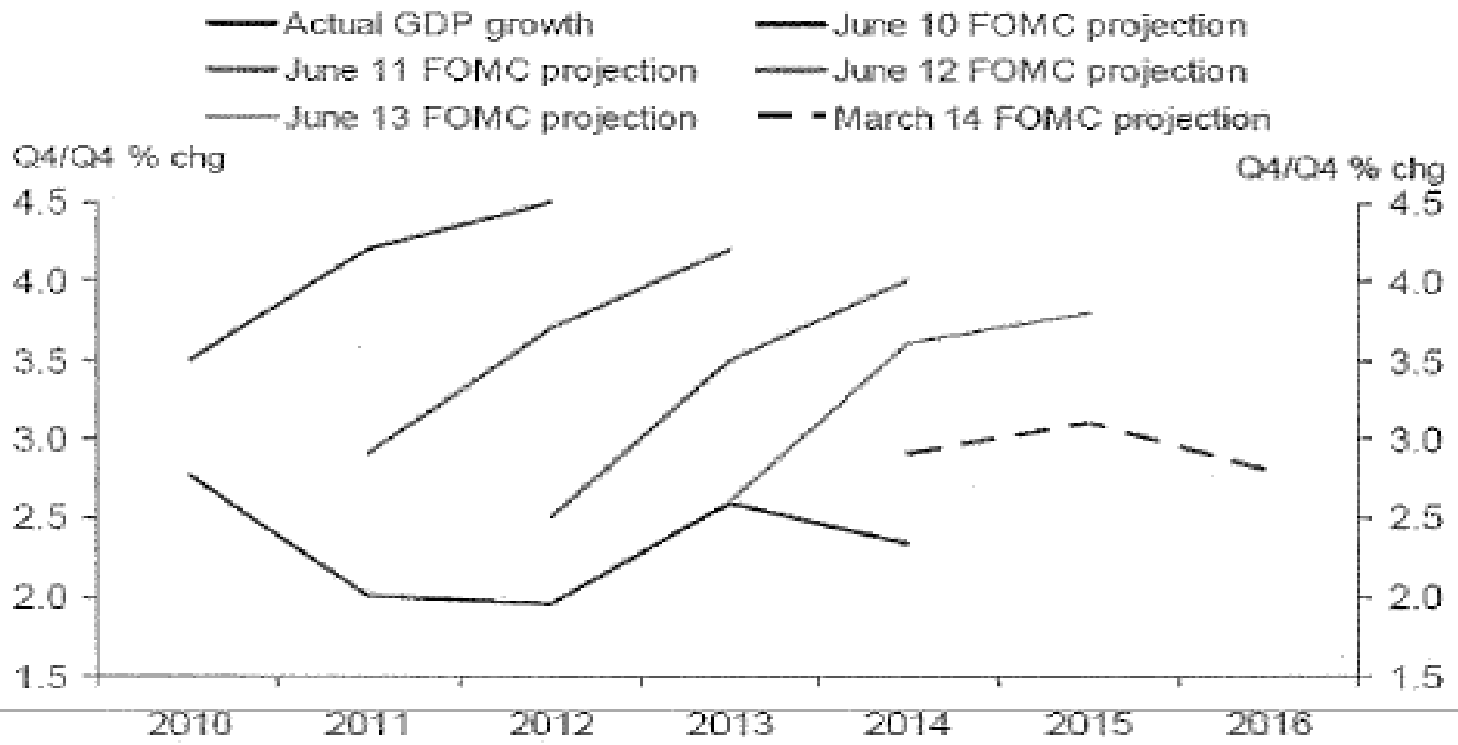
The Fed's forecasting models are broken



Note: Actual GDP for 2014 is the yoy change in GDP for 2014Q1. Source: FRB, BEA, DB Global Markets Research

A TALE OF TWO DECADES

Sixties			Nineties		
Year	**% Δ M_1**	**% Δ Y**	**Year**	**% Δ M_1**	**% Δ Y**
1961	0.7	3.3	1991	6.7	3.0
1962	2.8	5.8	1992	8.6	5.5
1963	2.1	5.5	1993	14.3	5.0
1964	3.4	7.3	1994	10.2	5.9
1965	4.6	8.0	1995	1.8	4.6
1966	5.0	8.5	1996	(1.9)	5.4
1967	2.4	5.8	1997	(4.1)	5.9
1968	6.4	9.8	1998	(0.6)	4.9
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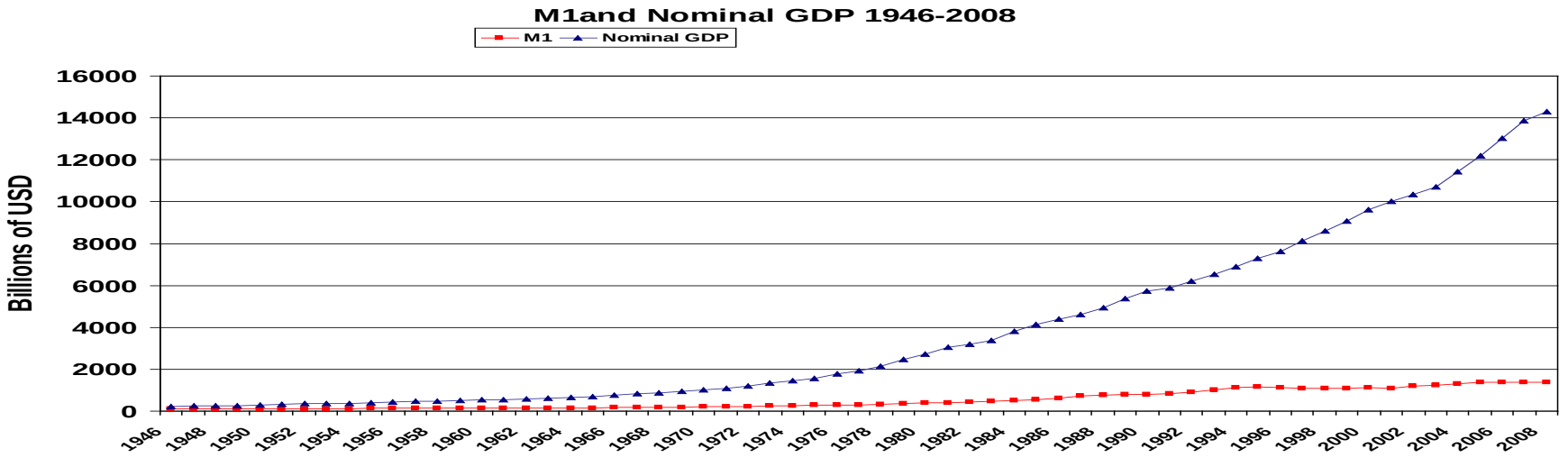
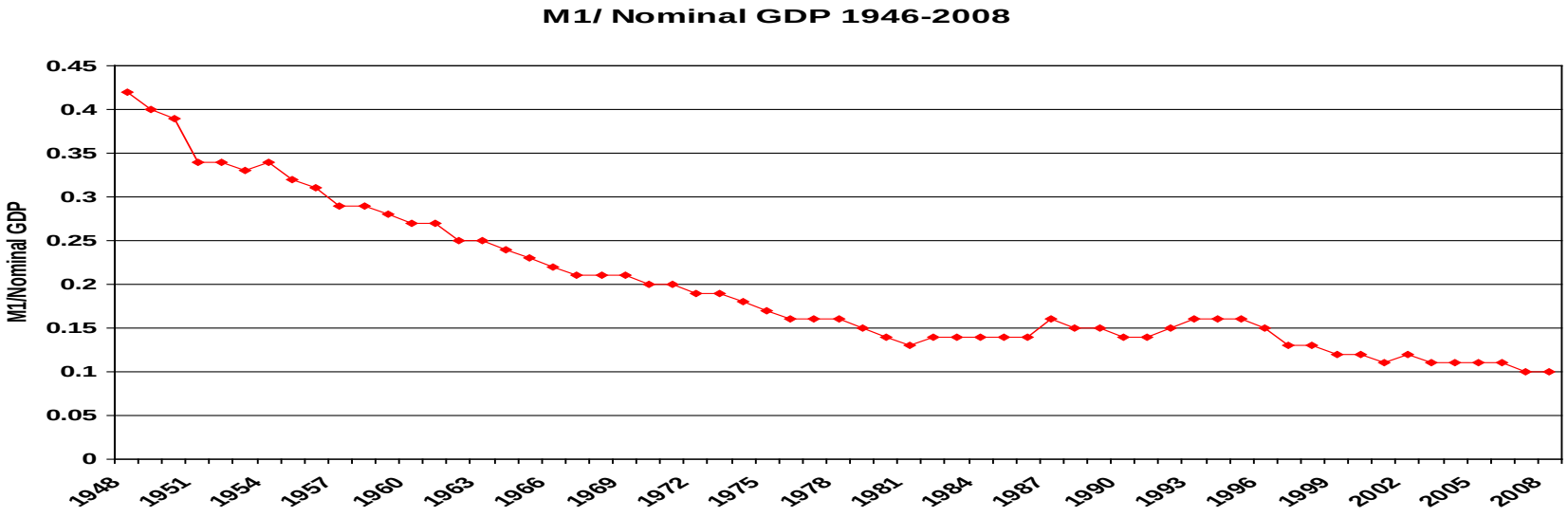
Monetary Policy





Financial Market Impact on Real Activity

Perfect Information - Cost of Funds Only

Imperfect Information - Cost Plus Availability

- Funding Constraints
- Risk Constraints
  - Liquidity
  - Default/Regulatory
  - Moral Hazard

Deposit Funding

- **Cost / Pay-Out**
  - Zero Interest Rate Ceiling (No Pay-Out, Discretionary Pay-Out)
  - Current Practice (Market Pay-Out)

- **Duration**
  - Ever Increasing Deposits (Long Duration)
  - Fluctuating Deposits (Short, Uncertain Duration)

Traditional Regime – Deposits are Permanent, Zero Payout Funding (Equity)

Amount of Deposit "Equity" (Tax and Subsidy) Set by Monetary Policy

Interest Bearing Deposits

- Payments Based on Market “Price” of Liquid Funding
- Value of Deposits Depends on Stability/Duration of Deposit Base
- Ever Increasing Deposit Base Implies Value is that of Permanent Funding (Adjustable Rate Long Term Bonds)
- “Extreme” Policy Interventions Imply Deposit Funding Reversal – Temporary, Uncertain Funding
- “Extreme” Policy is Self-Cancelling to Some Degree

Historical Role of US Bank Credit

Year	Non-Financial Business Credit Percent Bank Credit
1955	22.7
1960	23.0
1965	24.4
1969	25.4
1973	23.4
1979	22.4
1983	23.0
1989	20.9
1992	18.5
1996	20.2
2003	14.3
2007	15.4
2013	13.0

Risk Management and Banking Structure

Bank Activities

- Transaction Processing – Competitive Market, Low Risk, Low Return
- Local Banking (Loans, Deposits) – Local Scale Advantages (Information, Operations)
- Global Investment of Excess Funds – Competitive Market, High Risk, Low Return
- Stability, Prudential Regulation Involves Prevention / Control of Global Investment
- Economic Value Added in Local Banking

Competitive Advantages in Financing

Informational advantages are critical (who knows what)

- **Adverse selection**
  - A Knows more than B
  - A offers to sell stock to B at $10 Price
    - A - company management, well-informed investor
    - B – less well-informed investor
  - Should B accept?
- **Moral hazard**
  - A knows more than B
  - A has freedom to act unobserved by B'
    - A – Company management
    - B – Investor, lender
  - Should B constrain A's behavior?

Key to mitigating problems that arise – continuous collection & response to information

Hence, dominance of institutions in financing

Consequences of Informational Advantages

- **Local / National Financial Institutions dominate**
  - Japanese banks in Japan
  - German insurance c., in Germany
  - Local venture capital firms
  - U.S. local banks

- **Local Investment Preference (Feldstein – Horoika, Huberman)**

- **Overseas activities of financial institutions under perform**

Regional Development in the Southern United States

State	Income as Percent of National Avg. 1950	1970	1990	CHG. 1950-70	CHG. 1970-90
Virginia	82.1	92.6	104.5	10.5	11.9
Georgia	69.1	84.1	90.8	15.0	6.7
North Carolina	69.1	81.6	86.9	12.5	5.3
South Carolina	59.7	75.1	80.5	15.4	5.4
Alabama	58.8	73.9	79.4	15.1	5.5
Mississippi	50.5	65.8	66.3	15.3	0.5
Average	**64.8**	**78.8**	**84.9**	**14.0**	**6.1**

Policy Alternatives

- Structural – Local Banking
  Volcker Rule

- Financial – Leverage Management

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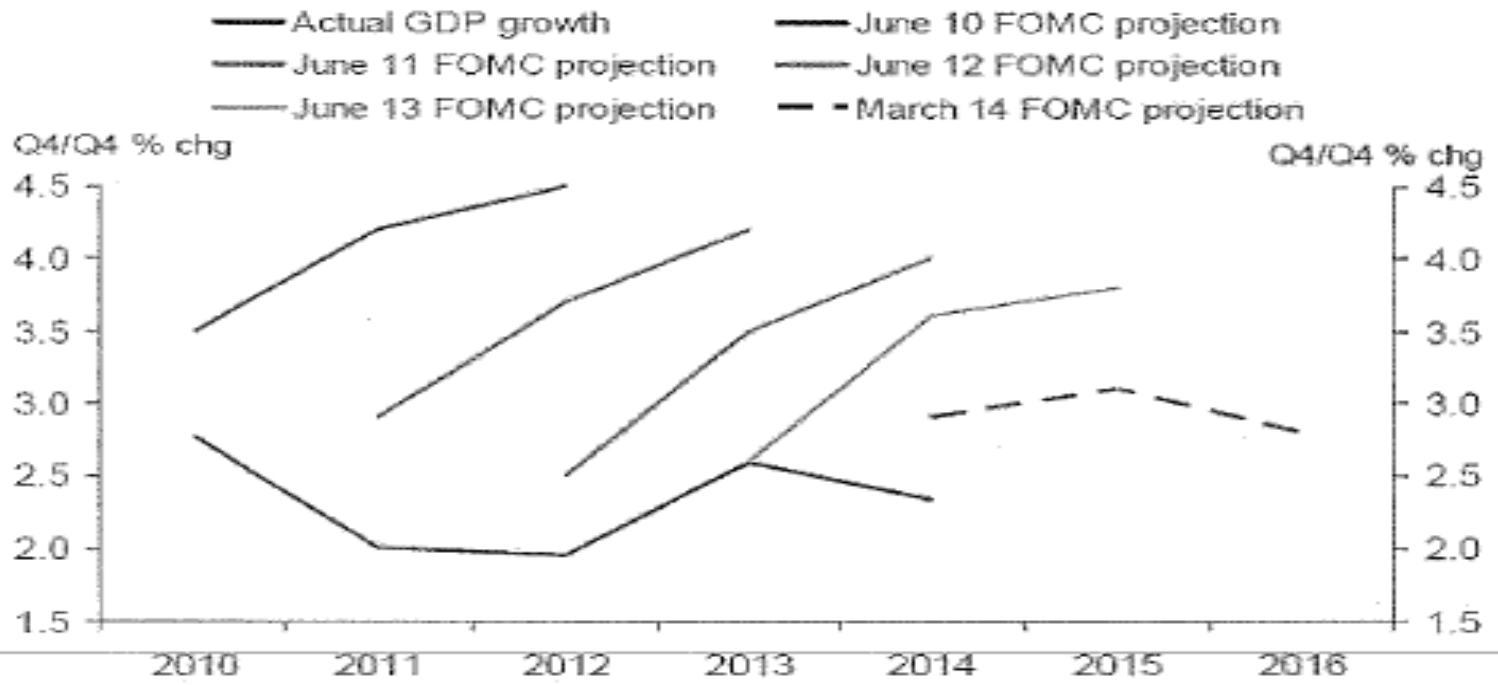

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Global Financial Markets

Payments Imbalances

Chronic Surplus

- Japan – Self-protection
- Germany – Industrial Policy
- China – Macro Stimulation
- Korea – Never Again
- Saudi Arabia – Oil Prices

Global Financial Markets

The Flip-Side of Payments Imbalances

XR Control

Change in reserves = Current Account Surplus

+

Private Capital Account Surplus (deficit)

Interest Rate Control

Redeployment of reserves – (Yuan → Euros) – Not elimination implies current account deficit investment choices are limited – Not Equity (Information, Politics)

Fixed Income Investments

Low Rates

Global Financial Markets

Stability

- **No non-US countries have good choices**
  - either **A** Current Account Deficits
  - or **B** Dollar Asset Accumulation

- **US is walking tightrope**
  - Continued Dollar-Goods Exchange

    PLUS
  - Continued Macro Deflationary Pressure

Euro Area Imbalances

Country	Current Acct Surplus (%)		Govt Surplus (%)		Interest Rate (10 YR)
	2009	2011	2009	2011	2011
Germany	5.7	5.7	(3.2)	(1.0)	1.24
Netherlands	4.2	9.6	(5.5)	(4.6)	1.68
Austria	2.7	2.1	(4.1)	(2.6)	1.89
Finland	1.9	(0.8)	(2.5)	(0.6)	1.48
France	(1.4)	(2.2)	(7.6)	(5.2)	2.09
Ireland	(2.8)	0.4	(14.0)	(13.0)	5.62
Italy	(1.9)	(3.4)	(5.4)	(3.9)	6.03
Spain	(4.8)	(3.6)	(11.2)	(8.9)	6.79
Portugal	(11.0)	(6.8)	(10.2)	(4.2)	10.47
Greece	(10.9)	(8.9)	(15.6)	(9.2)	24.26

Estonia, Luxemburg – Surplus (CA)
Slovakia, Slovenia – Small Deficit (CA), 5-8% Govt Deficit
Cyprus – Big Deficit (CA), 6% Govt Deficit
Malta - NA

Global Imbalances: US Savings Rate

Year	Savings/Disposable Income (%)
1960	10.0
1970	12.6
1980	10.6
1985	8.6
1990	7.8
1995	6.4
2000	4.0
2005	2.6
2007	3.0
2008	5.0
2009	6.1
2010	5.6
2011	5.7
2012	5.6
2013	4.5
2014 Q1	4.0

Top – 20% :	15% Savings	50% Income	7.5% Savings
Bottom – 80%:	50% Income	(7.0%)Savings	(3.5%) Savings

Typical Business Cycles

Empirical

- Demand (Supply) Shock
- Inventory, Capacity Accumulation (Debt Financed)
- Business Balance Sheet Deterioration
- Short Sharp Contraction (6-9 months)
- Inventory, Investment Reduction
- Business Cash Flow Improvement
- Balance Sheet Restoration, Expansion (48 Months Plus)

Theoretical

- Firms Have Informational (Tax) Incentives to Lever-Up
- Informational Constraints Restrict Financial Market
  Deleveraging (Equity Sale) Especially Under Crisis Conditions
- Balance Sheet Restoration From Internal Cash Flows and Information Acquisition Over Time

Long Term Cycles

- Depression

  1930-2 Contraction
  Relatively Slow Recovery
  Non-Recovery
  (Argentina)

- Current Recession

  Long-Lived Contraction
  (Greece, Italy, Europe)
  Relatively Slow Recovery
  (Japan)

Alternative Theory

(1) Sectoral Collapse (Globally)

- Sector Under Pressure
- Capacity Increase, Price Decline
- Local Impoverishment, Immobility
- Capacity Increase

(2) Sector to Economy Transmission

- Asymmetric Demand Responses to Price Movements
  - Constrained Spending
  - Non-Linear Response
- Local Service Impact (Immobility)

(3) International Competition

- Protectionism
- Devaluation
- Constraints – Global Balance, Financial Consequences

Depression Analysis

- Agricultural Collapse
  - 1920s Weak
  - 1929-32 Price Collapse
  - 1929-32 Income Collapse
  - 1930-32 Mobility Collapse
    (30-35% US Population)

- Transmission to Broader Economy
  - Agricultural Demand Collapse Outweighs Benefits of Lower Food Prices
  - Rural Service Income Collapse
  - Debt Deflation Impact

- International Competition
  - Country Recoveries Related to Devaluations (Argentina, Australia)
  - Devaluation Constraint Prevent Global Recovery

- Policy Solution
  - World War II Finances Rural to Urban Transition
  - Non-Reappearance of Depression
  - Non-Recovery (Argentina)

Current Crisis

- Manufacturing Collapse
  - Temporally Extended
    (US 1979-84; Japan 1989, Asia Crisis)
  - Crisis Generated by Huge Asian Capacity
    Additions (Post – 2000)

- Transmission to Broader Economy

- International Competition
  - Asian Currency Management
  - Euro Imbalances

- Policy Solution
  - Nowhere in Sight