Exchange Rate Issues in the Context of Inflation Targeting

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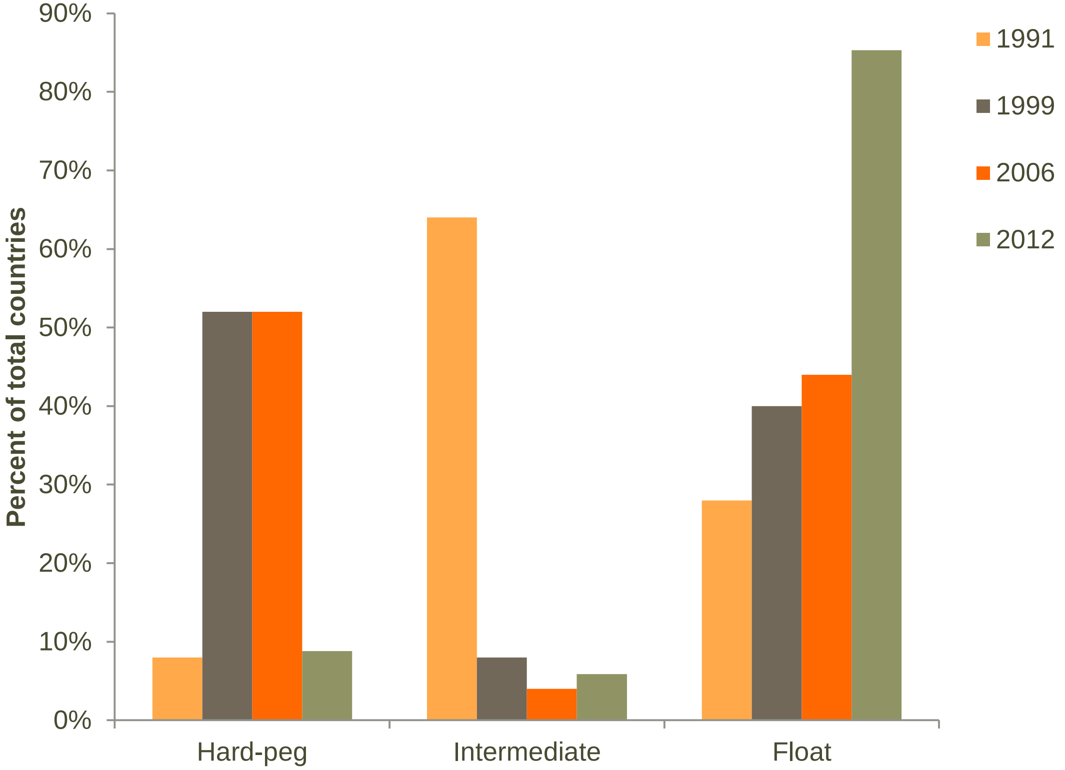
Main Themes

- FX management is popular, also among IT central banks
- Exchange rate objectives are often a poor policy guide from both a short- and long-term perspective
- Ex rate management can <u>support</u> interest rates in stabilizing output and inflation in certain shocks and conditions, only in part of a clear IT framework
  - FX interventions are costly and often not effective in moving the exchange rate
  - Ex rate commitment can be more effective

Flexibility is gaining ground among developed economies

- *Advanced* Countries: Exchange Rate Regimes, 1991, 1999, 2006 (Fischer, 2008) , and 2012



Source: 2012 advance countries list is from *World Economic Outlook*, April 2013

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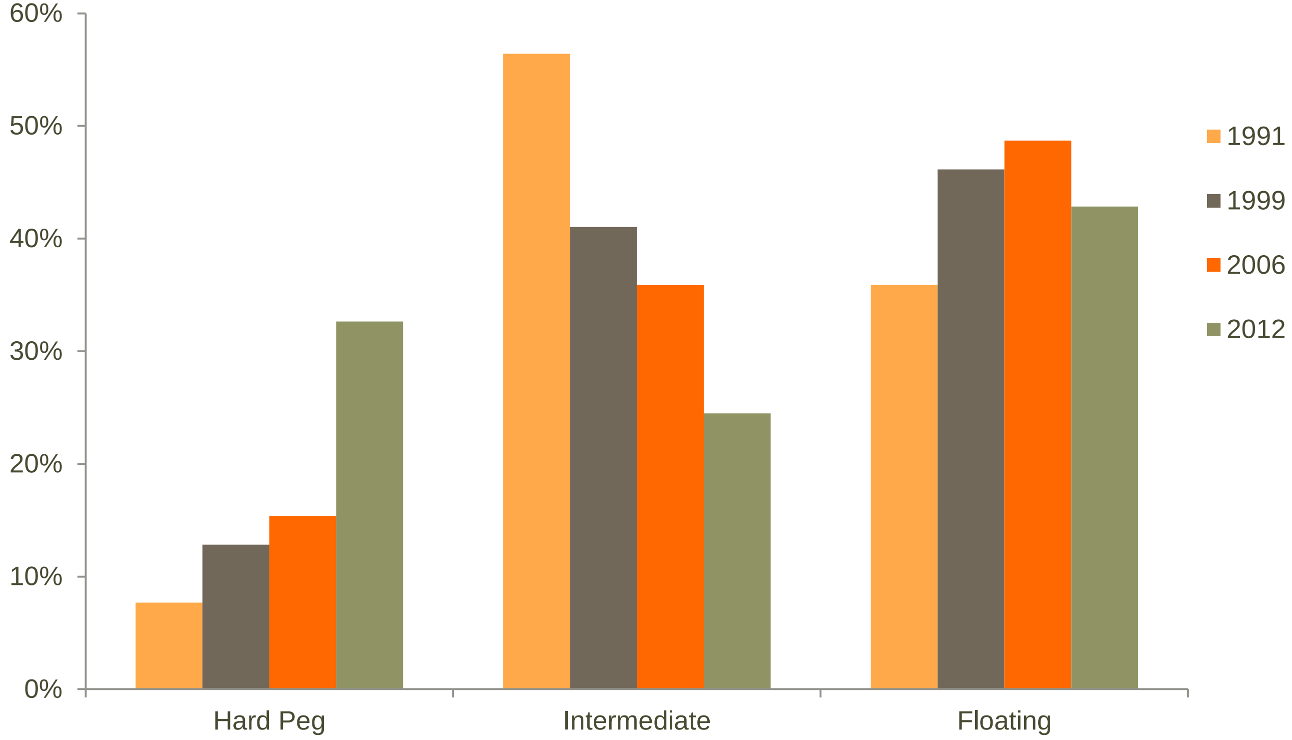
… while EMEs increasingly face only two options: float or peg

- *Emerging Mar*ket Countries: Exchange Rate Regimes, 1991, 1999, 2006, and 2012



Source: Emerging markets is SPR department official list

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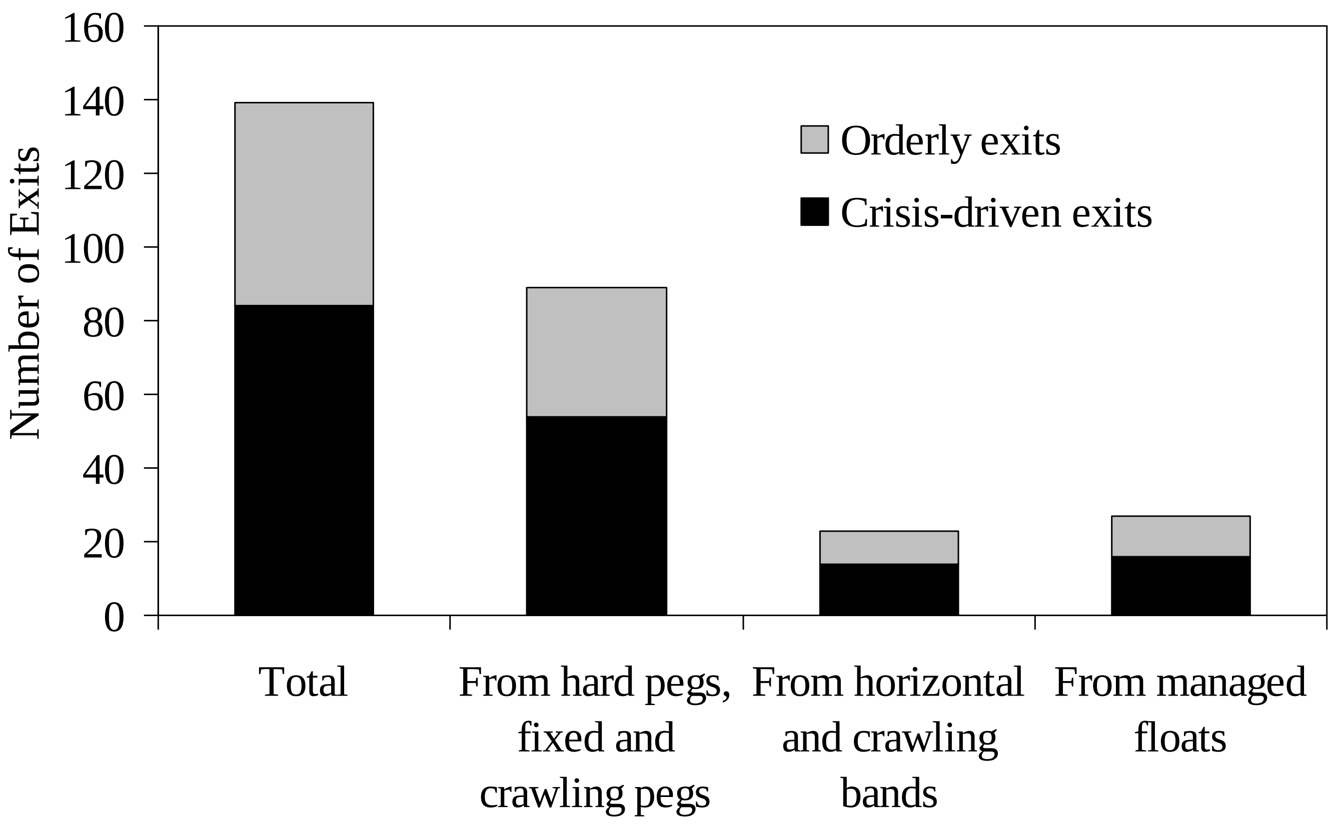
Fixed exchange rate regimes

- Easy to operationalize and manage in the short-term
- Long-term costs in terms of
  - Higher macroeconomic volatility
  - Higher dollarization and financial sector vulnerability to FX risks
  - Lower stabilizing power of domestic central bank as the LOLR and MMOLR
  - Risk of disorderly adjustments and high interest rates

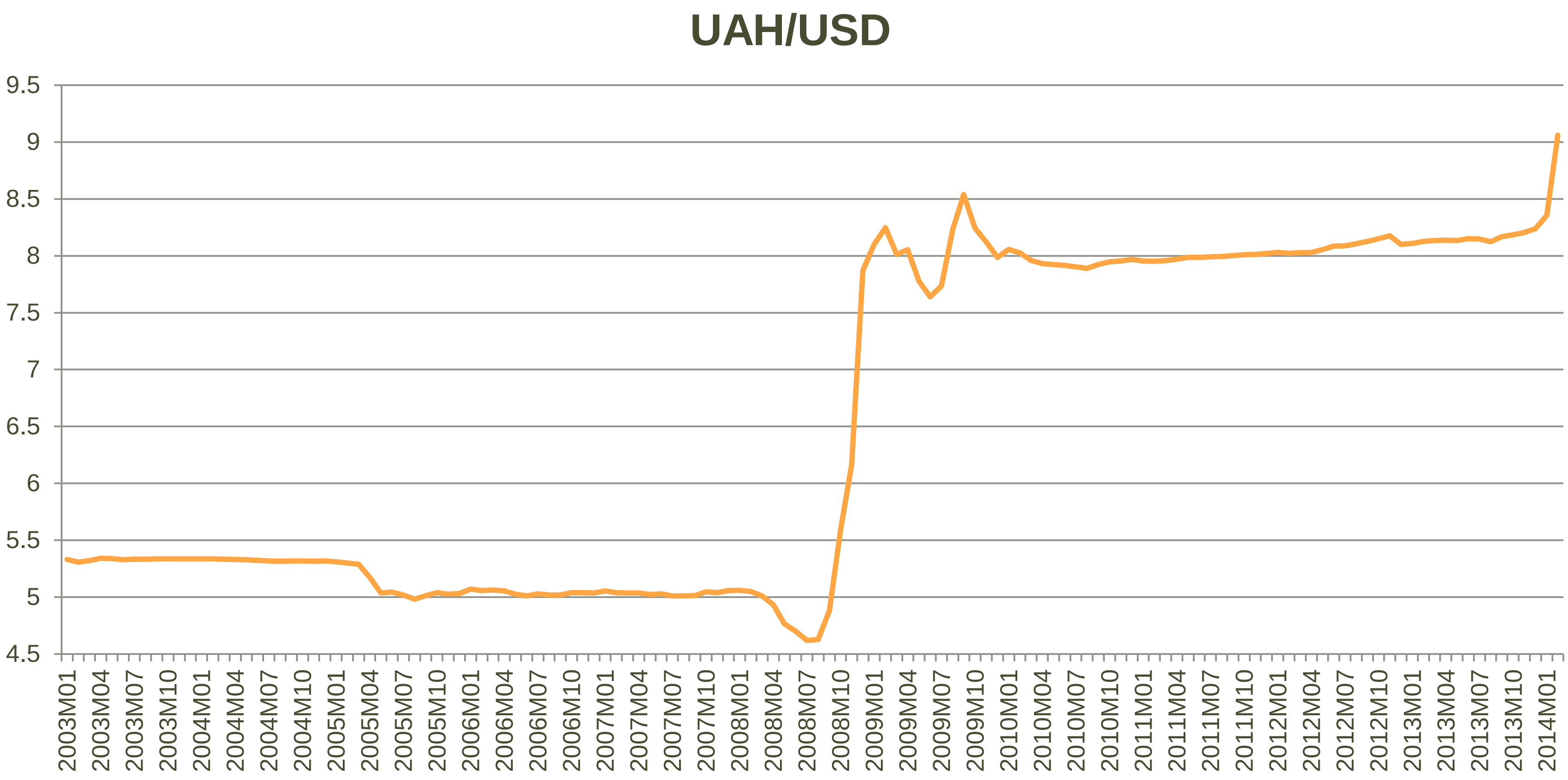
Exits are often disorderly

Figure 2. Exits by Exchange Rate Regime, 1990–2002



OGResearch Source: IMF

Fixed exchange rates are often prone to disorderly adjustments



Source: National Bank of Ukraine

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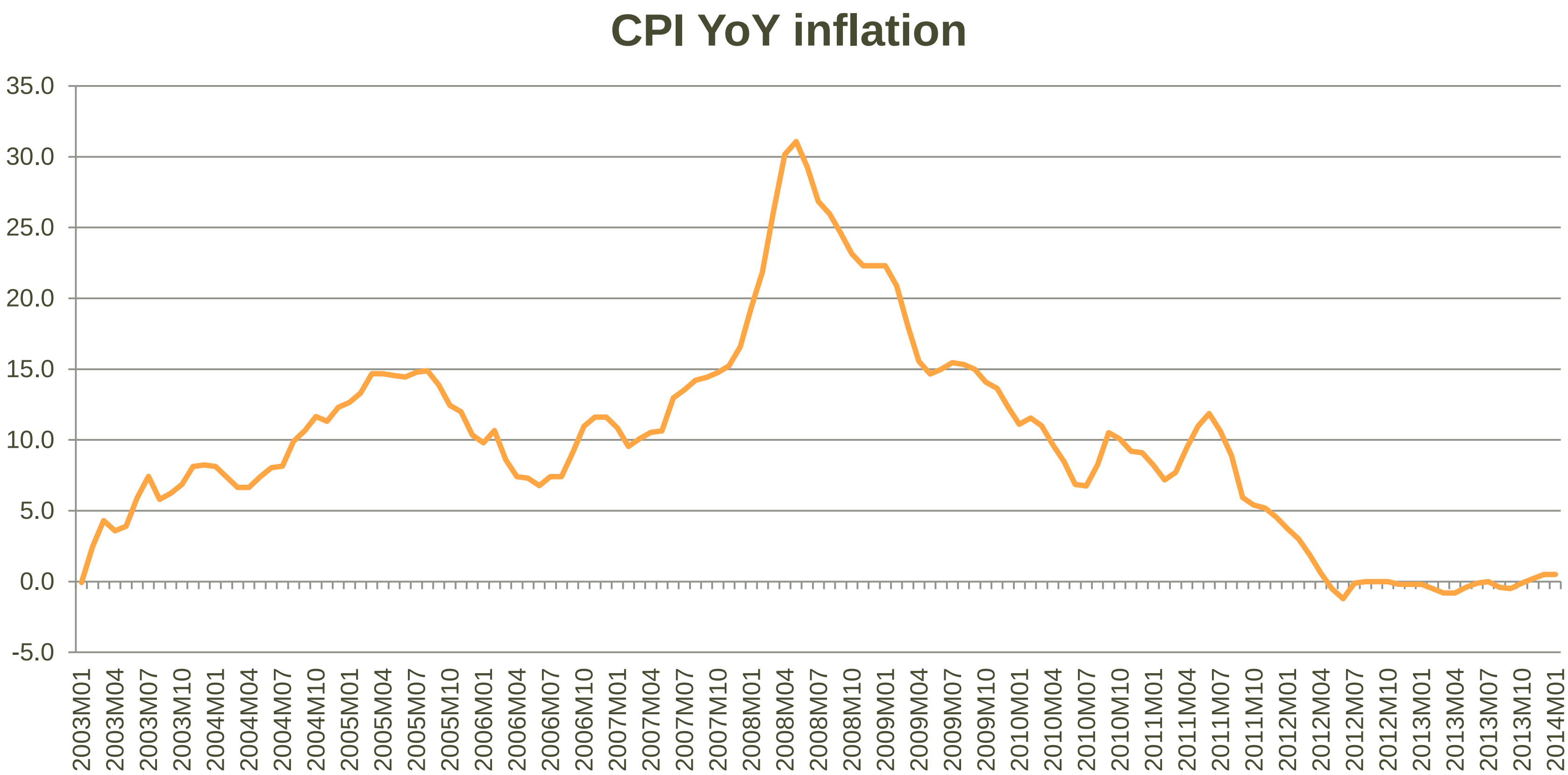
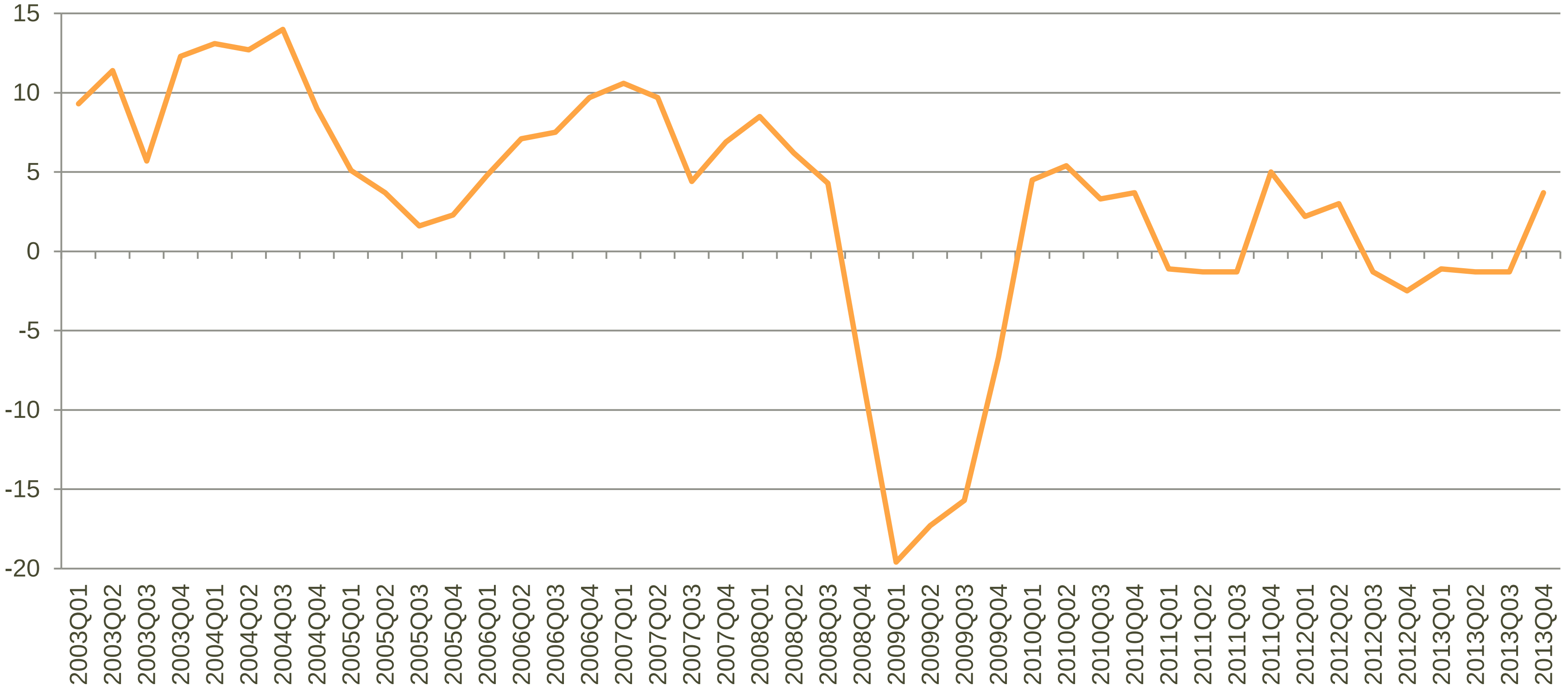
Often do not deliver low and stable inflation …



Source: State Statistics Committee of Ukraine

… and do not guarantee stable growth

Real GDP YoY growth rate (%)



Source: State Statistics Committee of Ukraine

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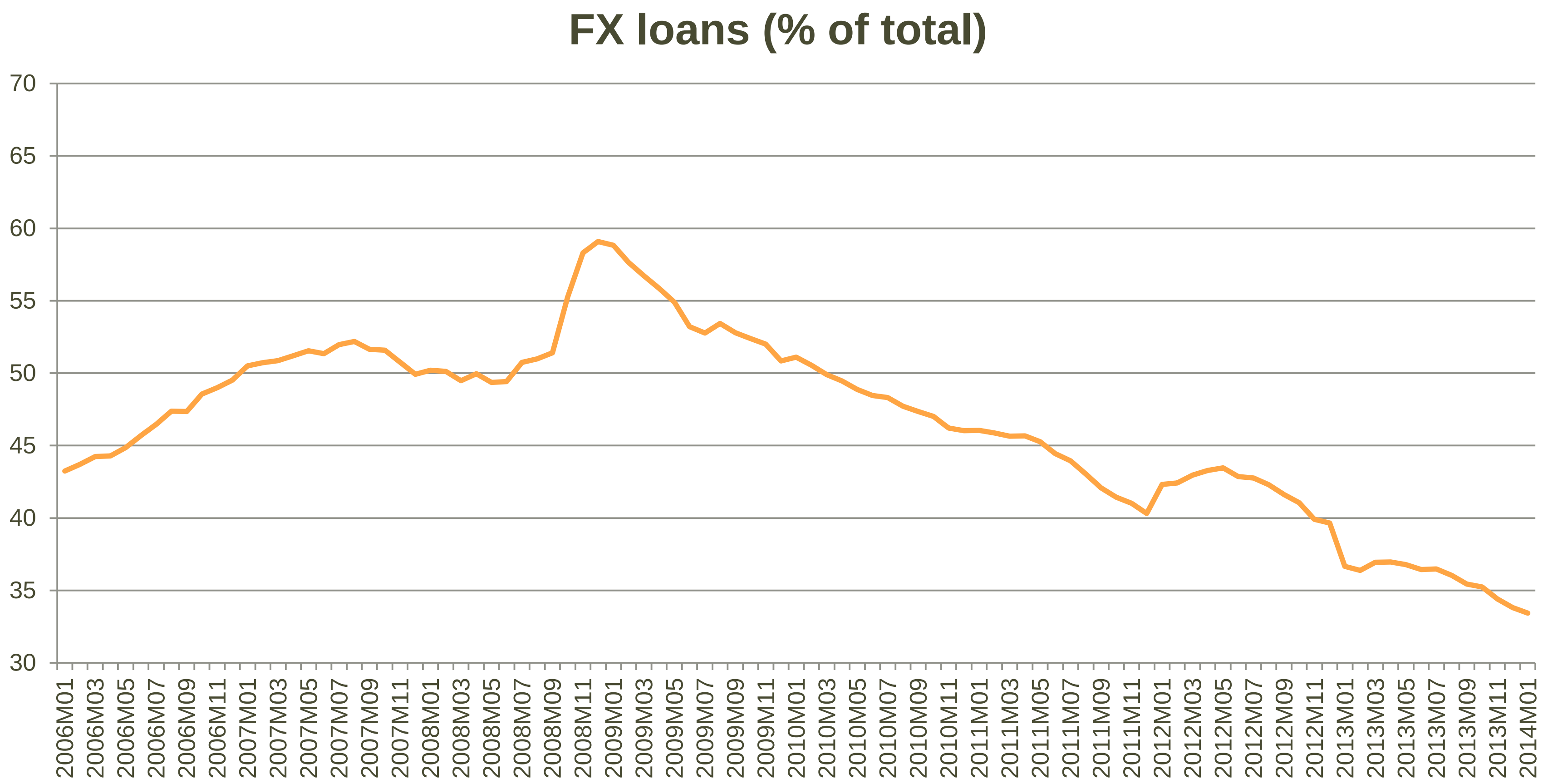
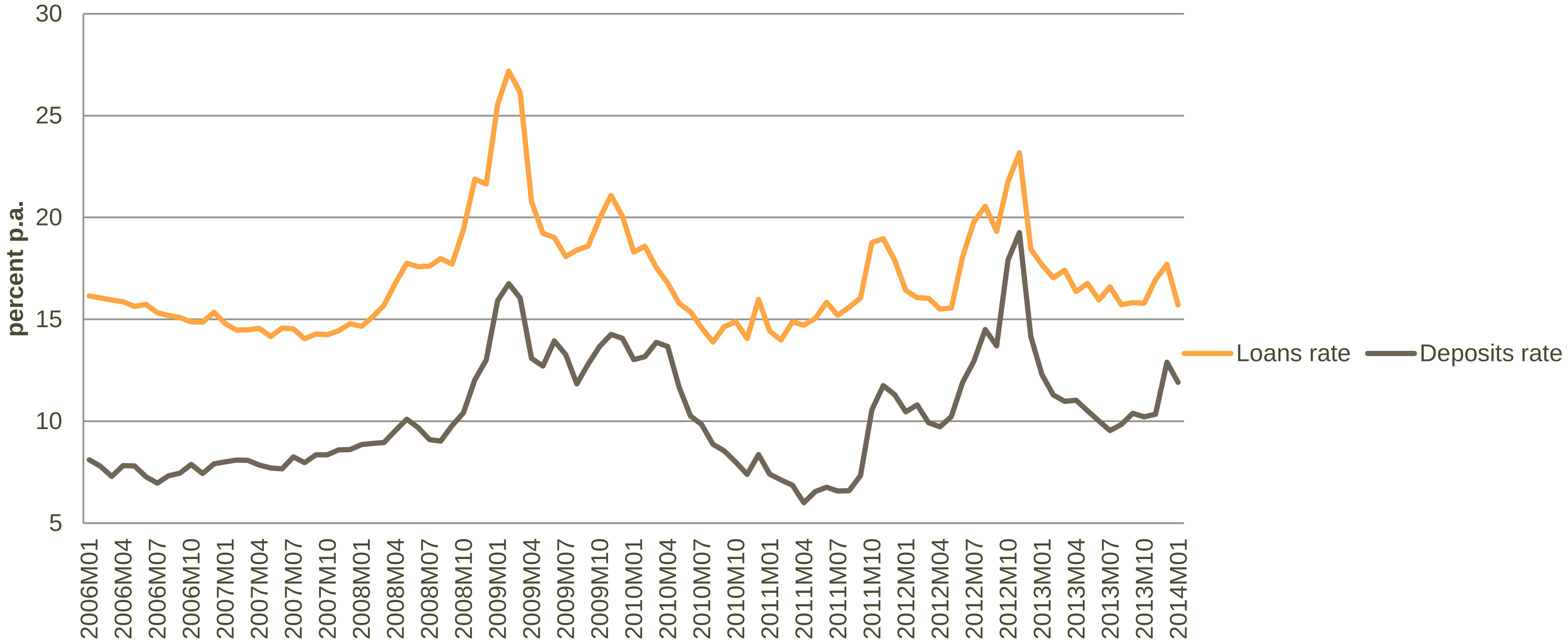
Often encourage high dollarization and increase FX risk vulnerability



Source: National Bank of Ukraine

And may contribute to high interest rates

Interest rates in UAH instruments



Source: National Bank of Ukraine

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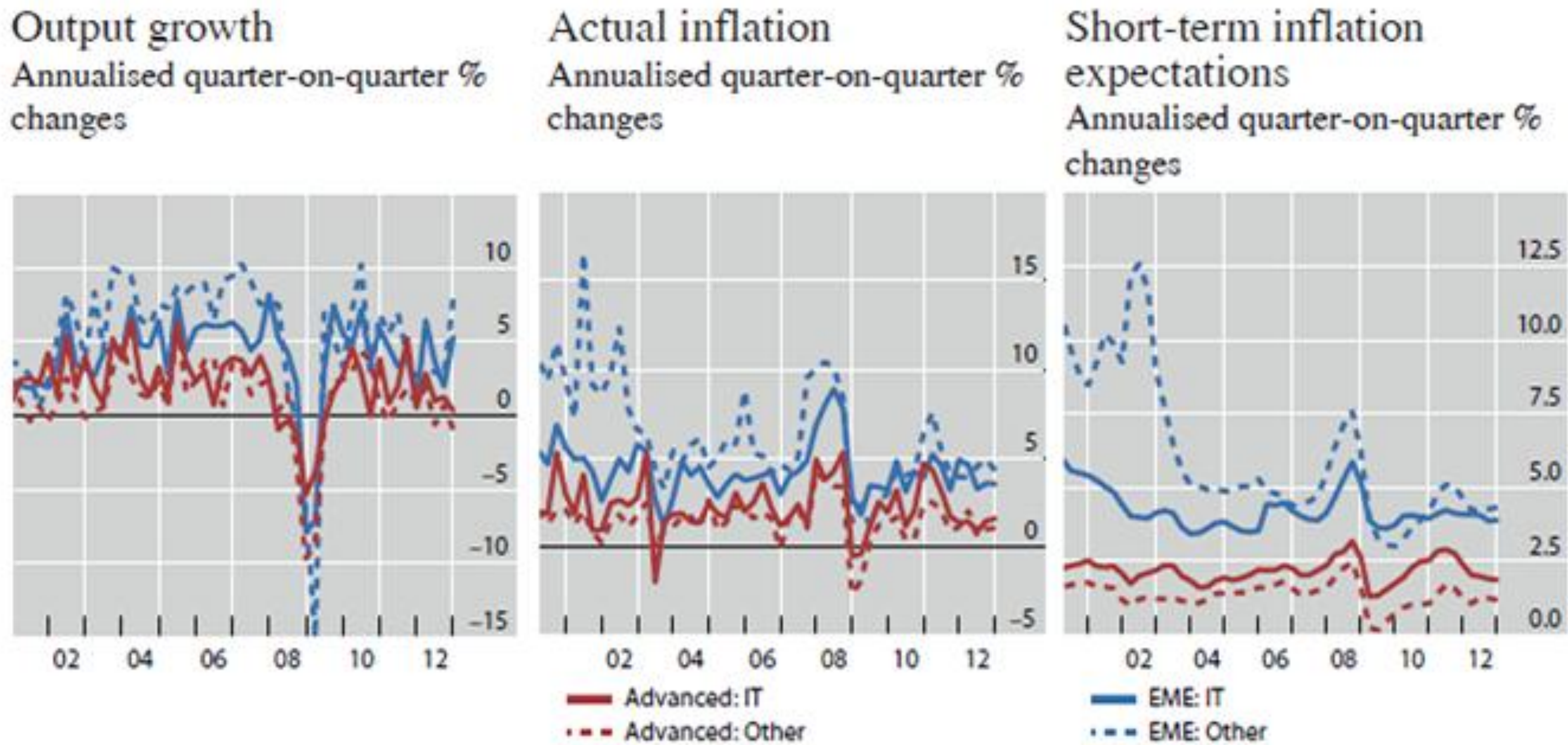
Inflation targeting and ex rate flexibility

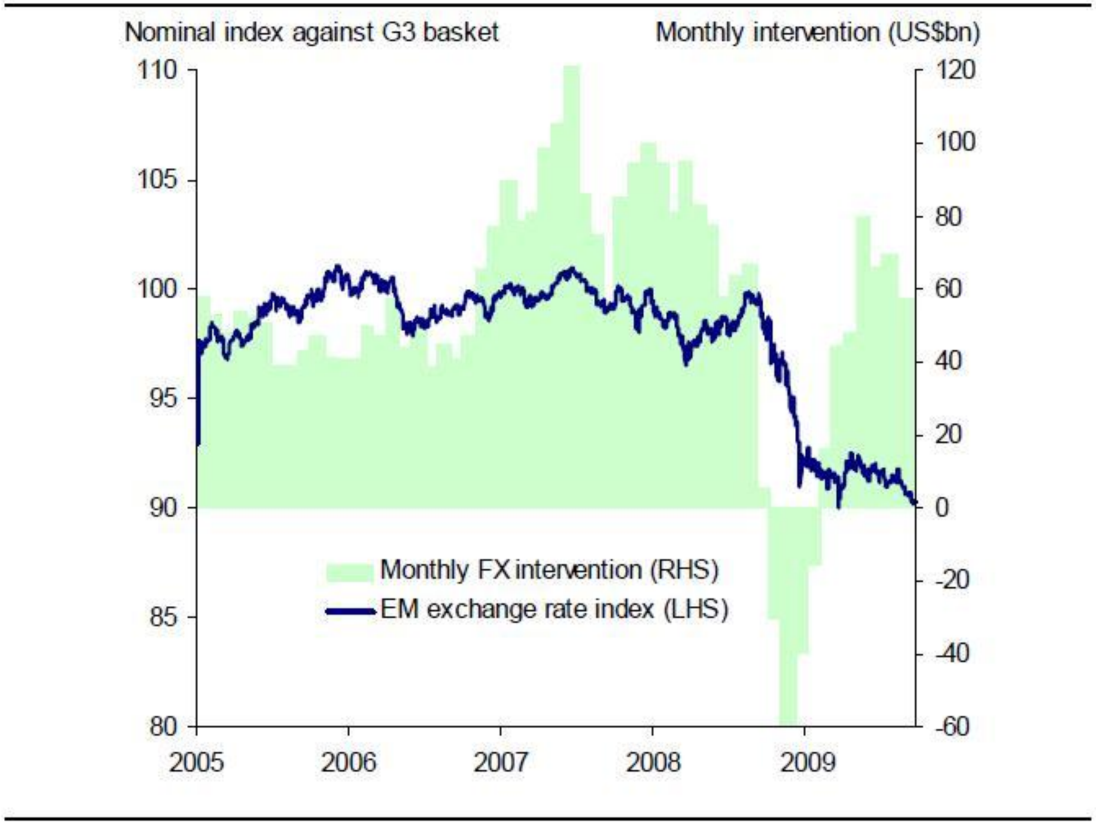
- Difficult to implement and manage
- Long-term benefits in terms of
  - Lower interest rates
  - Lower macroeconomic volatility
  - Lower dollarization
  - Flexibility and insurance in terms of the LOLR and MMLR

Some perspective



Source: IMF Estimates

Interventions had always been important, but largely ignored



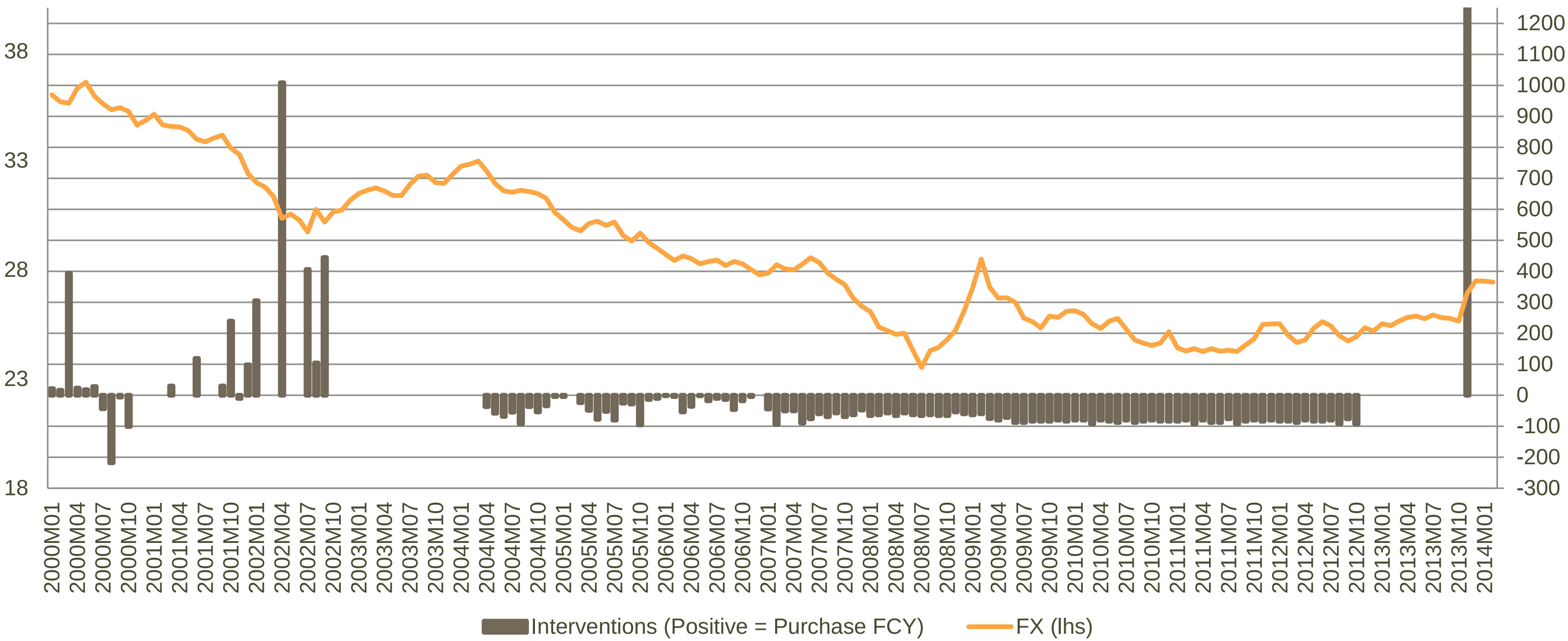
Source: Haver, CEIC, Bloomberg, UBS estimates

Importance has increased after the crisis, also for ITers

- After the crisis the use of FX interventions has intensified in both developed and emerging markets
  - 20 out of 30 pure inflation targeting regimes regularly intervene on the forex market (and 16 out of 18 countries EME ITers
- … and search began for finding a paradigm acknowledging the role of FX interventions as a systematic instrument

The Czech example in many ways very illustrative of this trend

CZK per EUR



Source: Czech National Bank

In search of a new paradigm: what have we learned?

- Exchange rate does not work well as an intermediate target alongside inflation
- Signals provided by ex rate movements are often confusing and a poor guide alone for policy actions
- Ex rate management can <u>support</u> interest rates in stabilizing output and inflation in certain shocks and conditions, if part of a clear IT framework
- FX interventions are costly and not very effective in moving the exchange rate
- Commitment to an exchange rate level can be both an efficient as well as effective instrument for IT SOEs in a deflation trap

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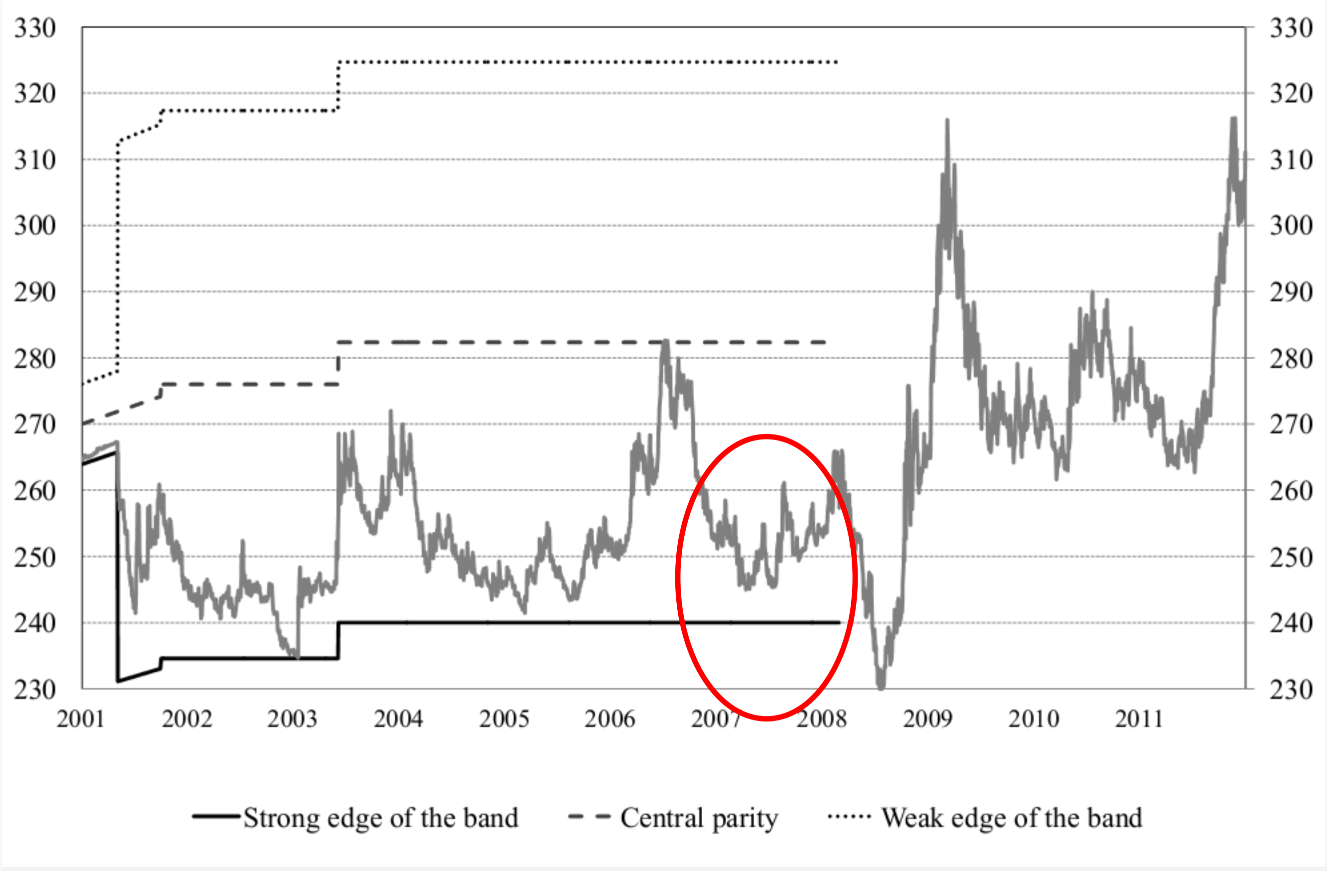
In search of a new paradigm: what have we learned?

- Exchange rate does not work well as an intermediate target alongside inflation
  - One instrument – two targets
  - Constraining or biasing policy rates as the only instrument
  - Ex: Hungary (2007/8), Australia and New Zealand (1997/8)

Ex rate does not work well as an intermediate target …

Hungary: Ex rate (HUF/EUR)



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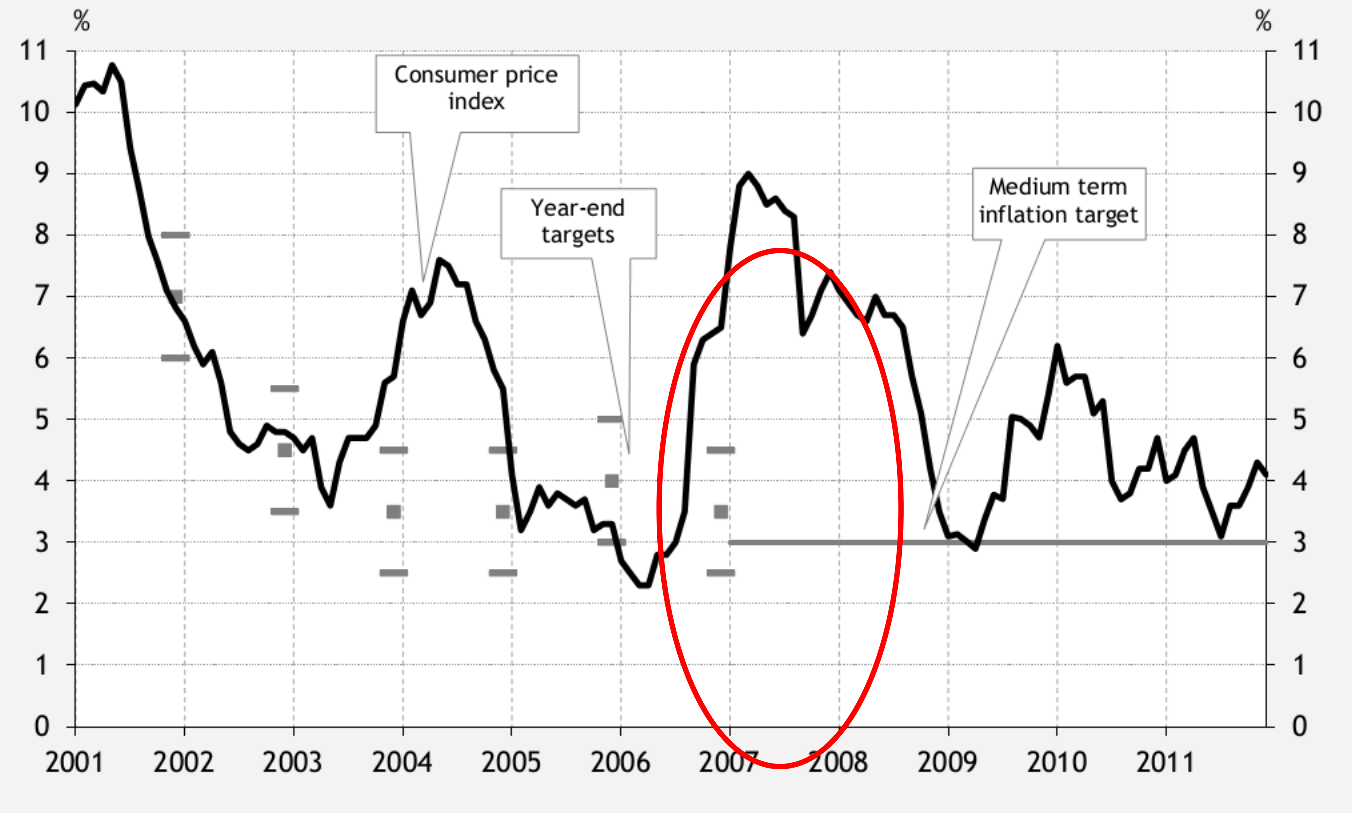
… alongside inflation targets

Hungary: Inflation and targets (yoy)



Source: Hungarian Central Statistical Office, National Bank of Hungary

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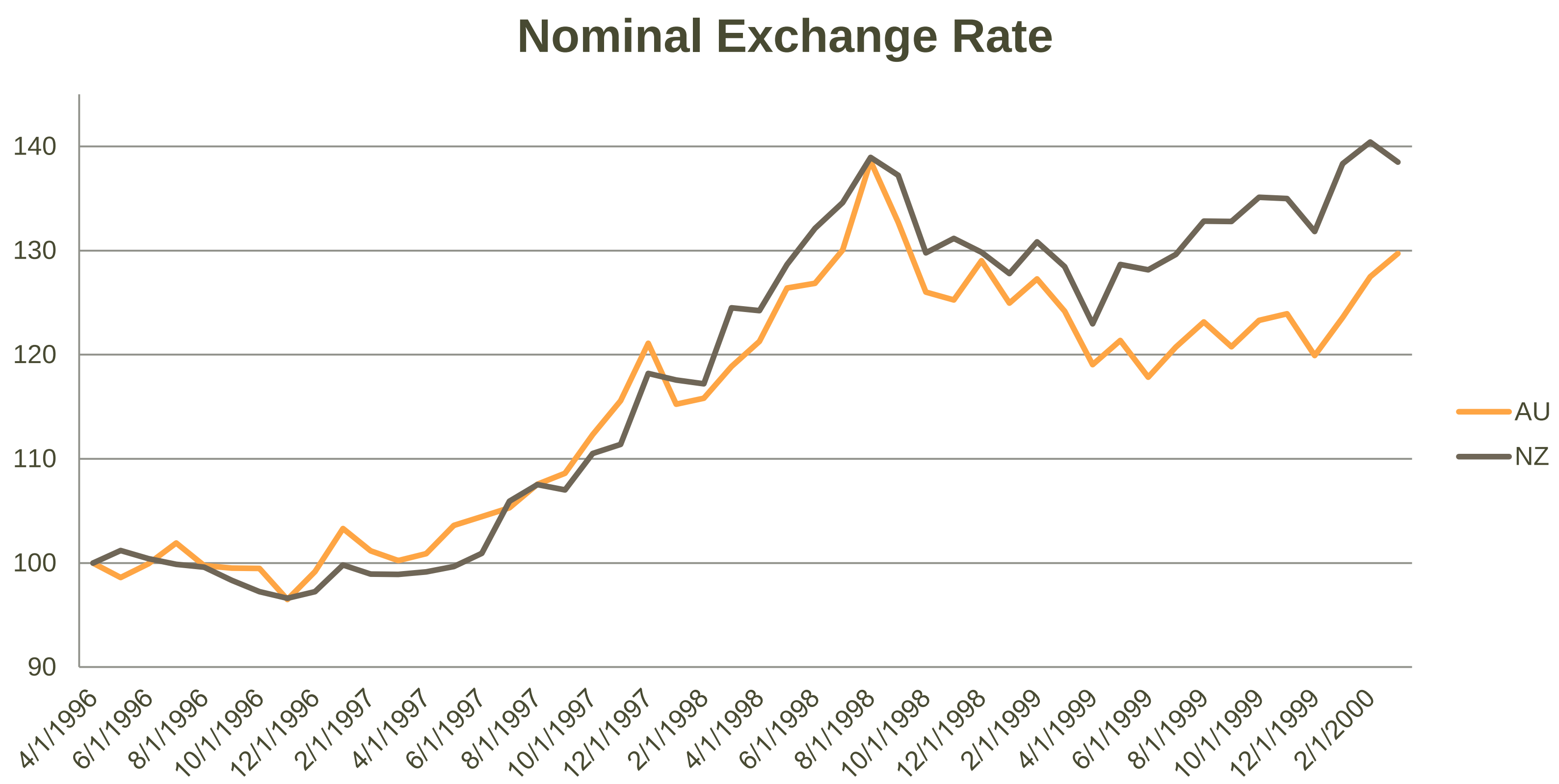
In search of a new paradigm: what have we learned?

- Signals provided by ex rate movements are often confusing and a poor guide for policy
- Portfolio versus Real Shocks
  - Appropriate policy response to a depreciation caused by a real shock is looser policy
  - Appropriate policy response to a depreciation caused by a portfolio shock is tighter policy
- Australia and New Zealand (1997/8)

Exchange rate movement is a poor guide for policy – underlying shock is crucial



Source: Reserve Bank of Australia, Reserve Bank of New Zealand

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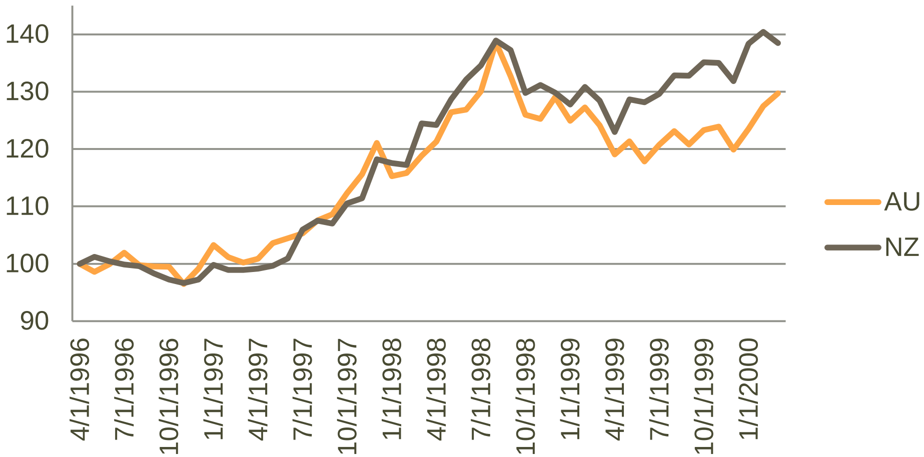
The Asian Crisis: New Zealand vs. Australia

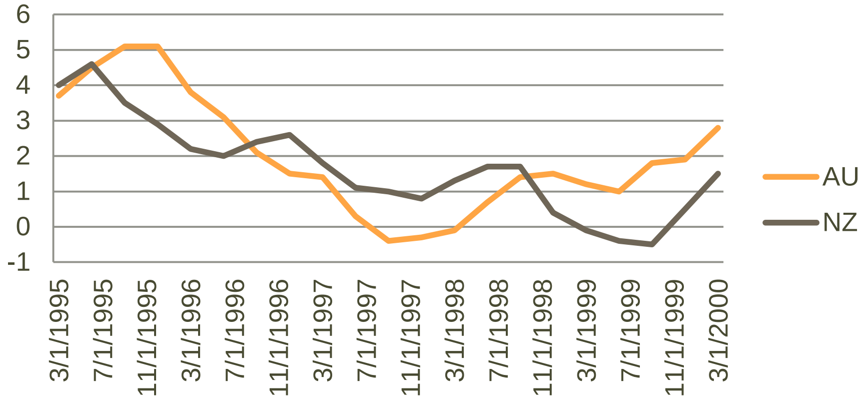
- The Asian Crisis Shock
  - Fall in external demand
  - Fall in terms of trade
  - Both contractionary and disinflationary in which case depreciation would somewhat alleviate both effects.
- New Zealand was slow to react to the impact of the Asian crisis.
  - No interventions, but instead raising interest rates
  - “I see no reason why a transparent infation-targeter should undertake foreign-exchange interventions”
- Australia’s response was rapid, decreasing the cash market rate by 50 bp and intervening mildly to smooth the depreciation
  - Transparency offered by an IT regime made it clear that monetary easing was in order to prevent undershooting of the target and limited the impact on inflation expectations.

The Asian Crisis: New Zealand vs. Australia

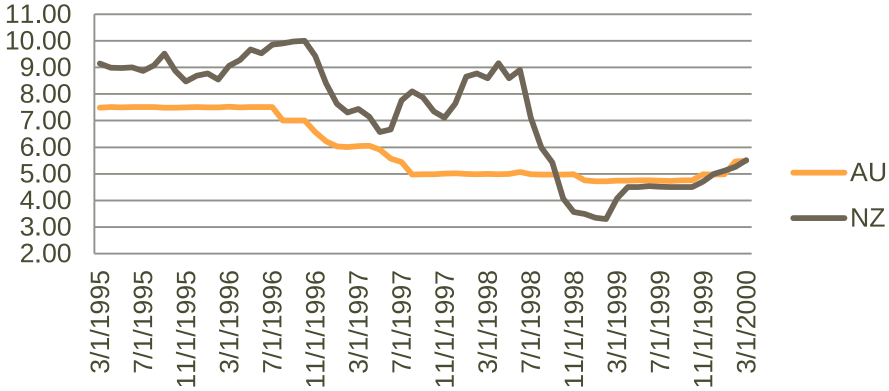
Nominal Exchange Rate



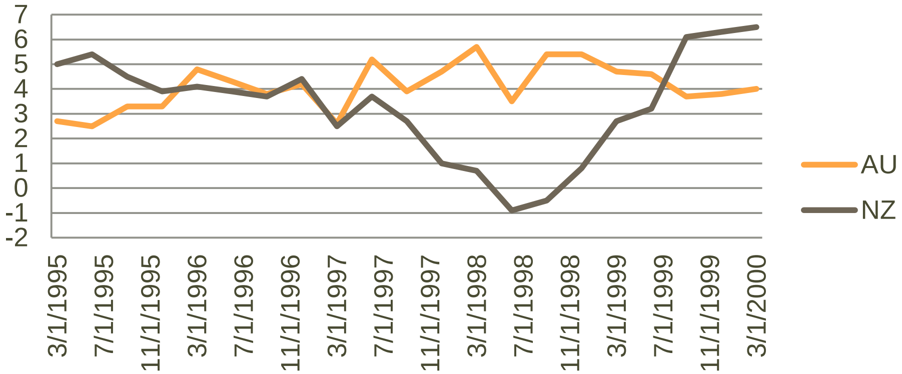
Inflation, YoY



Nominal ON Interbank Rate



Real GDP, YoY



Source: Reserve Bank of Australia, Australian Bureau of Statistics, Statistics of New Zealand, Reserve Bank of New Zealand

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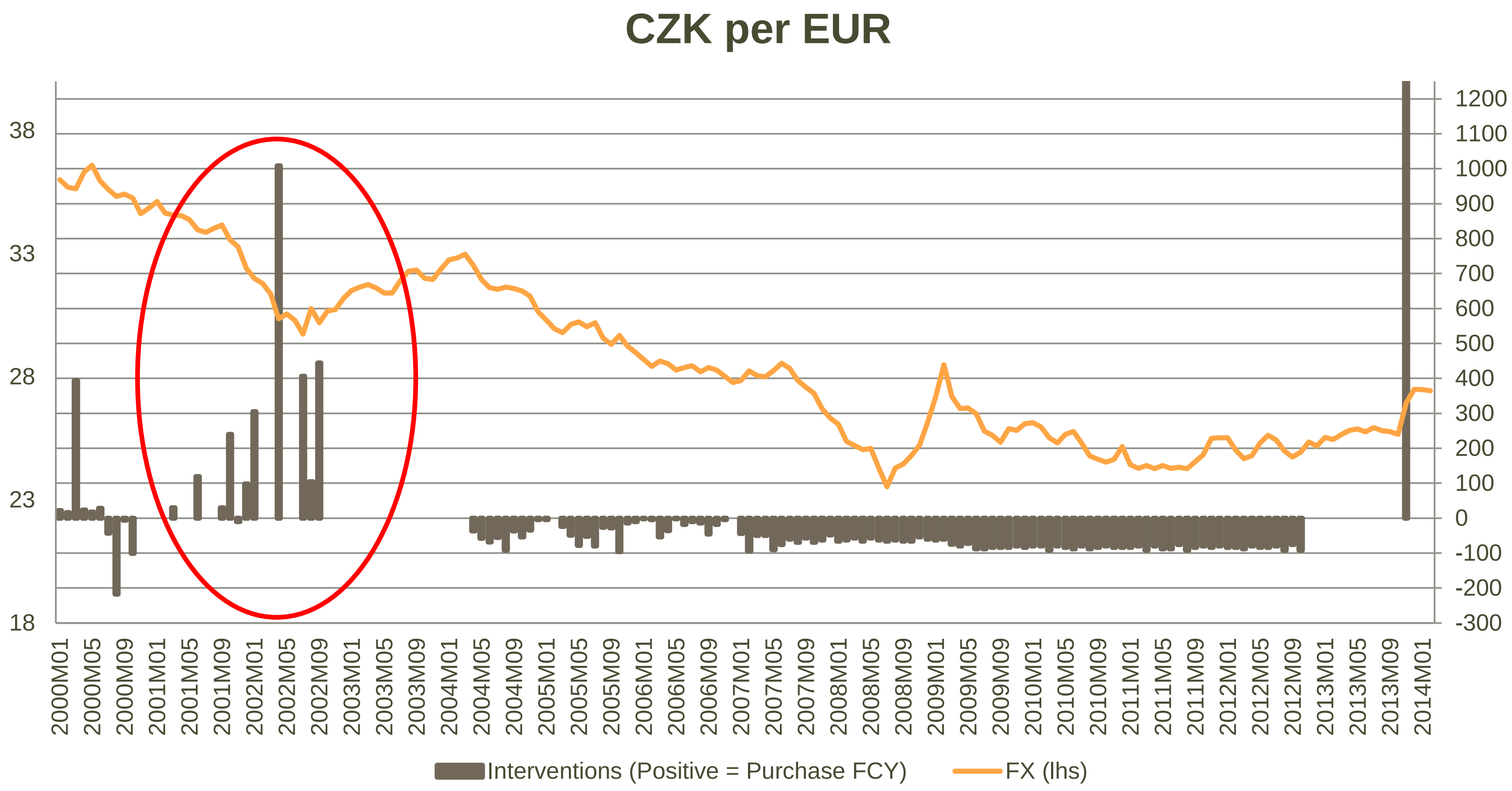
In search of a new paradigm: what have we learned?

- Ex rate management can support interest rates in stabilizing output (and inflation)
  - Czech Republic (2002, 2014)
- Having two instruments can better than using only interest rates under certain shocks and conditions
  - Working through balance sheets
  - Israel (2008/9),
- Or ex rate management can be the main instrument in achieving inflation objectives
  - Singapore
- Must be transparently set in an IT instrument-objective framework

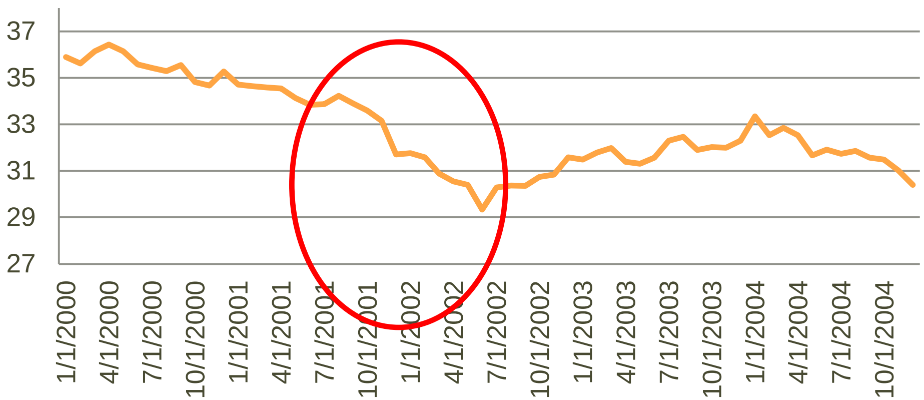
FX interventions can support interest rates in stabilizing output and inflation under certain shocks



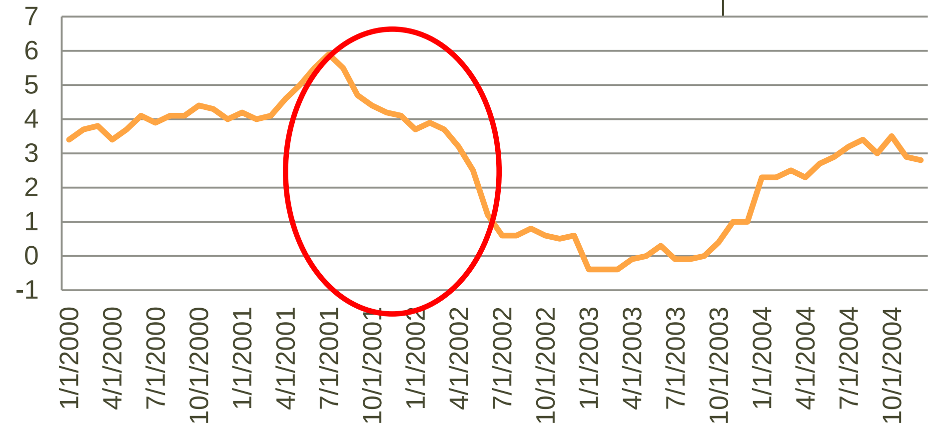
Source: Czech National Bank

Interventions supporting monetary easing during a carry trade episode

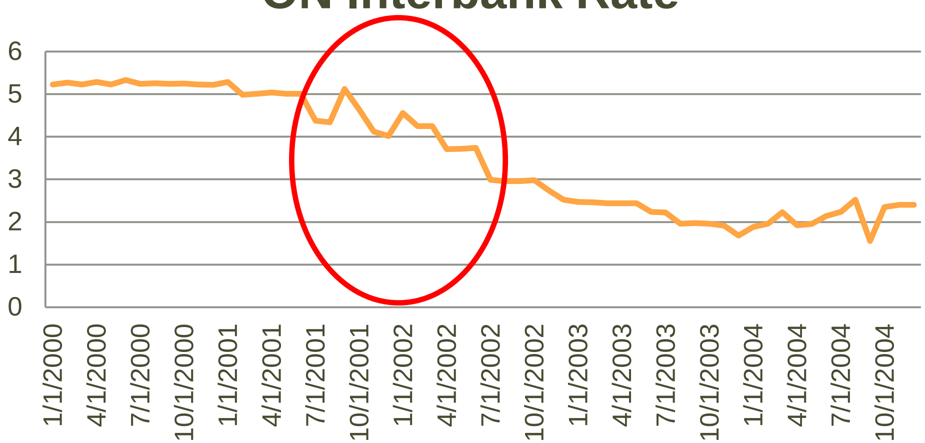
Nominal Exchange Rate



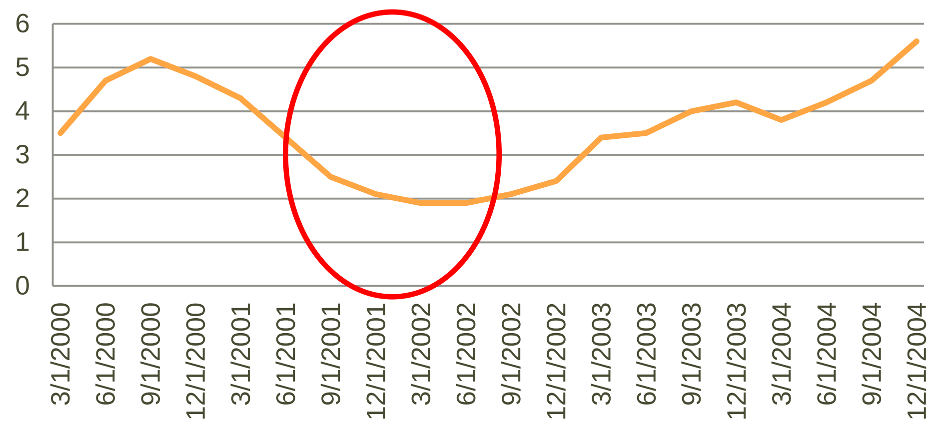
Inflation, YoY



ON Interbank Rate

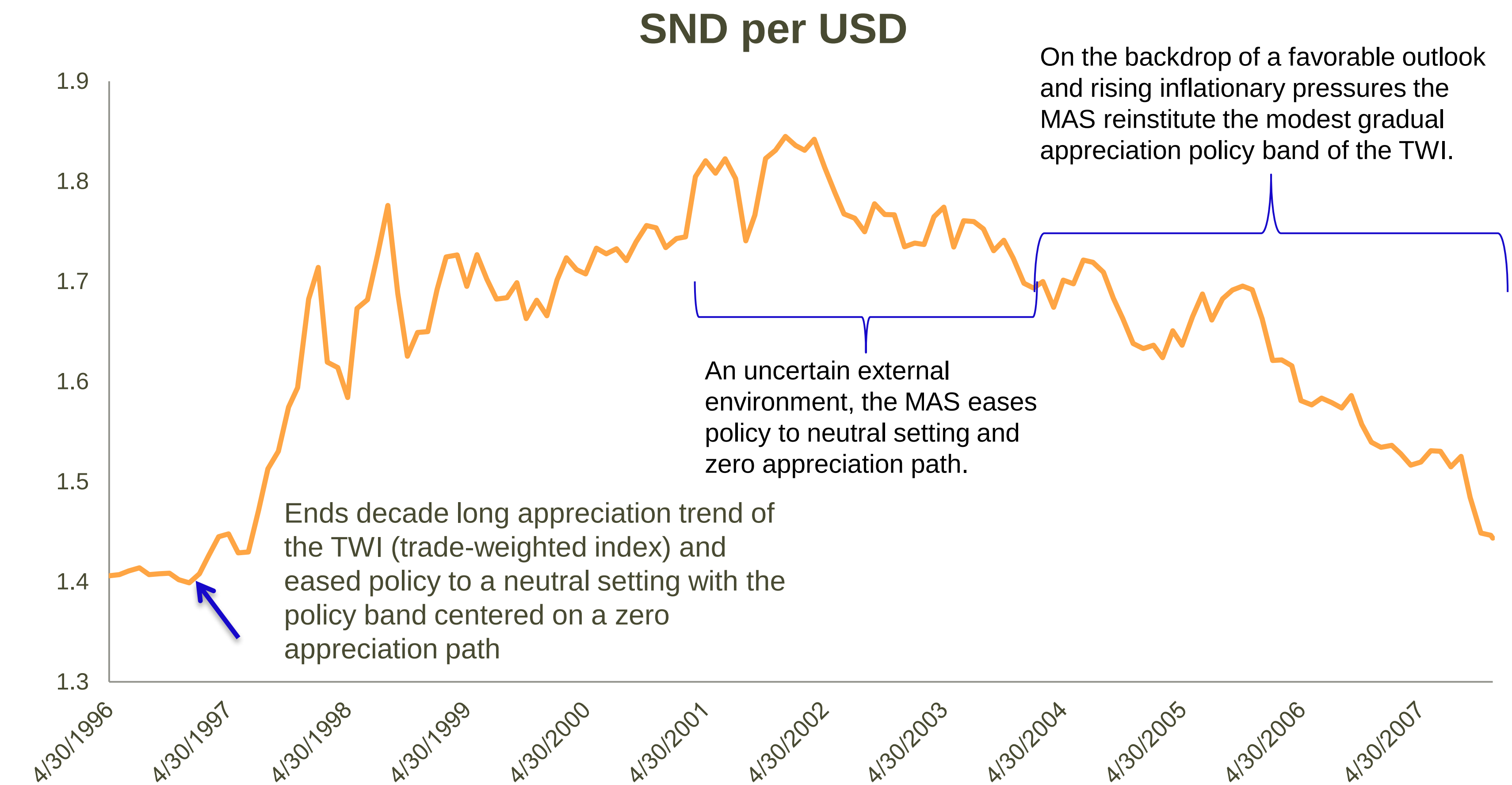


Real GDP, YoY



Source: Czech Statistical Office, Czech National Bank

Singapore manages exchange rate as its main instrument

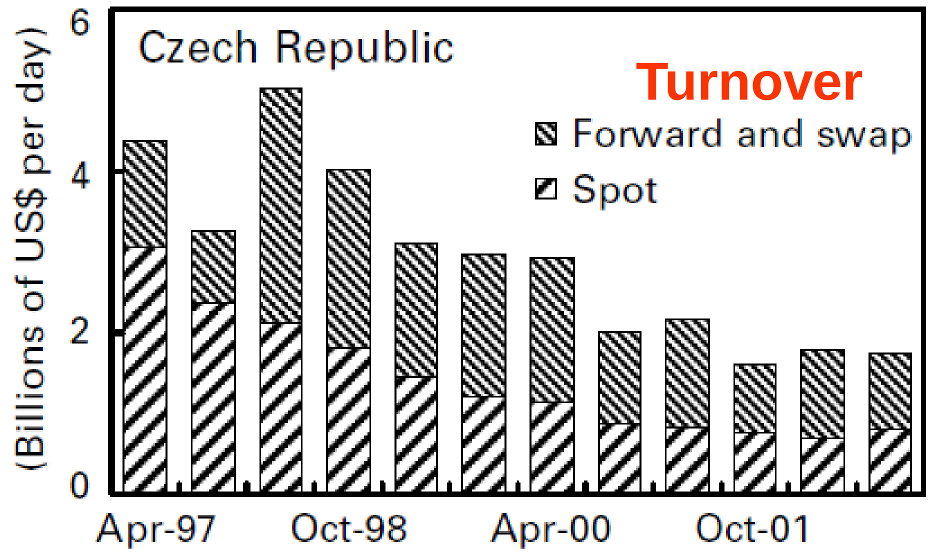


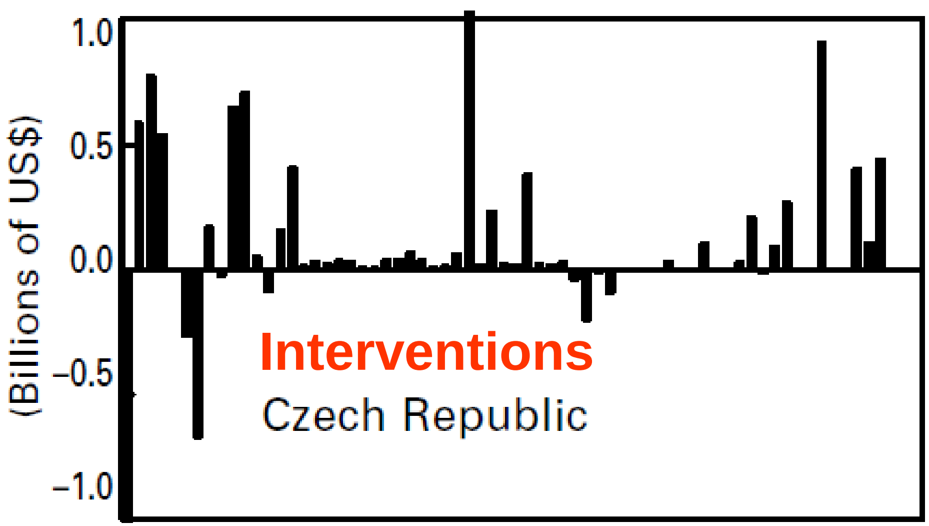
Source: Monetary Authority of Singapore

In search of a new paradigm: what have we learned?

- FX interventions are costly and not very effective in moving the exchange rate
  - Czech Republic, Switzerland, Chile
- Depends on expectations and whether the exchange rate management is understood as an integral part of an IT instrument-objective framework

Do “small” interventions work?





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Source: Bulíř (2005)

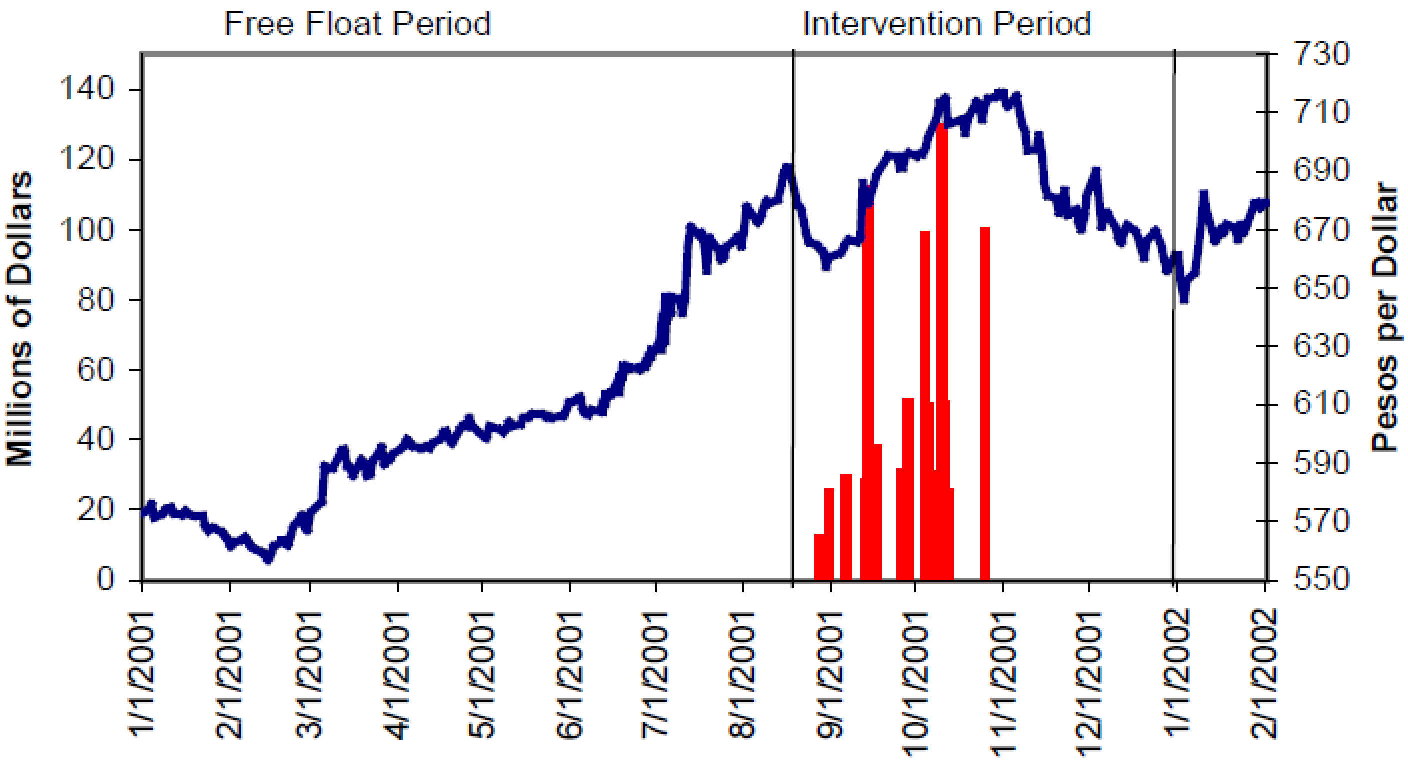
Daily turnover of $2-4 billion in the Czech r.

Monthly interventions of $0.5 billion

Geršl and Holub (2006):

1. No impact on the spot rate
2. Limited impact on volatility
3. CNB stopped intervening – not integral part of IT

Sterilized interventions in Chile



- On August 16 2001, the CB announced spot market interventions up to $2 bn and sales of $2 bn of dollar-denominated central bank bills
- Actual interventions of $0.8bn, (5% of the total stock of international reserves) in 15 interventions

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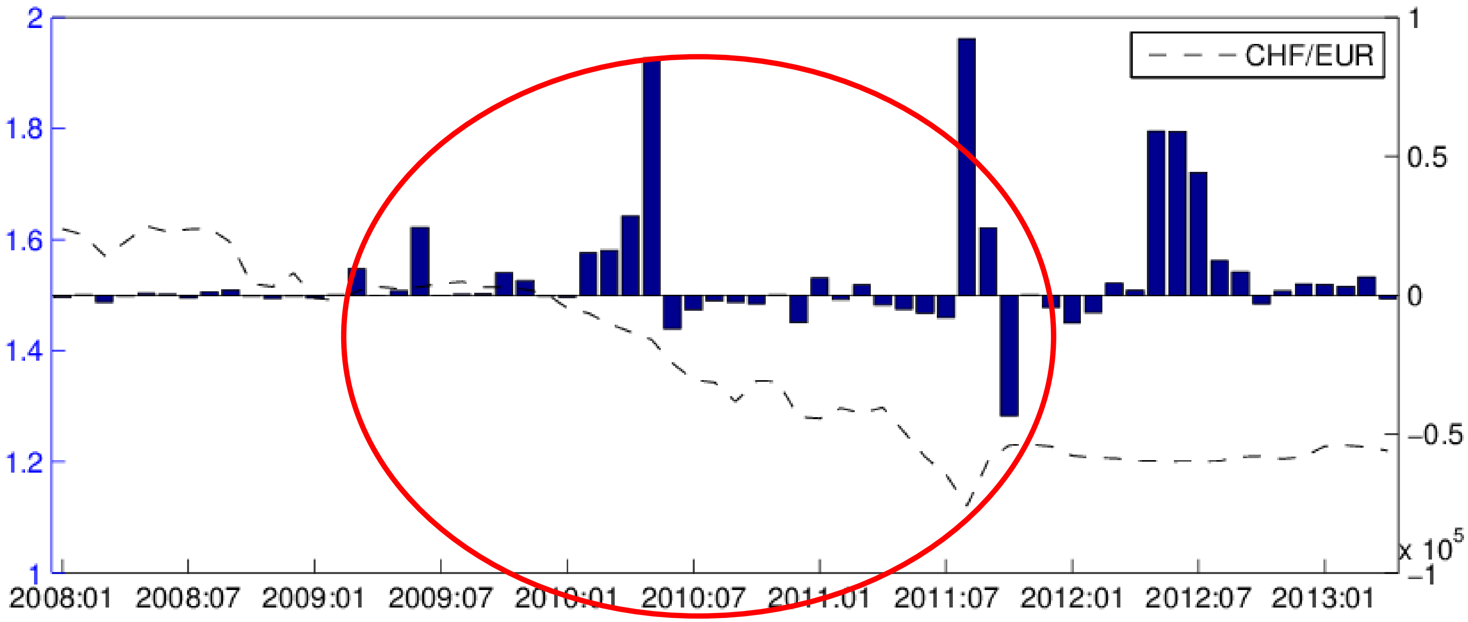
Source: Central Bank of Chile

The Swiss Experience

- During February, 2009 to August, 2011 the SNB increased its international reserves by 235 billion of Swiss francs and the franc appreciated by 25 percent.

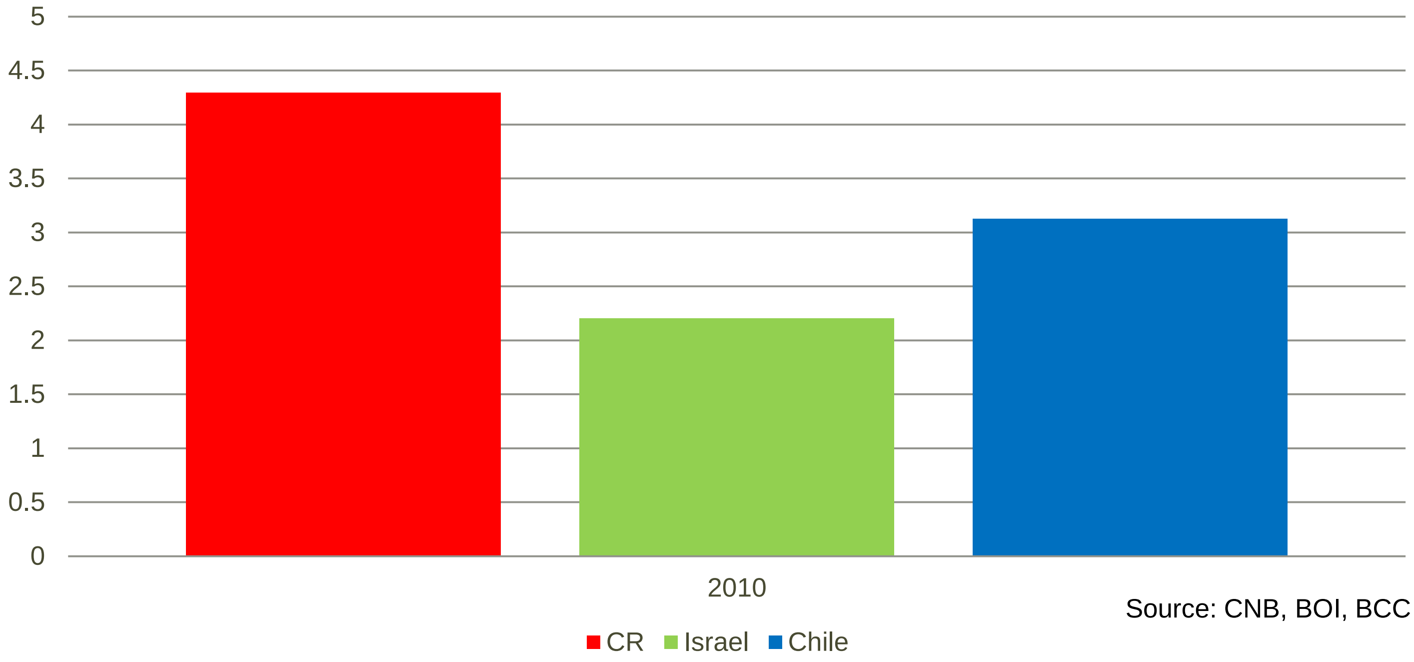
Figure : CHF/EUR and Change in SNB's International Reserves, 2008-2013



Source: Swiss National Bank

FX interventions can be very costly too (not only in losing reserves)

- Accumulated loss of Central Banks for 2010 per GDP (in percent)



Source: CNB, BOI, BCC

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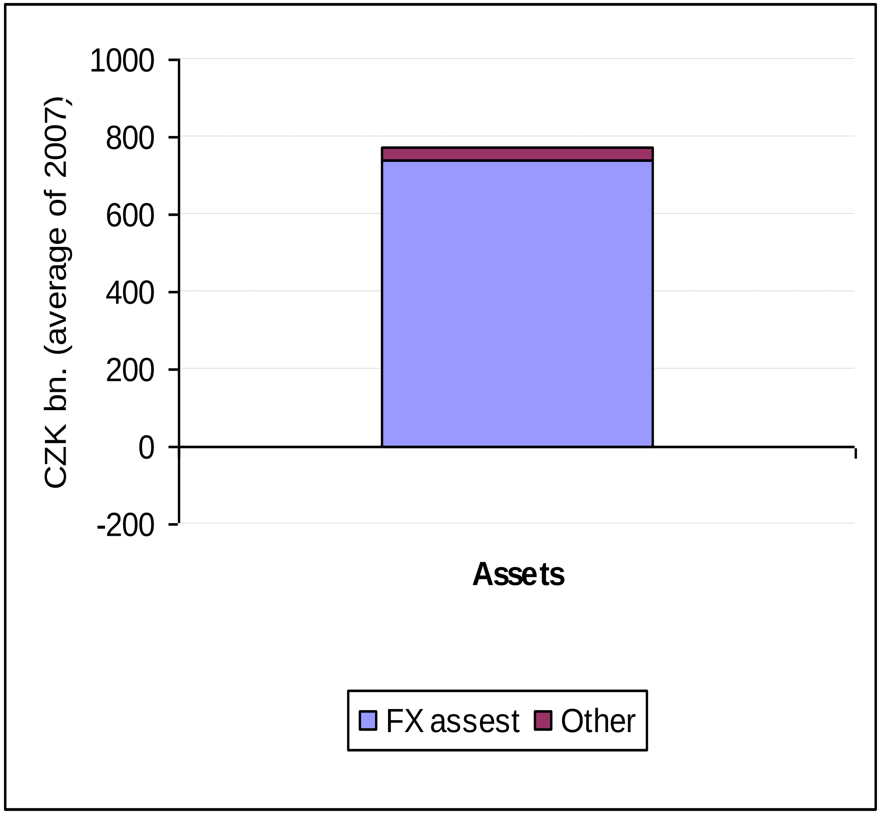
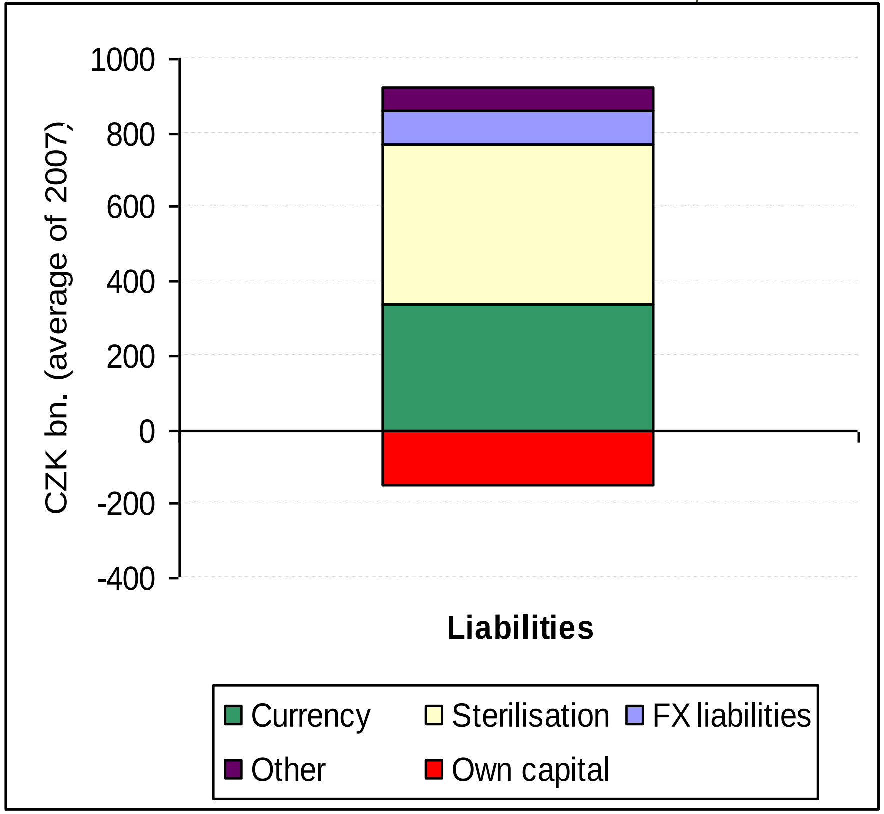
Sources of negative capital

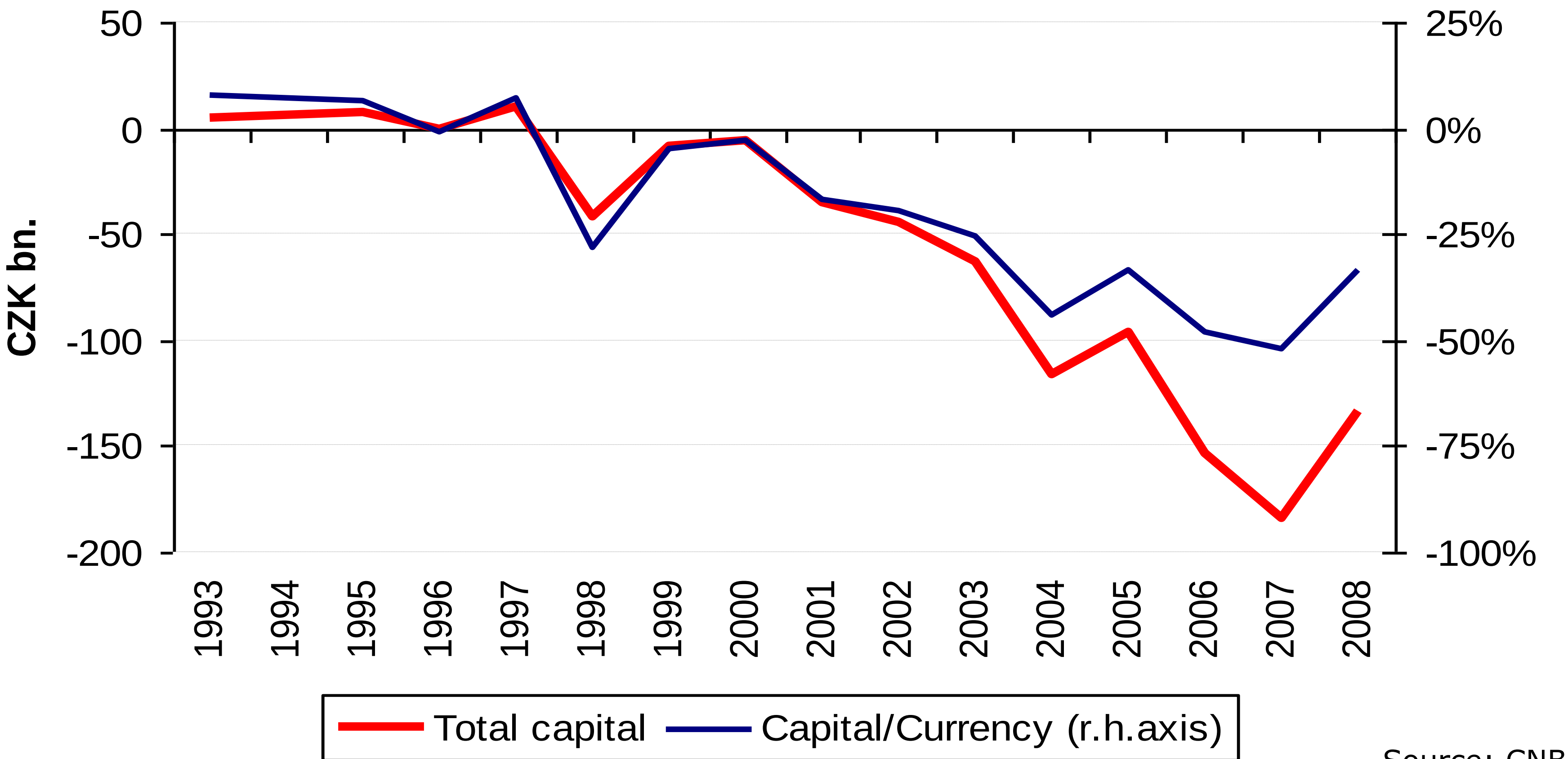




Source: CNB

- Asset side of the CNB‘s balance sheet dominated by FX reserves;
- Sterilisation of excess liquidity in the liability side.

Negative total capital of the CNB from 1998



Source: CNB

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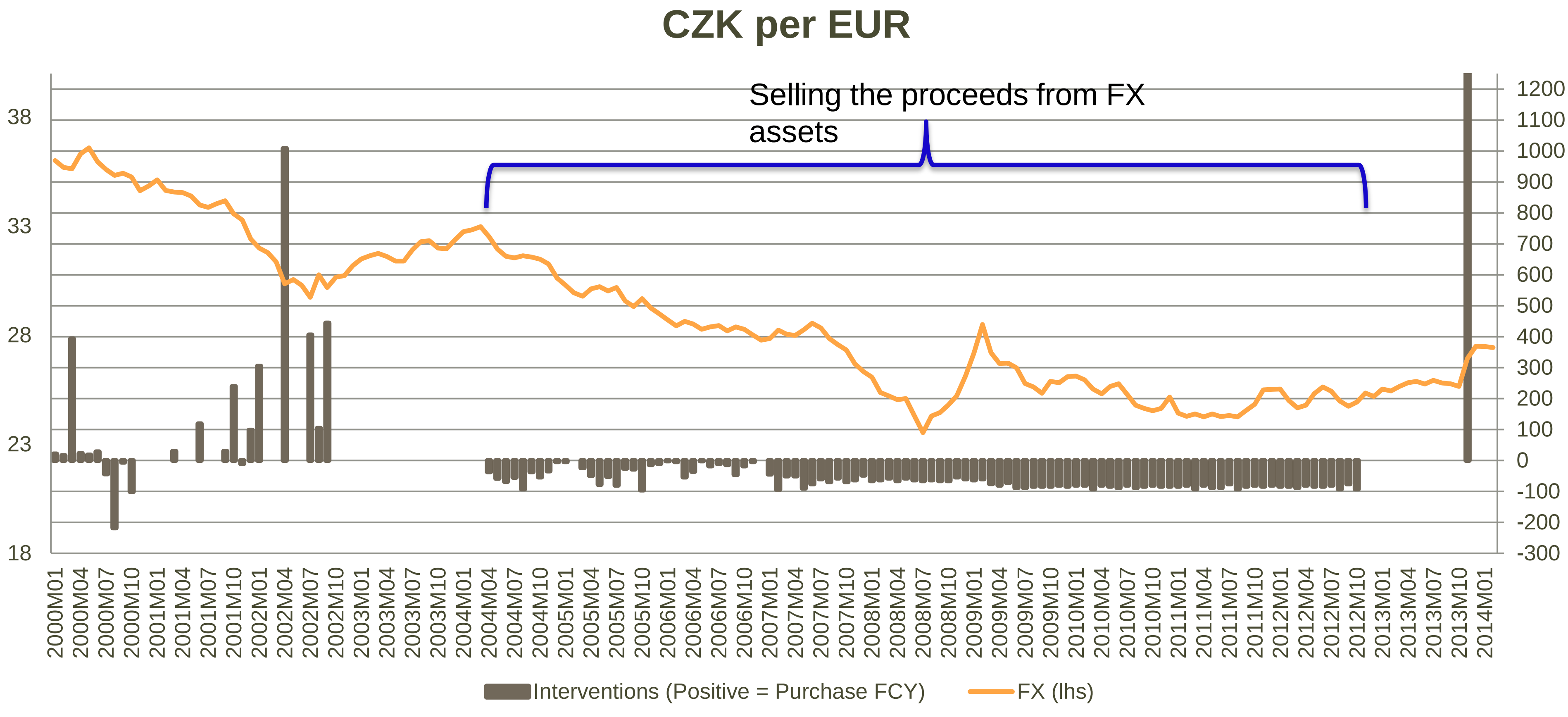
Prompting the CNB to pre-announced sale of the proceeds from FX assets



Source: Czech National Bank

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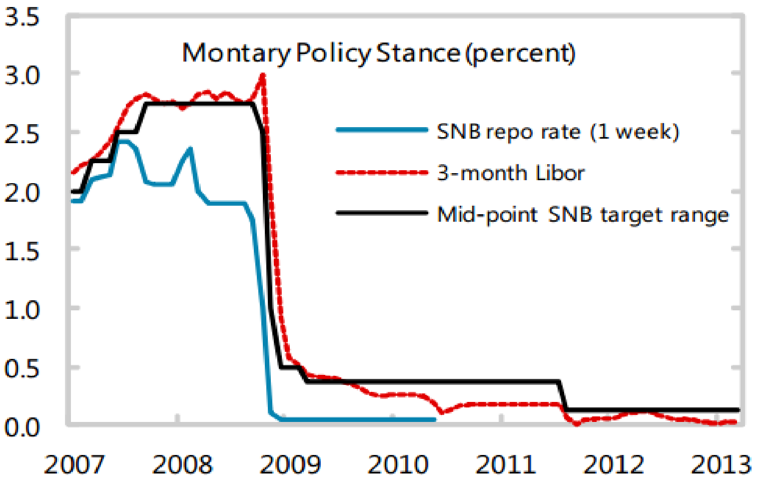
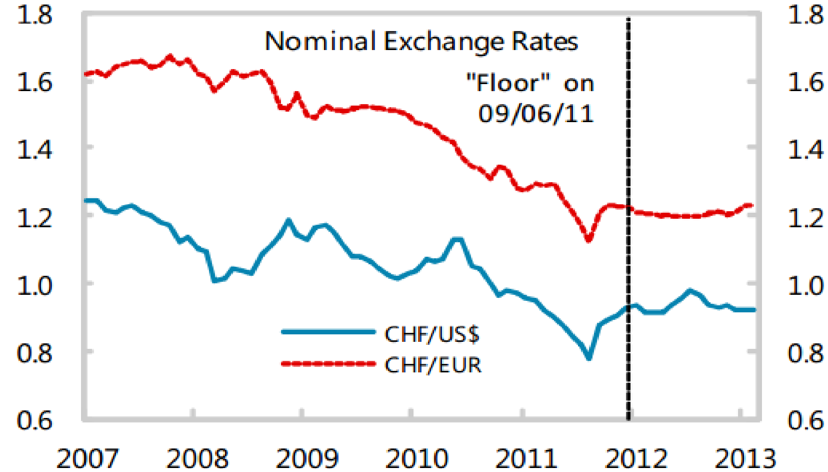
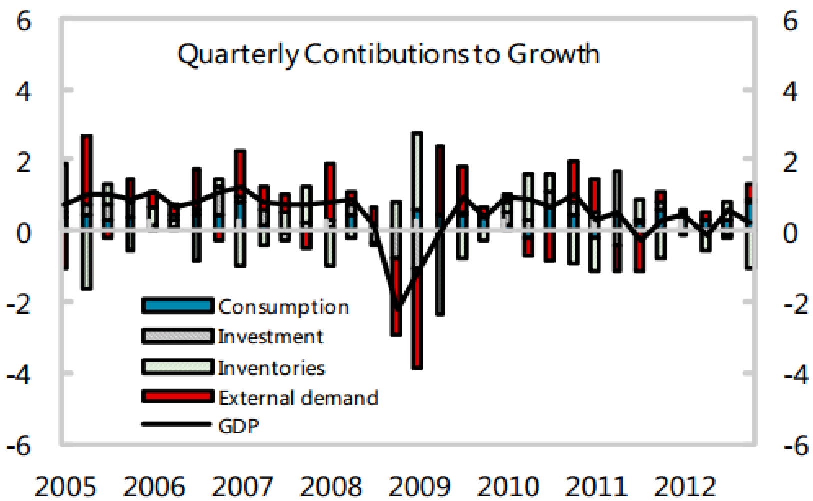
In search of a new paradigm: what have we learned?

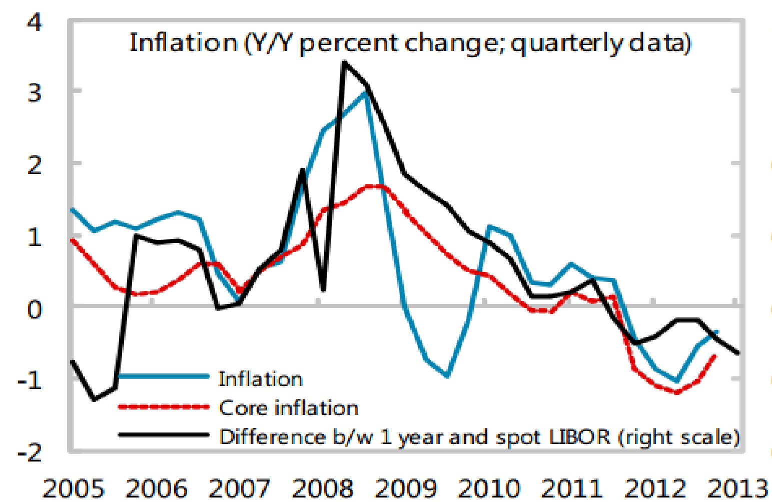
- Commitment to an exchange rate level can be both an efficient as well as effective instrument for IT SOEs in a deflation trap
  - Equivalent to a QE for IT SOE
  - Switzerland, Czech Republic

Deflation trap in Switzerland: interest rates at technical zero and inflation falling, growth lackluster









Source: Swiss National Bank, IMF Esitmates

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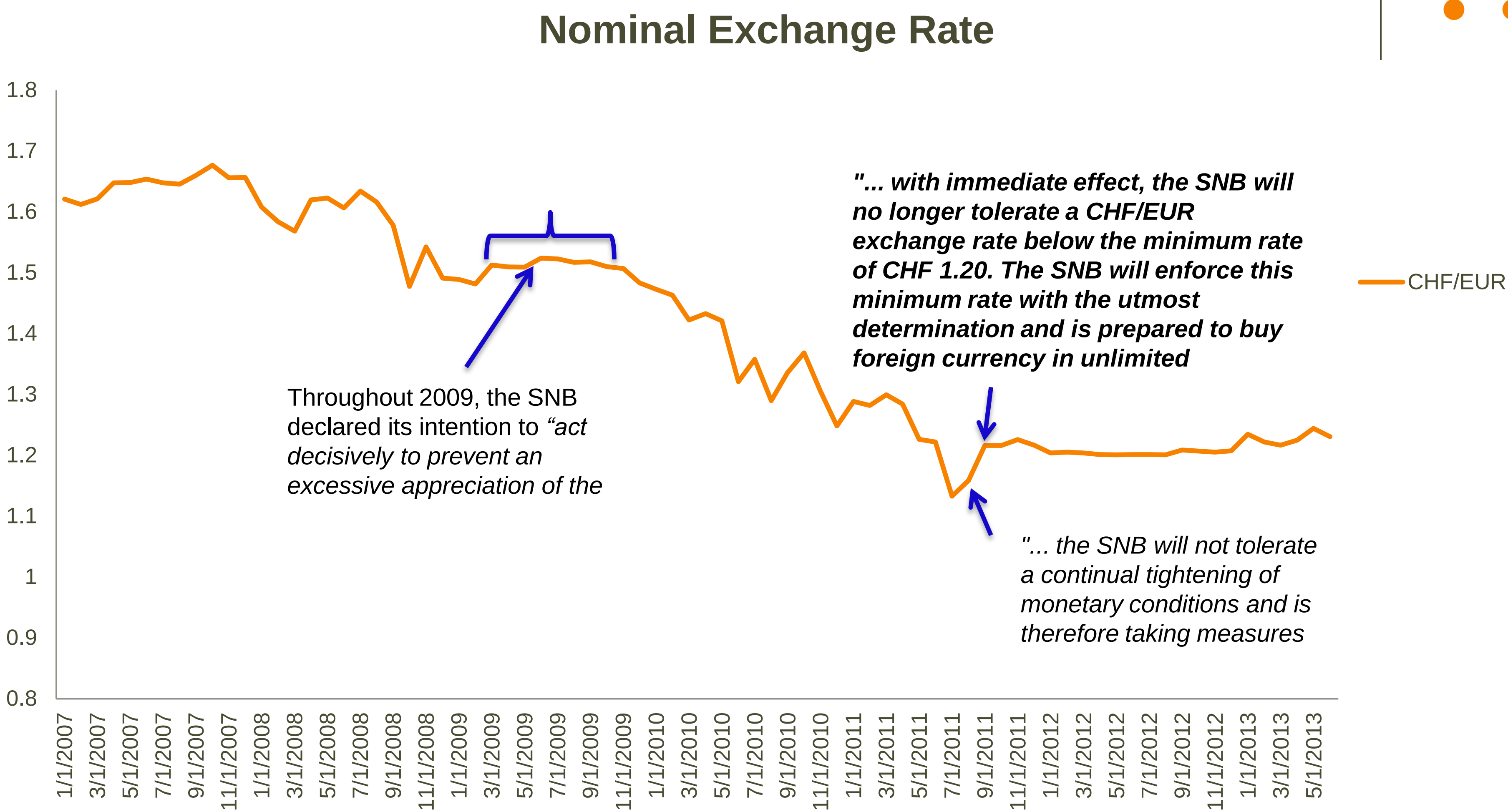
The Swiss Experience



Source: Swiss National Bank

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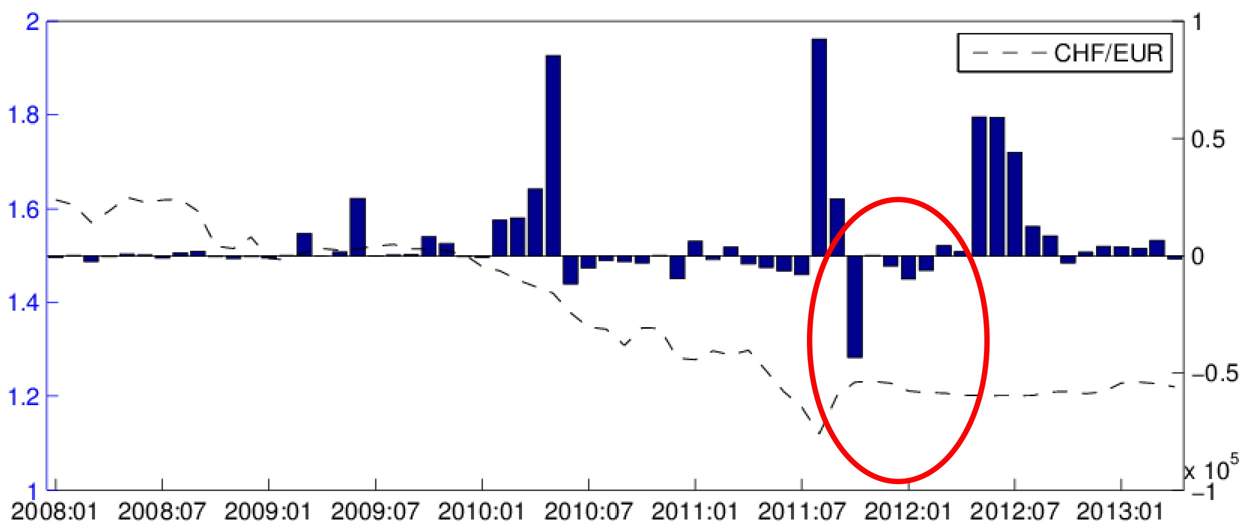
The Swiss Experience

- To put these two episodes into perspective
  - During February, 2009 to August, 2011 the SNB increased its international reserves by 235 billion of Swiss francs and the franc appreciated by 25 percent.
  - During the first eight months following the exchange rate commitment, from September 2011 to April 2012, the international reserves declined by almost 60 billion of Swiss francs and the exchange rate remained above the 1.2 target.

Figure : CHF/EUR and Change in SNB's International Reserves, 2008-2013



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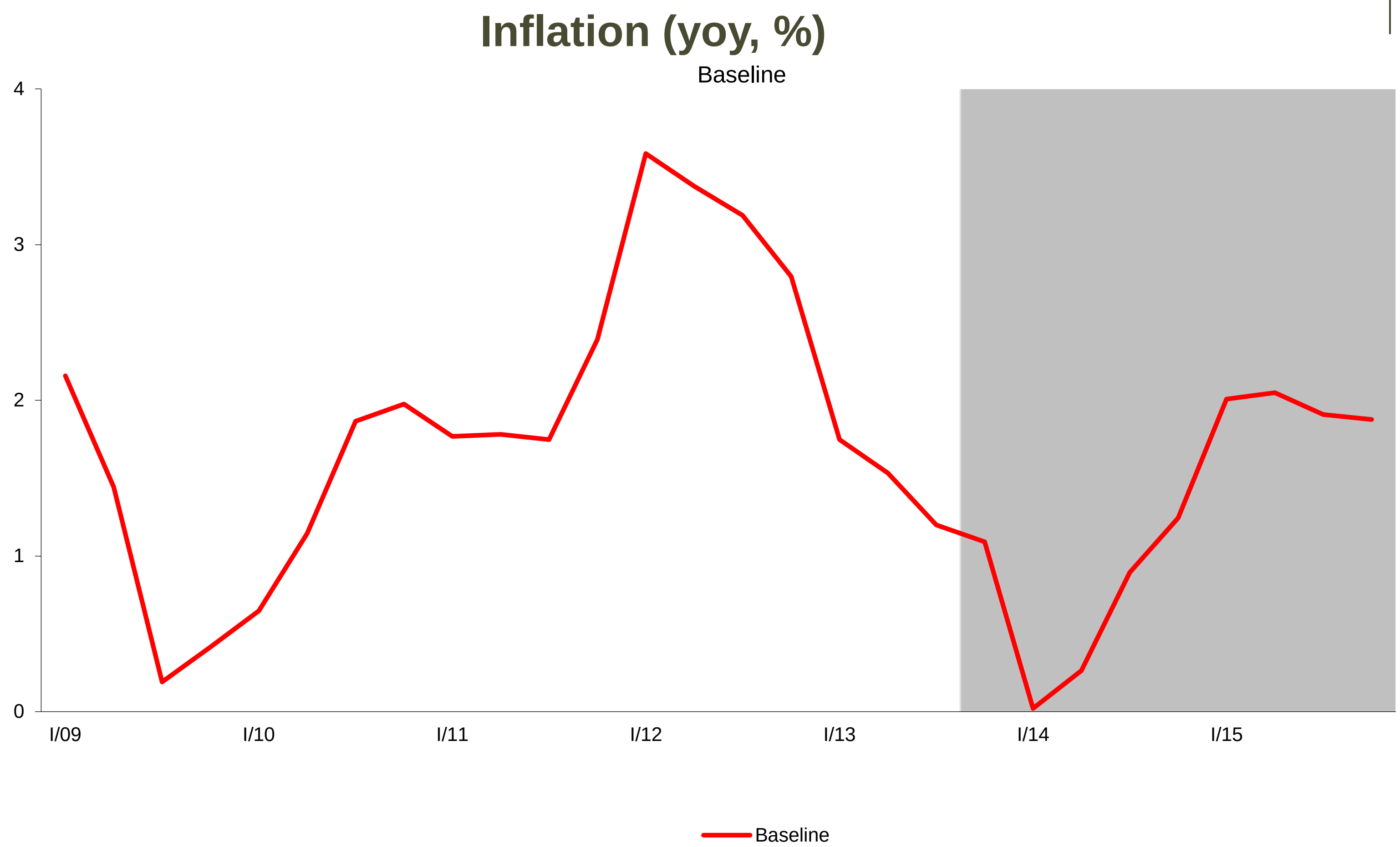
Source: Swiss National Bank

The Czech National Bank facing a similar deflation trap

- Near zero interest rates
- Inflation threatening to fall below zero
- Appreciating exchange rate

To keep inflation positive …



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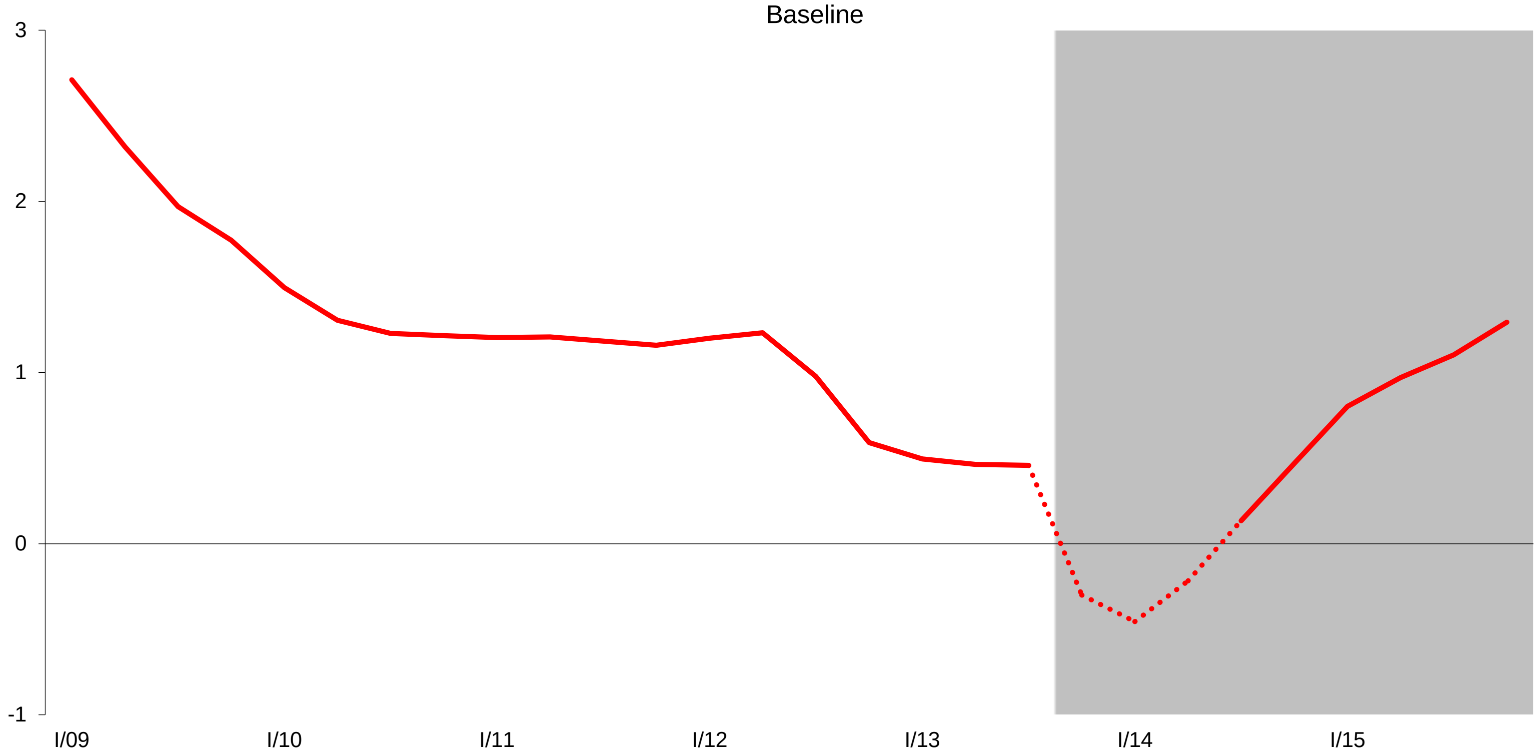
… below-zero interest rates needed

Key policy rate (pa, %)



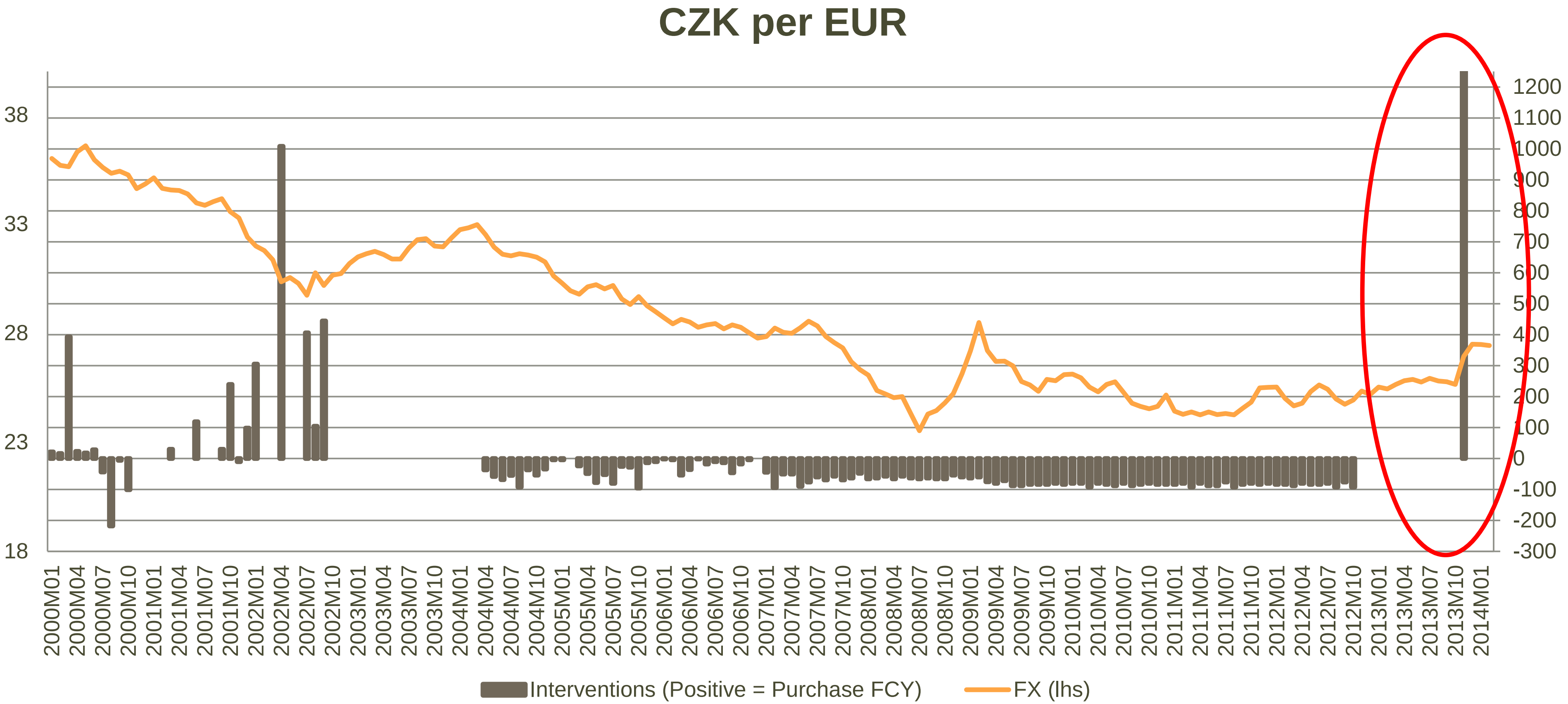
Optimal Way to Escape a "Liquidity Trap"

- Svensson (2003) suggested a three-pronged approach to such an escape
  - A commitment by the central bank to a higher future price level, preferably in the form of a price-level target
  - A specific set of actions and their sequencing that demonstrate the central bank’s commitment to the higher future price level
  - An exit strategy from the expansionary policies, specifying when and how to get back to ’normal’ as well as what that normal is going to look like

Exchange Rate Commitment as the "Commitment Demonstration"

- Several ways of "commitment demonstration" were proposed
  - *Currency depreciation and a peg of the currency rate at a depreciated rate serve as a conspicuous commitment to a higher price level in the future* (Svensson, 2003)
- If the public observes a depreciated exchange rate and the central bank communicates its intentions to keep it depreciated, this should be a sufficient proof of a higher future price-level commitment, necessitating faster future inflation rates until the new price-level is reached

“if needed ... intervene on the foreign exchange market to weaken the koruna so that the exchange rate of the koruna against the euro is kept close to CZK 27/EUR”



Source: Czech National Bank

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Results from the Swiss and Czech Experiences

- Exchange rate commitment
  - Should enable the central bank escape the deflationary situation, but too early too tell
  - Has a significantly lower impact on a CB balance than FX interventions
- Exchange rate commitment must be consistent with IT and a clear exit strategy
  - Plays a role of QE for SMEs

Main Themes

- FX management is popular, also among IT central banks
- Exchange rate objectives are often a poor policy guide
  - Ex rate does not work well as an intermediate target
  - Signals provided by ex rate movements are often confusing and a poor guide alone for policy actions
- Ex rate management can <u>support</u> interest rates in stabilizing output and inflation in certain shocks and conditions, only in part of a clear IT framework
  - FX interventions are costly and often not effective in moving the exchange rate
  - Commitment to an exchange rate level can be both an efficient as well as effective instrument for IT SOEs in a deflation trap