

A Review of Unconventional Monetary Policies

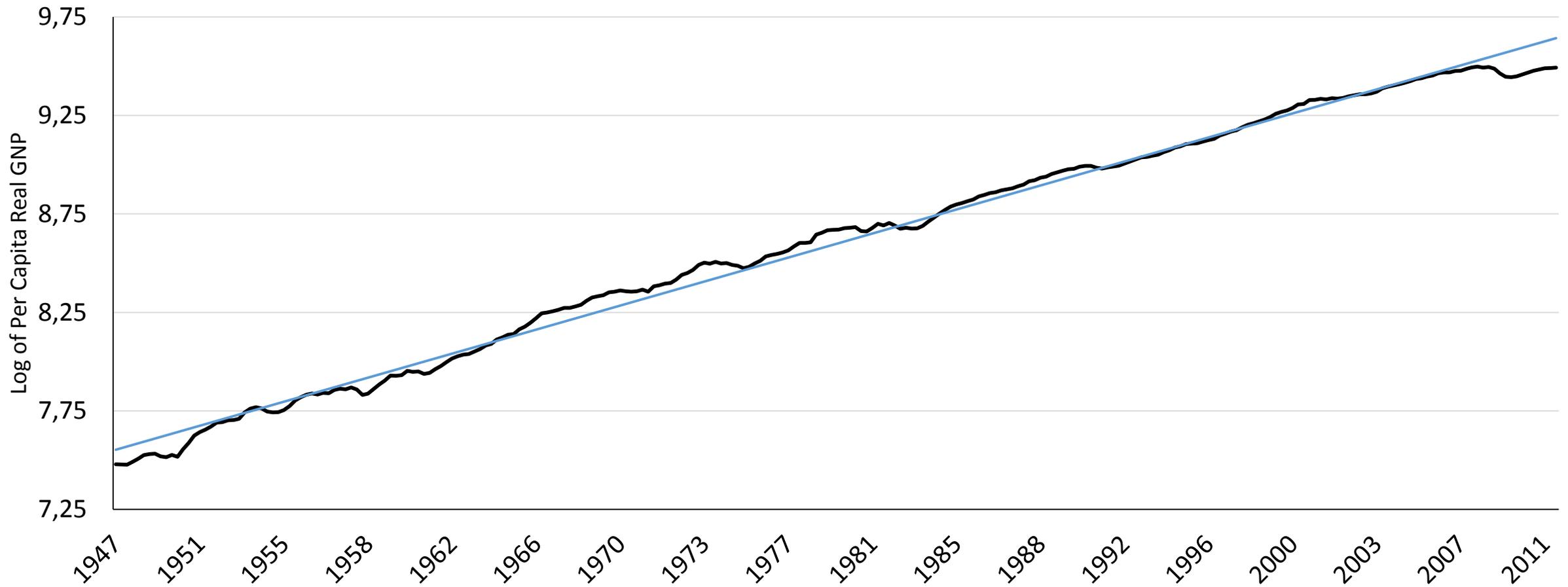
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Opening remarks

- Not a textbook material
- Assumptions
- Sources
- Plan
 - Introduction to business cycles and when government intervention is warranted
 - Reasons for ineffective of traditional monetary policies
 - Unconventional monetary tools and some examples
 - A digression on how smaller jurisdictions handle their monetary policies during GFC
 - Drawbacks and risks of those tools

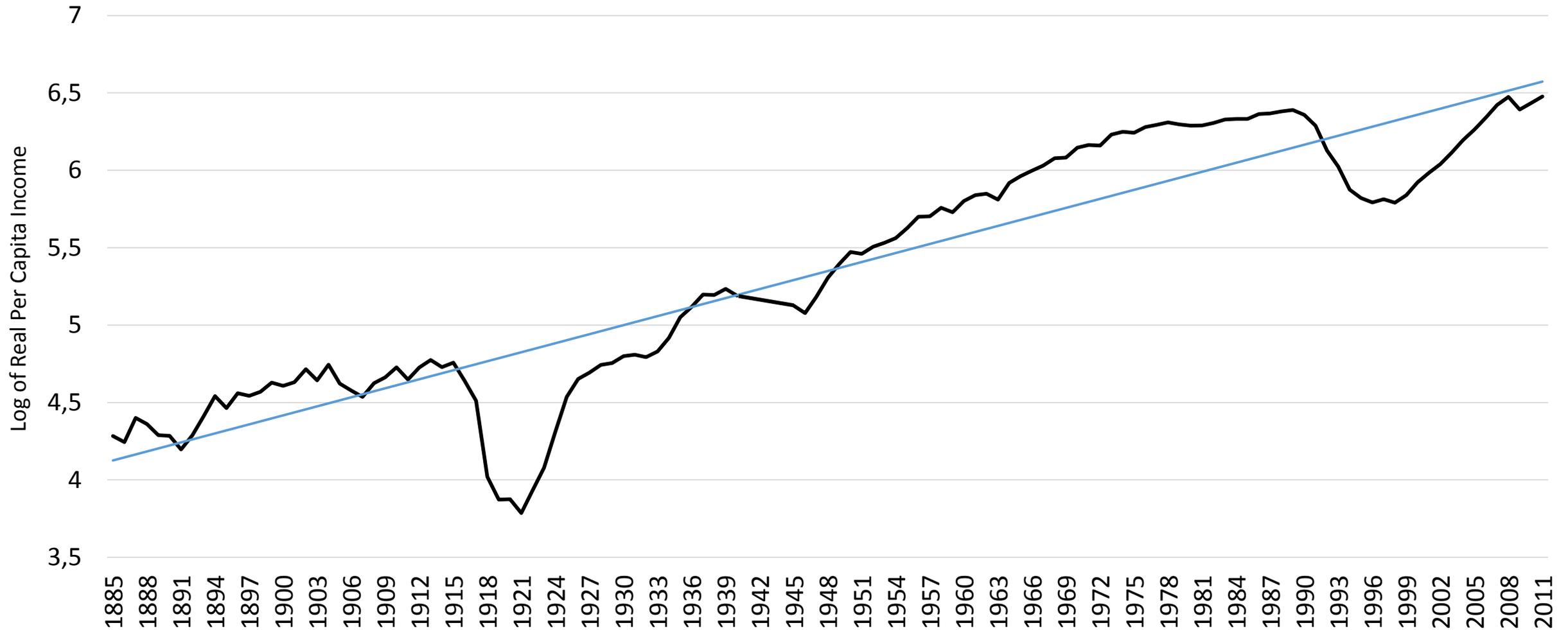
Log of Per Capita Real GNP for the US

since the intro of national accounts



Log of Real Per Capita Income for Russia

reconstructed series



Source: [“Great War, Civil War, and Recovery: Russia’s National Income, 1913 to 1928”](#)

Business Cycles

- The 1960s and a time of great optimism for macroeconomists
 - The Keynesian model was a reigning paradigm
 - Emphasis on fiscal policy
- A rude awakening in 1970s
 - Nixon shocks
 - Inflation and expectations
- The main objective of macroeconomics is to moderate business cycles
 - Government can restore a drop in demand in short-run
 - That is called Stabilization Policy, or “leaning against the wind”

Fiscal Methods of Stimulating Demand

- Fiscal policy
 - Government takes purchasing power from private sector or itself in future
 - Tax cuts work likewise
 - The Great Recession brought fiscal policy got back to life
 - Because two main concerns (a lag and RE) don't matter in a prolonged recession
- Since the 80s the monetary policy became the main method
 - The main idea is to push interest rate lower to foster consumption and discourage savings
 - Never stopped evolving
 - In the 80s the emphasis was on the monetary base
 - Since the 90s till the outbreak of the Great Recession macroeconomists thought they had:
 - Low and stable (2%) inflation as its one target.
 - Liquidity trap (low rates and deflation) was seen as semi-mythical
 - And the policy rate as the one omnipotent instrument

Monetary Methods of Stimulating Demand

- Some intuition in the context of battling of inflation expectations in Russia
- Open Market Operations
 - The main instrument in developed economies
 - Central bank is the largest purchaser in economy with unlimited supply of cash (NB!)
- Reserve Requirements
 - The main instrument in PBoC's
 - BoJ, BoE, FRS encourage reserves by Interest on Reserves (IOR)
- Discount Window Lending
 - The original mandate of central banking
 - Discount and Federal Fund rates

Limits of Monetary Methods

- Monetary measures can't effect the structural component (supply side), e.g.:
- Unprecedented buildups of public and private debt
 - Painful deleveraging and debt overhang
 - Lack of investment in infrastructure
- Deflationary risks
 - Glut of manufacturing and industrial goods
 - High structural unemployment
 - Commodity markets (e.g. shale-energy revolution, China's slowdown)
- Rising inequality
 - No market pressure on rich over-savers to spend more, while over-spending debtors forced to save more

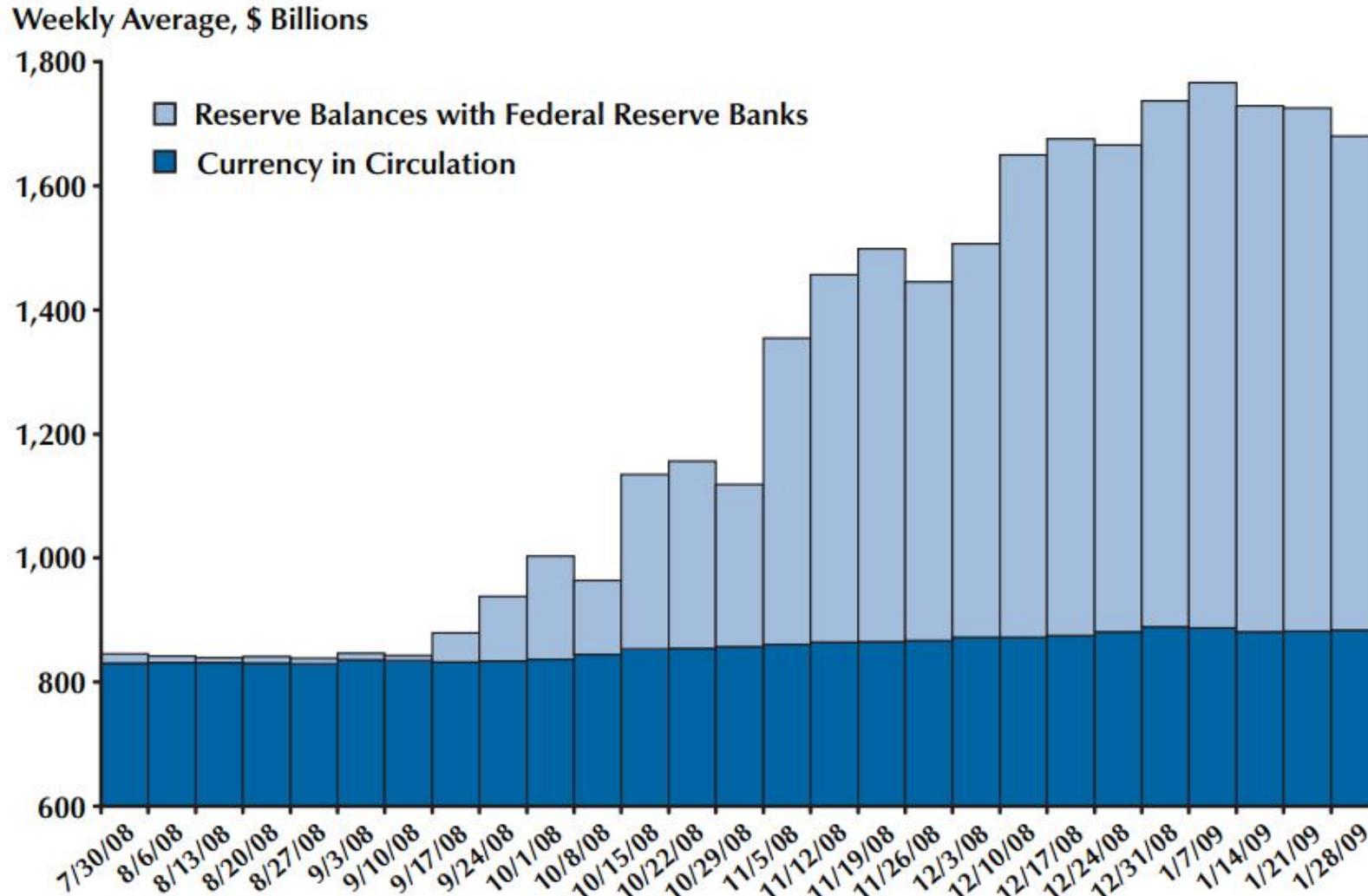
A Digression to Monetary Base

or why federal fund rate is called as it called

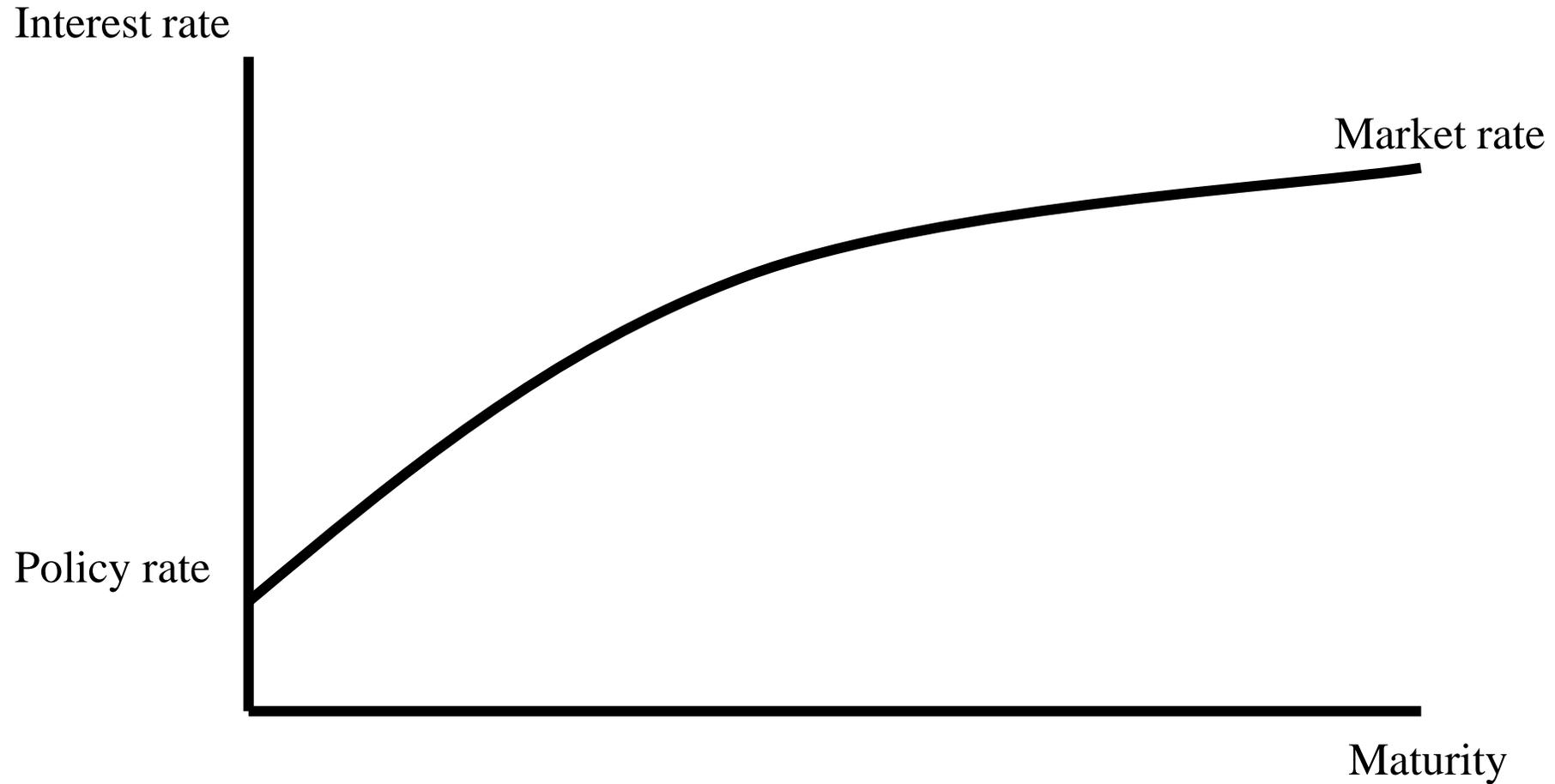
- Banks have account in the Fed. Short-term rate is clearing price on money market
- The Fed tunes the amount of reserves (supply on money market) to reach targeted fed fund
 - Choosing the Fed fund is effectively choosing the amount of reserves
- Targeting the short-time rate is relatively new method
- Here what was targeted before:
 - 1951 Free Reserves
 - 1979 Nonborrowed Reserves
 - 1983 Borrowed Reserves
 - 1987 Fed Funds Rate
 - Inflation targeting and interest rate rules, e.g. Taylor rule

A Digression to Monetary Base

positive fed fund rate is a result of the reserves' scarcity



Term Structure of Interest Rates



FRED 

- Effective Federal Funds Rate
- 10-Year Treasury Constant Maturity Rate
- 30-Year Conventional Mortgage Rate
- Moody's Seasoned Aaa Corporate Bond Yield



The Zero Bound

- Policy rate can't be negative
 - Holding cash would be more profitable
- According to interest rate rules interest rate should be 3-4% to close current GDP gap
- Historically first happened in Japan (except the Great Depression)
- Zero inflation in 1993 and became negative through 2003
 - GDP shrunk by 4 percent from 1997 to 2002
- BoJ reduced overnight rate to 0.5% in 1995
- By 2001 the rate was measured in thousandths of a percentage point
 - E.g. 0.001%
- A term “quantitative easing” was introduced in 03/01 by BoJ
- Sparked tremendous interest among economists

The Zero Bound

- The recession of early 2000s and fears of deflation forced the Fed to keep interest rate very low from 2001 till 2004
 - Along with the Saving Glut, the Great Deviation are seen as the main causes of the Great Recession
- Ben S. Bernanke's research of 2002 – 2004 delineated monetary policies measures at very low short-term interest rates
 - What is known today as Zero Interest Rate Policies (ZIRP)
 - However, Friedman also was a strong advocate for BoJ's QE
- Main idea:
 - You can effect yield curve not only by targeting its short end
 - Policy rate is not the only way to affect economic decisions
 - Credibility is very important

Zero Interest Rate Policies

- Methods of policy accommodation can be divided into these groups
 - Forward guidance
 - With various level of commitment
 - Balance-sheet policies
 - Altering the Composition of the Central Bank's Balance Sheet
 - Expanding the Size of the Central Bank's Balance Sheet
 - (Negative interest rates)

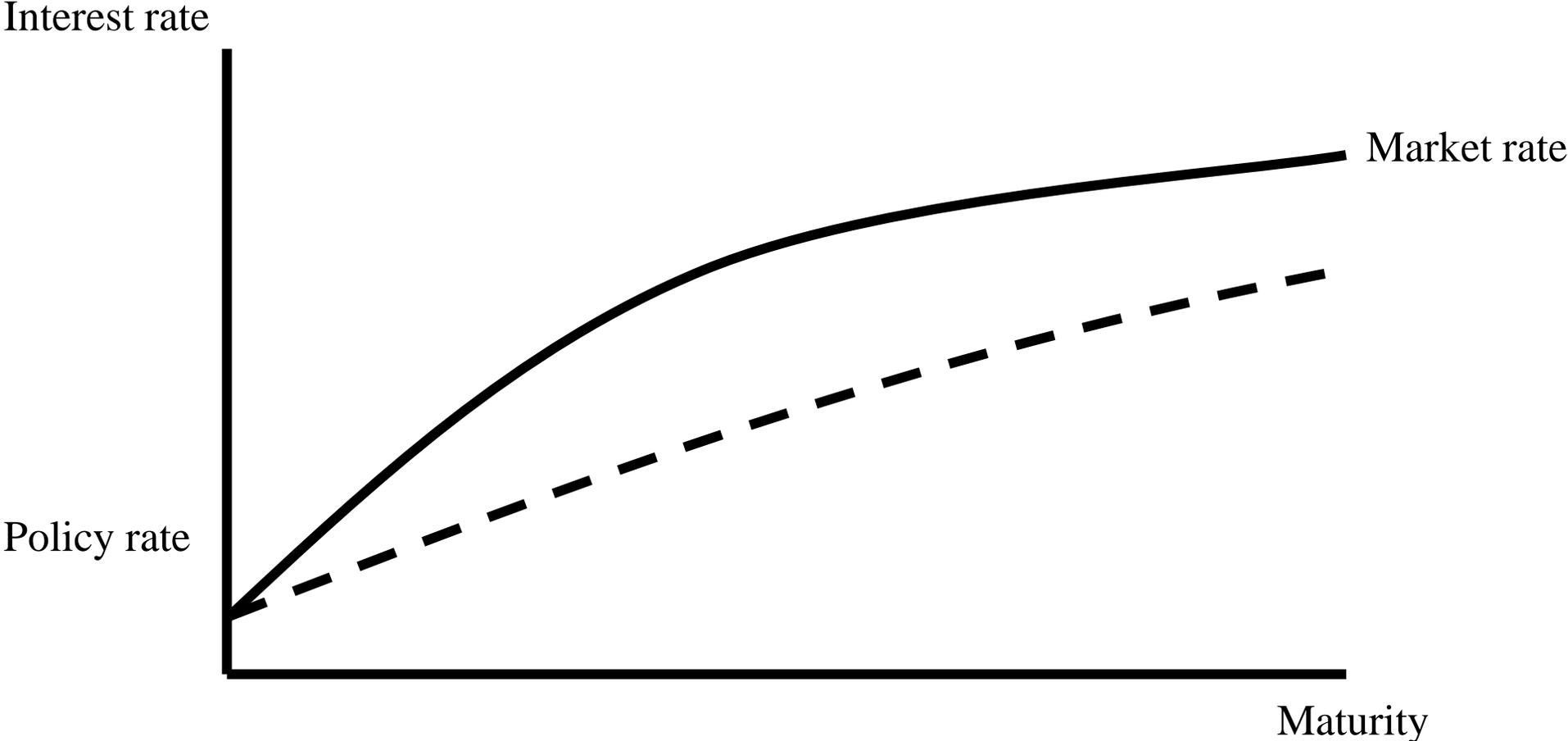
Forward guidance

- The assumption is that the long end matters
 - Longer-term interest rates determine the borrowing conditions that are most relevant for a large component of aggregate spending: first and foremost, durable consumption and investment
 - The short end effects the long end through anticipated future path
 - Expectation theory
- Speeches, testimonies, formal statements about likely policy in future
- Public commitment (Odyssean FG) can be conditional to time or economic situation
 - E.g. 04/2001 BoJ promised to keep zero rate as long as economy experience deflation
 - E.g. 08/2003 FOMC's stated "policy accommodation can be maintained for a considerable period"
- Eventually, the feeling of confidence in future creates a demand boom today
 - Central banks need a developed communication with the public
 - Works only if the central bank matched its deeds and words in the past

Forward guidance

- Mere forecasting (Delphic FG) without commitment
 - Reduces uncertainty and improves macroeconomic outcomes (e.g. inflation expectations)
 - Improves credibility and transparency
 - E.g. Sveriges Riksbank publishes forecasts
- Delphic FG might be better than “code words” by BoJ, the Fed
- Actually doesn’t require zero overnight rate
 - Reserves still could be scarce
- The main drawback of FG is a loss of reputation
 - e.g. BoR never deliver
- It is hard to disentangle the impact of FG on market rates

FG Flatters Term Structure of Interest Rates



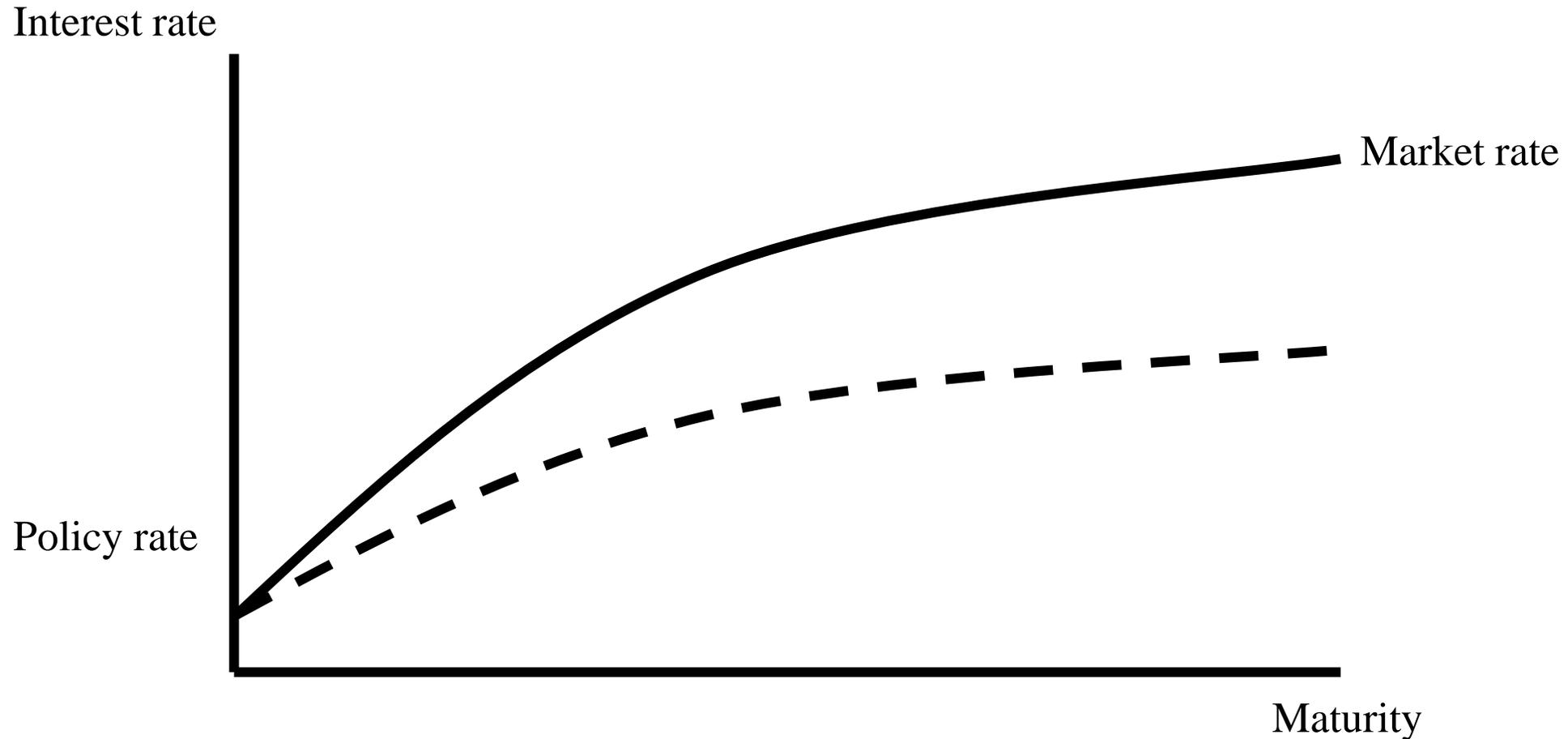
Altering the Composition of the Central Bank's Balance Sheet

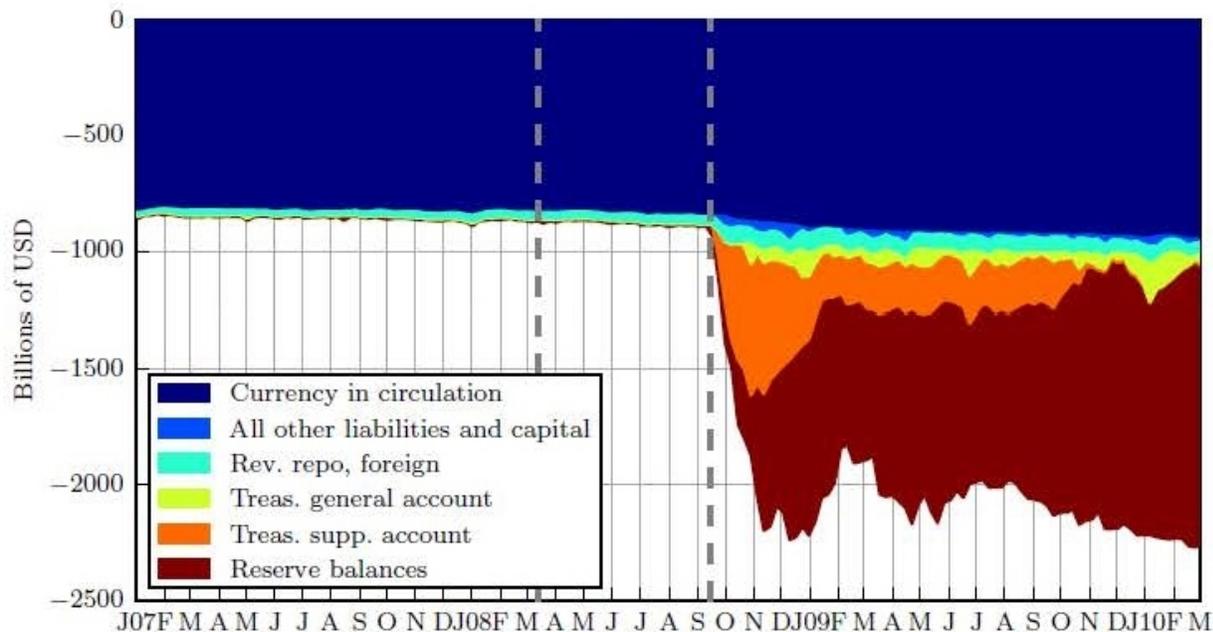
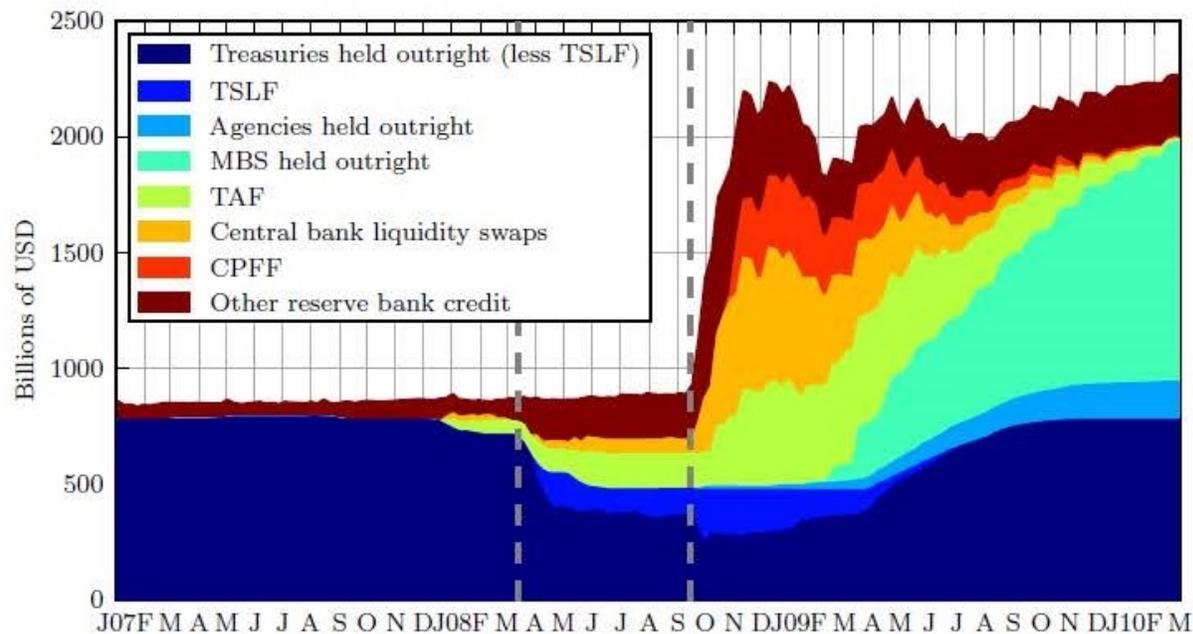
- Traditional monetary policy gives banks a special role for the credit flow
 - Usually central banks buys short-term t-bonds from banks and they further provide liquidity
 - Overlaps with traditional role as a lender of last resort
- Huge development of nondeposit-taking institutions in the last few decades
 - A broad neglect for financial regulation is seen today as the main culprit of the crisis amplification
- After GFC central bank started providing liquidity for broader range of institutions...
- ...by employing completely new type of direct and indirect interventions
 - A shift from shorter- to longer-dated securities
 - E.g. government securities, bonds, stocks and even foreign government bonds
 - Should lower long-term yields and encourage long-term loans
- Doesn't require zero overnight rate

Expanding the Size of the Central Bank's Balance Sheet

- The amount of reserves determine the overnight rate
- The regime can be switched from focusing on the price of reserves to the quantity or growth of reserves
 - Reserves can still be expanded even after the price of those are zero (or close to IoR)
- This policy is referred to as a “quantitative easing”
- QE affects economy through following channels:
 - Increase in money raises the prices on assets, thus lower yield and stimulate economy
 - Portfolio-balance theory
 - Forster expectations of low future path of policy rate
 - Mathematically identical to forward guidance
 - Replaces public holdings of interest-bearing government debt with noninterest-bearing currency or reserves.
 - Decline of tax burden

BSP Lowers The Long End of Term Structure of Interest Rates





YHTMAAAIYP:

Crisis begins in 08/07

03/08 collapse of Bear Stearns

09/08 collapse of Lehman Brothers and AIG

Large-Scale Asset Purchases (QE)

Term Auction Facility

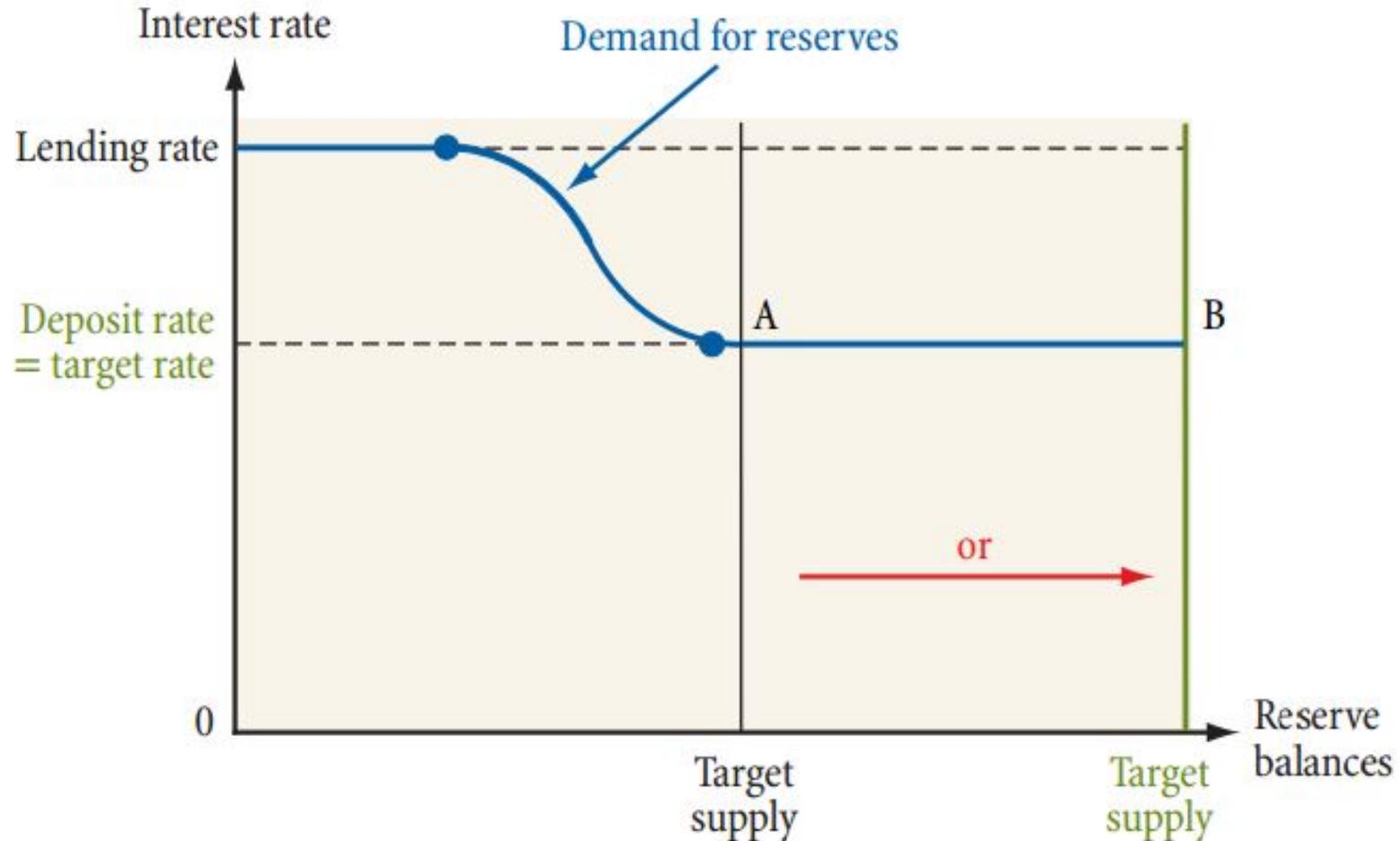
Term Securities Lending Facility

Commercial Paper Funding Facility

Maturity Extension Program (OT)

Negative interest rates

- Central bank has two rates
 - As any bank does
- If the reserves are not scarce then a rate for deposits becomes a policy rate
 - A floor for federal fund rate, since no incentive to lend in the overnight interbank federal funds market at rates below the interest rate on excess reserves



Negative interest rates

- A positive deposit rate along with ZLB is a way to sterilize the money base lest to control inflation
 - Leads to money hoarding
- But it doesn't have to be positive, the central bank can penalize banks for keeping reserves and not providing liquidity further
 - A tax on excess reserves
 - A cap on the amount each bank allowed to hold
- Banks resorted to negative interest rates
 - Sveriges Riksbank
 - (Danmarks Nationalbank)
 - (Swiss National Bank)

Normally negative lending rate encourages banks to take as much money as they can and keep them, but as long as banks are “penalized” (negative deposit rate) at higher rate it’s fine. Well, negative yields on t-bonds fine

Sveriges Riksbank

- One of the most progressive banks in the world
 - One of the first introduced inflation targeting and macropolicy forecasts
 - In 2009 was the very first to introduce negative rates on deposits
- Riksbank calls an overnight rate a repo rate
 - Krona has a floating FX rate regime
 - The first to target negative overnight rate
 - Since 07/2014 have negative deposit rate (the last among ECB, DN and SNB)
- The recent policy has been controversial
 - Concerns for housing bubble
 - “Sadomonetarism”
 - Recently announced QE
- The economy doing quite well

NB! Make sure they understand the basics of pegged rate first or skip the whole thing

Danmarks Nationalbank

- Krone is pegged since 1982 and CB is determined to defend the peg
- Euro depreciation against dollar (b/c of the end of QE) caused capital influx into country and Krone appreciation
 - To keep on par FX rate Nationalbank forced banks to pore credit into economy
 - The second experience of negative interest rate (after Sweden's 2009)
- Recent unpegging of franc, along with QE in EU and Switzerland, exacerbated the capital inflow so that
 - Nationalbank recommended the government to halt all borrowings to prevent sterilization
 - And interest rate on deposits was decreased till -0.75
 - The result is the lowest yields in the world
 - Strictly speaking Switzerland's 10-year bonds are lower, actually negative

Swiss National Bank

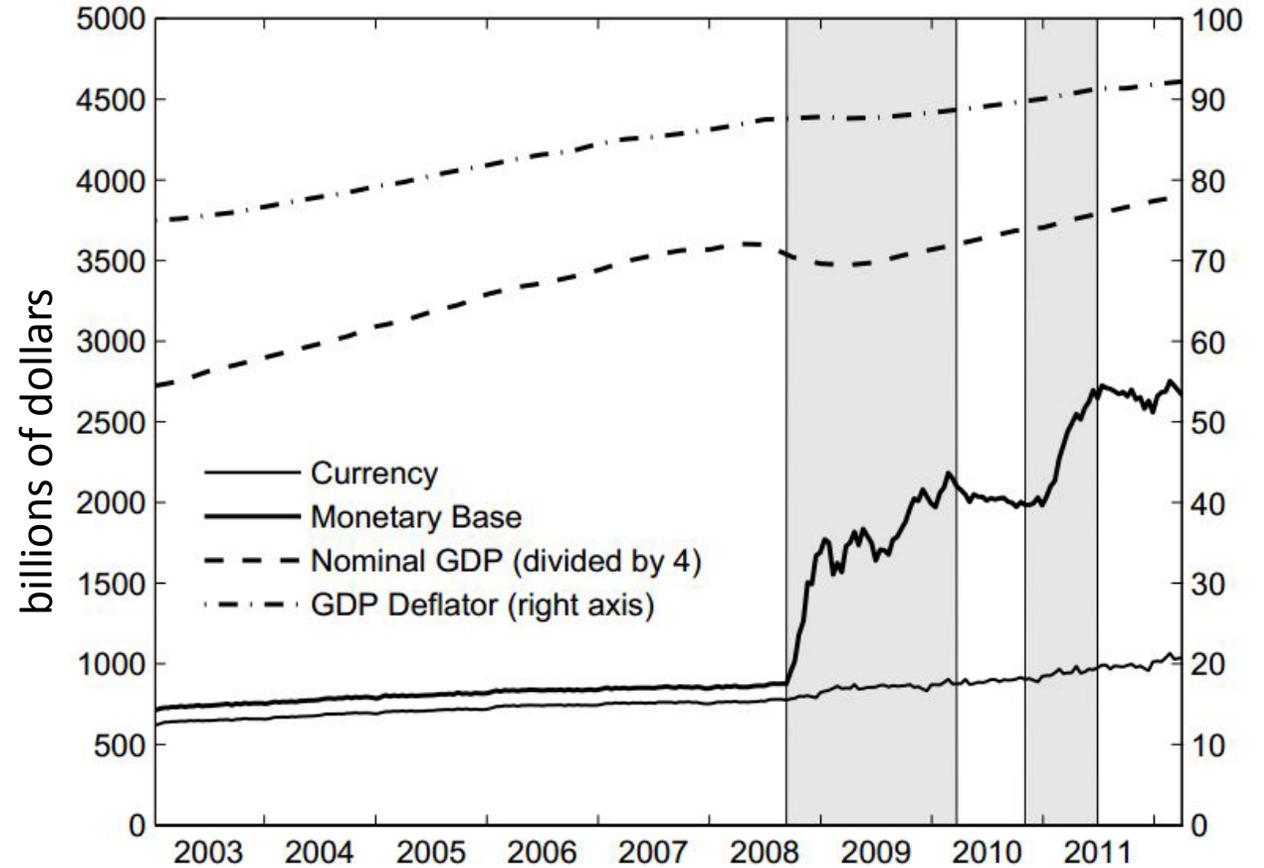
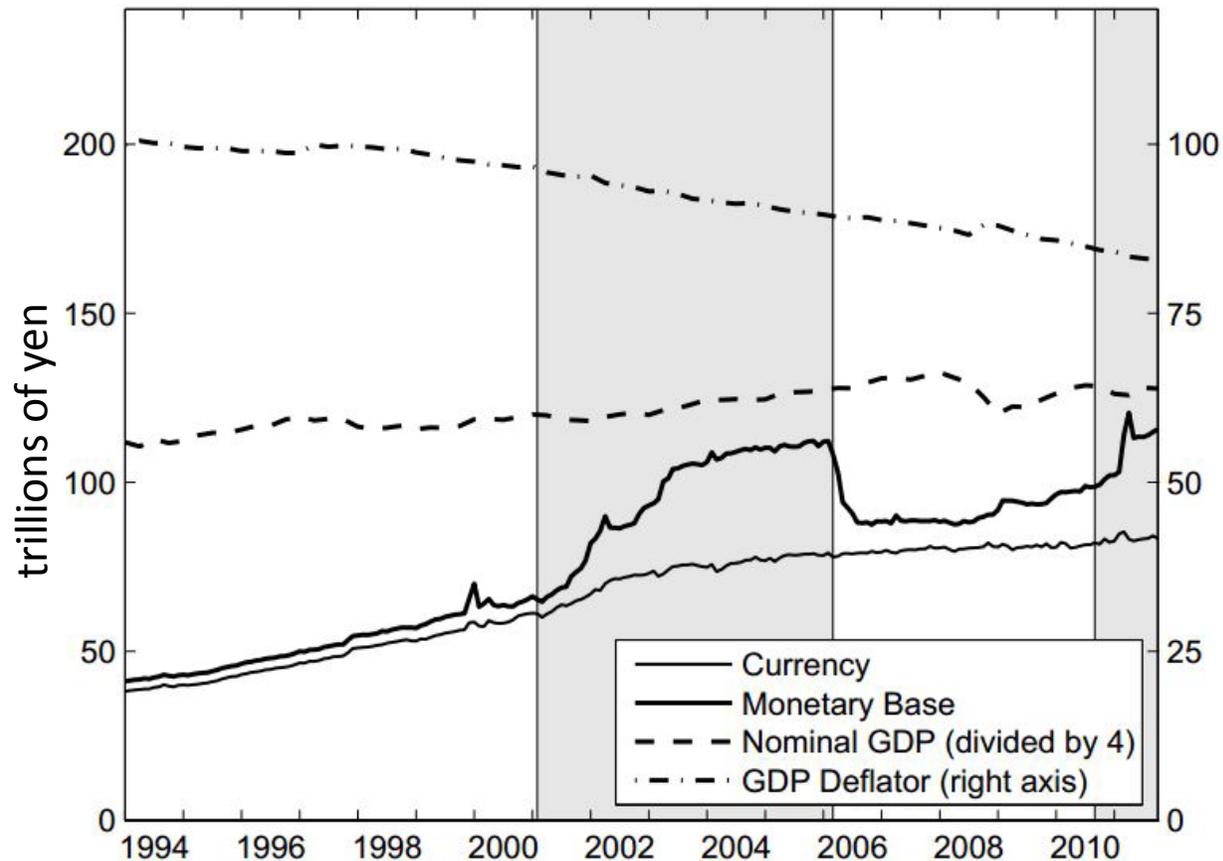
- The only bank that target three-month Libor
 - (Which is targeted between -1.25% and -0.25% today by the way)
- Swiss franc as a “safe haven” asset along with American t-bonds
 - Inflow led to appreciation that hurts export and led to deflation
 - In 2011 Swiss decided to fix the exchange rate (NB!)
 - SNB resorted to unlimited currency intervention
 - The SNB balance sheet grew to 85% of GDP by 12/14 (mostly foreign currency)
- On 01/15 franc was unpegged
 - In anticipation March’s QE in EU
 - (1) Further depreciation of euro in and (2) capital inflow would have to be sterilized
 - Leading to potentially larger losses which are normally irrelevant
 - But relevant with unusual ownership structure if SNB
- On 12/14 a negative deposit rate was introduced to accompany open market operations

“Costs” of Zero Interest Rate Policies

- Some financial instruments typically priced below the overnight rate
 - Liquid deposits, money-market mutual funds, “repo” market
 - Issuers who traditionally relied in those instruments will have seek alternative
- Zero return in short-term money market might force market-makers to exit
 - Leading to illiquidity and permanent damage to that market
 - Yet, in normal times monetary policy relies heavily on well-functioning federal funds market
 - This concern stop the Fed to experiment with low (or negative) IoR
- Further expansion of the central bank’s balance sheet might reduce public confidence in smooth exiting from accommodative policies
 - An undesired increase in inflation expectations
 - Maximum clarity to the public is required
- A default on securities bought by the central banks will have to be paid by tax payers
 - The main concern for QE in EU

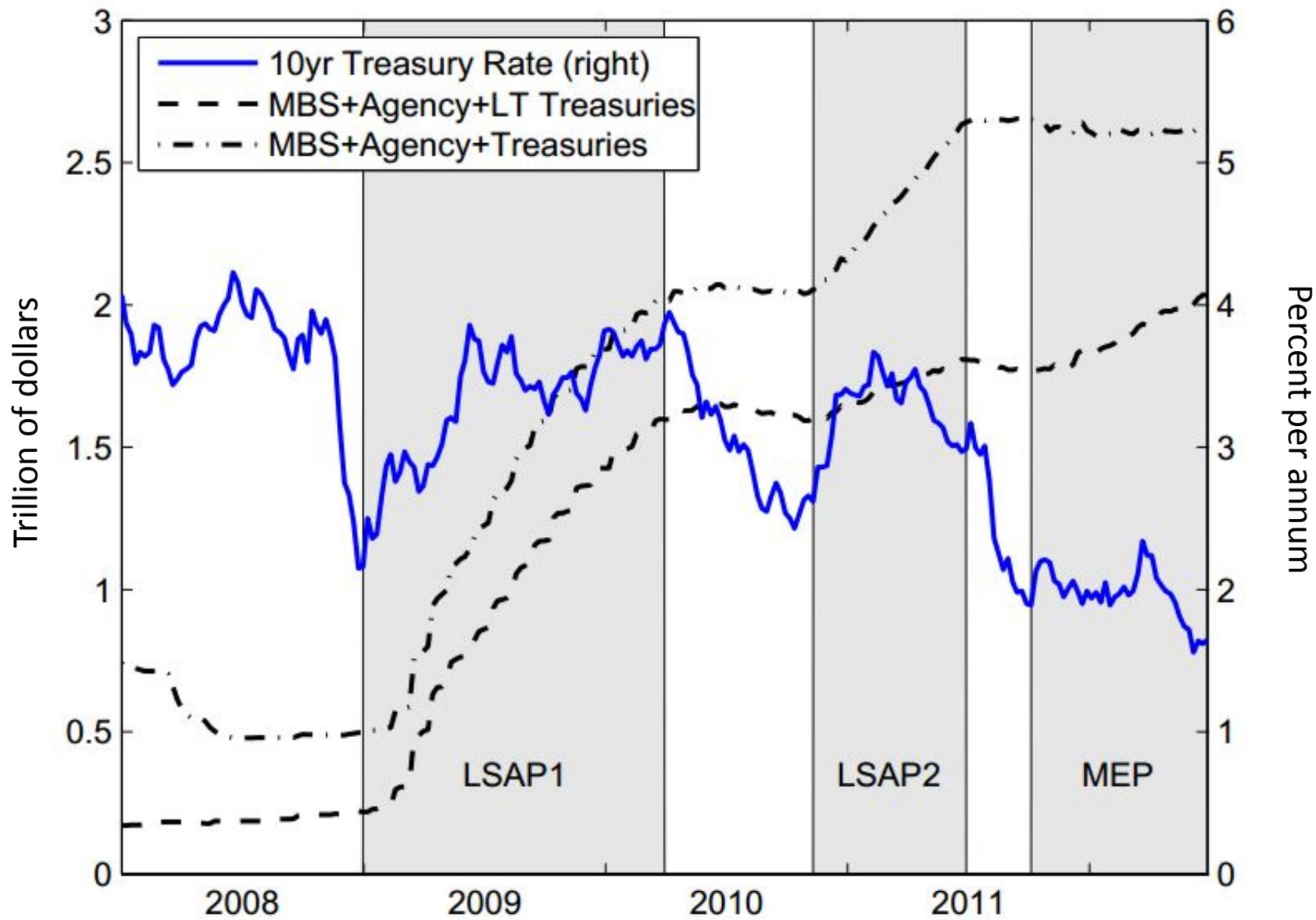
Additional slides

Quantitative Easing by Bank of Japan and the Fed



The Great Recession

- US price bubble, collapse of financial system and its contagiosity
 - A wealth gain through house boom in 1990s and 2000s
 - Rising prices made subprime (lending standards not met) lending possible
 - With higher rates
 - Creative feature such as a mortgage reset
 - Rise in mortgage interest rate with slowdown of the house price rate in 2005
 - Mortgage resets and unexpectedly low price on house triggered the beginning of subprime defaults
 - Bank tightened lending standards and that decreased the demand for houses
 - The price fall of 2008 put many “underwater” and allowed repossession
 - Default of mortgages devalued MBS
 - Realization of losses led to fail of Bear Stearns in 03/08
 - Undervaluation of contagiosity almost fail Fannie Mae and Freddie Mac
 - 09/08 the fail of Lehman Brothers started a panic
- Global panic
 - Self-fulfilling expectations



Interest rates in USA and Russia

