

# Globalization

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**International Monetary  
and Financial Relations**

# **The Puzzle: Money and Finance**

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- **In the absence of global government, how are international currencies supplied and international monetary relations regulated?**
- **Every year, approximately \$5 trillion is invested abroad. Why is so much money invested in foreign countries? And why do relations between foreign investors and the countries in which they invest often become hostile and politically controversial?**

# National Income Accounting

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$$Y + M = C + G + I + X \quad \text{eq.1}$$

$$X - M = Y - (C + I + G) \quad \text{eq.2}$$

$$Y = C + T + S \quad \text{eq.3}$$

$$X - M = (C + T + S) - (C + I + G) = (S - I) + (T - G) \quad \text{eq.4}$$

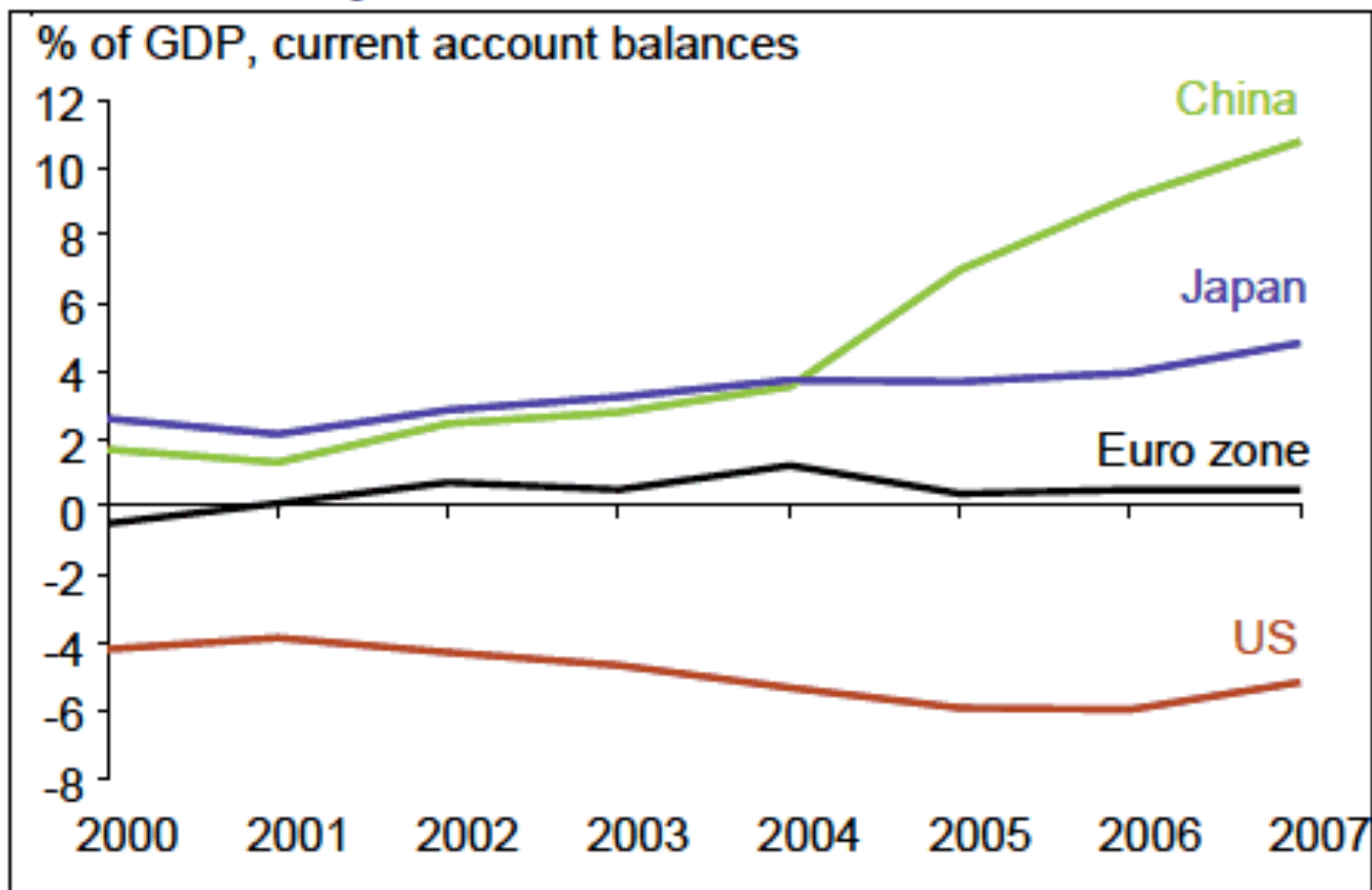
**For US:  $S < I$ ,  $T < G$ ; so  $X - M$  must be negative**

**For China:  $S > I$ ,  $T = G$ ; so  $X - M$  must be positive**

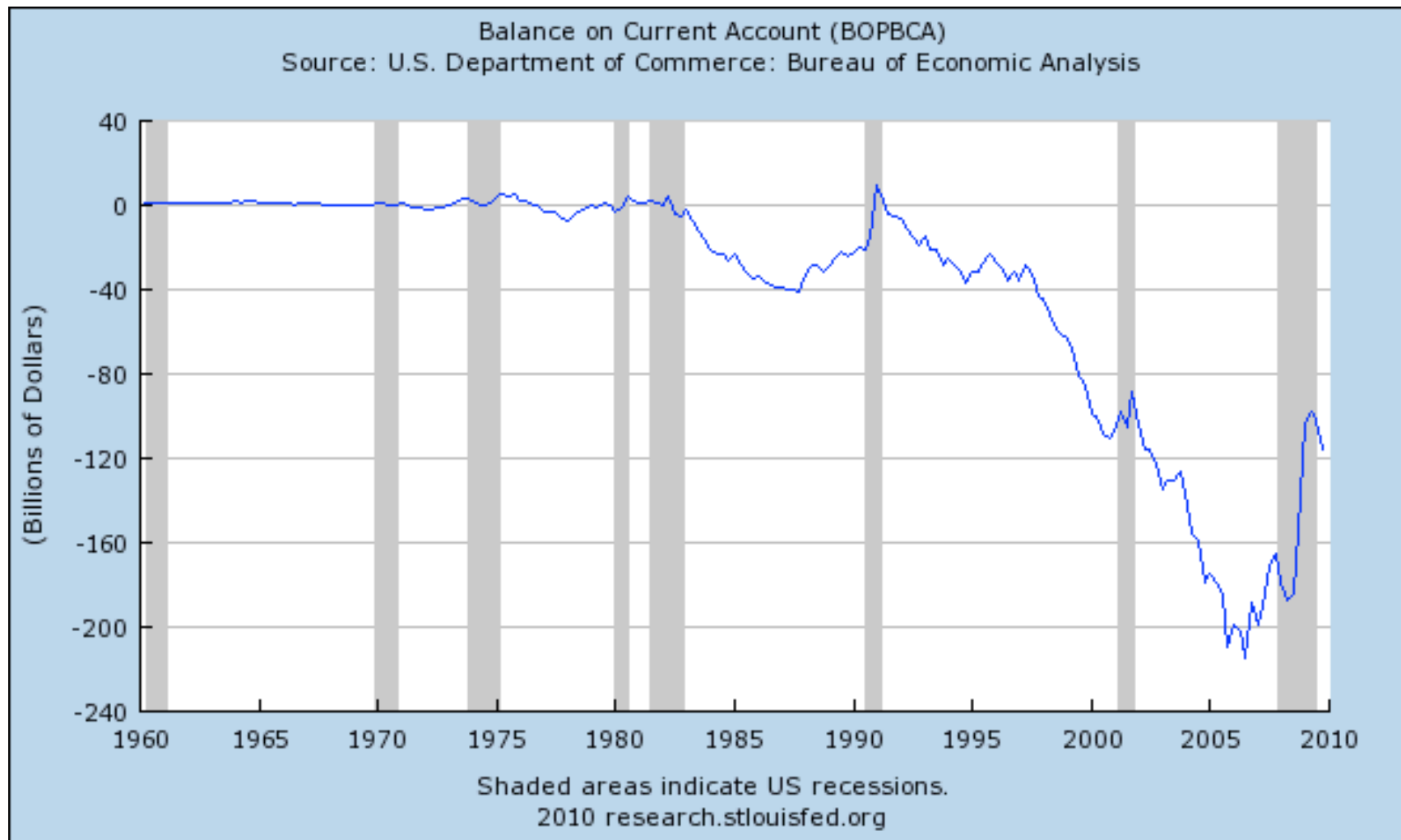
<b>X = Exports</b>	<b>M = Imports</b>
<b>Y = National Income</b>	<b>C = Domestic consumption</b>
<b>I = Investment</b>	<b>G = Government consumption</b>
<b>S = Savings</b>	<b>T = Taxes</b>

# Current Account Balances

*Chart a: Global imbalances have worsened dramatically in the last decade...*



# US Current Account Balance



# **Solution #1: Change the Exchange Rate**

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- **To exchange goods with others in a foreign country, need to convert one currency into the other. Foreigners want to be paid in their currency.**
- **To buy assets in another country, foreigners need to convert their currency into the home currency.**
- **When  $X - M > 0$ , a country should depreciate its exchange rate, lowering the price of its goods. This stimulates exports and lowers imports.**

# Depreciation of the Dollar (relative to the Yuan)

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	<b>Exchange Rate</b>	<b>Appliance in ¥</b>	<b>Appliance in \$</b>
<b>Jan. 1, 2007</b>	<b>1¥ = \$0.128</b>	<b>¥7,000</b>	<b>\$897</b>
	<b>\$1 = 7.788¥</b>		
<b>May 8, 2011</b>	<b>1¥ = \$0.154</b>	<b>¥7,000</b>	<b>\$1078</b>
	<b>\$1 = 6.493¥</b>		

# Appreciation of the Yuan (relative to the Dollar)

	<b>Exchange Rate</b>	<b>Machine tool in \$</b>	<b>Machine tool in ¥</b>
<b>Jan. 1, 2007</b>	<b>1¥ = \$0.128</b>	<b>\$25,000</b>	<b>¥194,700</b>
	<b>\$1 = 7.788¥</b>		
<b>April 30, 2010</b>	<b>1¥ = \$0.154</b>	<b>\$25,000</b>	<b>¥162,325</b>
	<b>\$1 = 6.493¥</b>		

# Exchange rates affect interests

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- **A depreciation in the exchange rate:**
  - **Benefits exporters, as the price of their products is now lower.**
  - **Benefits import-competing industries, as the price of foreign products is now higher (implicit protectionism).**
  - **Harms consumers, who pay higher prices for imported products (and domestic substitutes).**
- **Inverse for an appreciation in the exchange rate.**

# Beggar-thy-neighbor policies

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- **Why don't the beneficiaries (exporters and import-competing industries) always lobby for depreciated exchange rates?**
  - Free rider problem. Effects of depreciation spread across all tradable sectors.
- **If all countries did so, none would reap an advantage, and each would only lower its purchasing power against countries that did not depreciate. Approximates a Prisoners Dilemma.**
  - Beggar-thy-neighbor policies in the 1930s worsened the Great Depression.
- **Given incentives to defect, need exchange rate regime (institution) to facilitate cooperation and exchange.**

# Exchange Rate Regimes

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- **Gold standard (1870-1929):** all major currencies convertible into gold at fixed rate.
- **Bretton Woods regime (1950-1973):** major currencies convertible into dollars at fixed rates; dollar convertible into gold at fixed rate.
- **Present (1973-):** major currencies float against each another, other currencies fixed to different major currencies.

# Special Role of the Dollar

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- **Dollar is an international reserve asset. Held by foreign central banks as foundation of their own money supplies.**
- **U.S. Treasury Bonds are perceived to be safe investments.**
  - **Cumulative federal deficit = \$12.8 trillion.**
  - **Official foreign holdings of U.S. treasury securities = \$4.5 trillion.**
- **For these reasons, difficult to manipulate the price of the dollar.**
- **China fixes de facto against the dollar. U.S. wants China to revalue (appreciate) the yuan.**

# **Solution #2: Deflate the Economy**

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$$X-M = (S-I)+(T-G)$$

- **For a country in chronic current account deficit, must boost savings (S), reduce investment (I), raise taxes (T), or reduce government spending (G). All reduce the rate of economic growth.**
- **Under fixed exchange rate regimes, deficit countries must do one or all of the above. This was the primary mode of adjustment under Bretton Woods regime.**
- **Eurozone within the EU is a fixed change rate regime. Greece and other Mediterranean members must deflate their economies to stay fixed to the euro.**

# **Solution #3: Borrow and Invest Abroad**

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**Balance of Payments = (X - M) - net foreign assets**

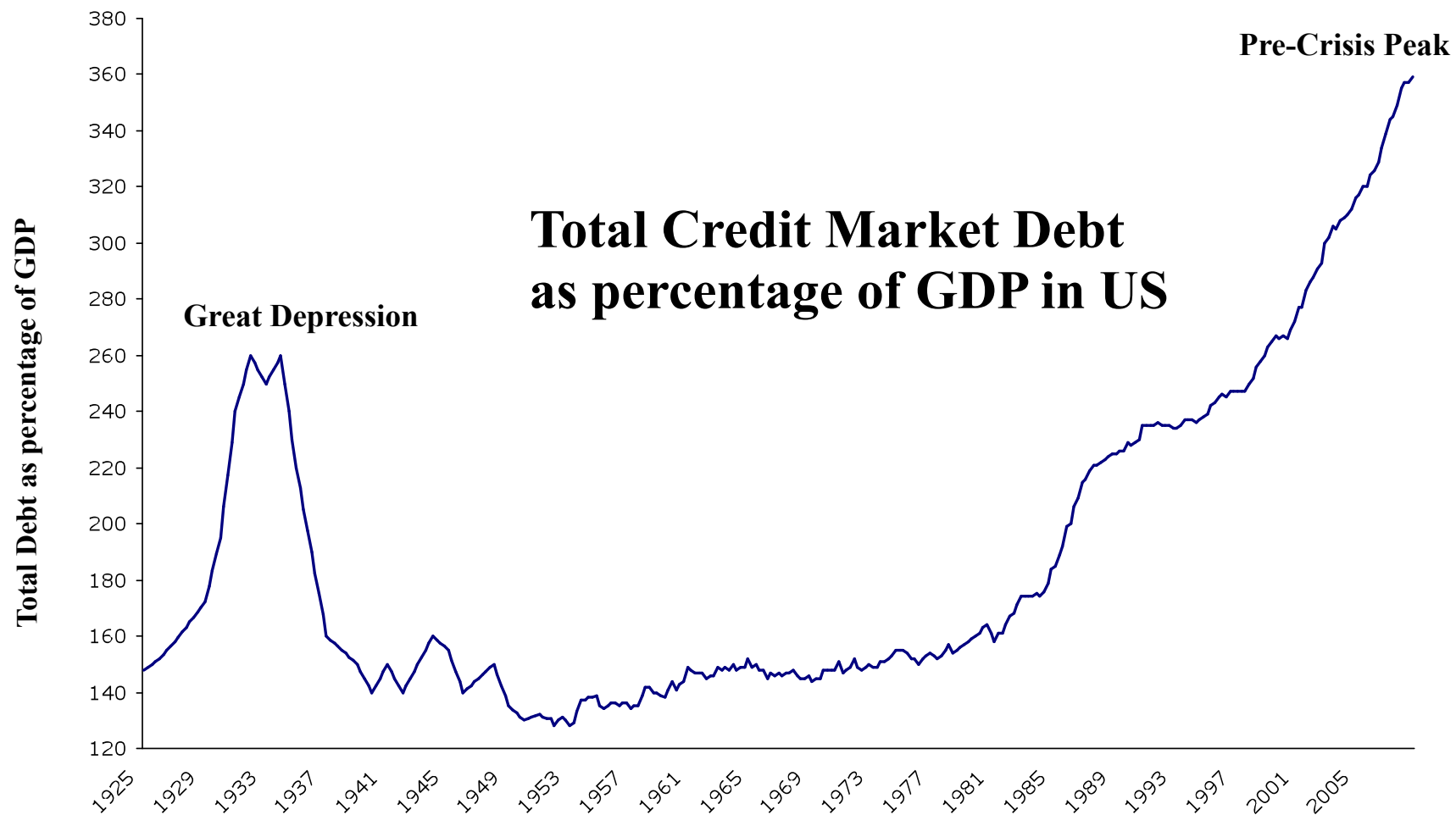
- **Faced with a current account deficit:**
  - **US borrows from countries with surpluses.**
  - **US is uniquely able to do this because of reserve asset status of the dollar and the security of t-bills.**
- **Faced with a current account surplus:**
  - **China and other surplus countries lend to the U.S. and other deficit countries or use reserves to purchase real assets in those countries.**
- **Problem is one of credibility: as debt increases, will or can the borrowing country repay?**

# Run-up to the Crisis

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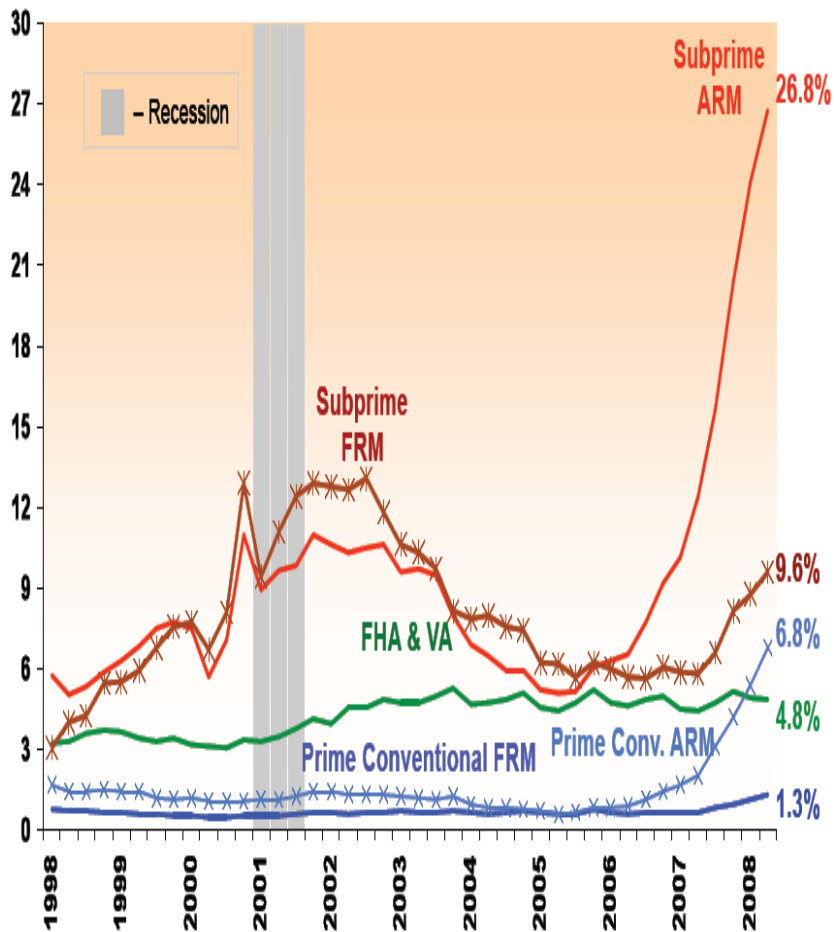
- **U.S. savings rate close to zero, federal budget deficit expanding, and current account deficit increasing.**
- **Federal Reserve Bank lowers interest rates after tech bubble burst in 2000 and keeps them low. Borrowing expands, with much of the new lending going into the housing market.**
- **Banks also borrow more; increase leverage. Newly deregulated financial sector takes on more risk to increase returns, hedging through “exotic” financial instruments.**

# The Financial Crisis

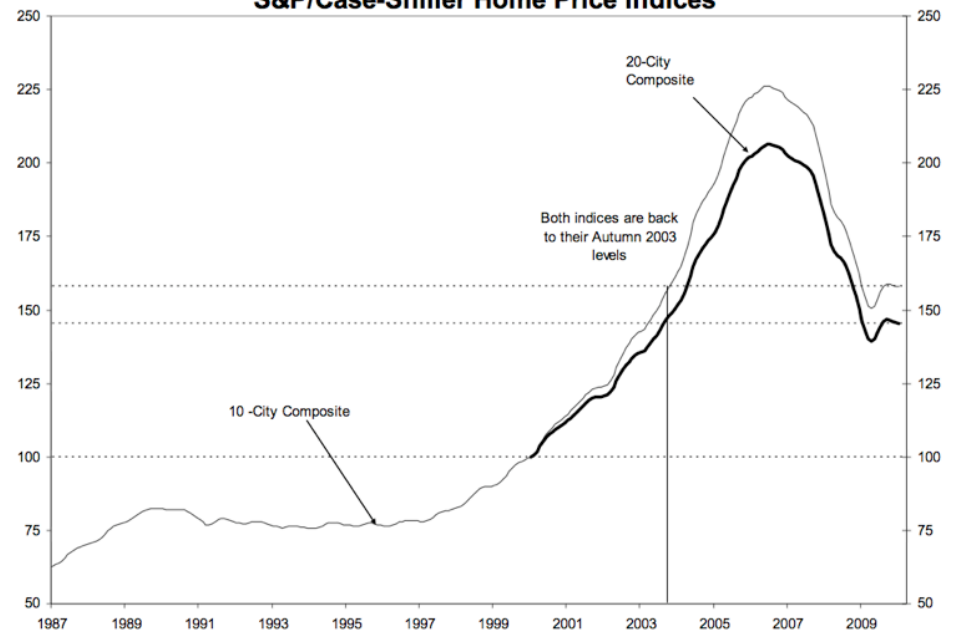


# The Housing Bubble

Delinquency Rates on Mortgage Types



S&P/Case-Shiller Home Price Indices

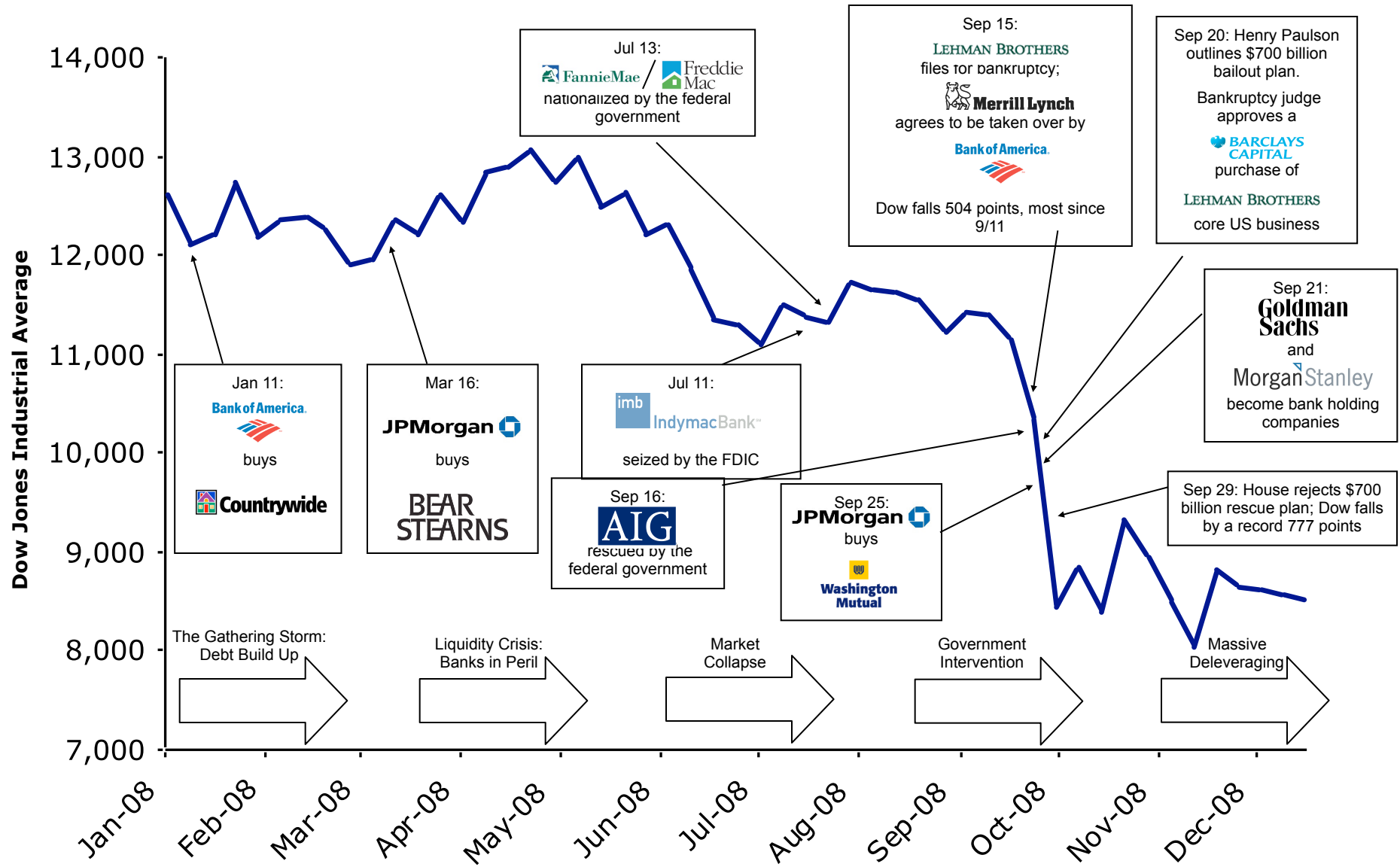


# The Crisis

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- Hedging through “exotics” assumed risks were uncorrelated. Housing collapse highly correlated.
- Highly leveraged banks exposed; debt-to-reserves ratios rise. Banks halt new lending to consumers, corporations, and each other.
- Major “shadow banks” engaged in “exotics” market go bankrupt -- effectively.

# When the Bubble Burst



Source: Investment Banker On Life (dot) com; Capital IQ

# Crisis Spreads

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- **Without lending, economy moves into massive recession, exacerbating the underlying problems. Stock market collapse reduces wealth and consumption further.**
- **Highly interdependent global financial markets and banks collapse, first in U.S., then in Europe.**

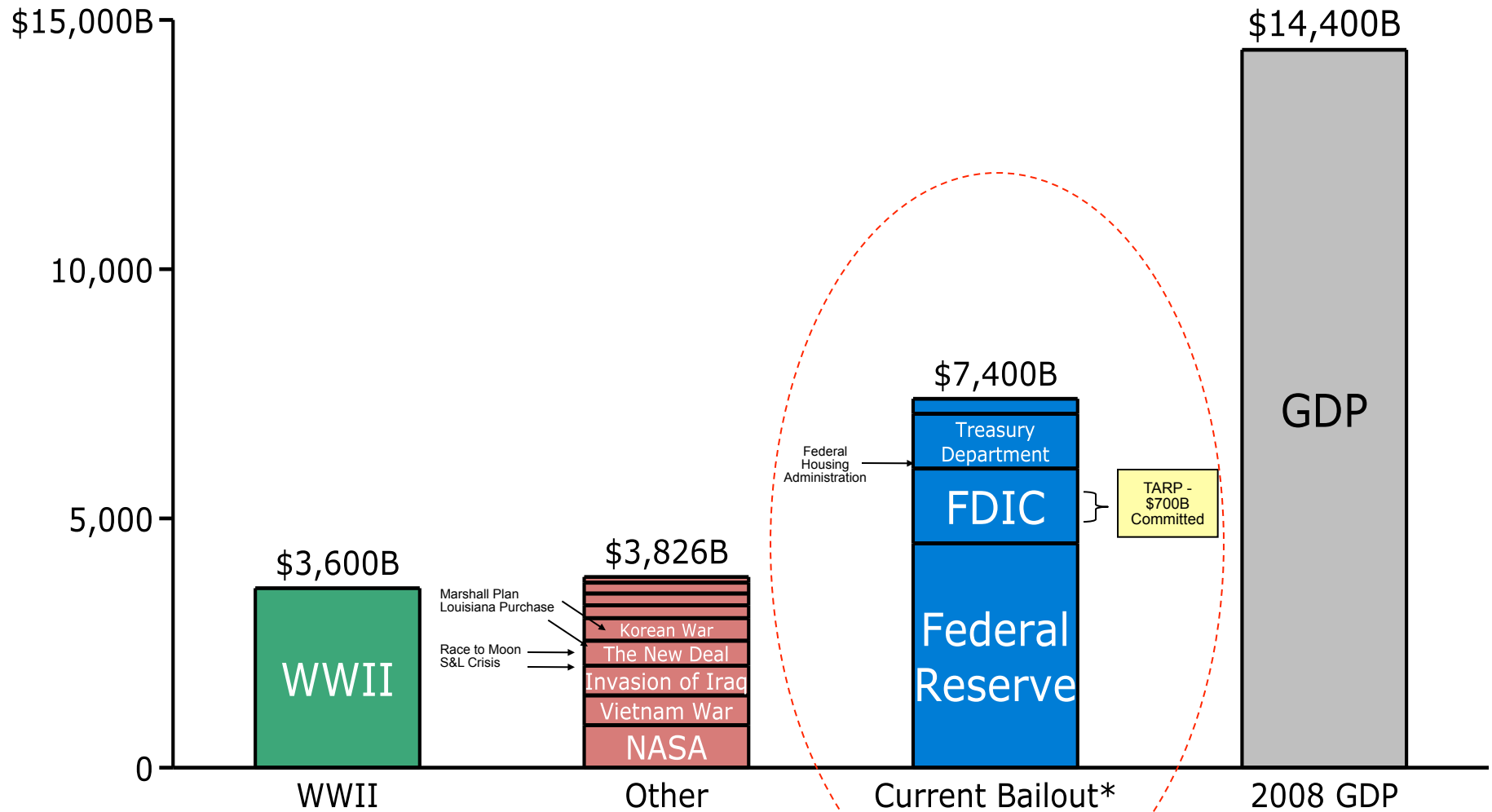
# U.S. Response

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- **U.S. loans massive amounts of capital to banks in (largely failed) effort to restart lending.**
  - Fed “prints” money.
  - Congress passes Troubled Asset Relief Program (TARP).
- **U.S. engages in additional stimulus spending, enlarging federal deficit.**

# The Bailout In Context

*Inflation-Adjusted Costs of Various Programs / Events in US History*



Source: Bianco Research, The Big Picture, BEA, Bloomberg  
 \* Indicates committed funding, not actual outlays to date

# Other National Responses

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- **China also engages in new stimulus spending.**
- **Europe relies on “built in” stabilizers of social welfare spending and deflation for highly indebted Mediterranean countries.**
- **Bank of England responds aggressively. All of Europe insures depositors after Ireland does so.**
- **Iceland and other off-shore banking centers allowed to fail.**
- **Eurozone crisis begins in Greece in Spring 2010.**

# International Response

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- **Some coordination by central banks on interest rates cuts during crisis, but little cooperation. U.S. and Europe (Germany) have fundamentally different policies.**
- **International institutions (IMF, others) may have restrained beggar-thy-neighbor policies, but have had little direct role.**
- **Financial market reforms now under debate...Will require some cooperation to adequately address problem.**

# The Future

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- **The U.S. must get its “twin deficits” -- the federal deficit and the current account deficit -- under control.**
- **Inflation will go up as economy recovers. Fed will have to raise interest rates, impeding recovery. Expect period of slow growth.**
- **Must enact new *global* financial regulations to reduce leverage and incentives to take on risk.**
- **Or, we’ll see Great Recession Redux..**