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It's Time to Remove the Lower Bound on Interest Rates and Here's the How-To

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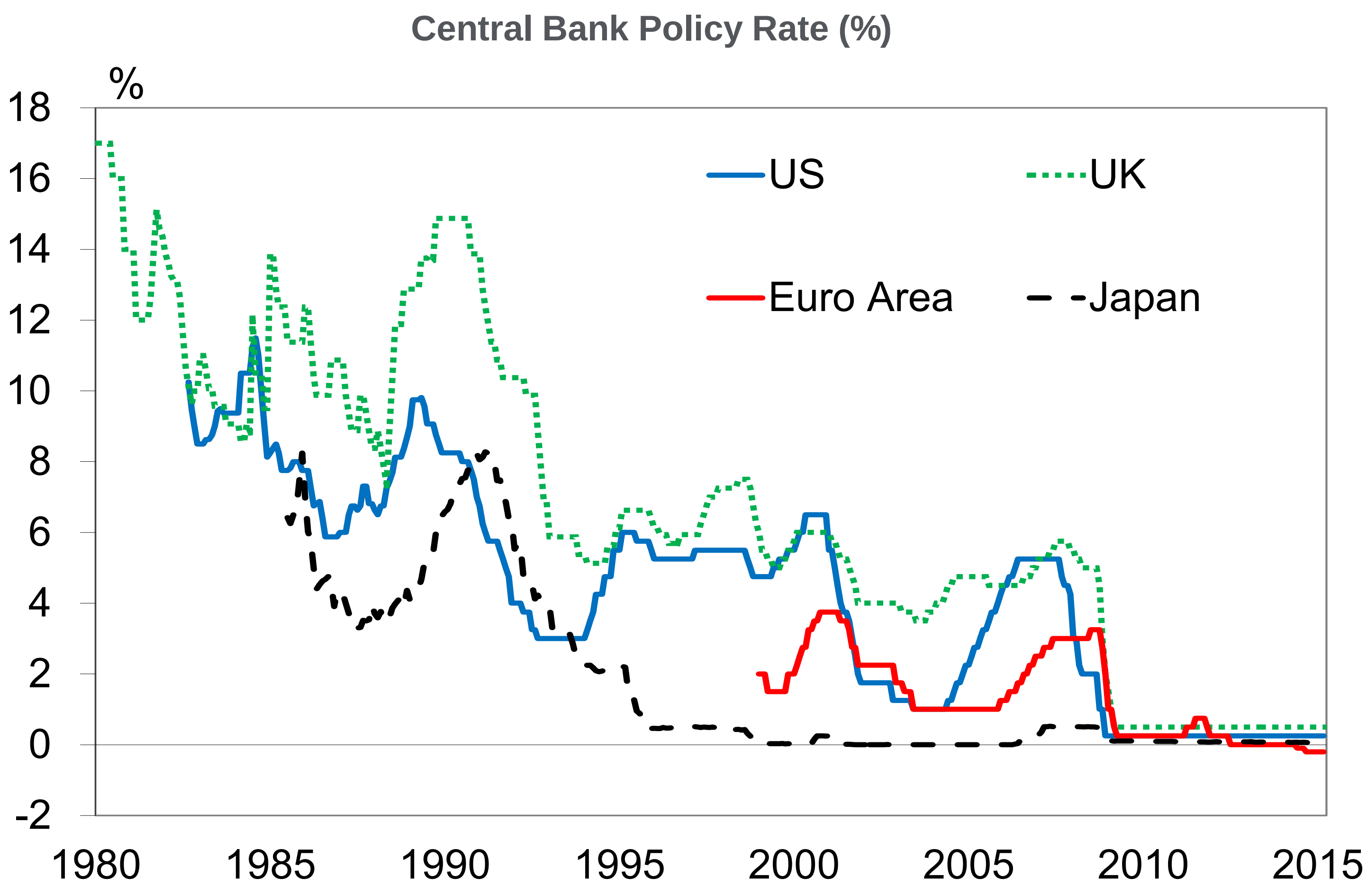
Why do we need to get rid of the ELB?

Many AE central banks stuck at (what they perceive to be) lower bound. Some have stuck themselves above the ELB (BoE, Fed, BoJ, ECB)

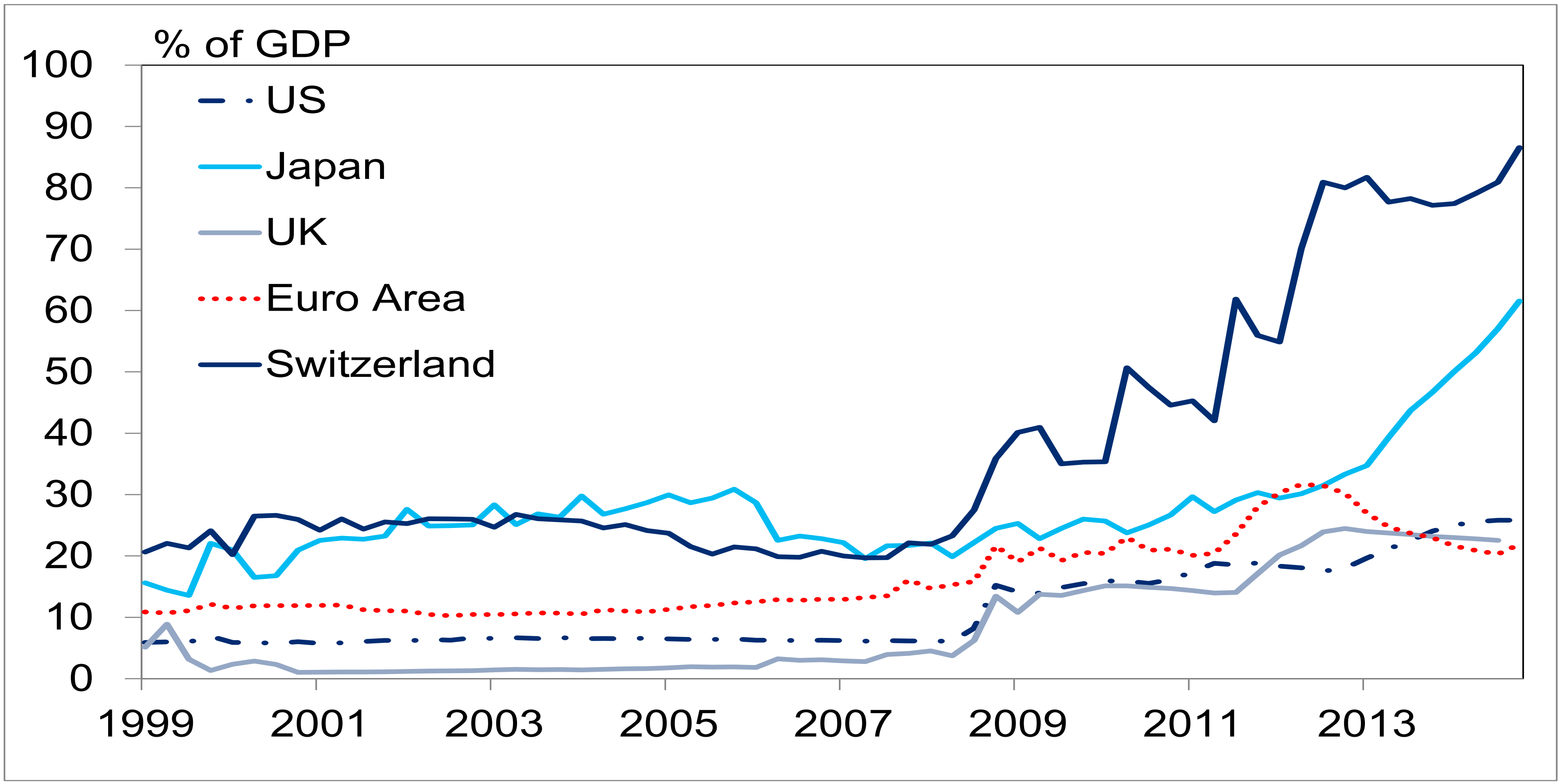


Sources: National Central Banks and Citi Research

Why do we need to get rid of the ELB?

Central bank balance sheets have gotten extremely large.

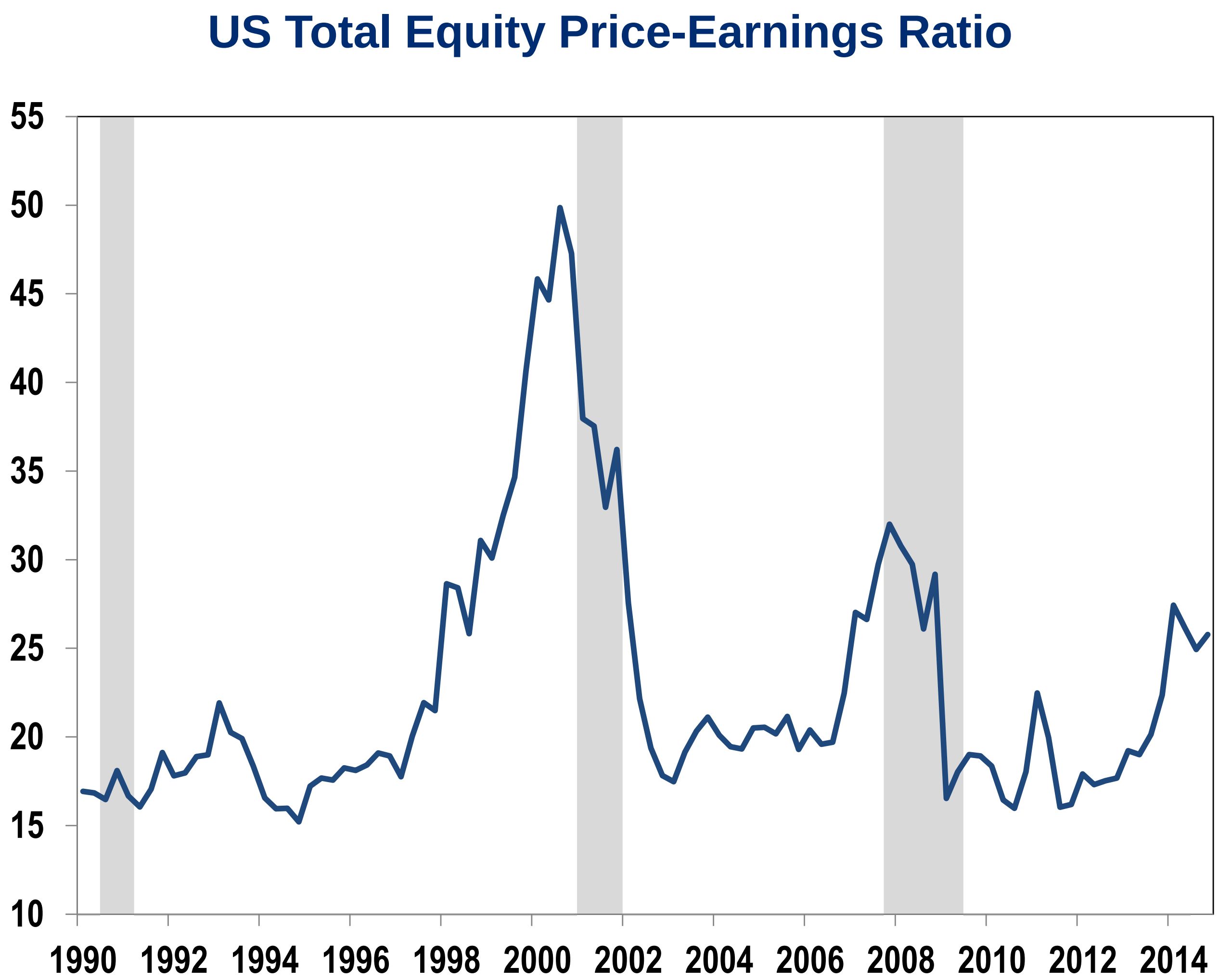
Central Bank Balance Sheet (% of GDP)



Sources: National Central Banks, Haver Analytics and Citi Research

Why do we need to get rid of the ELB?

And financial frothiness is apparent.



Note: Calculated as the total market value of equity liabilities of all corporations divided by total after-tax corporate profits.
Source: BEA, Federal Reserve and Citi Research.

Why should we get rid of the ELB?

- Why? Restore symmetry around zero (- carry cost of currency) of conventional monetary policy instrument.

- We are likely to live in an era with low (negative?) neutral real risk-free rates and continued low inflation targets

- The alternative instruments (mainly LSAPs) for expansionary monetary are

a) Rather ineffective in stimulating demand when markets are orderly
b) Likely to create financial instability (same may happen with negative interest rates if market participants are in denial about the neutral real rate at various maturities)
c) Undermine political legitimacy & independence of central banks
   - Note recent legislative proposals in the US to limit the room for manoeuvre of the Fed
   - SNB's decision to crash through the SF floor

- BUT: we do not advocate relying on (negative) interest rates exclusively for monetary policy stabilisation.
  - Interest rates (negative or positive) should be used alongside variations in size and composition of the balance sheet

How to get rid of the Lower Bound on Interest Rates

- 1) **Abolish currency** (anonymous zero nominal interest rate negotiable bearer bonds) and move to E-money, or at least issue only very small denominations (€5 or less, possibly with a variable exchange rate vis-à-vis deposits (with the central bank and other financial institutions)
  - Implementation: give every (legal) resident an account with the CB, operationalised as a checking account held at private credit institutions guaranteed by the CB. Every account comes with debit card and ‘cash-on-a-chip’ card.
    - No overdraft facilities on these accounts
    - Payments through these accounts are legal tender
    - CB sets interest rate (+ve or –ve) on these accounts

How to get rid of the Lower Bound on Interest Rates

2) Tax/subisidize currency (Gesell)

Anonymity of currency makes both + ve (subsidy) & -ve (tax) interest difficult

+ve: present same currency note multiple times to receive interest

-ve: don't turn up to pay the tax & catch me if you can.

Currency has to be marked/identified/'stamped' to show tax due or subsidy owed has been paid.

Disadvantages: intrusive, need for random inspections, penalties etc.

Taxation by random demonetisation of a fraction of outstanding stock of currency, identified by serial number (Mankiw).

Problem: demonetisation (except through confiscation or other penalties) is a decentralised collective decision of users of currency, not of the government

Getting Rid of the Lower Bound on Interest Rates

3) Variable exchange rate between currency & deposits (Eisner) and unbundle/decouple numéraire and medium of exchange/means of payment roles of FBM.

-10% interest rate, say, on bank deposits with CB. Own interest rate on currency = 0. CB sets forward exchange rate of ‘deposit euro’ and ‘currency euro’ 10% below the spot exchange rate, producing a 10 percent appreciation of the deposit euro over the appropriate horizon (could be continuous).

Getting Rid of the Lower Bound on Interest Rates

- With fully credible exchange rate commitment: covered interest *parity* between currency and deposits:

F: Forward price of currency in terms of deposits (# of units of currency per unit of deposits)

S: spot price of currency in terms of deposits

i^c : interest rate on currency (= 0 typically)

i^d : interest rate on deposits

$$\frac{S_t}{F_{t,t+1}}(1+i^c_{t,t+1}) = 1+i^d_{t,t+1}$$

- After a year of -10% deposit interest rate, a private citizen either has 90 deposit euro cents for every euro kept on deposit or 1 currency euro for every euro kept in cash. This 1 currency euro would be worth 90 deposit euro cents

- Exchange rate could be left to float – with CIP replaced by risk-adjusted UIP conditions

Getting Rid of the Lower Bound on Interest Rates

Necessary and sufficient for this to work: the ‘deposit euro’ is numeraire for wage and price contracts, not the ‘currency euro’ (see Buiter (2007, 2009)). Ways to make this likely:

(1) Only deposit euro is legal tender

(2) All government contracts are invoiced/denominated in and paid with deposit euro. Taxes and benefits paid in deposit euro

(3) Private deposits must be denominated in deposit euro only

(4) When all else fails: declare contracts other than spot purchases and sales of real goods and services invoiced/denominated in currency euro to be unenforceable by the courts under the issuing government’s jurisdiction.

Why not? (abolish currency)

- Loss of seigniorage for CB
  - could have seigniorage from commercial bank reserves and other deposits held with the central bank

- Loss of anonymity is “appallingly illiberal” (Charles Goodhart) – citizen must be able to hide from predatory state (libertarian nightmare – they’ll take our guns next…)
  - Yes, but loss of anonymity that comes with currency is also a tax on
    - Tax avoidance
    - Money laundering
    - Terrorism financing
    - Black and grey economies in general
    - Crime in general

- Private currencies could be introduced (paper or electronic, anonymous or protected with encryption (Bitcoin)), but with a variable price (exchange rate in terms of the new FBM), and without legal tender status.
  - But central bank/government is not powerless to encourage use of its own preferred numeraire

Why not? (abolish currency)

- The poor and old mostly use currency
  - At least get rid of high-denomination notes (and possibly use variable exchange rate for remaining small-denomination notes)
  - Give the poor bank accounts with debit and cash-on-a-chip cards.
  - Retain currency but use one of the other two ways to get rid of the lower bound

Why not permit unrestricted (in principle) negative interest rates?

- Our financial system can’t cope:
  - Defined benefit pension schemes
  - Financial institutions with guaranteed nominal returns on liabilities (Swiss occupational pension funds have to pay 6.7% return!)
  - → requires a regulatory response

- Poor savers have to eat their capital
  - Nominal interest rate ≠ real interest rate
  - Borrowers are happy
  - Poverty issues should be addressed independently of the causes of poverty

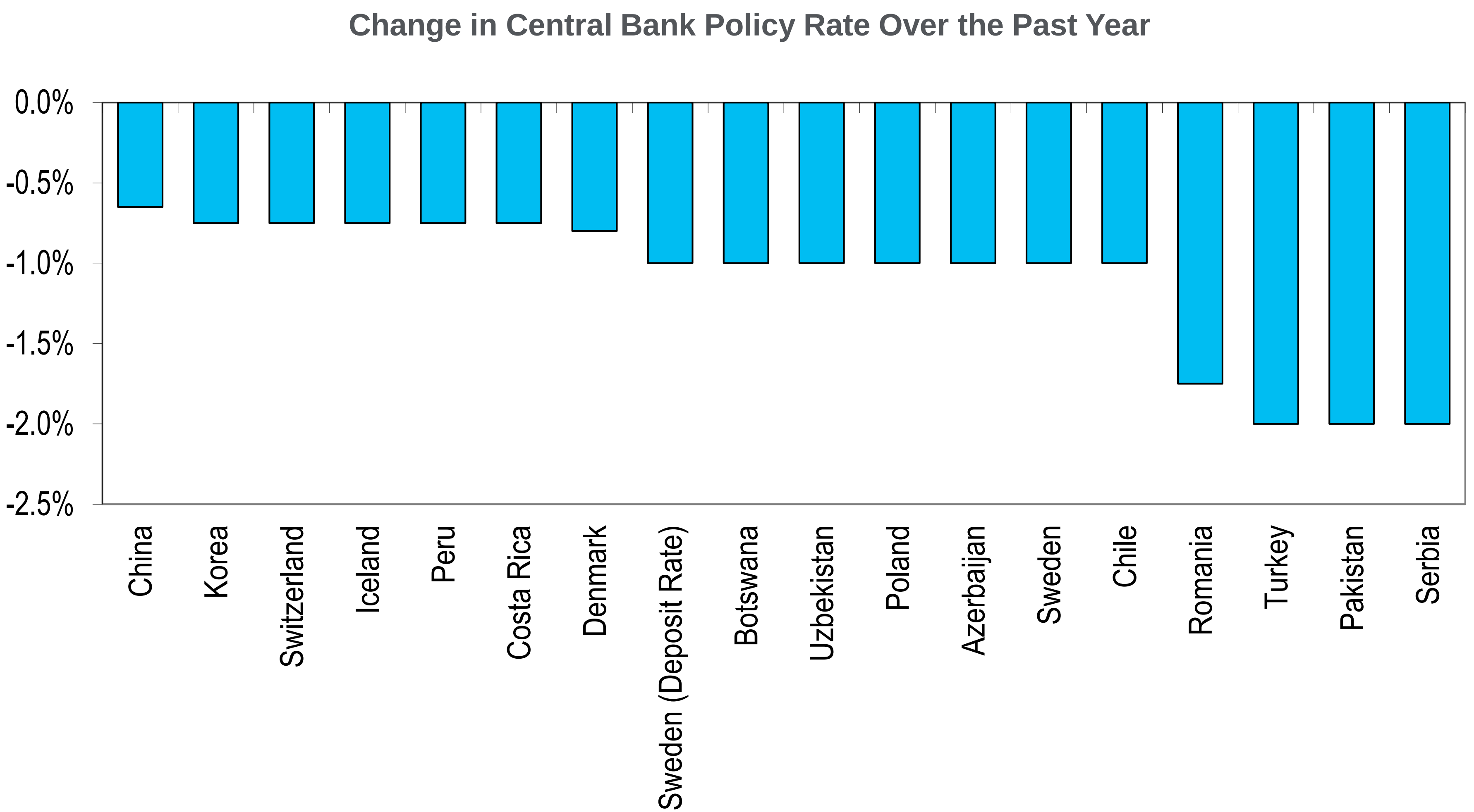
- Households/businesses will save more not less when negative interest rates are high in absolute value (target savers).
  - Empirical question
  - Some ‘education’ may be required to make this work
  - No problem: raise policy rates instead ☺

Yes, lower bound may be lower than previously thought

- Likely to be lower than -20bp the ECB proclaimed the effective lower bound to be (the deposit rate is at -1% in Sweden)
- So many central banks may well lower policy rates further into negative territory without hitting the ELB
- But lower bound under current arrangements may not be low enough to achieve neutral rate under conditions of weak demand and lowflation
- → Desirable to remove ELB now to be ready for next recession/next time ELB becomes a binding constraint
- Raising inflation target
  - May not raise actual and expected inflation if you are stuck at the ELB (if you have trouble getting inflation up to 2%, raising the target to 4% won't help you escape from ELB).
  - Is helpful once you escape from ELB and reach 4% actual and expected inflation
  - Is inferior to eliminating ELB.

Even in this cycle we are probably not at the rate bottom…

34 central banks (out of 67 we track) have cut rates over the last year. 15 have raised rates. Of the 41 countries we cover, we expect 11 to cut rates over next year



Sources: National Central Banks and Citi Research

Negative interest rates are of course no panacea

- Demand may be relatively insensitive to interest rates (vertical IS curve (remember?) can incapacitate monetary policy as well as horizontal LM curve)
- Helicopter money may be called for
- In addition, a number of structural issues may be weighing on demand. Lack of supply may in part be creating its own lack of demand.
  - Examples:
    - Lack of infrastructure
    - Unfavourable tax and regulatory environment
    - Policy uncertainty from political gridlock holding back capex
    - High levels of inequality holding back capex

Conclusion

- It is high time to get rid of the lower bound on nominal interest rates
- Doing so is not technically very difficult
  – Abolish currency
  – Tax/subsidize currency
  – Create variable exchange rate between currency & deposits
- Benefits (stabilize demand without financial stability/political legitimacy risks) outweigh the costs (infringement on liberty to transact anonymously)
- Negative interest rates are no panacea and won’t fix problems on the supply side

Appendix A-1

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