

Breaking Through the Zero Lower Bound

Miles Kimball

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With Readily Available Tools, There Is No Effective Lower Bound on Rates

- The Paper Currency Problem can be readily handled either (a) cleanly using either a price mechanism or (b) messily using a combination of price and quantity measures.
- The **Bank Profit Problem** can be readily handled by transferring funds to banks when necessary
- Political Costs of low rates can be mitigated (though not eliminated) by (a) **shielding small household accounts from negative rates** and (b) good communications laying out in advance the case for a robust negative rate policy.

Using the Interest on Reserves Formula to Subsidize Banks to Give Zero Rates to Small Household Accounts

- Voluntary reporting by banks after voluntary signup by individuals to get the subsidy.
- Individuals designate primary bank & give personal ID # to avoid double-dipping
- Exemption amount: €2000 average monthly balance limit per individual, €4000 per couple?
- Shields small accounts. Marker for pass-through of negative rates to large accounts

Choosing to Keep a Lower Bound on Interest Rates is Corrosive to Central Bank Credibility and Independence

1. Doubts that central banks have enough monetary firepower can lead markets to brush off inflation targets.
2. Long-lasting slumps and slow recoveries bring central banks under attack.
3. Weak stimulus from mildly low rates for a long time makes people begin to think central banks cause the low natural rate and blame central banks for that.

Deep Negative Rates

Can Bring Quick Recoveries (cont.)

- Norm of 550 basis points cut in rates in a typical recession.
- When risk premia rise, rates can be cut beyond that to counteract that rise.
- David Papell, Alex Nikolsko-Rzhevskyy & Ruxandra Proda argue in “The Taylor Principles” that rates consistent with higher coefficients in the Taylor Rule have brought better inflation and output outcomes.

The Transmission Mechanism for Lower Rates (Including Negative Rates)

1. Many Different Borrower-Lender Relationships
2. The Principle of Countervailing Wealth Effects:
 - PDV Shift in of Lender Budget Constraint = PDV Shift out of Borrower Budget Constraint
3. Generally, Borrower MPC > Lender MPC
 - Adrien Auclert
4. + Substitution Effect

Examples of Borrower-Lender Relationships

- Small household deposits
- Firms with “cash” hoards
- Mortgages
- Car loans
- Venture capital
- Commercial paper
- T-bill holding
- T-bond holding
- Central bank lending
- etc. ...

Deep Negative Rates

Can Bring Quick Recoveries

- Per basis point, there is no reason to doubt the transmission mechanism in negative territory is just as strong as in positive territory (assuming bank profits and paper currency are dealt with).
 - There is already a great deal of empirical experience with deeply negative real rates.
 - Principle of countervailing wealth effects makes every one of the many borrower-lender relationship in which the borrower has a higher MPC than the lender deliver AD when the relevant rate is cut.

Eliminating the Lower Bound Can Bring Back the Great Moderation

- Deep negative rates can get the job done during the window of time when a central bank can resist political pressures trying to intimidate it from vigorous action.
- Cyclical stabilization can again be mostly a matter of monetary policy, with fiscal policy able to focus again on the long run.

Taking Care of the Paper Currency Problem with an E-Money Policy

- **electronic euro** the linchpin of the system,
- **paper euro** in a secondary role
- the lower bound on interest rates is eliminated, ensuring unlimited monetary firepower
- this policy makes it so paper euros are for spending, not for saving

“Electronic money”: a time-varying paper
currency deposit fee on *net* cash deposits at the
cash window of the central bank
with electronic money as the unit of account

- Equivalent to an exchange rate at the cash window
- Minimum distance from current monetary system consistent with eliminating ZLB
- No extra regulations or quantity constraints—works entirely through the price system
- Subtle in how it shows up for regular households at small doses
- Unlimited in potential dosage (if needed)

Silvio Gesell vs. Robert Eisler on how to get a non-zero nominal rate of return on paper currency

$$\begin{aligned}\text{Rate of return} &= (\text{Dividend}_{t+1} / P_t) + (P_{t+1} / P_t) - 1 \\ &= \text{Dividend yield} + \text{capital gains rate} \\ &= \text{Dividend yield} + \text{appreciation rate}\end{aligned}$$

- Terminology: Call rate of return on paper currency the “paper currency interest rate” when tightly controlled to be a safe nominal weekly or overnight rate

Why There is No Arbitrage

	2009	2010	2011	2012	2013	2014	2015
electronic short-term rates	-2%	-2%	0	2%	2%	2%	2%
e-\$ in a short-rate account on Jan. 1	100	98	96	96	98	100	102
p-\$ face value in storage facility	100	100	100	100	100	100	100
paper currency interest rate (PCIR)	-2%	-2%	0	2%	2%	0%	0%
e-\$ per p-\$	1	0.98	0.96	0.96	0.98	1	1
market value (in e-\$) of stored p-\$	100	98	96	96	98	100	100

18 Misconceptions

1. Eliminating ELB not necessary
2. Can't do anything about ELB
3. Need to abolish paper currency
4. Need to change paper currency physically
5. Need to attack storage
6. Need to attack withdrawals
7. Need to make paper currency scarce
8. Need detailed regs for banks & retail shops to eliminate ELB
9. Will dramatically change daily experience of regular households

18 Misconceptions (continued)

10. Requires a totally new way of thinking about monetary policy

11. Has significant costs even in “standby mode” when there is no need for negative interest rates

12. Requires stronger ability to commit than regular monetary policy

- PCIR created by an overnight commitment

- With PCIR-first operational approach $PCIR \gg \text{target rate}$ untempting

13. Electronic money system disadvantages cash & the unbanked

18 Misconceptions (continued)

14. Deep negative rates not enough if the banks messed up

15. Negative Interest Rates Hurt Bank Balance Sheets and So Lead to Less Lending and Financial Instability

15'. Negative Rate Policy Leads to Financial Instability by Raising Asset Prices

- Natural rate not under control of central bank
- Since aggregate demand no longer scarce once ELB eliminated, little downside to tougher capital requirements
- Reducing fear of being persistently stuck at ELB could reassure markets and raise long-term rates.

18 Misconceptions (continued)

16. Even if paper currency is defanged, other things would generate a ELB

- Private firms won't offer zero interest rates without restriction when market interest rates are deep in negative territory. Only government has both deep pockets and disregard for profit and loss needed to do this.
- Any asset whose price can fluctuate can go up enough in price in the face of negative interest rates to have a return low enough to be consistent with negative safe rates.
- ELB a creation of government: gone if all government borrowing rates, including paper currency rate and between-tax-year rate negative

18 Misconceptions (continued)

17. Stimulative monetary policy distracts from supply-side reforms

- Being away from natural level of output distracts from supply-side reforms

18. It will never happen

- Big changes to monetary system about every 50 years: end of Gold standard, End of Bretton woods
- QE was controversial, now seen as standard by central banks
- Things stay the same until suddenly one day they change
- Many central banks; not all face same political situation
- International diffusion of monetary policy toolkit

Basis of Dirty Approach: The Herculean Task of the Paper Currency Arbitrageur

- The job of paper currency arbitrageurs is not easy, especially when the government is against them.
- To establish a lower bound, there must be the ability to store paper currency worth the amount of all the negative-rate earning assets people want to get out of.
- Any asset the central bank makes open market purchases of puts money in the hands of private actors who then need to accept negative rates in a negative rate environment, or store as paper currency.
- US: about 100% of GDP
- Japan: about 200% of GDP, at least

The Dirty Approach: Managing the Side Effects of Paper Currency at Par

1. Ban Electrification of Paper Currency
2. Use the Interest on Reserves Formula to Subsidize Zero Rates for Small Household Accounts
3. Charge Banks for Excess Paper Currency Withdrawals from the Cash Window, Allowing Them to Impose Restrictions in Turn
4. Retire Large Denomination Notes of Paper Currency
5. Ban Storage of Paper Currency as a Business
6. Put Tight Restrictions on Flows of Paper Currency Out of the Country

International Experts Who Can Help Explain the Power of an Electronic Money Policy to the Press

- Marvin Goodfriend (Carnegie-Mellon)
- Willem Buiter (Chief Economist, Citigroup)
- Ken Rogoff: *The Curse of Cash*
- Miles Kimball
- Andrew Haldane (Chief Economist BOE)
- Signe Krogstrup (formerly SNB, now IMF)
- Narayana Kocherlakota (formerly FRB-MN, Rochester)
- Jean-Pierre Danthine (formerly SNB)
- Larry Summers
- Ben Bernanke
- Ricardo Reis (LSE)

Explaining Negative Rates to the Public

- Low interest rates are a boon to borrowers, especially when risk premia are high
- For savers & for politicians, deep negative rates for a few quarters followed by recovery & positive rates is a better scenario than zero rates & sluggishness for year and years and years.
- Social function of positive interest rates is to reward saving *when saving is what is called for.*
- Social function of negative interest rates is to reward spending *when spending is called for.*

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Resources

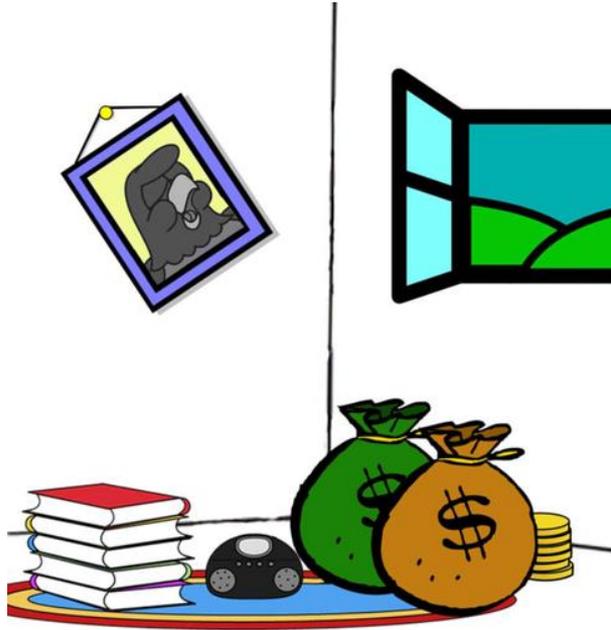
- “Breaking Through the Zero Lower Bound,” Ruchir Agarwal and Miles Kimball, IMF Working Paper 15/224
- “Negative Interest Rate Policy as Conventional Monetary Policy,” Miles Kimball, *National Institute Economic Review*

Both conveniently available--along with much more—
from links in bibliographic blog post

[How and Why to Eliminate the Zero Lower Bound:
A Reader’s Guide](#)

on Miles’s blog “Confessions of a Supply-Side Liberal”

Gather 'round, Children, Here's How to Heal a Wounded Economy



But people made the new money stay inside, sitting in the corner. And the piles of money sitting in the corner doing nothing got bigger...



So one day, Willem the wise warlock said "Money needs to go outside, run around and play!"



So Willem raised his wand...

...and cast a magic spell that would make the giant piles of money doing nothing start to shrink unless people let them go outside.

With Readily Available Tools, There Is No Effective Lower Bound on Rates

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- The **Bank Profit Problem** can be readily handled by transferring funds to banks when necessary
- Political Costs of low rates can be mitigated (though not eliminated) by (a) **shielding small household accounts from negative rates** and (b) good communications laying out in advance the case for a robust negative rate policy.

Implications of the Ability to Readily Remove Any Effective Lower Bound

- Interest rate movements should be determined by the same criteria in the negative region as in the positive region.
- Beyond the first \$1 Trillion (7% of GDP) QE not needed.
- Aggregate demand is not scarce, so fiscal policy should be judged on other grounds.
- Aggregate demand is not scarce, so it is safe to dramatically raise capital requirements.
- Inflation targets can be reevaluated.

Introduction

- ZLB is a serious obstacle for monetary policy
- Worth considering new tools
- Politically, going off paper is like going off gold

Monetary systems: history and forecast

- Bimetallic standards (gold and silver)
- Gold standard with periodic suspensions of convertibility (US Coinage Act 1873, ...)
- Fixed exchange rates in the Bretton Woods system (1944 conference, fully in operation in 1958)
- Floating exchange rates among major currencies (Nixon Shock in 1971)
- Electronic money system (e-\$, e-€, e-¥, e-£, e-₪ as units of account) with paper currency in an ancillary role (2010's)
- “Cashless economy” (2045?)

How the zero lower bound arises from paper currency policy

- The zero lower bound arises when a government issues pieces of paper (or coins)
 - guaranteeing a zero nominal interest rate
 - over all horizons
 - that can be obtained in unlimited quantities in exchange for money in the bank
- This acts as an interest rate floor, making people unwilling to lend at significantly lower rates
- Cf. milk-price supports in the United States

“Electronic money”: a time-varying paper
currency deposit fee on *net* cash deposits at the
cash window of the central bank
with electronic money as the unit of account

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Why there is no problem defending an exchange rate between paper currency and electronic money

- Same central bank under the same authority
- Analogous to the exchange rate between \$10 bills and \$20 bills.
- Created by the unlimited ability to exchange at the stated rate at the cash window
- Face value alone does not determine: \$100 bills go at a discount in the criminal underground.

“Electronic money” as unit of account

- This way to eliminate ZLB involves distinguishing between paper currency and electronic money (reserves or money in the bank). Electronic money would be “the real thing.”
- This is distinct from what is “legal tender” though making electronic money legal tender would reinforce its role as unit of account.

Historically, Governments Have Been Able to Establish Control of Units of Account and Only Lose that Control After Hyperinflations

- Local currency is often used even when it has inflation in low double digits
- US established the paper dollar as a unit of account when gold was the norm
- US established reserves as a unit of account when paper was the norm
- The Central Bank is a very attractive clearinghouse for payments because of very lower counterparty risk.

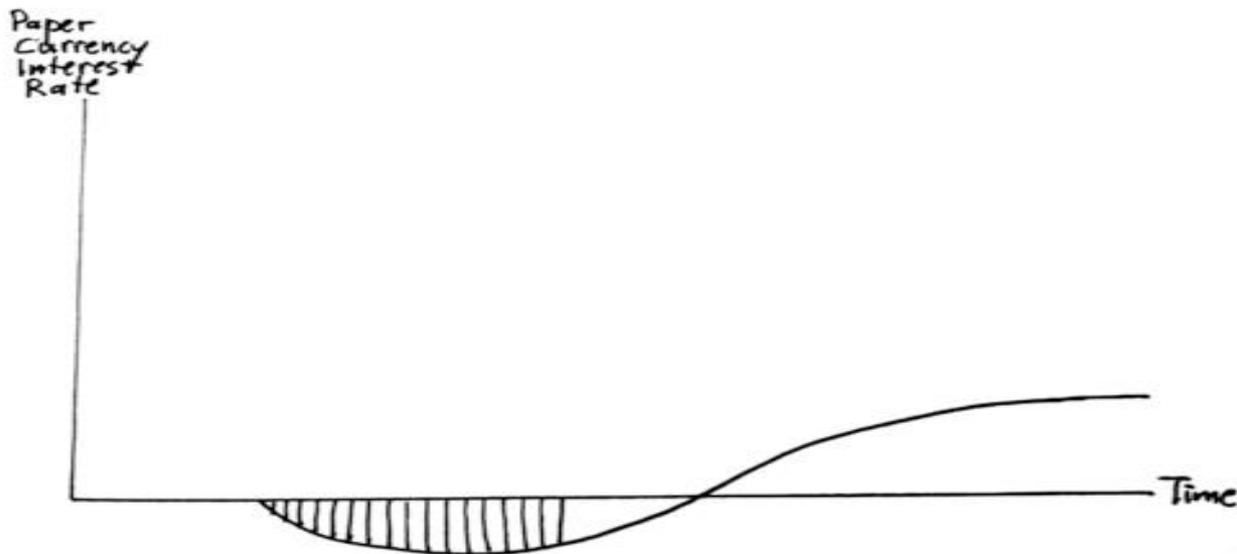
Other Tools the Government Has for Establishing and Maintaining Units of Account

- The government is a big enough market player that it should be able to establish the electronic dollar (e-\$) as the unit of account if all its dealings were on that basis:
 - taxes
 - accounting rules
 - government contracts
- That the government can determine the equilibrium on daylight savings time suggests private firms and households would follow the government's lead on this.

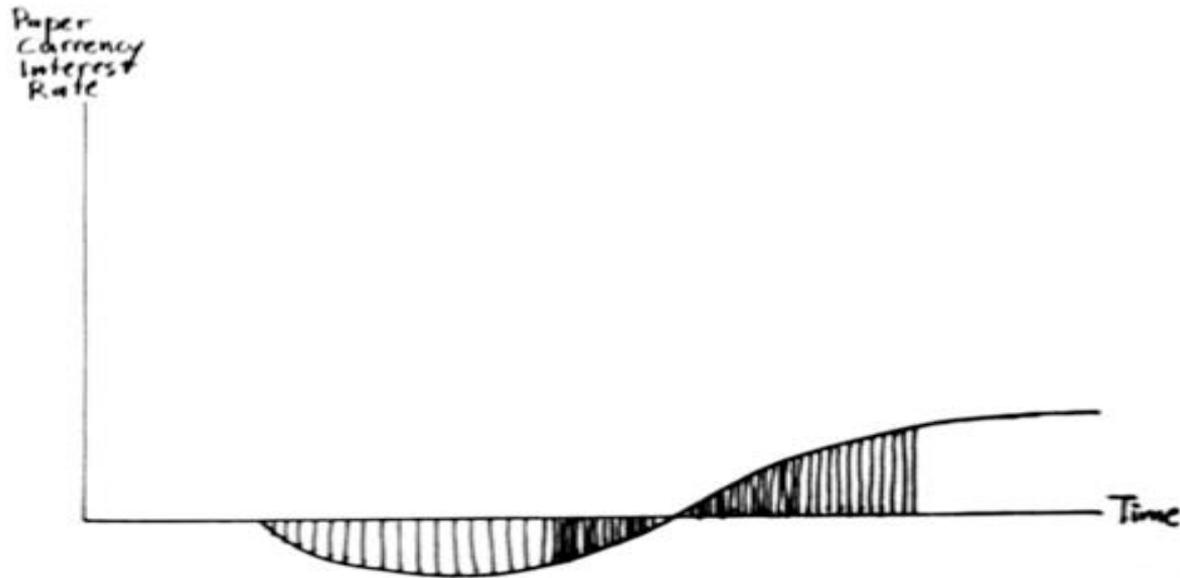
The nominal interest rate on paper currency

- Remember e-money is unit of account, so “nominal” means relative to e-\$, e-€, e-£, or e-¥, NOT relative to p-\$, p-€, p-£ or p-¥.
- Exchange rate: X e-\$/p-\$
- Paper currency interest rate = $(dX/dt)/X$.
- At every meeting of the monetary policy committee, four interest rates chosen until next meeting.
 - target rate, interest rate on reserves, lending rate
 - Paper currency interest rate—ideally a fixed spread vis a vis target rate except when that would take paper currency above par
- No degrees of freedom on exchange rate X once PCIR chosen.
 - Starting at par plus track of $(dX/dt)/X$ mechanically determines X .
- PCIR first is operationally important

The log exchange rate between paper currency and electronic money is the integral of the MPC's chosen interest rate for paper currency

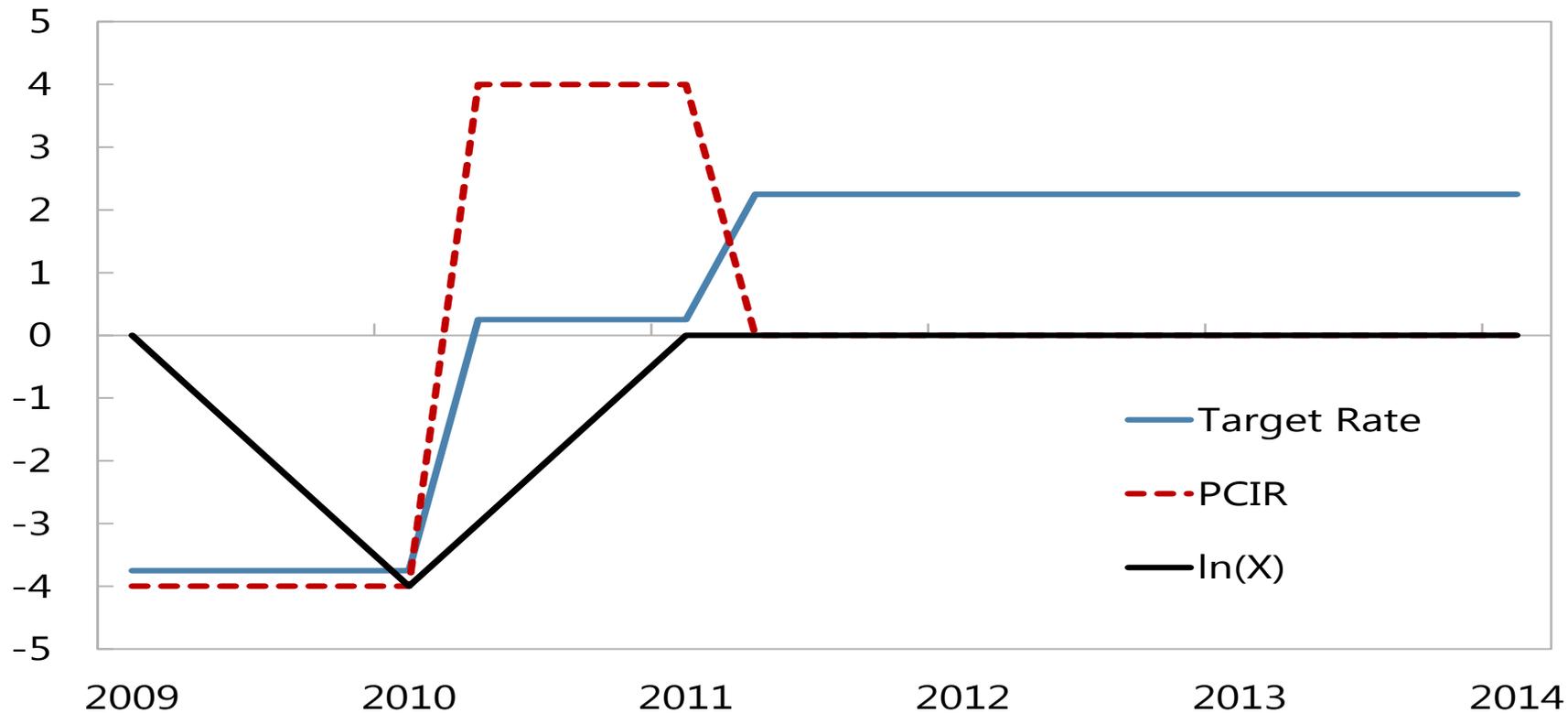


If, given recovery, the average nominal rate over time is positive, the exchange rate can return to par.



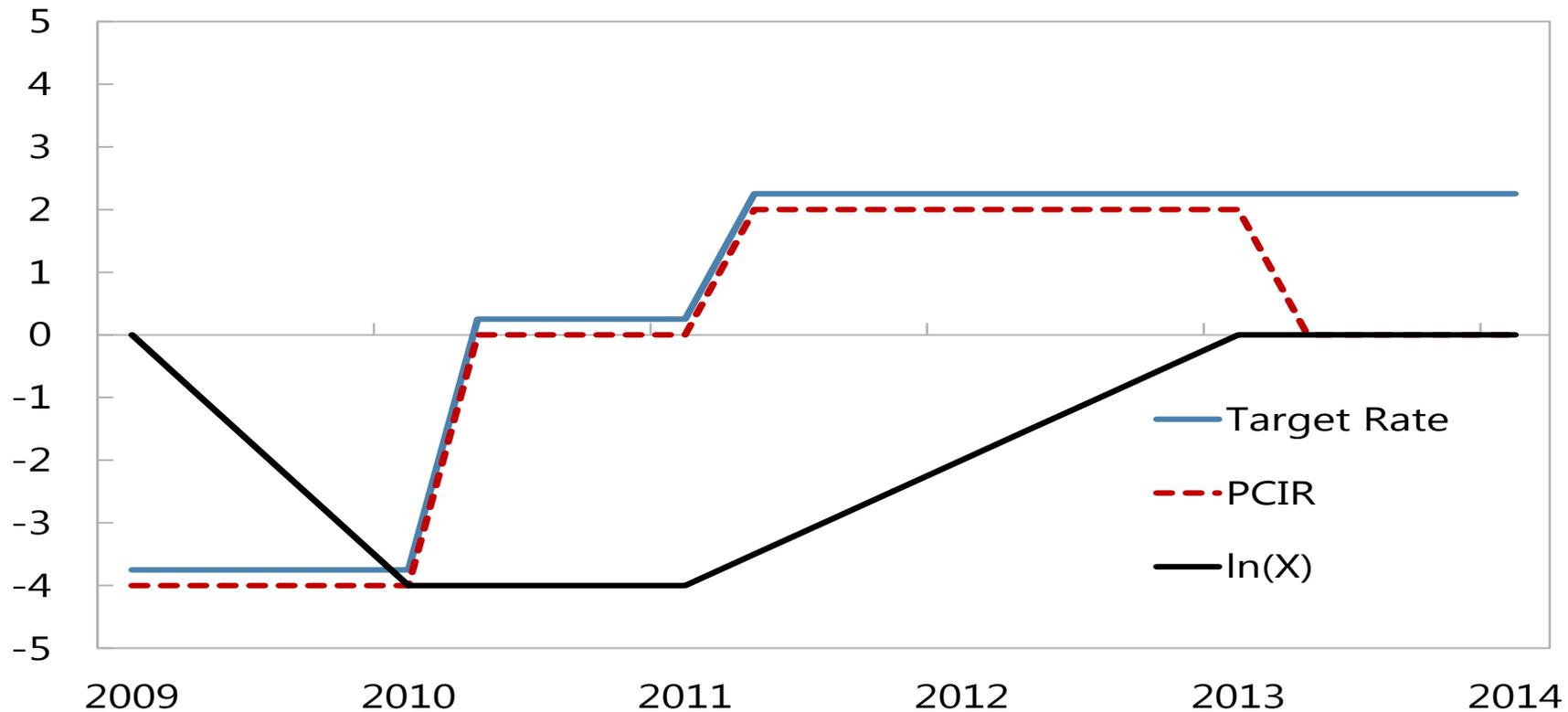
Case 1: Swift Return to Par

(Percent)



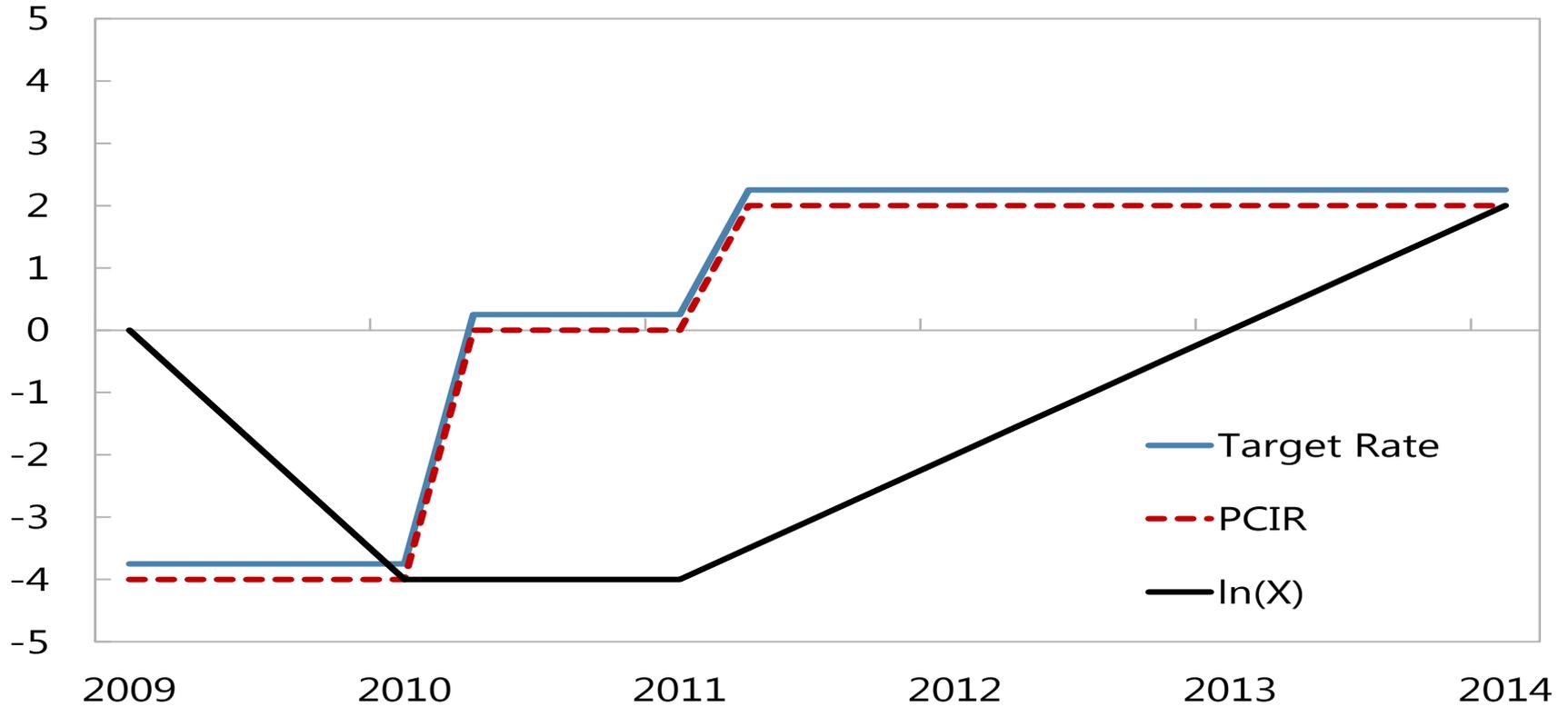
Case 2: Gradual Return to Par

(Percent)



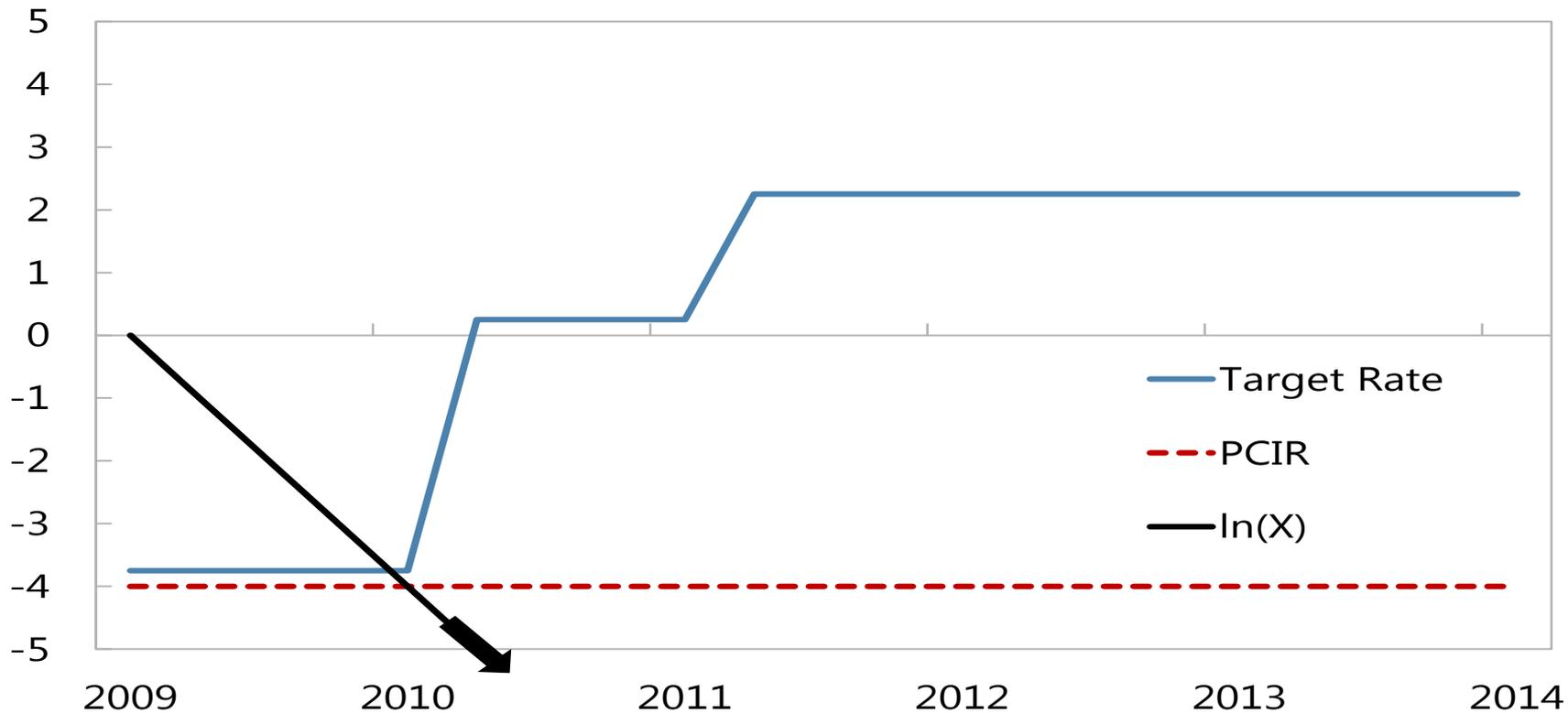
Case 3: Friedman Rule

(Percent)



Case 4: Never Return to Par (Seigniorage)

(Percent)



1. Eliminating ZLB unnecessary

- Fiscal: effect on debt, not technocratic, delays
- QE: limited to squeezing spreads
- Forward guidance: cost of constraint, credibility
- Nominal GDP level targeting: helpful, but would it be enough?
- Helicopter drops: equivalent at ZLB to rebates

1. Eliminating ZLB unnecessary (cont.)

- Economy will fix self
- Austerity
- Supply-side: effect on investment is tricky theoretically, not so easy politically, delays
- Higher inflation baseline: easier said than done. & why not have only innocuous inflation (relative to ancillary paper currency when needed) & not bad inflation (relative to the unit of account)?

2. Can't do anything about the ZLB

- No! The Zero Lower Bound is a policy choice, not a law of nature.

Extreme measures?

3. Need to abolish paper currency

4. Need to do something physical with each bill of paper currency, like tax stamps or an electronic strip a la Marvin Goodfriend

- No! Can keep paper currency in its current physical form, but attack the incentives for massive paper currency storage.

Where Should Paper Currency Storage Be Attacked?

5. Attack storage?

6. Inhibit withdrawals?

7. Make paper currency scarce? (e.g. stop printing?)

- No! Can use effective exchange rate X between paper currency & reserves with banks allowed to freely exchange in either direction (& no storage restrictions).
- Rate of depreciation $(dX/dt)/X$ of paper currency is an effective paper currency interest rate.

Ultra-Minimalist Implementation of Electronic Money

Time-Varying Deposit Fee

- Only between the central bank and private-sector banks. No regulations related to the deposit fee are needed beyond that.
- Must grow over time during the period the target interest rate is negative
- Can shrink when the interest rate is positive.
- Two-way: the other direction is equivalent to getting paper currency at a discount.

8. Need detailed regulations for banks & retail shops to eliminate ZLB

- No! Banks and shops can and should be allowed to apply any exchange rate they choose.
- Market forces will cause the exchange rate between paper currency and electronic money (i.e. reserves or bank money) to hold throughout the banking and financial system:
X = electronic pounds per paper pound

9. Even at modest doses, it will dramatically change the daily experience of regular households

- No! Based on the fact that despite paying 2-4% in credit card and debit-card fees, retail shops often charge the same for cash and for credit/debit transactions, they are likely to accept paper currency at par for quite a while—perhaps until paper currency is running up to 4 or 5% below par ($X \geq .95$)

10. Requires a totally new way of thinking about monetary policy

No!

- At regular meetings set one more interest rate--the paper currency interest rate (in addition to target rate, IOR and lending rate)
- Normal spreads (unlike now with paper currency rate above the target rate). Indeed, can fix spread with target rate at 0 (or, say +10bp) except when that would take paper currency above par.
- Return to interest rate policy. Can do open market operations in short-run treasury bills; no need for forward guidance

11. Has significant costs even in “standby mode” when there is no need for negative interest rates.

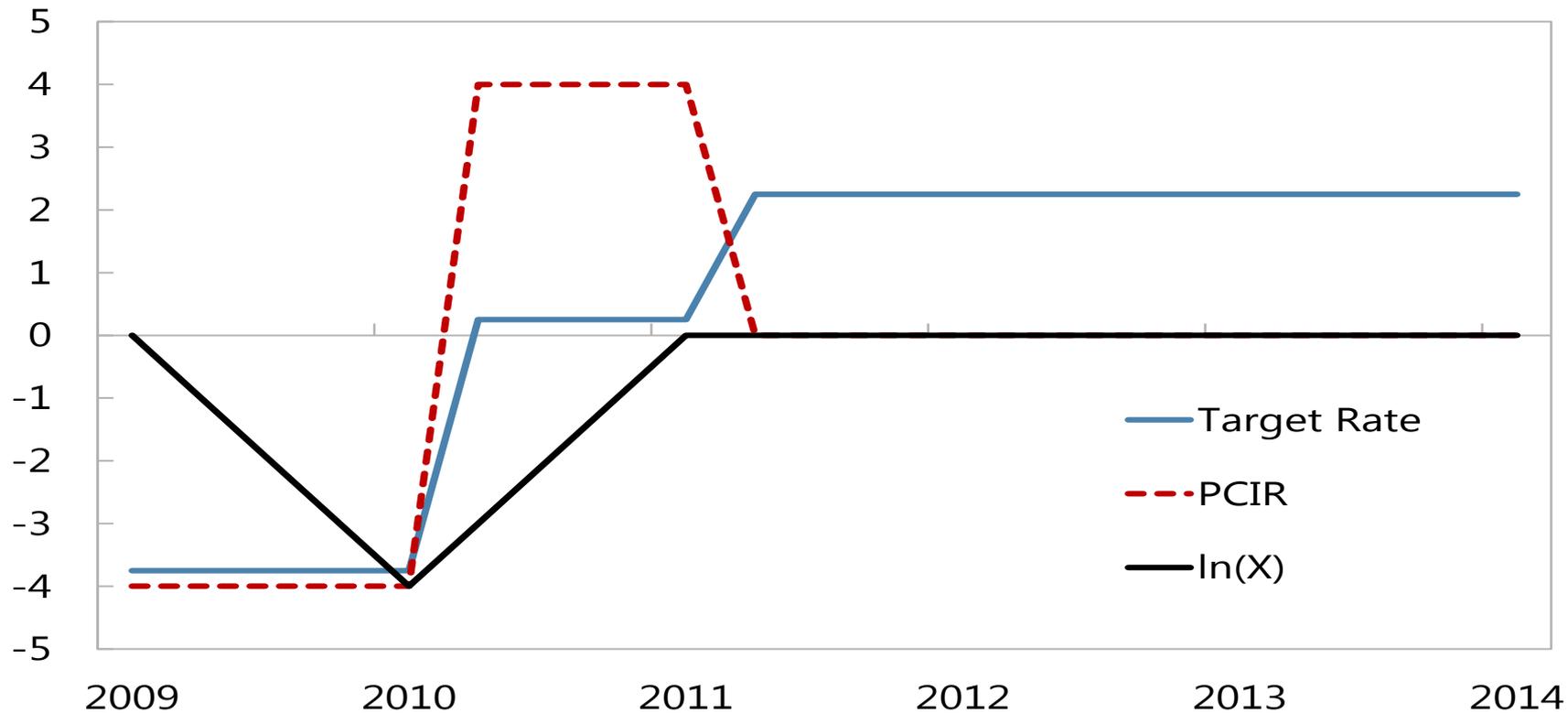
- No! Except during the period of negative interest rates and a period of gradual return to par thereafter, $X=1$ and an “electronic money” system looks like the current system except to financial professionals & policy wonks
- Exception: If LR natural rate ≤ 0 , cannot return to par. (But LR **natural** rate ≤ 0 unlikely)

Four Options for the Time Path of the Effective Interest Rate on Paper Currency

1. Return to par swiftly. Serious mistake because high LB
2. Return to par gradually, but as quickly as possible consistent with keeping the zero lower bound non-binding at all times:
 - Paper currency interest rate = monetary policy target interest rate (or maybe a little lower) during times of economic emergency.
3. Implement the Friedman rule:
 - Paper currency interest rate = target rate all the time
4. Constantly depreciate paper currency to earn seignorage without inflation. (e-yen=unit of account)
 - Attractive if it is otherwise hard to tax the shadow economy.

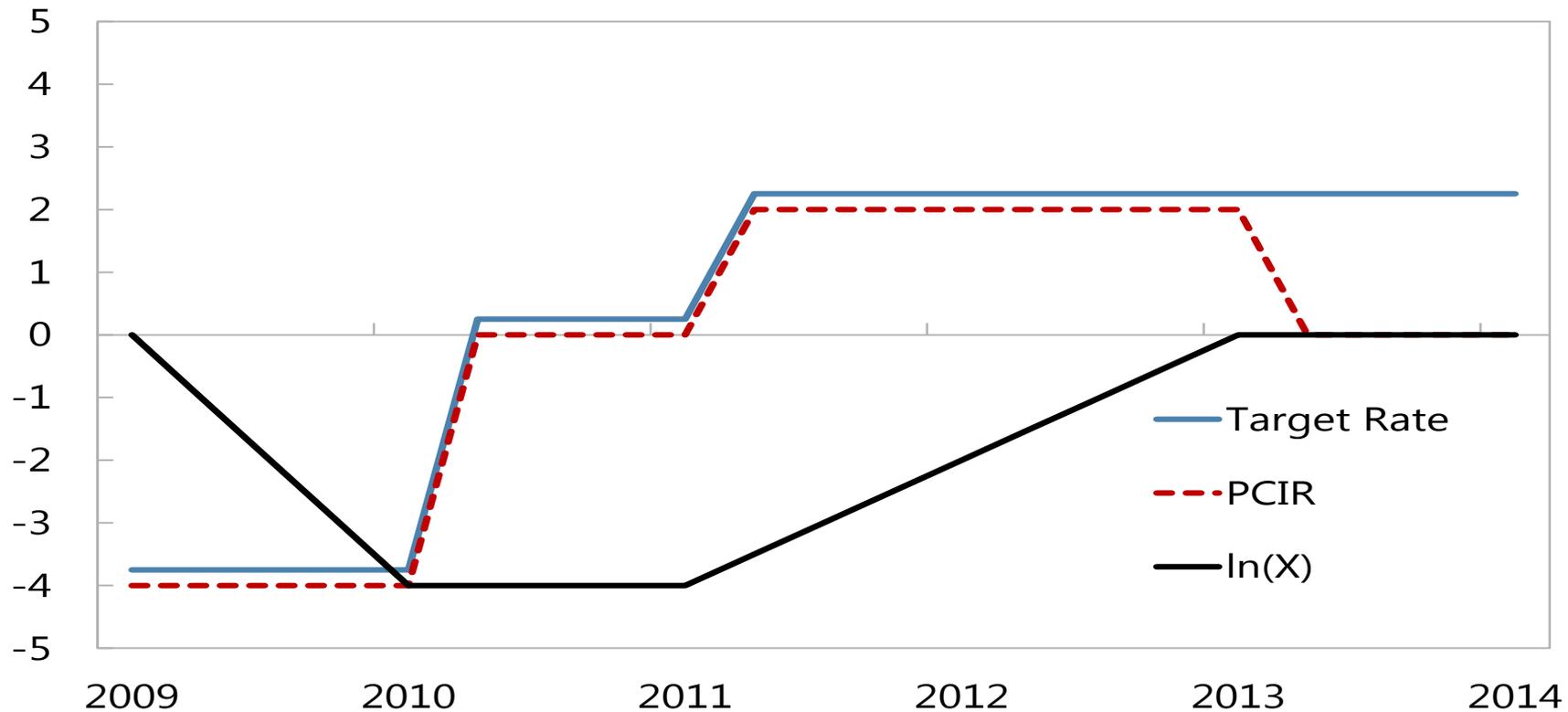
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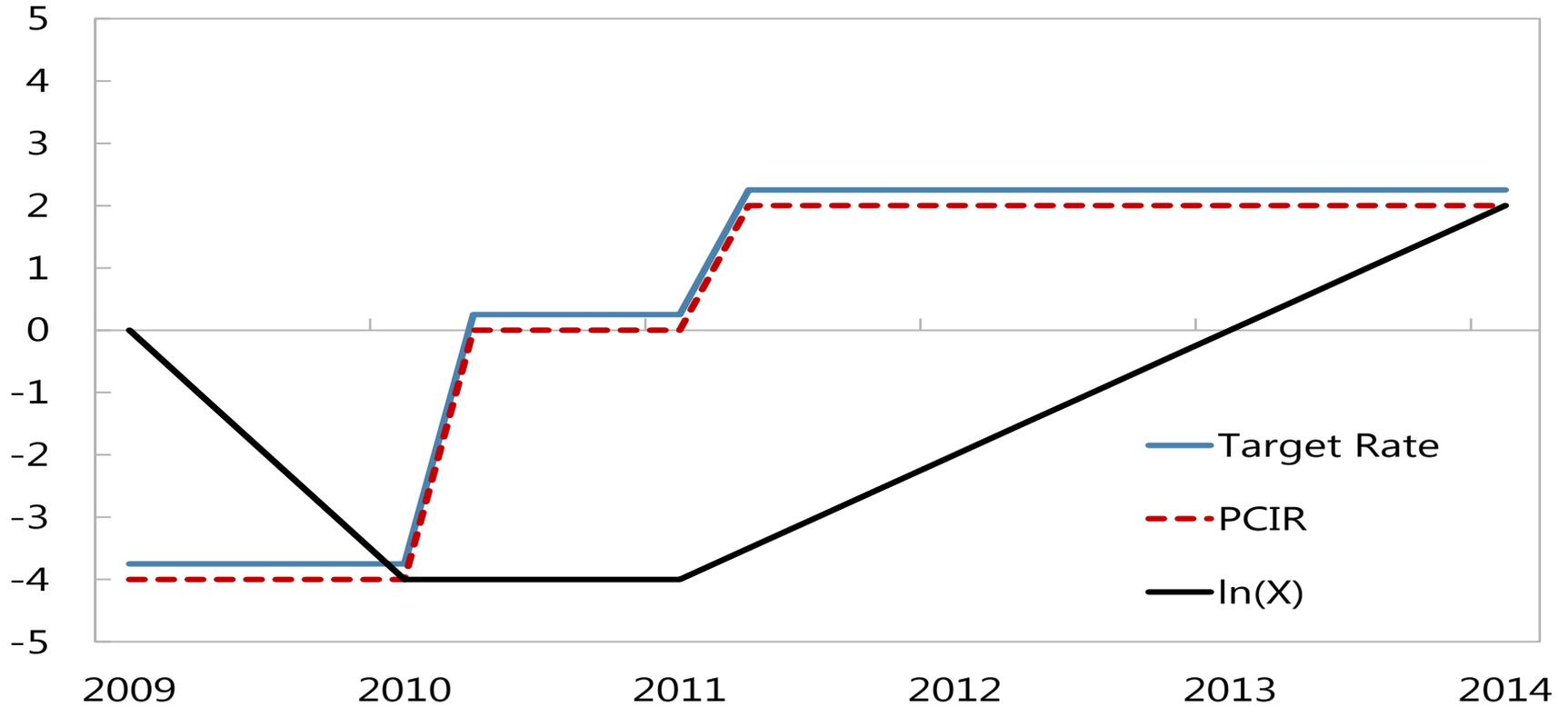
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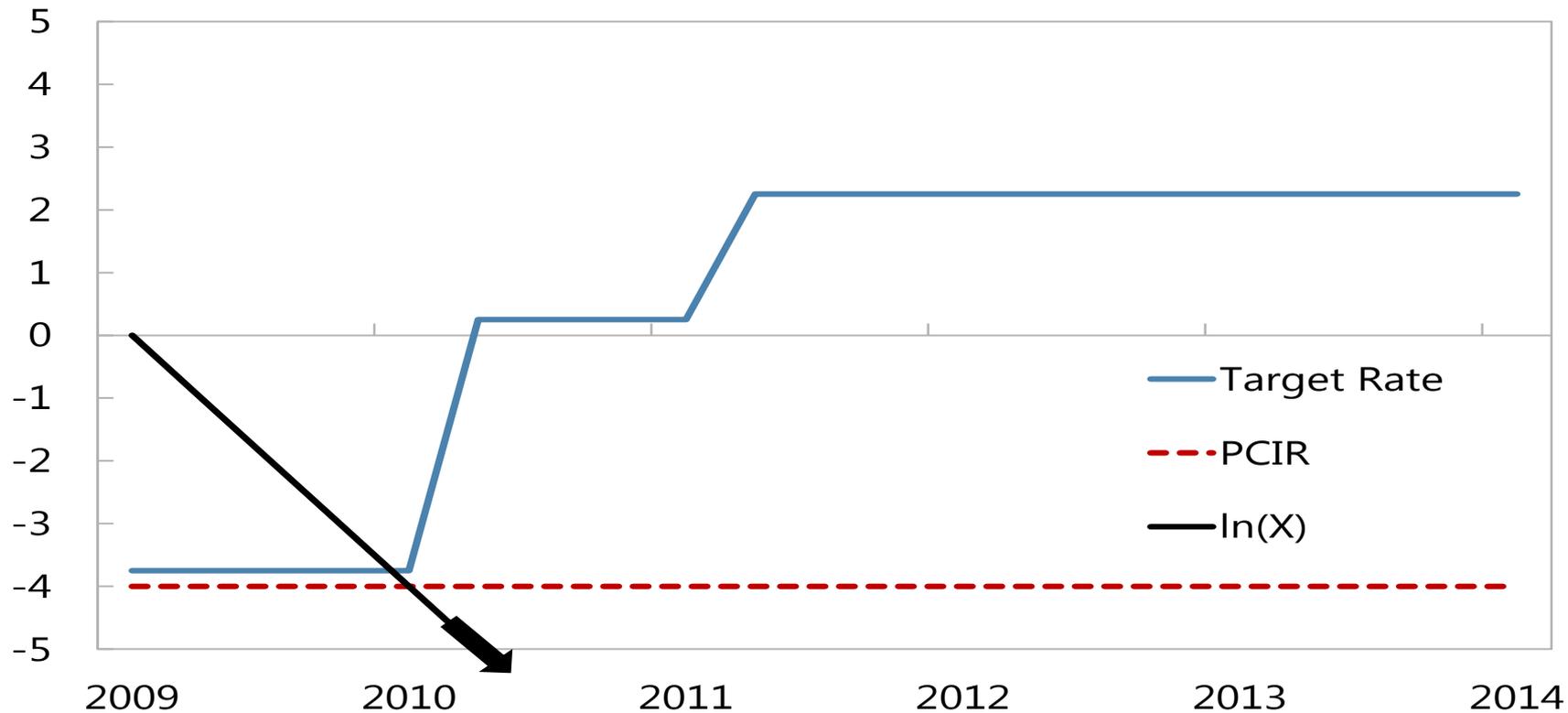
Case 3: Friedman Rule

(Percent)



Case 4: Never Return to Par (Seigniorage)

(Percent)



12. Requires stronger ability to commit than regular monetary policy

No!

- Paper currency interest rate is given by an overnight commitment to X tomorrow
- Need commitment to keep paper currency interest rate from being too far above the target rate. Easily credible because so obviously disruptive if paper currency interest rate is far above other rates.
- Need commitment not to overheat economy as always. (Ability to have LR inflation target at 0 helps)

13. Electronic money system disadvantages cash & the unbanked

- No! During periods of negative rates, the paper currency interest rate can be kept very close to the target rate.
- Eliminating the ZLB would be likely to lead to a reduction in the LR inflation target, which would matter when paper currency is at par.
- Could follow Friedman rule regardless of inflation rate if willing to go above par.

14. Deep negative rates are not enough if the banks are messed up as they were during the Great Recession

- Any finite risk or liquidity premium can be countervailed by deep enough negative rates
- Housing construction will kick in at some point
- At worst, at low enough rates physical storage activities become a significant stimulus
- Open economy effects can be powerful

The Transmission Mechanism for Lower Rates (Including Negative Rates)

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- Central bank lending
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15. Negative Interest Rates Hurt Bank Balance Sheets and So Lead to Less Lending and Financial Instability

- The Bank Profits Lower Bound: In most countries with negative rates, the effective lower bound is currently set not by a concern about massive paper currency storage, but by a concern about a strain on bank profits and consequent effects on lending and financial stability. (e.g. BOE, Brunnermeier and Sannikov's “)

15. Negative Interest Rates Hurt Bank Balance Sheets and So Lead to Less Lending and Financial Instability

- Where a justified concern, central banks have many tools to bolster bank profits, and politically not so hard to give back with one hand what is taken from banks with the other
 - Tiered IOR formula (e.g. BOJ has a positive rate on 1 tier while it has a negative rate on the marginal tier)
 - TLTRO's (Targeted Long-Term Refinancing Operations: ECB, BOE)
 - BOE carefully calculated a set of policies to be neutral for bank profits.

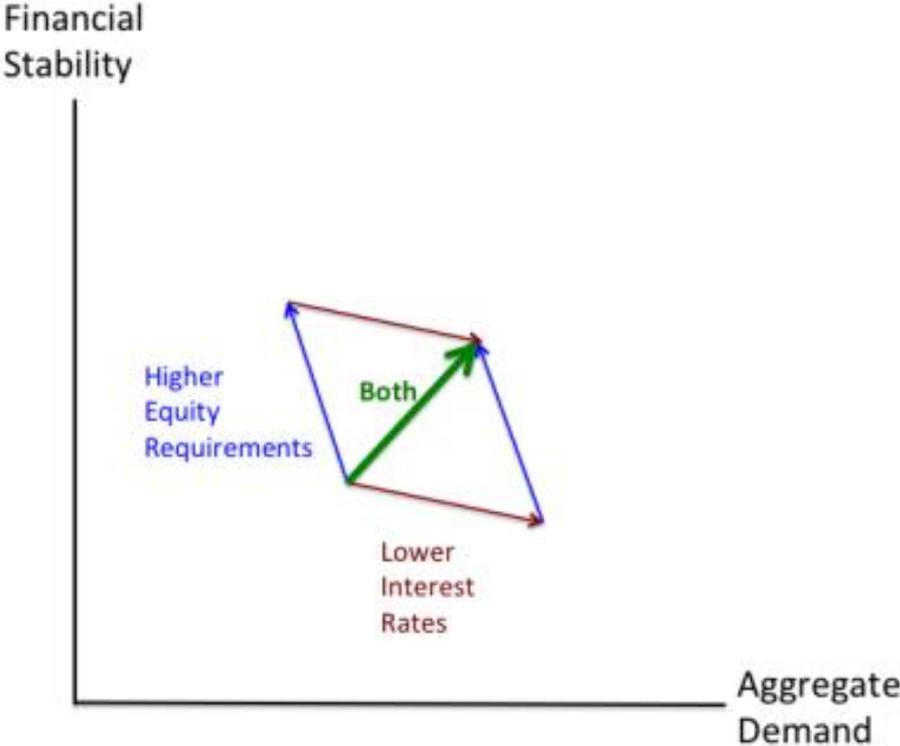
Using a Tiered Interest on Reserves Formula to Both Support Bank Profits and Help the Politics of Negative Rates

- A very powerful tool for supporting bank profits (that also serves other purposes) is using IOR formula to reimburse banks for paying household accounts up to a certain amount a zero rate instead of a negative market rate.
- Solves most of the net-interest-margin problem
 - Marker for pass-through of negative rates to balances above the limit
- If net interest margins are OK, negative rates should help bank balance sheets, since banks borrow short & lend long

15'. Negative Rate Policy Leads to Financial Instability by Raising Asset Prices

- Raising asset prices and relaxing credit constraints are the two key mechanisms of monetary transmission. So this has to be faced.
- High enough capital (equity) requirements or even simpler leverage limits are very powerful in preventing financial instability, even when asset prices are high and volatile.

The Complementarity Between Negative Rates and Higher Capital Requirements



15'. Negative Rate Policy Leads to Financial Instability by Raising Asset Prices

- The decline in the natural rate of interest that is the main cause of high asset prices is mostly outside of the control of central banks.
- To the extent central banks show they have plenty of firepower through negative rates to close output gaps, the downward drag on long-term rates from fear of a long-lasting slump will be alleviated, long-term rates can go up on expectations of more robust resource utilization, and asset prices will come down.

16. Even if paper currency is defanged, other things would generate a ZLB

- No! As long as the paper currency interest rate and all other government borrowing rates go negative in tandem, nothing else will stop negative interest rates from going into deep enough negative territory to get economic recovery. Other government borrowing rates:
 - Repo rate
 - Interest on reserves
 - Government bill rate
 - Postal savings interest rate

16. Even if paper currency is defanged, other things would generate a ZLB

- Private firms will not offer zero interest rates without restriction when market interest rates are deep in negative territory. Only government has both deep pockets and disregard for profit and loss needed to do this.
- Any asset whose price can fluctuate can go up enough in price in the face of negative interest rates to have a return low enough to be consistent with negative safe rates.

16. Even if paper currency is defanged, other things would generate a ZLB

- Special cases of assets whose price can appreciate enough to drive down their yields:
 - Preexisting debt contracts
 - Old currency redeemable at par (but not available for withdrawal at par)
 - Preexisting gift cards redeemable at par (including those redeemable for an electronic refund at par)
 - Foreign currency
 - Gold

16. Even if paper currency is defanged, other things would generate a ZLB

- The ability to get a zero interest rate through the tax system is limited to prepaying within the year. Would not affect interest rates *on the margin*, because the value of current year taxes (or approximately half that) is well below the value of all investable wealth.

16. Even if paper currency is defanged, other things would generate a ZLB

- Forever postage stamps
 - Have a zero *real* interest rate built in that does not generate a lower bound because they cannot be turned in for a refund in unlimited quantities
 - Issuance could cease at any time, making them an asset that could float in price
 - Empirically have not created a lower bound of zero on the real interest rate

17. Stimulative monetary policy distracts from supply-side reforms

No!

- The knowledge that more demand-side stimulus is needed distracts much more from supply-side reform
- Many supply-side reforms require reallocation of labor and capital—something that typically looks too painful to insist on when unemployment is high and businesses healthy in normal times are failing because of a recession

17. Stimulative monetary policy distracts from supply-side reforms

No!

- Governments that end recessions quickly gain the credibility to implement tough reforms
- Keeping the economy at the natural level of output highlights that natural level of output and the supply-side reforms that would raise it
- Monetary stimulus avoids the increase in national debt that can distract from or directly interfere with supply-side reform (*e.g.* by higher taxes or less scientific research)

18. It will never happen

Not so!

- Something of equivalent magnitude happened in the 20th century: the end of the gold standard
- If one includes the end of Bretton Woods, one could say that monetary systems often last about 50 years

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Not so!

- Quantitative easing was also seen by many as quite radical, but gained traction.
- The politics of eliminating the zero lower bound is different in different countries and different situations. Once one central bank blazes the trail, it is much easier for others to follow.
- International finance reinforces the spread of techniques of monetary stimulus.

The politics of negative interest rates

- The point is to make deep negative interest rates possible
- Negative interest rates themselves are not subtle, but that Rubicon has been crossed

The politics of negative interest rates

- Low interest rates are a boon to borrowers, especially when risk premia are high
- For savers & for politicians, deep negative rates for a few quarters followed by recovery & positive rates is a better scenario than zero rates & sluggishness for year and years and years.
- Social function of positive interest rates is to reward saving *when saving is what is called for.*
- Social function of negative interest rates is to reward spending *when spending is called for.*

Interest on Reserves Formula Can Be Used to Subsidize Banks to Give Zero Rates to Small Household Accounts

- Voluntary reporting by banks after voluntary signup by individuals to get the subsidy.
- Individuals designate primary bank & give personal ID # to avoid double-dipping
- 150,000 yen limit per individual, 300,000 yen limit per couple?
- Shields small accounts. Marker for pass-through of negative rates to large accounts.
- Postal saving rate can either go to negative above that amount, or new additions to postal savings above that amount can be refused. Zero rates on postal saving require designation of postal saving as primary bank.
- On the politics, kills 2 birds with 1 stone: supports bank profits, central bank can announce don't want regular people to see negative rates in their checking or saving accounts, but to see lower positive rates on car loans, mortgages, etc.

Eliminating the Zero Lower Bound is Not a Soft-Money Policy

- Eliminating the Zero Lower Bound makes it possible to lower the long-run inflation target to zero without sacrificing the macroeconomic stabilization role of monetary policy