

# THE CENTRAL BANK'S RESPONSIBILITY FOR PRICE AND MACRO STABILITY

Ricardo Reis  
LSE and Columbia University

Sveriges Riksbank  
Stockholm, June 3, 2016

# THE CENTRAL BANK

- Sole clearing house for banks, issuer of **reserves**
- Sole provider of legal tender, issuer of **currency**.
- They exchange one-for-one at all dates, providing the economy with a **unit of account**.

Point of this talk:

*These three properties make the central bank have a natural responsibility for price and macro stability.*

# Reserves and control of the price level



# RESERVES AND SOLVENCY

- Banks can stop using the CB as a clearing house.
- Definition of **central bank insolvency**: if creditors (banks) stop wanting to hold the CBs liabilities, reserves become a Ponzi scheme.

$$\underbrace{v_t}_{Reserves} \leq \underbrace{a_t}_{Assets} + \underbrace{\mathbb{E}_t \sum_{j=1}^{\infty} m_{t,t+j} s_{t+j}}_{PV\ seignorage} + \underbrace{\mathbb{E}_t \sum_{j=1}^{\infty} m_{t,t+j} d_{t+j}}_{PV\ government\ transfers}$$

# CENTRAL BANK INSOLVENCY

- Real value of reserves shoots to zero = price level shoots to infinity.
- All the time, currency reforms, hyperinflation, in spite of accounting capital or printing money.
- Central bank's key role: stay solvent.
- **First responsibility:** maximal care against losses in asset management. Explicit fiscal backing. Clarification of divided / net income rules.

# CB LIABILITIES AND PRICE LEVEL

1. Pay nominal interest on reserves, even negative.

2. Set short rates following feedback rules.

3. Use forward guidance, even term deposits.

4. Use quantitative easing, volume of reserves.

5. Back to the past: exchange rate interventions.

6. Into the future: indexed reserves.

But with use of liabilities, even more care with assets.

# Legal tender and the nominal anchor

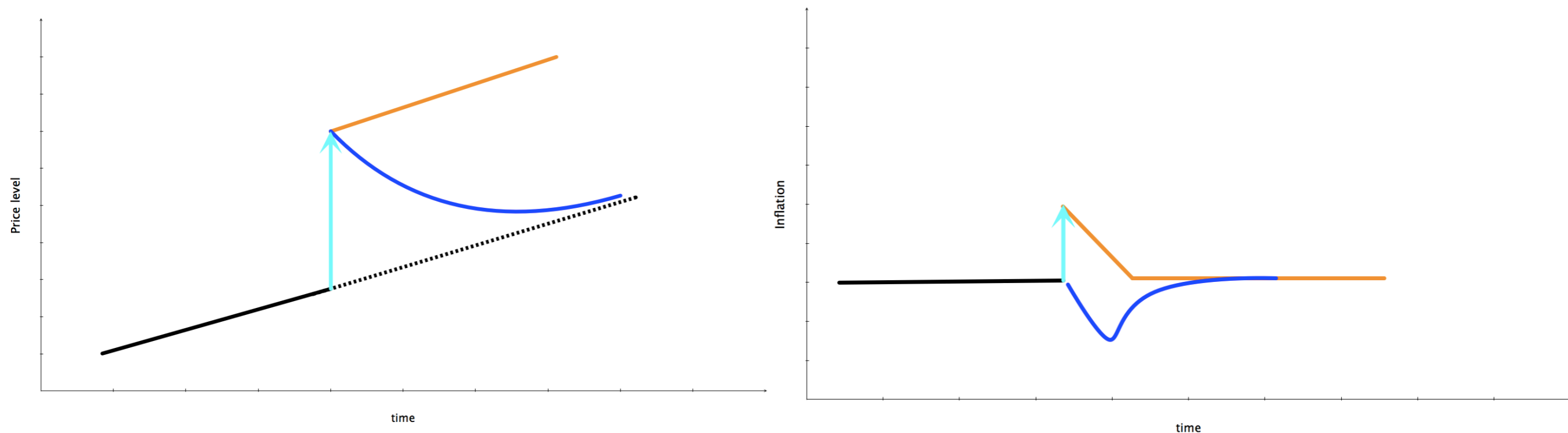
Copyright 1998 Randy Glasbergen. [www.glasbergen.com](http://www.glasbergen.com)



**“Don’t tell them we failed. Tell them we decided to temporarily postpone our success.”**

# PRICE LEVEL VERSUS INFLATION

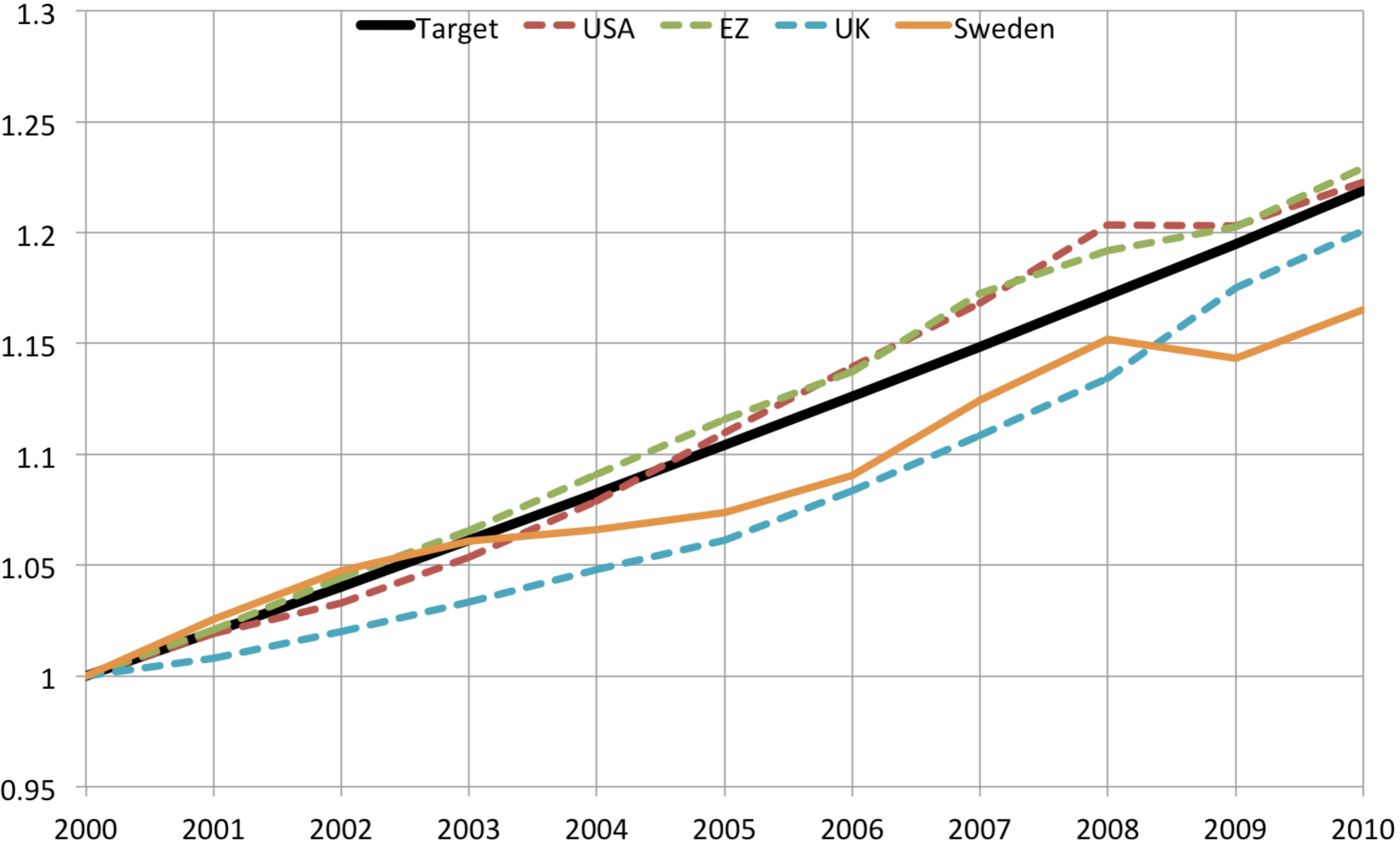
- Price level targeting (blue) and inflation targeting (orange) after a shock (light blue), on the dynamics of the price level and inflation



- Both consistent with “2% inflation target”, but very different in response to a shock.



# PRICE LEVEL VERSUS INFLATION



# VIRTUES OF PRICE LEVEL GOAL

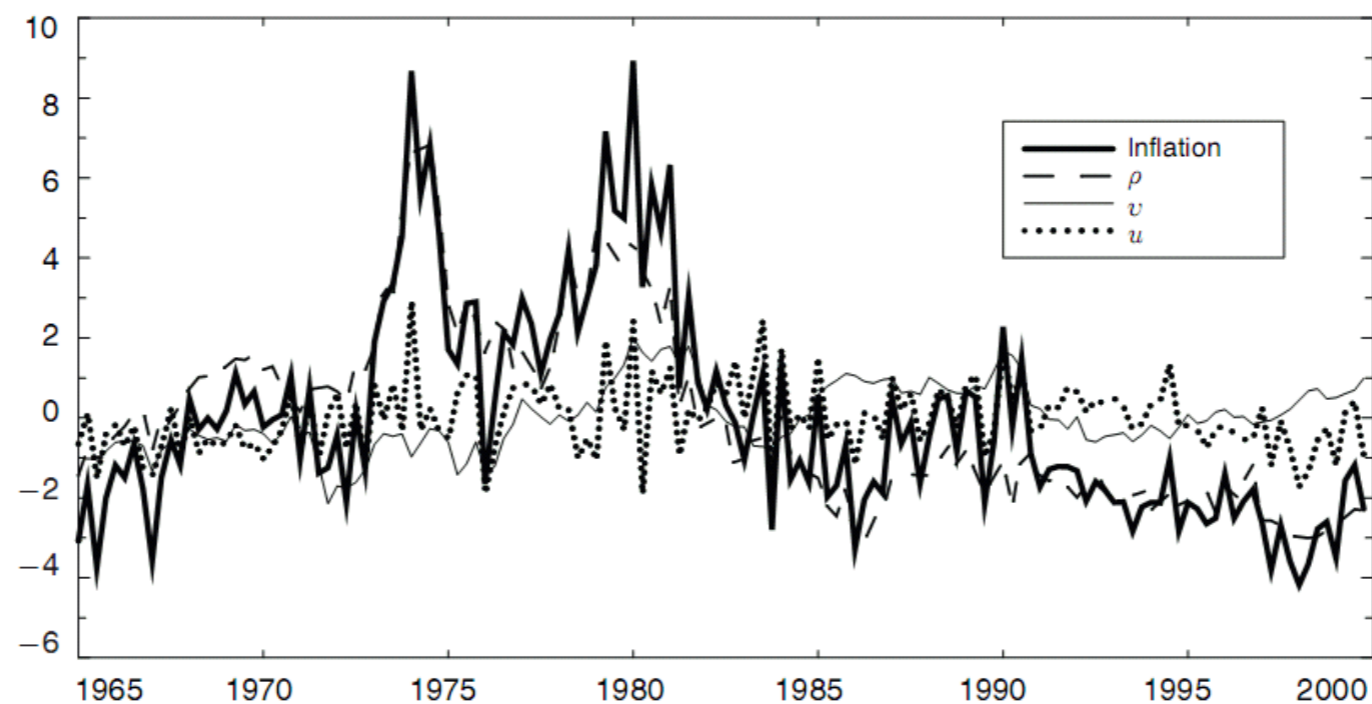
1. Ease planning, as does not propagate deviations
2. If sticky prices, moderate price increases after shock
3. Form of commitment to achieve time consistency
4. Reduce desire to index prices, more flexible economy
5. Lowers real cost of capital
6. Way to commit to higher inflation out of liquidity trap

# CHOOSING THE GOAL

- First issue: the **number**.
- Second issue: **measurement**. Ultimately can control unit of account, the homogenous components of *all* prices that is orthogonal to rate-price changes.

## Pure inflation

Panel A. Headline PCE inflation (demeaned)



# The unit of account and macroeconomic stabilization



# REAL ACTIVITY AS A GOAL

# REAL ACTIVITY AS A GOAL

- I. Long-run neutrality: focus on gaps.

# REAL ACTIVITY AS A GOAL

1. Long-run neutrality: focus on gaps.
2. Measurement is imperfect: reassess gap often.

# REAL ACTIVITY AS A GOAL

1. Long-run neutrality: focus on gaps.
2. Measurement is imperfect: reassess gap often.
3. Not perfectly controlled: based on Phillips curve.



# REAL ACTIVITY AS A GOAL

1. Long-run neutrality: focus on gaps.
2. Measurement is imperfect: reassess gap often.
3. Not perfectly controlled: based on Phillips curve.
4. Tradeoffs between goals will arise: weigh deviations.

# REAL ACTIVITY AS A GOAL

1. Long-run neutrality: focus on gaps.
2. Measurement is imperfect: reassess gap often.
3. Not perfectly controlled: based on Phillips curve.
4. Tradeoffs between goals will arise: weigh deviations.
5. Avoid policy activism: rules, transparency

# REAL ACTIVITY AS A GOAL

1. Long-run neutrality: focus on gaps.
2. Measurement is imperfect: reassess gap often.
3. Not perfectly controlled: based on Phillips curve.
4. Tradeoffs between goals will arise: weigh deviations.
5. Avoid policy activism: rules, transparency

**Flexible price-level targeting**

# REAL ACTIVITY AS A GOAL

1. Long-run neutrality: focus on gaps.
2. Measurement is imperfect: reassess gap often.
3. Not perfectly controlled: based on Phillips curve.
4. Tradeoffs between goals will arise: weigh deviations.
5. Avoid policy activism: rules, transparency

## Flexible price-level targeting

$$p_t = p_{t,0}^* + \alpha(u_t - u_t^n)$$

# The recent experience

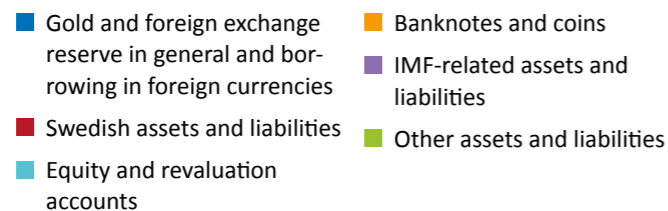
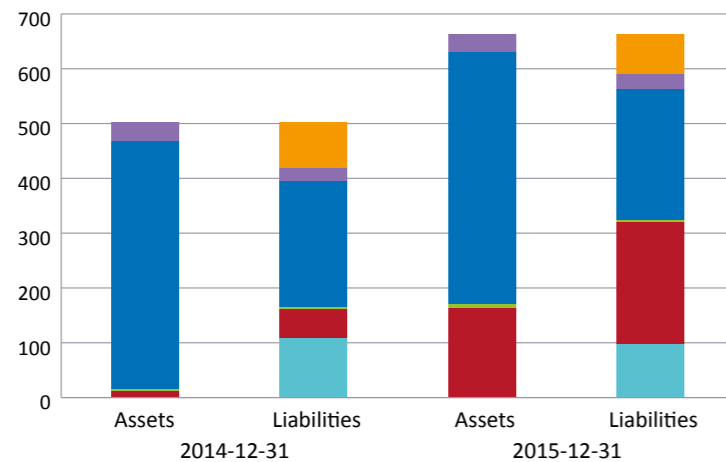


# EXPLICIT FISCAL BACKING

- Old (standard) risk: exchange rate fluctuation.  
New (common) risk: if yield curve steepens

Chart 28

The Riksbank's balance sheet at the end of 2014 and 2015, SEK billion



Source: The Riksbank.

Table 8

Result matrix, SEK million

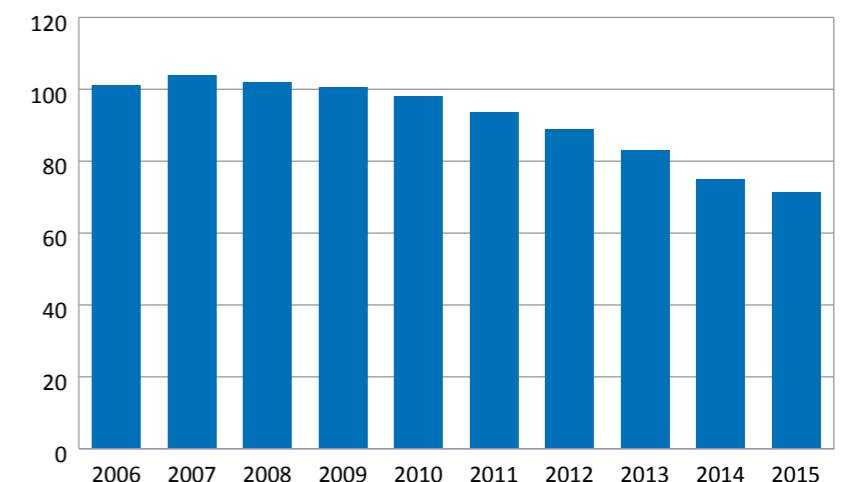
	Interest and securities	Gold and currency
Realised result	1 132	822
Unrealised result	-2 720	-7 018

Source: The Riksbank.

- Background: seignorage declining

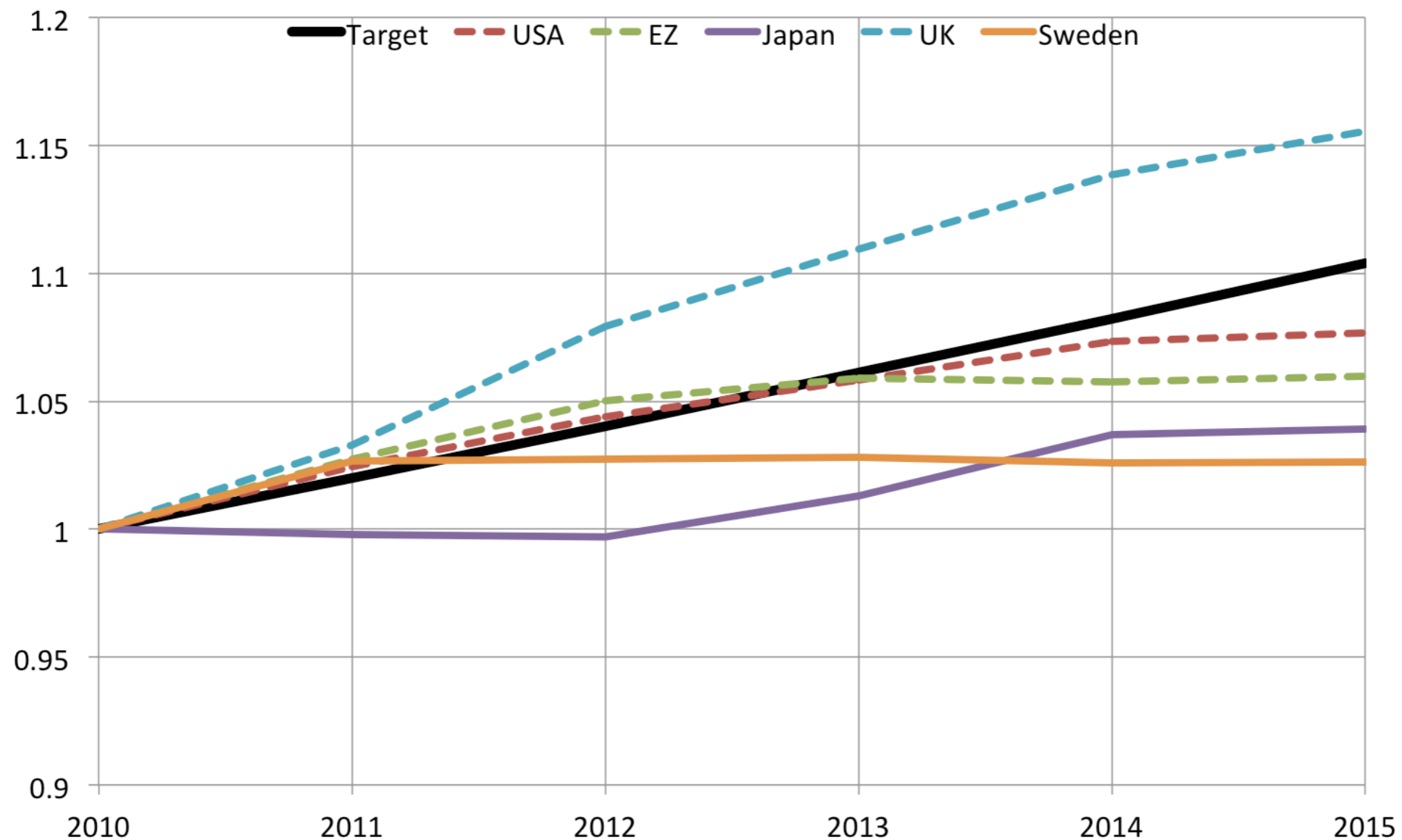
Chart 18

Average value of banknotes in circulation, SEK billion



Source: The Riksbank.

# MISSING PRICE LEVEL TARGET

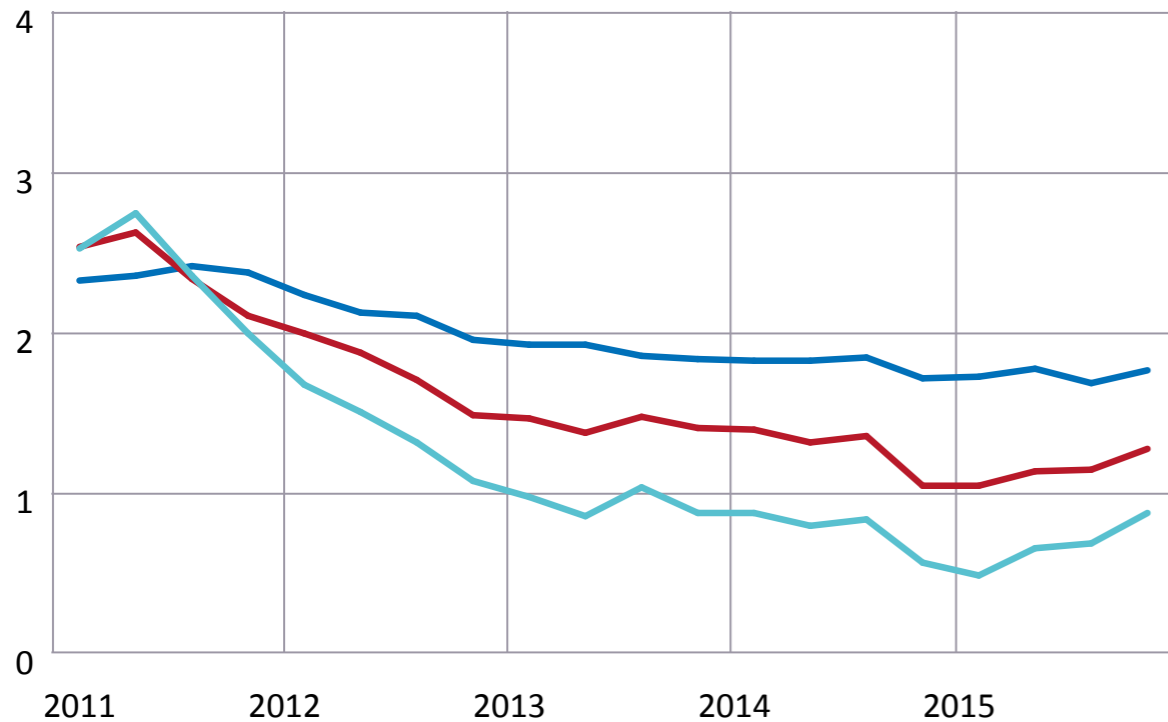


More room for NIR+QE+FG (and exchange rate) policies, without falling into bad and dangerous ideas (helicopter drops or manipulating exchange rate between currency and reserves).

# SYMMETRY AND TOUGHNESS

Chart 2

**Inflation expectations among all participants surveyed, per cent**



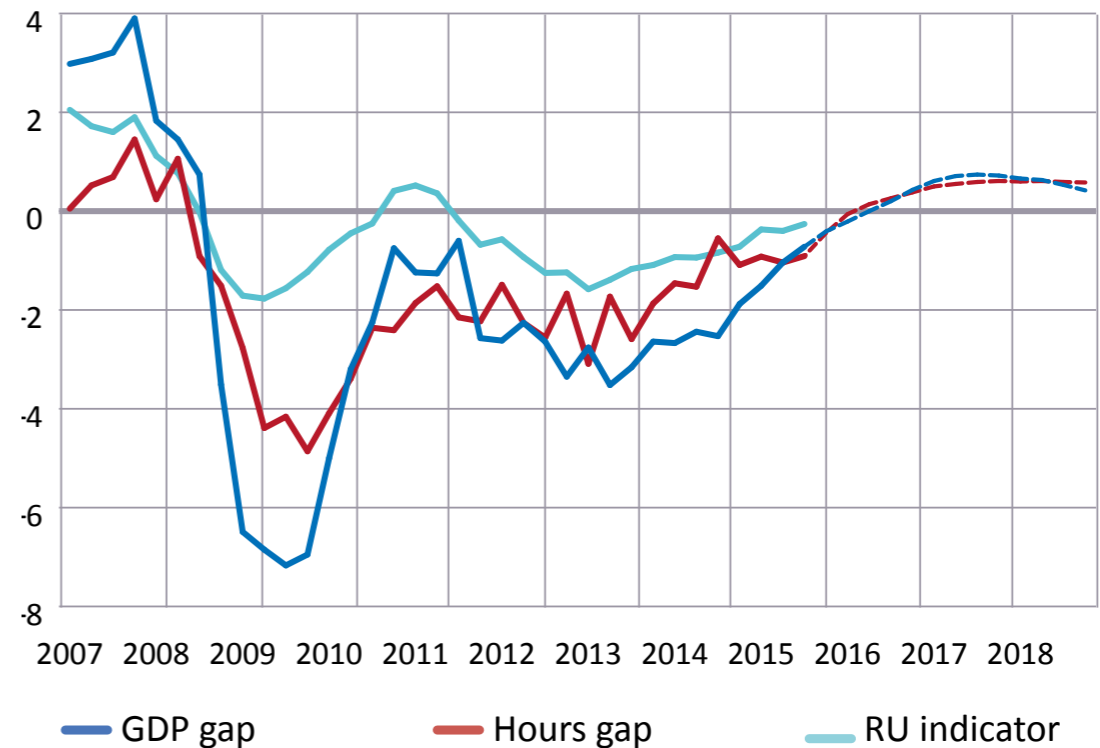
- Five years ahead
- Two years ahead
- One year ahead

Note: Participants surveyed are labour market parties, purchasing managers and money market participants.

Source: TNS Sifo Prospera.

Chart 10

**GDP gap, hours gap and RU indicator, per cent and standard deviation**



Note: The GDP gap refers to the deviation from trend in GDP, calculated using a production function. The hours gap refers to the difference between the actual number of hours worked and the Riksbank's assessment of the trend for the number of hours worked. The RU indicator is normalised so that the mean value is 0 and the standard deviation is 1. The broken lines represent the Riksbank's forecast from December 2015.

Sources: Statistics Sweden and the Riksbank.



# Conclusion



# FOR A NEW ORTHODOXY

Adaptation of central bank's mandate:

1. **Maintain solvency:** more explicit dividend rules; fiscal backing; limits on asset risk and transparency.
2. **Choose price level path goal:** From inflation to the price level; more thought on price index; full arsenal of interest rates, forward guidance, quantitative easing.
3. **Implement flexible price level target:** more explicit about tradeoff, rule that discusses unemployment more explicitly.