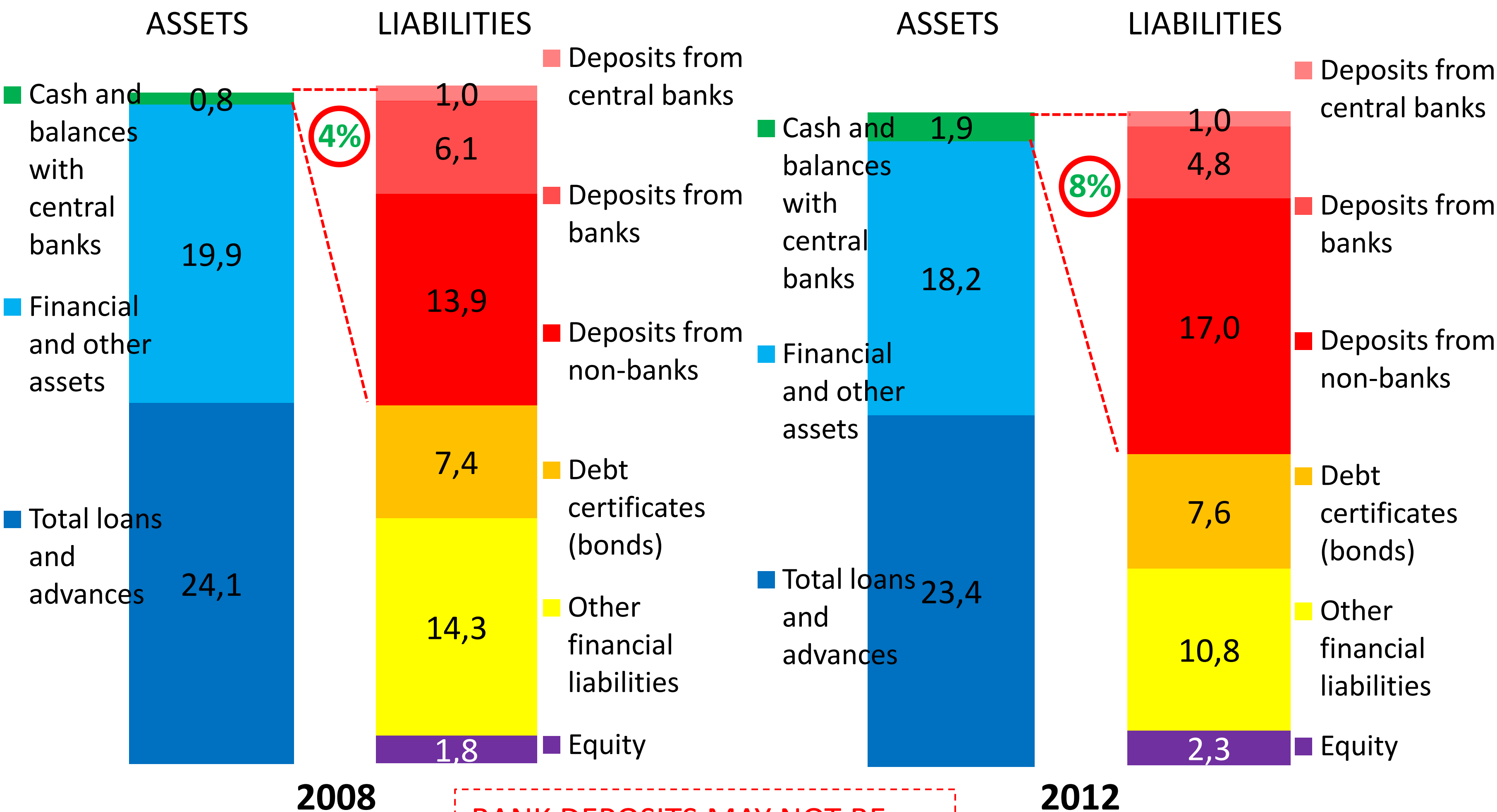
Source: Reinhart/Rogoff (2009, appendix A.3); own calculations

* Involving bank runs or closure, merging, takeover or large-scale government assistance of important financial institutions (RR, p. 10)

Only a small fraction of deposits is covered by cash

CONSOLIDATED BALANCE SHEET EU BANKS

In trn EUR



BANK DEPOSITS MAY NOT BE PAID BACK AS PROMISED

Source: ECB Consolidated Banking Data 2008-2012

All countries have suffered high inflation in the past

MAXIMUM ANNUAL INFLATION (COUNTRY, YEAR)

HYPERINFLATION

< 10%	10 - 20%	20 - 40%	40 - 80%	80 - 200%	200 - 500%	> 500%
	Panama (1974) New Zealand (1980)	Netherlands (1918) Hong Kong (1949) Malaysia (1950) Singapore (1973) **Canada** (1917) **United States** (1864) **Switzerland** (1918) Côte d'Ivoire (1994) Central African Republic (1971) Taiwan (1973) El Salvador (1986) Sri Lanka (1948) Mauritius (1980) Honduras (1991) **United Kingdom** (1800) South Africa (1919) Sweden (1918)	Egypt (1941) Guatemala (1990) Kenya (1993) Denmark (1800) Belgium (1812) Dominican Republic (2004) Colombia (1802) India (1943) Australia (1854) Morocco (1947) Myanmar (2002) Algeria (1947) Tunisia (1943) Nigeria (1995) **France** (1946) Thailand (1919)	Portugal (1808) Iceland (1983) Costa Rica (1982) Ecuador (2000) Venezuela (1996) Spain (1808) Uruguay (1990) Turkey (1942) Ghana (1983) Mexico (1987) Paraguay (1952) Philippines (1943) Norway (1812) Zambia (1993)	Korea (1951) Finnland (1918) Chile (1973) **Italy** (1944)	**Japan** (1945) Indonesia (1966) China (1947) Austria (1922) Brazil (1990) Argentina (1989) Angola (1996) Peru (1990) Bolivia (1985) Nicaragua (1987) Russia (1923) Poland (1923) Greece (1944) **Germany** (1923) Zimbabwe (2008) Hungary (1946)

PAPER MONEY LOSES ITS VALUE THROUGH INFLATION

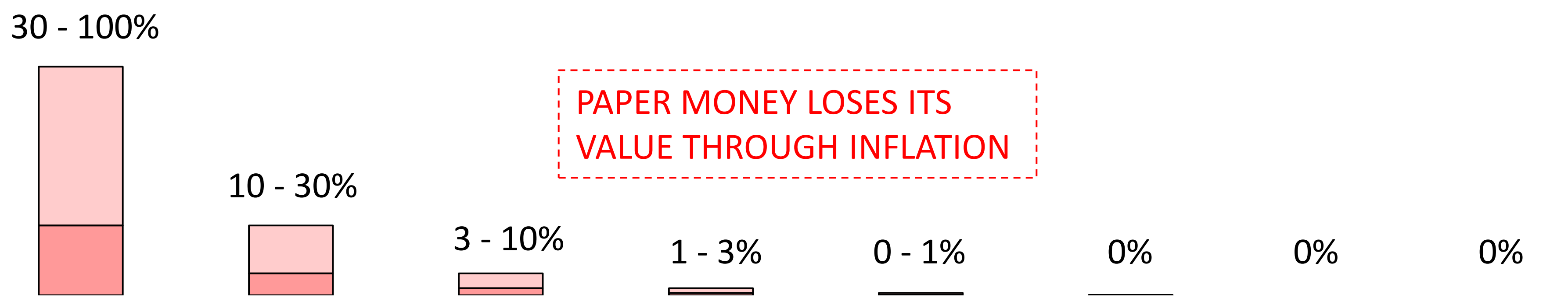
Source: Reinhart/Rogoff (2009, chapter 12)

In the stable post-war period, all countries experienced significant inflation

AVERAGE ANNUAL INFLATION 1951 – 2010 BY COUNTRY

0 -2%	2 - 4%	4 - 6%	6 - 8%	8 - 12%	12 - 20%	20 - 40%	> 40%
	Panama	**Germany**	Mauritius	Greece	Columbia	Zambia	Bolivia
	Switzerland	Thailand	India	Kenya	Paraguay	Ghana	Peru
	Malaysia	Tunesia	Spain	Dominican Republic	Iceland	Turkey	Nicaragua
	Belgium	Morocco	El Salvador	Costa Rica	Venezuela	Indonesia	Argentina
	Luxembourg	**France**	Guatemala	Myanmar	Ecuador	Chile	Brazil
	Japan	Denmark	Sri Lanka		Mexico	Uruguay	
	Netherlands	Norway	Hungary		Poland		
	Austria	**United Kingdom**	Egypt				
	United States	Sweden	Portugal				
	Canada	Australia	South Africa				
		Finland	Honduras				
		New Zealand	Philippines				
		Italy					

PURCHASING POWER AFTER 60 YEARS (1951 – 2010)

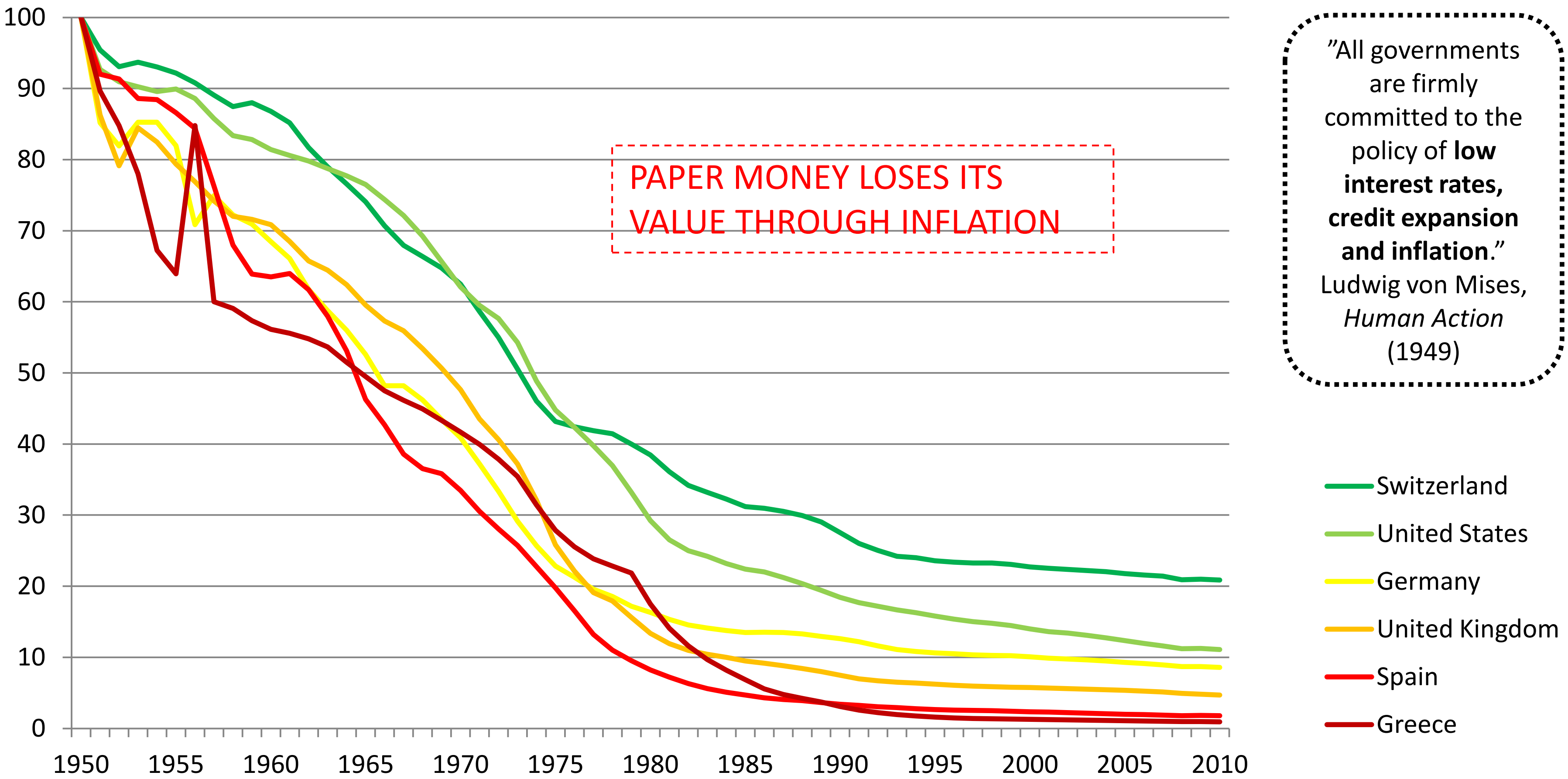


Source: Reinhart/Rogoff database; own calculations

Even the most stable currencies lost at least 80% of their purchasing power

PURCHASING POWER 1950 - 2010

1950 = 100



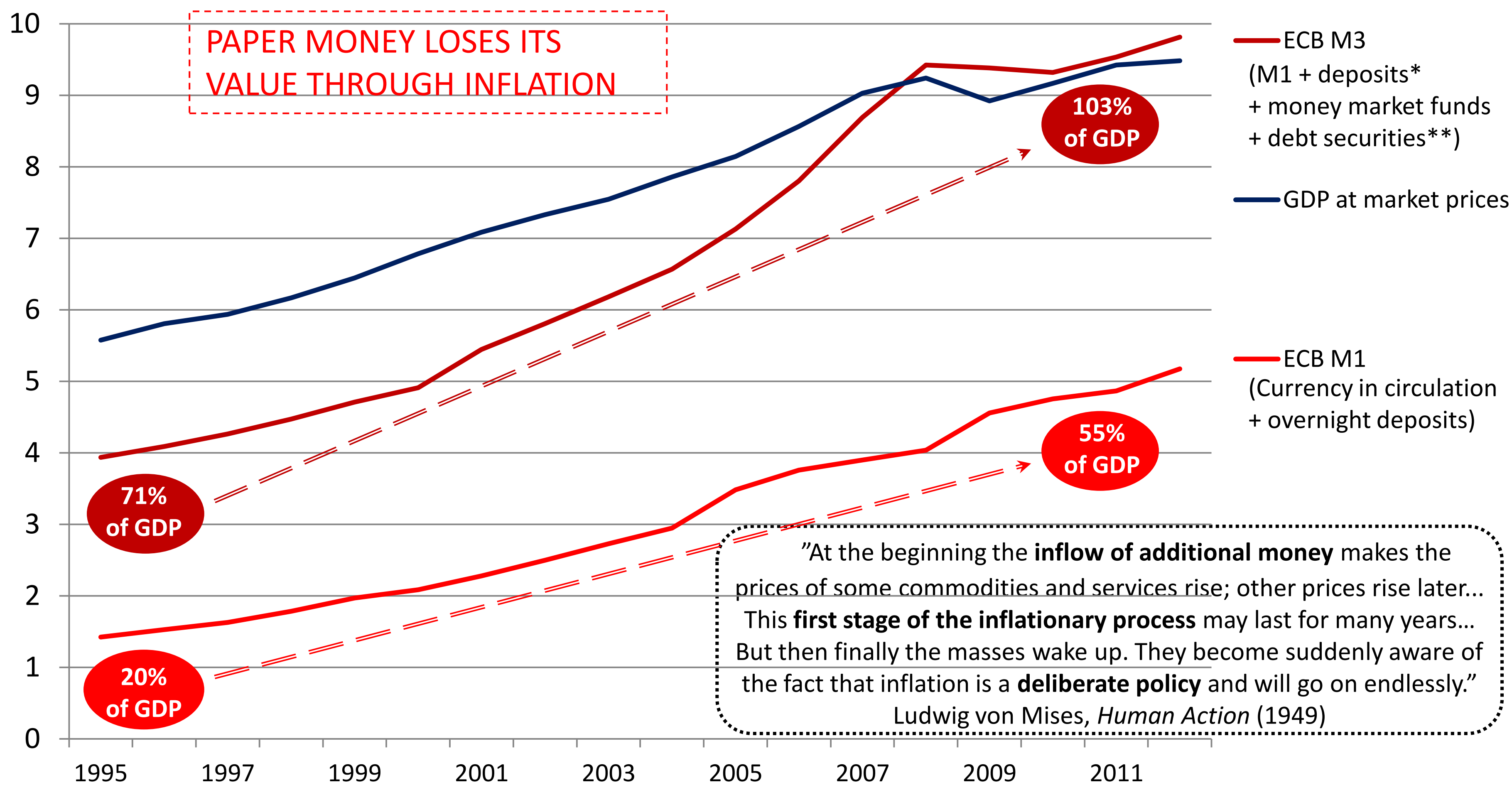
"All governments are firmly committed to the policy of **low interest rates, credit expansion and inflation**."
Ludwig von Mises, *Human Action* (1949)

Source: Reinhart/Rogoff database; own calculations

Strong growth of monetary aggregates makes future inflation more likely

ECB MONETARY AGGREGATES AND EUROZONE NOMINAL GDP 1995-2012

In trn EUR



Source: ECB Statistical Data Warehouse * With maturity up to 2 years or redeemable at notice up to 3 months ** Up to 2 years

Most countries have experienced at least one real estate crash since 1980

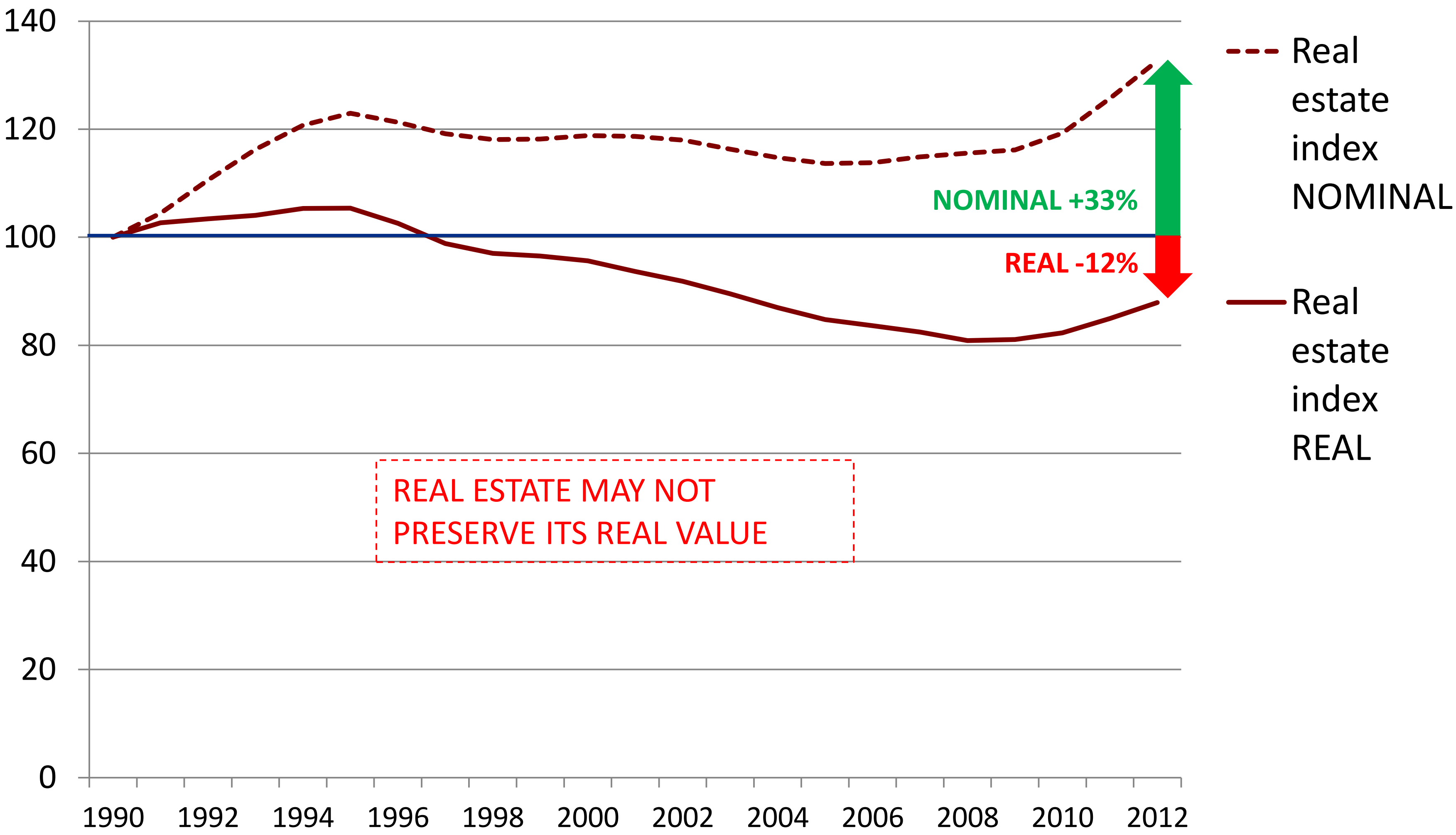
GREATEST NOMINAL DECLINES IN RESIDENTIAL REAL ESTATE AFTER 1980**

Source: BIS Property Price Statistics * Major city ** Subject to data availability - only countries with data for at least 7 years included

German real estate bought at reunification did not preserve its real value

NOMINAL AND REAL PRICES FOR GERMAN RESIDENTIAL REAL ESTATE

Real estate index 1990 = 100; nominal and real in 1990 prices

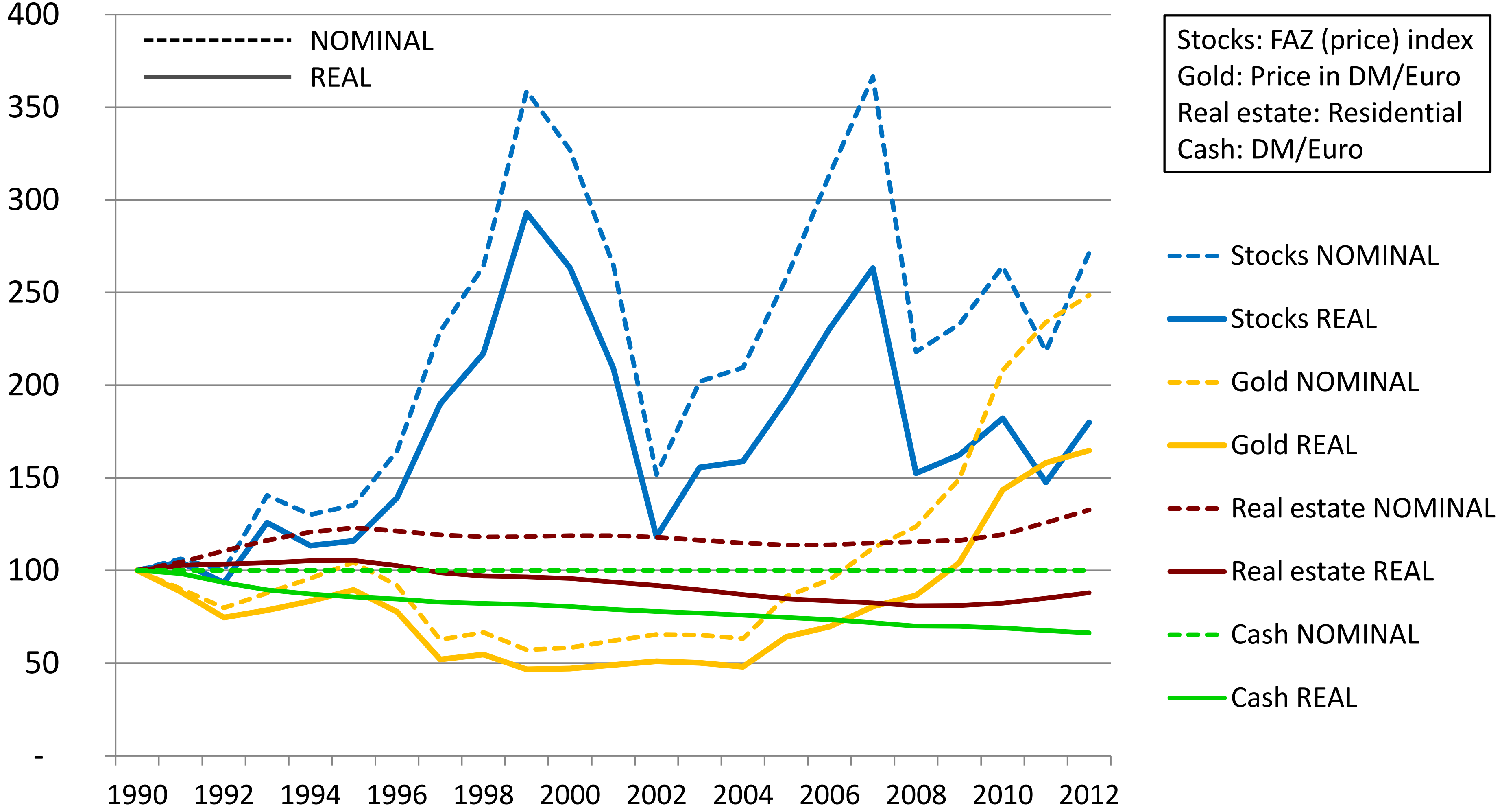


Source: Deutsche Bundesbank with data provided by Bulwien Gesa AG; own calculations

Over the same period, stocks and gold achieved real gains

NOMINAL AND REAL PRICES FOR GERMAN REAL ESTATE, STOCKS, GOLD AND CASH

Index 1990 = 100; nominal and real in 1990 prices



Source: Deutsche Bundesbank with data provided by Bulwien Gesa AG; own calculations

FIRST PRINCIPLE OF SOUND INVESTING

THERE IS NO SAFE INVESTMENT
Government bonds may not be paid back as promised
Bank deposits may not be paid back as promised
Paper money loses its value through inflation
Real estate values may suffer enormous declines

"There is **no such thing as a perfectly safe investment**… A radical change in conditions may render bad even investments commonly considered perfectly safe."
Ludwig von Mises, *Human Action* (1949)