Limits for a negative interest rate policy (NIRP)

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Paris Conference

Negative interest rate policy in the Euro area:
Limits and Alternatives

Cercle des Economistes and Friedrich Ebert Foundation
Negative rates is blowing my mind

Jose Canseco, 
1988 baseball player
What is special about negative nominal rates?

Money illusion?

Negative nominal rates perceived as more costly than an equivalent increase in the rate of inflation, with the same real wealth effect.
Nominal- vs. Real yields

Nominal vs. Real return on German savings deposits

Inflation CPI
Interest on (3 month) Savings deposits in Germany
Real Return


Deutsche Bundesbank
Real yields on US long term treasuries

US YIELDS ON TREASURY INFLATION PROTECTED SECURITIES

Percent


USTIPS 20R  USTIPS 10R  USTIPS 5YR
What is special about negative nominal rates?

- **Money illusion?**
  Negative nominal rates perceived as more costly than an equivalent increase in the rate of inflation, with the same real wealth effect.

- **ZLB (Zero lower bound):** Flight into hoarding cash

  - John Hicks (1937): “If the costs of holding money can be neglected, it will always be profitable to hold money rather than lend it out, if the rate of interest is not greater than zero. Consequently the rate of interest must always be positive.”

- Constraint for monetary policy as stabilization tool:
  Optimal policy at the ZLB?
ECB Policy Rates

Marginal lending rate

Main Refinancing rate

Eonia

Deposit Facility Rate
Negative target rates

Central Bank Target Rates, 1999 - 2016

Zinssatz in Prozent

1999 2001 2003 2005 2007 2009 2011 2013 2015

Euro area  Japan  US  UK  Switzerland  Sweden
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  Optimal policy at the ZLB?

- Do we need to rewrite textbooks or simply replace ZLB by ELB?
No Zero lower bound?

Differential pass-through in CH and DK

Switzerland  Denmark

Effective interest rate bound is below Zero:
Hoard of cash: inconvenience, storage costs
No Zero lower bound?

10 year government bond yields
Source: Thomson Reuters

Flight into safe assets: yields fall below zero
Turning the world of borrowing and lending upside down
Why are interest rates negative?

Are central banks manipulating markets?

- Ultra-easy money expropriates poor savers
- Ultra-easy money triggers asset price inflation
- Ultra-easy money creates financial imbalances

Is there a secular decline in interest rates?

Fisher equation:
Nominal rate = real rate + expected inflation + risk premium
Measuring the “Natural Rate” of Interest

Relevant factors:
- Aging,
- Slowing productivity growth,
- Falling prices of investment goods,
- Cuts in public investment,
- “Global savings glut”
- Flight to “safe assets”

Holston, Laubach, and Williams (2016)
“Measuring the Natural Rate of Interest: International Trends and Determinants.”
Measuring the “Natural Rate” of Interest

Natural rate of Interest, Two-Sided Estimates US, Laubach and Williams

10 year averages
Measuring the “Natural Rate” of Interest

Estimates of the "natural rate": USA and Euro area

Hamilton, Harris, Hatzius, and West (2015), Ex ante real rate estimates
Secular decline in nominal interest rates

10 year government bond yields

Source: Thomson Reuters

Fisher equation:
Nominal rate = real rate + expected inflation + risk premium
Secular decline in inflation

Success in bringing down inflation to 2 % target rate

Recently: Substantial “undershooting” of that target
Problem

Lower bound for nominal rates imposes serious limits to monetary policy as stabilization tool:

Limited space for fighting future recessions:
- Triggers risk of substantially delayed recovery,
- Keynesian contractions in a liquidity trap

Take US as illustration: During former recessions, policy rates have been cut on average by 5.5% points

Median projections by FOMC members for Federal funds rate in the longer run: 2.9% (September 2016)
Lack of resilience, given traditional tools - in particular if the economy exhibits higher volatility
Options to improve effectiveness of monetary policy

1) Use unconventional tools (quantitative and qualitative easing; forward guidance)
2) Lower or even eliminate the lower bound (NIPR)
3) Raise inflation target up to 3-4 percent

All options involve trade-offs and risks

What is the effective lower bound?
Financial stability concerns: robustness of banking
NIPR: eliminate the lower bound

How to limit the options for hoarding:

- Abolish cash

- Impose stamp duty to tax holding paper money: Silvio Gesell 1911: *Currency...would only retain their value by being stamped each month, like an insurance card, with stamps purchased at a post office. … The actual charge suggested by Gesell was 5.2 % per annum....* (Keynes 1936)

- A community currency called the **Chiemgauer** was introduced in Bavaria, Germany, in 2003, with the intention of promoting local commerce. The Chiemgauer is designed to lose 2% of its value every quarter. It has to be “topped up” every three months by purchasing a coupon. It circulates three times more rapidly than the euro. *Electronic version of the Chiemgauer: 30 days no depreciation. Then daily depreciation (0,022 % per day).*
Silvio Gesell Schwundgeld - Chiemgauer
NIPR: Eliminate the lower bound

- Idea has strong appeal to intellectuals:

- Eliminating cash allows to implement both the Friedman rule (satiation with electronic real money balances) and efficient stabilization

- But: Privacy concerns ~ Dostoyevsky: Money as “coined liberty”

Does NIRP work in the presence of cash?

- In the presence of cash, the option of hoarding imposes constraints on financial intermediation

- What is the effective lower bound? – 0.4%; -0.75% ???
Unconventional measures had significant impact on financial variables (such as asset prices, long-term yields and spreads)

Effective transmission of policy rates:
NIRP moved yield curve into negative territory

Euro Area Yield curve (ECB)

Euro Area Yield curve, spot rate, AAA-rated bonds, Source: ECB
Convergence of Personal Lending Rates in the Euro Area

Personal Lending Rates, Loans to Non-Fin Corporation, Total, up to 1 Million, ECB
Growth rate: loans to non financials Euro area, M3
Stalling inflation expectations
Undershooting the inflation target

Inflation Euro area

CPI core Euro Area  CPI headline Euro Area
Financial stability risks

Do negative rates pose financial stability concerns?

a) If negative rates squeeze bank’s profits:
Disruption in financial intermediation → overall lending reduced
Standard liquidity trap mechanism: Hoarding of cash
Can banks pass negative rates on to their depositors?

Empirical evidence?

b) Search for yield: Incentive to leverage:
Excessive risk-taking → Increase in financial fragility;
Central banks may get caught in a “zero interest rate trap”

Empirical evidence? Adequate policy response?
Financial stability risks 1

Transmission mechanism for negative rates:

- Negative wealth effect on savers; positive wealth effect on borrowers: On the aggregate, only the substitution effect is relevant → Redistribution from net savers to net borrowers stimulates aggregate demand (marginal propensity to consume higher for borrowers)

- As long as low rates prevent economic disruption and improve credit quality: Positive effect also on savers and banking profitability (Low rates boost net interest margins in the short run; ease the interest burden and so mitigate non-performing loans)

- But as soon as negative rates trigger hoarding of cash: Risk of banking disintermediation; disruption via liquidity trap

Modern version: Reversal rate (Brunnermeier /Koby 2016) → Falling bank profitability reduces capital accumulation → lower lending

Empirical evidence?
Savings Ratios (Net), % of household disposable income

Source: OECD Economic Outlook: Statistics and Projections
Assessing the implications of negative interest rates

Benoît Cœuré

July 2016
Reduced interest margin: Between June 2014 and May 2016
Average deposit rates decreased by 0.2 % points,
Average loan rates decreased by 0.8 % points
Problem: Counterfactual in the absence of policy actions

Sources: SNL Financial and ECB calculations
Note: Based on publicly available data for 27 euro area banking groups for which quarterly P&L data is available. Annualised average net interest margins. The net interest margin is calculated as net interest income over total assets.

Benoît Cœuré Assessing the implications of negative interest rates July 2016
Financial stability risks 2

Search for yield: Excessive risk-taking → Increase in financial fragility

Promise to keep rates low for long provides incentives to leverage → Financial intermediaries engage in carry trades
Policy change risks to trigger fire sales and financial disruption.

Central banks may get caught in a “zero interest rate trap” in order to prevent triggering crises.

Cao/Illing (2016): Adequate response is to combine monetary policy tools with proper macro-prudential regulation:

Make the banking sector more resilient by imposing stronger capital and liquidity requirements
Forward Guidance

"We continue to expect interest rates to remain at present or lower levels for an extended period of time“

→ Incentives for Carry Trades?

Interest rate trap?

Discretionary path

Forward Guidance path
Summary

- **Negative nominal rates are indeed special!**

- The effective lower bound (even though below 0) imposes serious limits for monetary policy as stabilization tool.
  In the presence of cash, the option of hoarding imposes constraints on financial intermediation.
  Familiar mechanism well understood since Gesell and Keynes.

- **Recommendation:** Raise inflation target to provide sufficient resilience to fight future recessions.

- **Challenge:** How to credibly raise inflation target?
  “Neo-Fisherians”: Simply raise policy rates.
  Counterproductive, risks to trigger a deflationary spiral.

**Way out:** Monetary dominance requires adequate fiscal response (Sims).
Fiscal restraint to prevent hyperinflation;
Fiscal spending to prevent stagnation.
Real GDP per Capita 2000=100

Real GDP/Pop  Penn World Tables 9.0

Japan  Germany  France  United Kingdom  United States  Greece  Italy

Penn World Tables 9.0
Impact of NIPR on distribution

Impact of negative rates on wealth and income distribution:

- Subtle effects on distribution → politically sensitive issue

- **Wealth effect:** Low rates boost asset values → Redistribution from the asset poor to the asset rich
  Bayer, Lütticke, Pham-Dao Tjaden (2015): DGSE model with heterogeneous agents:
  Households with low human capital but high illiquid wealth profit gain most from stabilization policy.

- **Income effect:** Low rates stabilize output and employment and so stabilize wages; boost income for households with high human capital;

- But as soon as negative rates trigger hoarding of cash: Disruption in financial markets;
Raising the inflation target

- Deflation would be problematic for Germany, because rising real interest rates and real wages would further increase the already alarming number of business failures. Low inflation is harmless, whereas low deflation would be a catastrophe. This asymmetry is sometimes overlooked.

- Officially, the ECB has set the upper limit of the tolerated average inflation rate at only 2 percent. This is too low for Germany and France, as it pushes these countries too close to the brink of deflation. That is why some economists call for this value to be increased by at least half a percentage point.

H.W. Sinn The Laggard of Europe, CESifo Forum, Spring 2003
Financial stability risks

- ECB negative rates is intended to spark economic growth by incentivising banks to lend money out to businesses instead of holding on to it.

- Hoarding cash is in nobody’s interests. But large amounts can be stored in small volumes.

- ECB statement: “The ECB and the eurosystem will continue to make all necessary arrangements to ensure a smooth functioning of cash as a means of payment and a store of value.”