

The Long Journey from High Inflation to Price Stability: The Case of Israel

Price Stability and Financial
Developments
Central Bank of Argentina



Dr. Karnit Flug

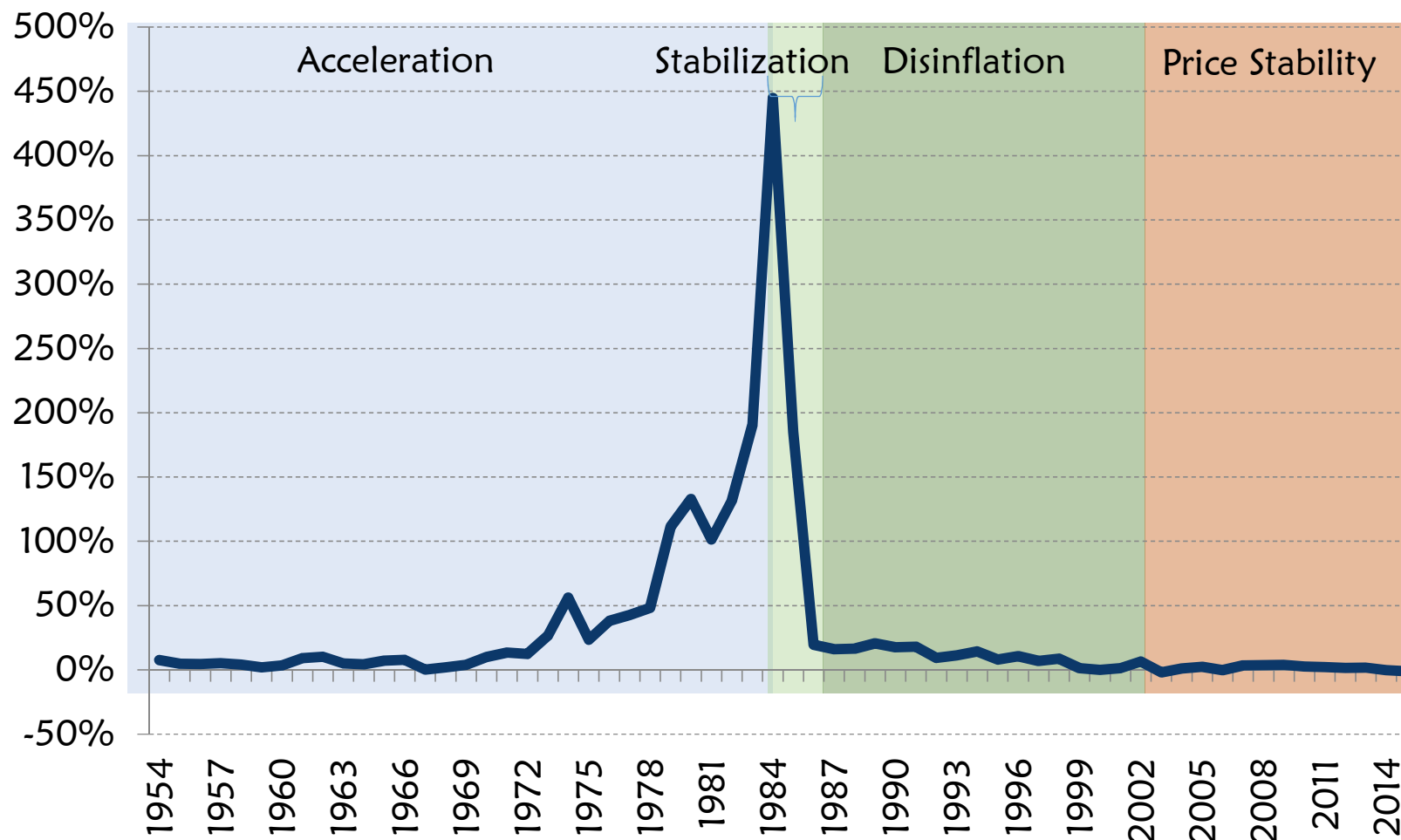
Governor of the Bank of Israel

September 19th - 20th 2016



Inflation Since the Establishment of the Bank of Israel

Actual inflation (12-month) 1954 - 2015

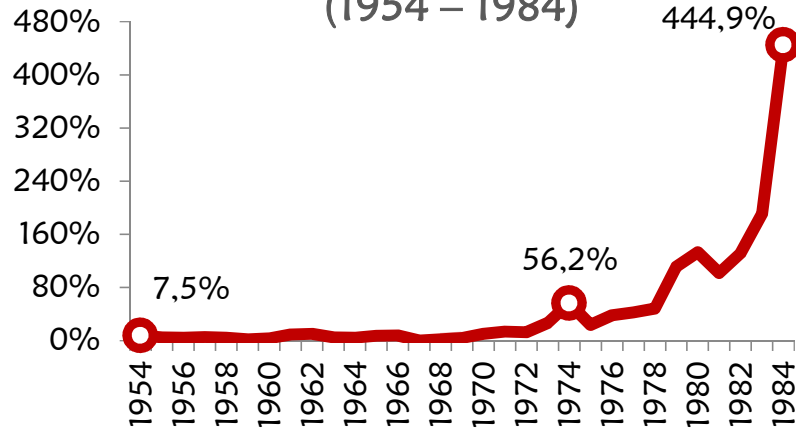




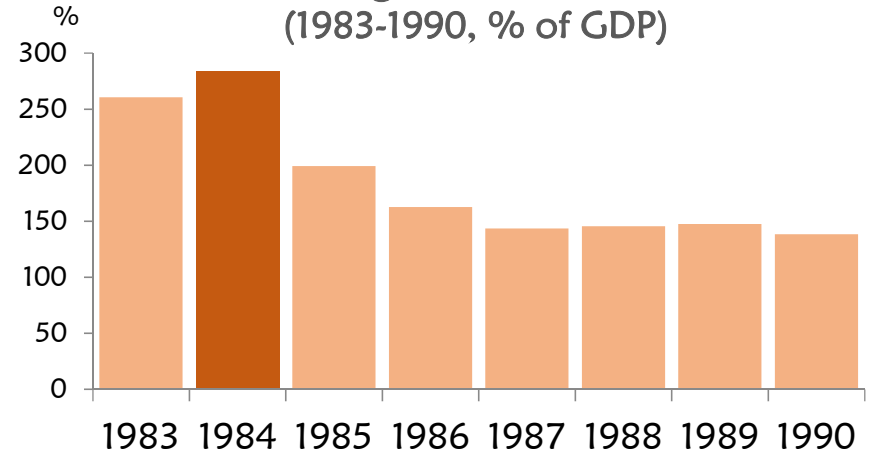
“Acceleration”: (1954 to 1985)

Israel’s Public Finances - Root Cause of High Inflation

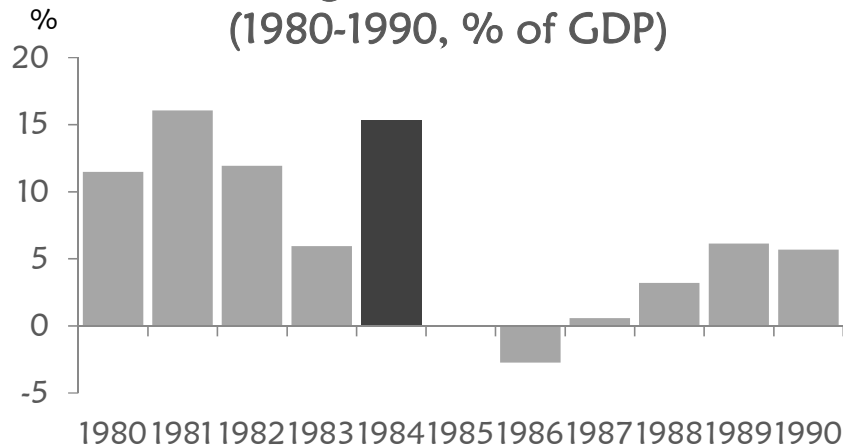
Actual inflation (12-month)
(1954 – 1984)



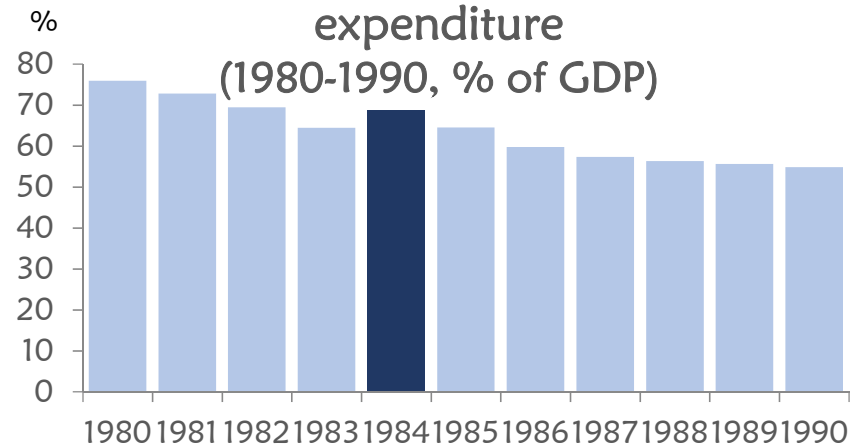
Israel’s government debt
(1983-1990, % of GDP)



Israel’s government deficits
(1980-1990, % of GDP)



Israel’s government public expenditure
(1980-1990, % of GDP)





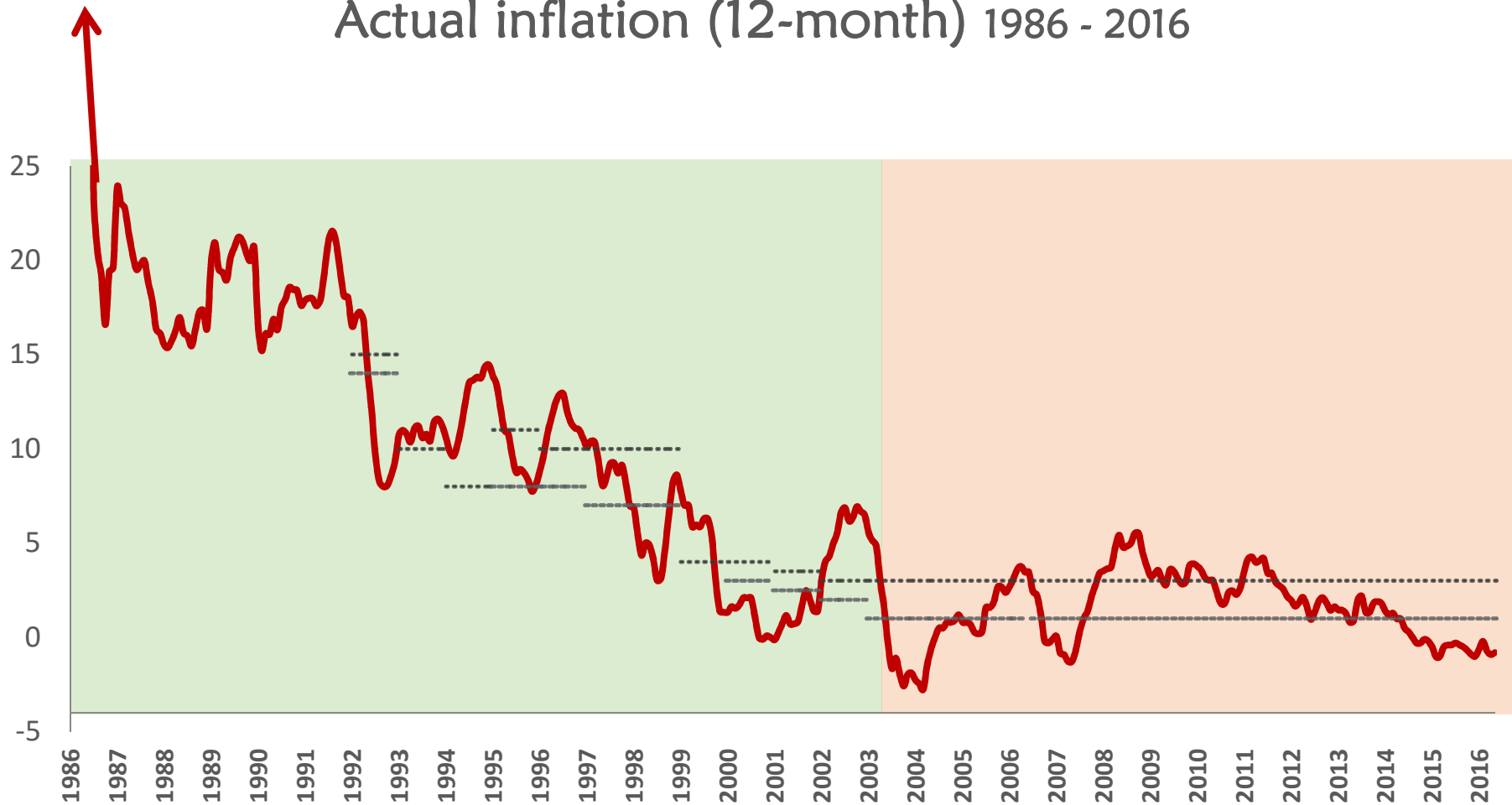
The 1985 Stabilization Plan

- Agreement between the government, industry and trade unions
- Reduce deficit
- Freeze wages and government-controlled prices
- Fix the exchange rate after a one-time 25% devaluation
- Law prohibiting the BOI from printing money to finance deficit
- \$1.5 billion in aid from the US



From “Disinflation” toward “Price Stability”

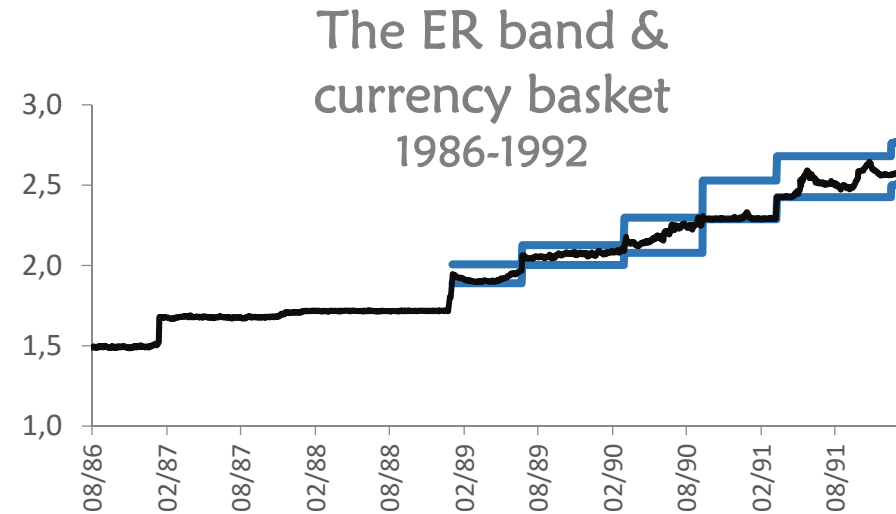
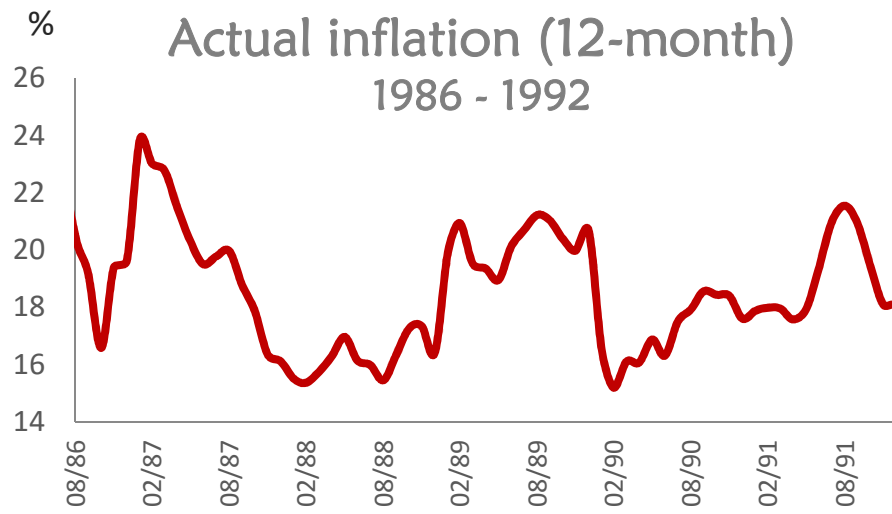
Actual inflation (12-month) 1986 - 2016





1986 to the End of 1991: Inflation is “Stuck” in the 16-20% Range

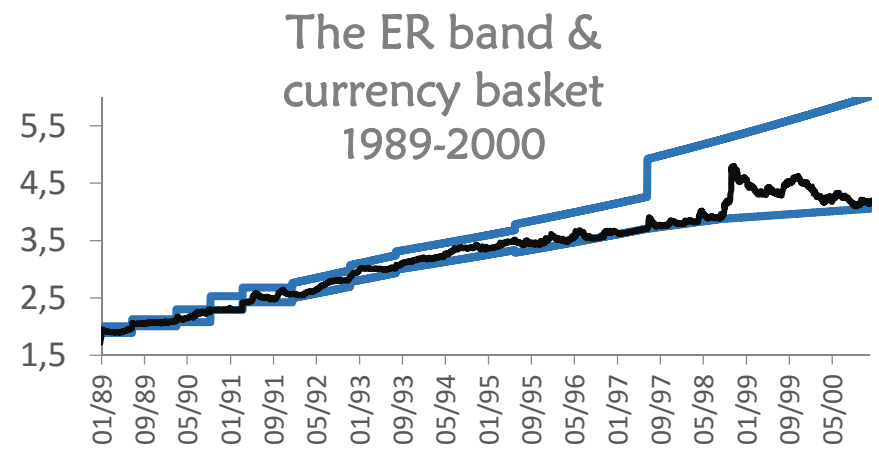
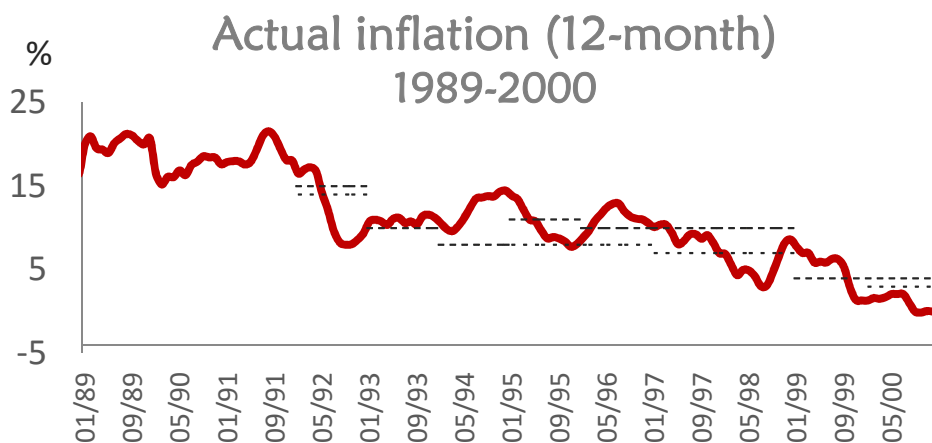
- ❑ **1986:** ER was set as nominal anchor. The inflation rate remained high; ➡ erosion of competitiveness; ➡ repeated devaluations
- ❑ **1989:** ➡ ER is unsustainable as an anchor ➡ an ER band was established
- ❑ **1990:** An external shock (immigration) led to a substantial decline in inflation





End of 1991 Onward – Gradual Move Toward IT

- End of 1991: Moderate reduction in nominal interest rates →; real ↑ rates Opportunistic approach to disinflation
- Introduction of the ‘diagonal’ crawling ER band—the slope was set according to IT, defined by the government
- The nominal strategy changed:
 - Fixed ER replaced by IT as an anchor
 - ER and interest rate as policy tools





1992 to 2000 - Taming Inflation: How Did Inflation Drop to Zero?

- ❑ Government opted for gradual disinflation.
- ❑ Fear of the sacrifice ratio—the price paid in unemployment to reduce inflation.
- ❑ Diagonal ER band + IT anchoring inflation.

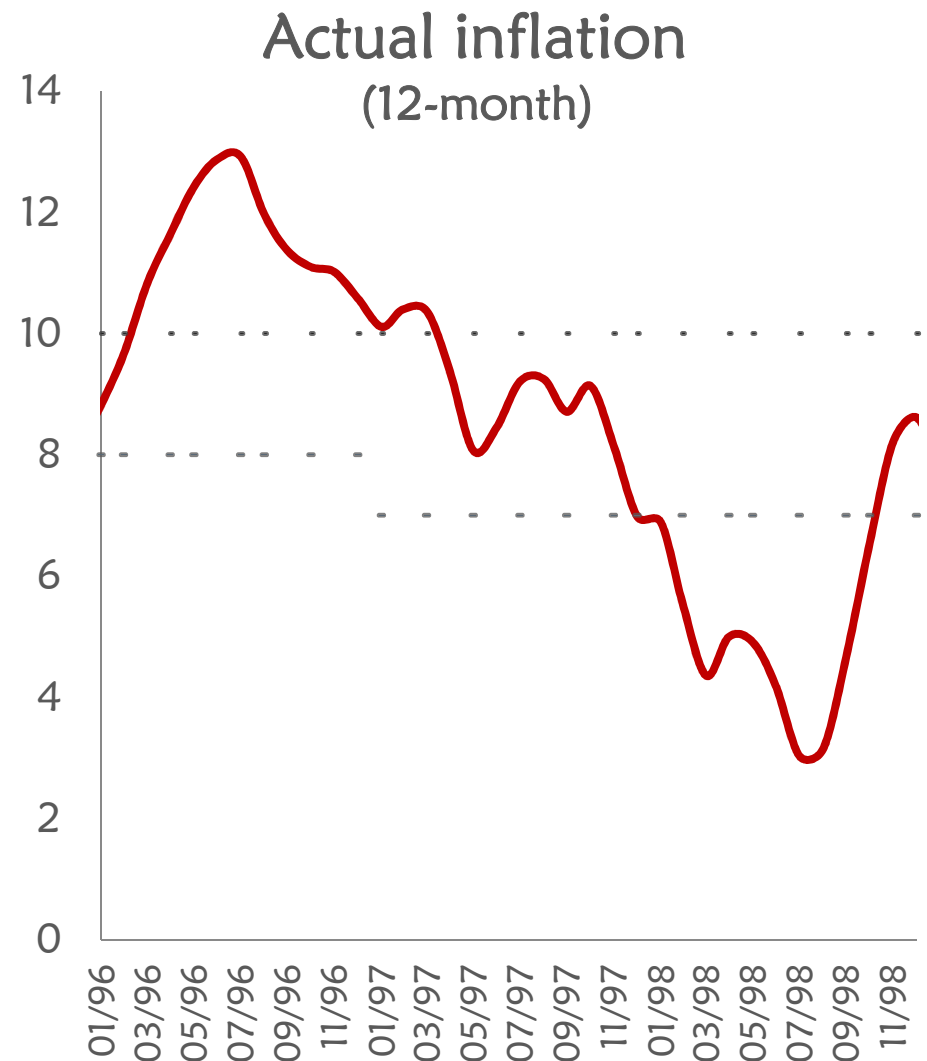
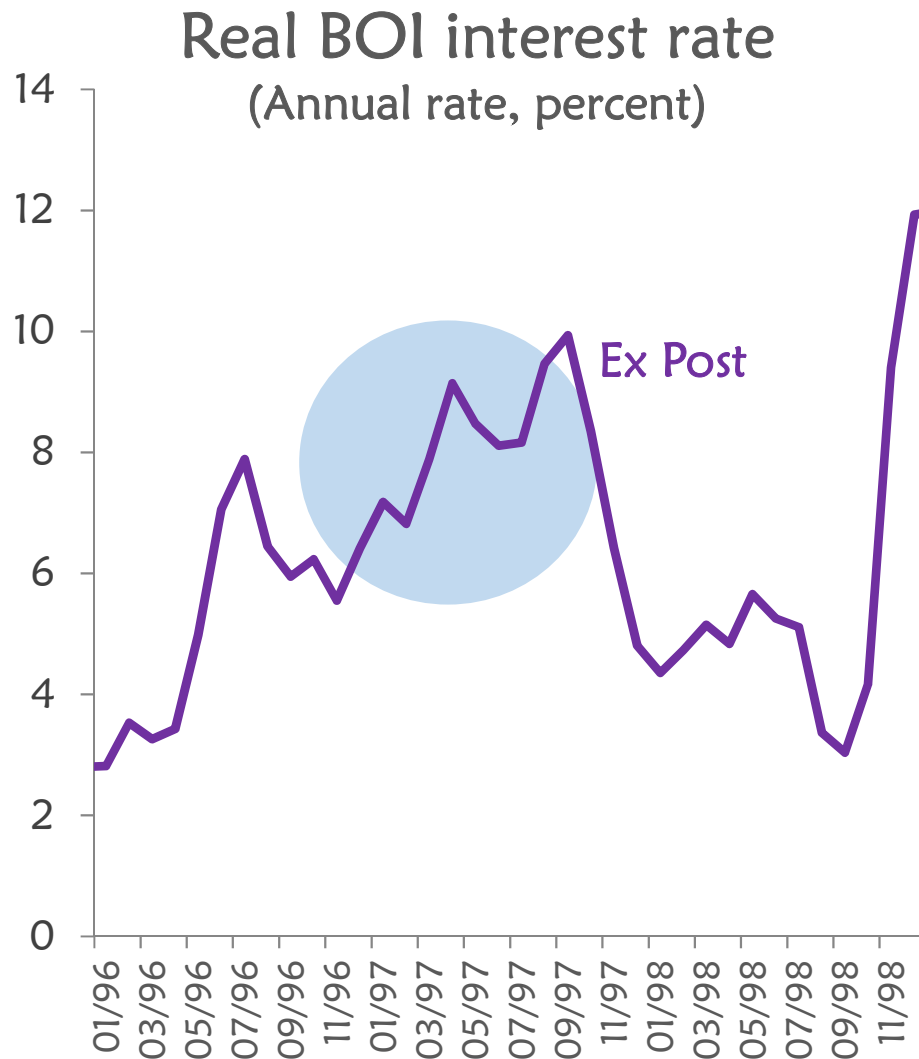


The Battle Over Low Inflation: 1996-1998

- ❑ By 1996, the Bank of Israel was seeking to reduce inflation at a faster pace than the government thought was proper
 - ❑ Tight monetary policy → exchange rate forced to the lower bound
 - ❑ BOI sterilized FX intervention → maintained high interest rates and lowered inflation.
 - ❑ Intensive use of Bank of Israel short-term securities to sterilize

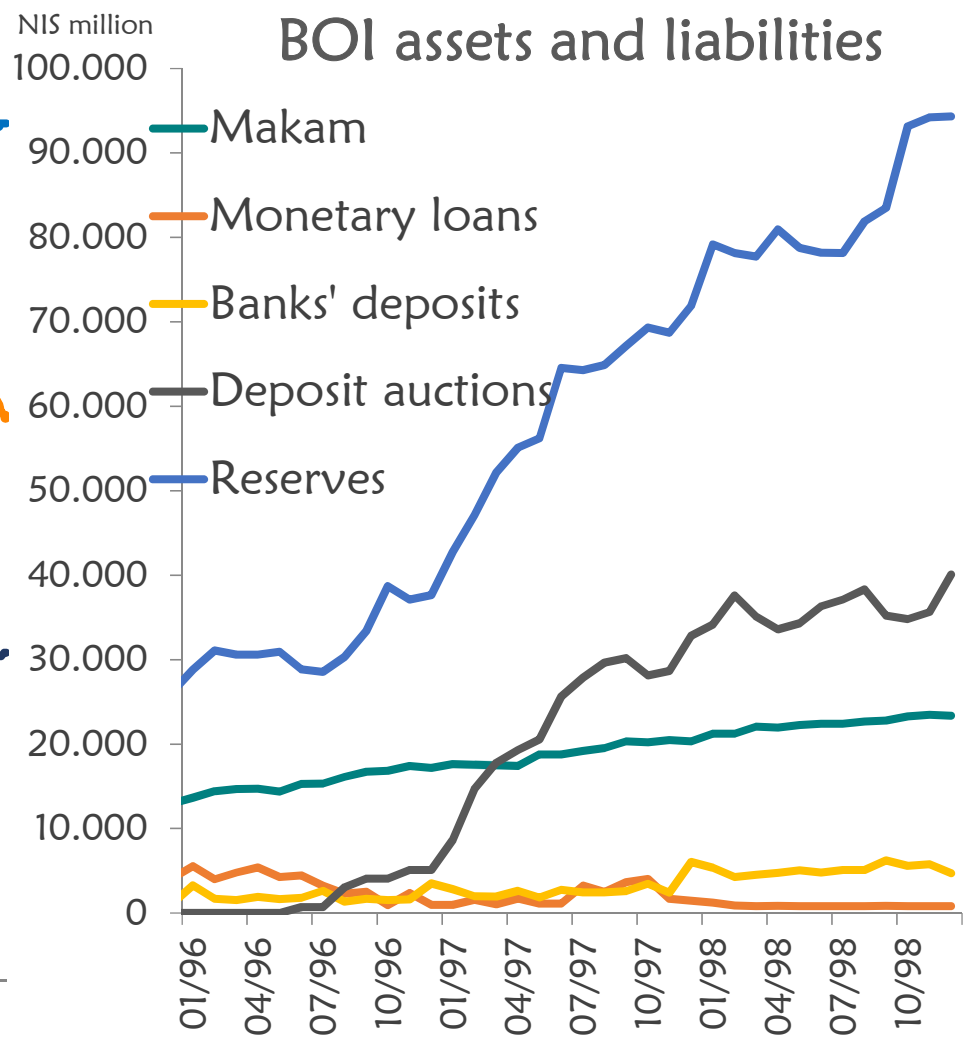
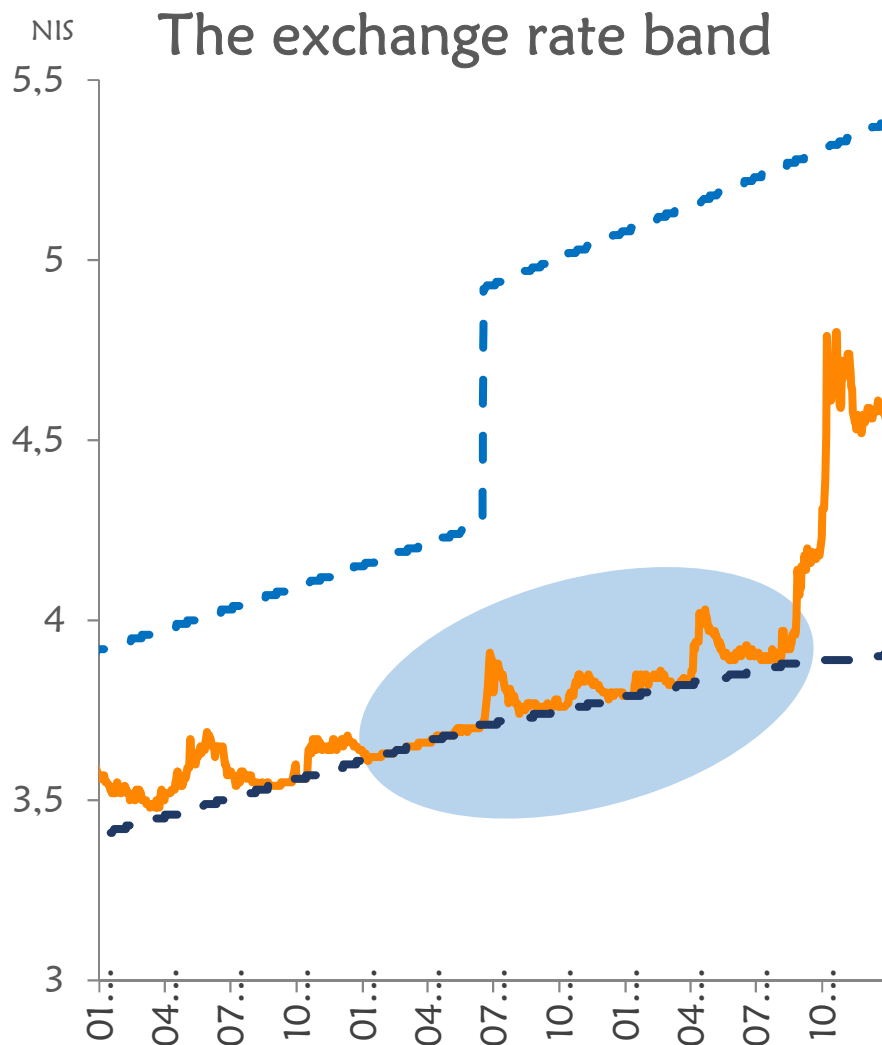


Disinflation and Price Stability Achieved by Tight Monetary Policy, 1996-1998





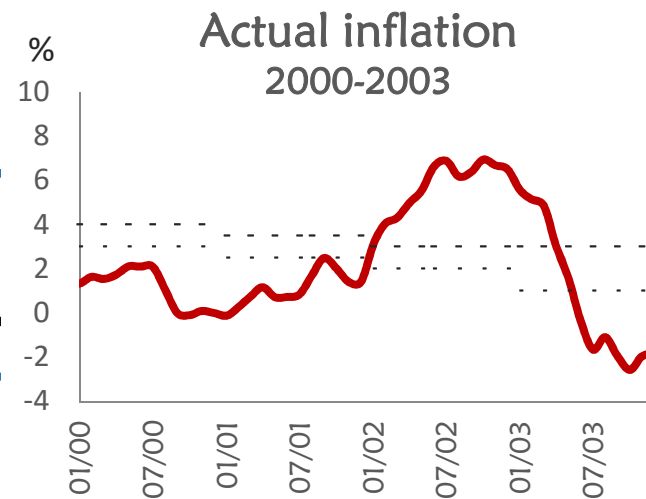
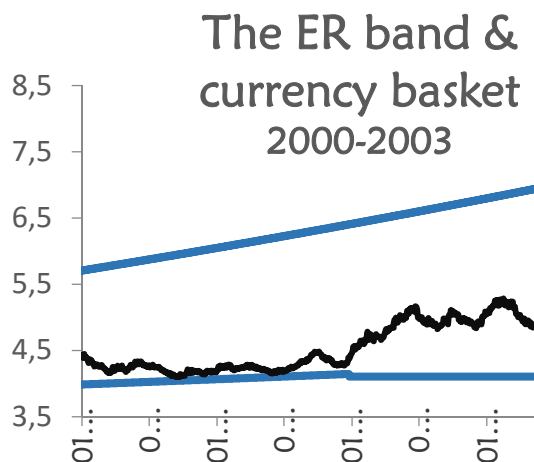
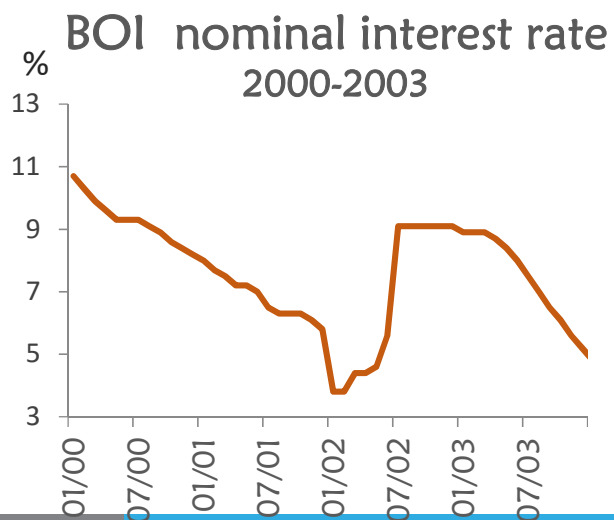
The Exchange Rate Band and the “Great Sterilization” 1996–1998





Policy Debacle: Loss of Credibility

- ❑ High monetary interest rate and real interest rate drove inflation to zero despite the higher government-set inflation target
- ❑ 2002: Interest rate reduced by 200 basis points at one time as part of a “package deal”
- ❑ Credibility undermined – sharp depreciation of the of ER → inflation ↑
- ❑ Interest rates increased sharply





Achieving Credibility and Anchoring Inflation Within the Target Range: 2005-Onward

- After the debacle of 2002: Monetary policy adheres closely to the inflation target
- Follow a Taylor rule
- The inflation is anchored at the target range since 2005



New Bank of Israel Law 2010: From De Facto to De Jure IT

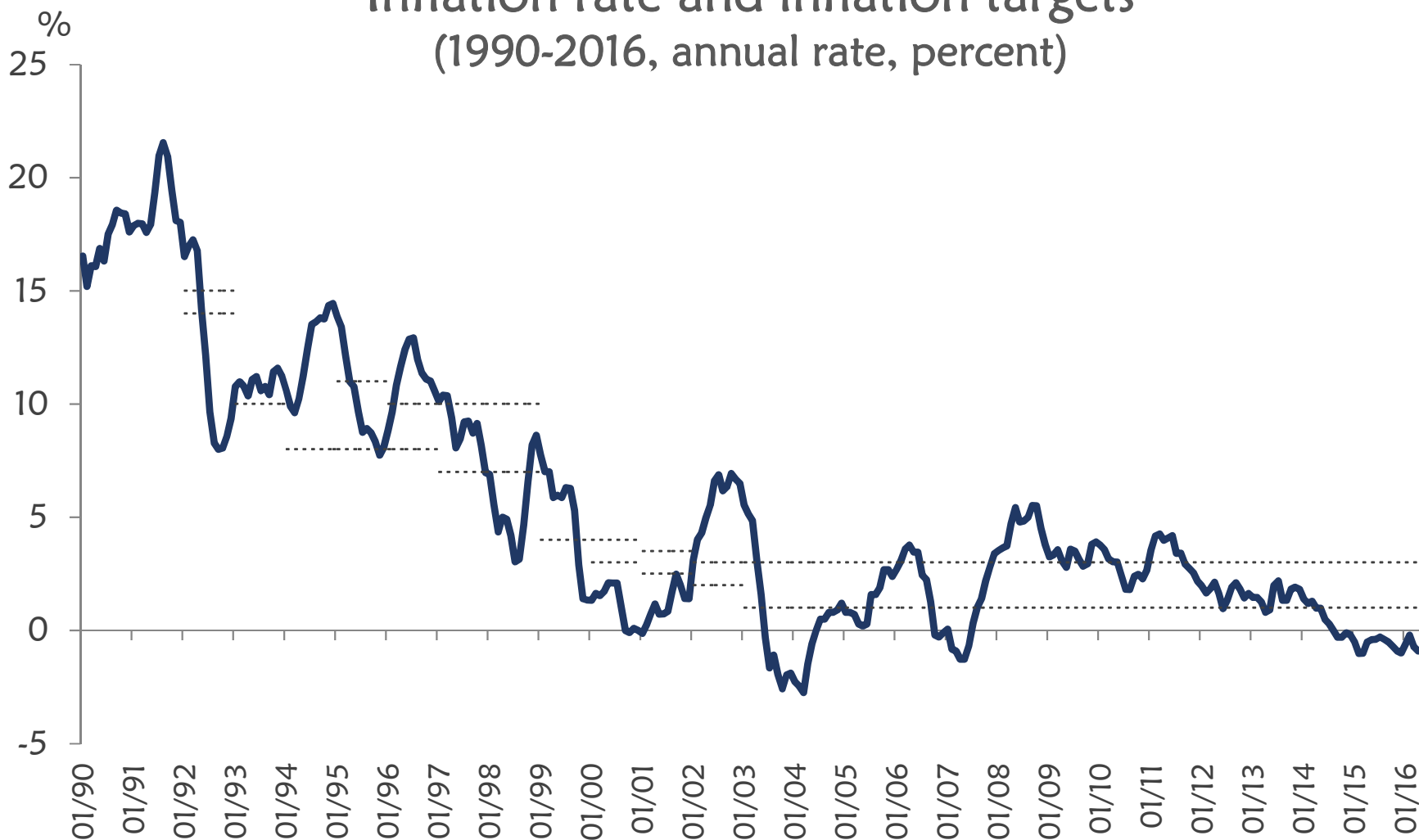
BOI's Policy Objectives:

- Maintain price stability, as the central goal (Allow up to 24 months to correct deviations from target)
- Support economic policy, primarily growth, employment and reducing social gaps
- Support the stability and orderly activity of the financial system
 - Independence in the use of policy tools
 - Monetary Policy Committee – 3 internal members and 3 external members



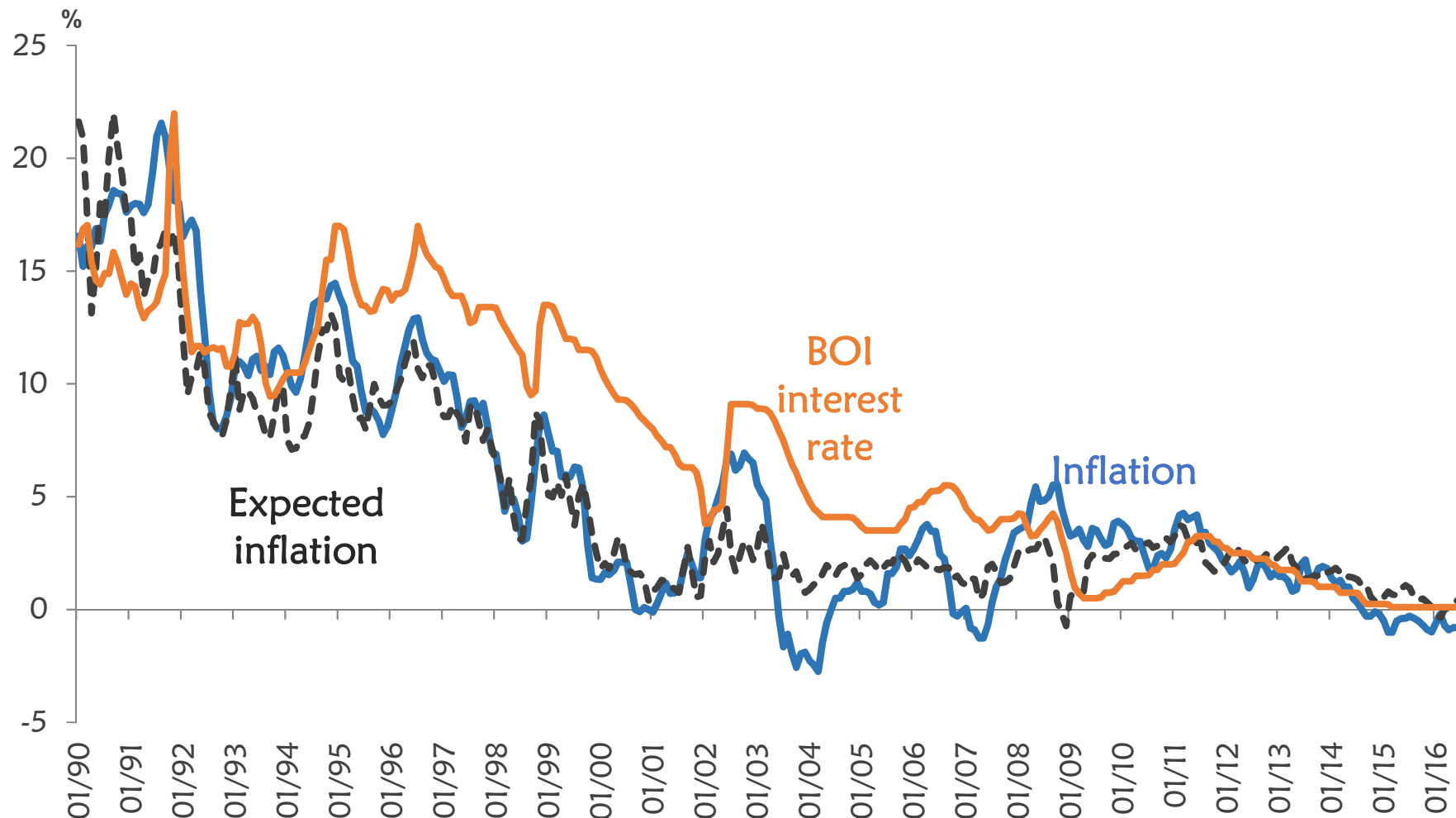
The Road to Price Stability

Inflation rate and inflation targets (1990-2016, annual rate, percent)





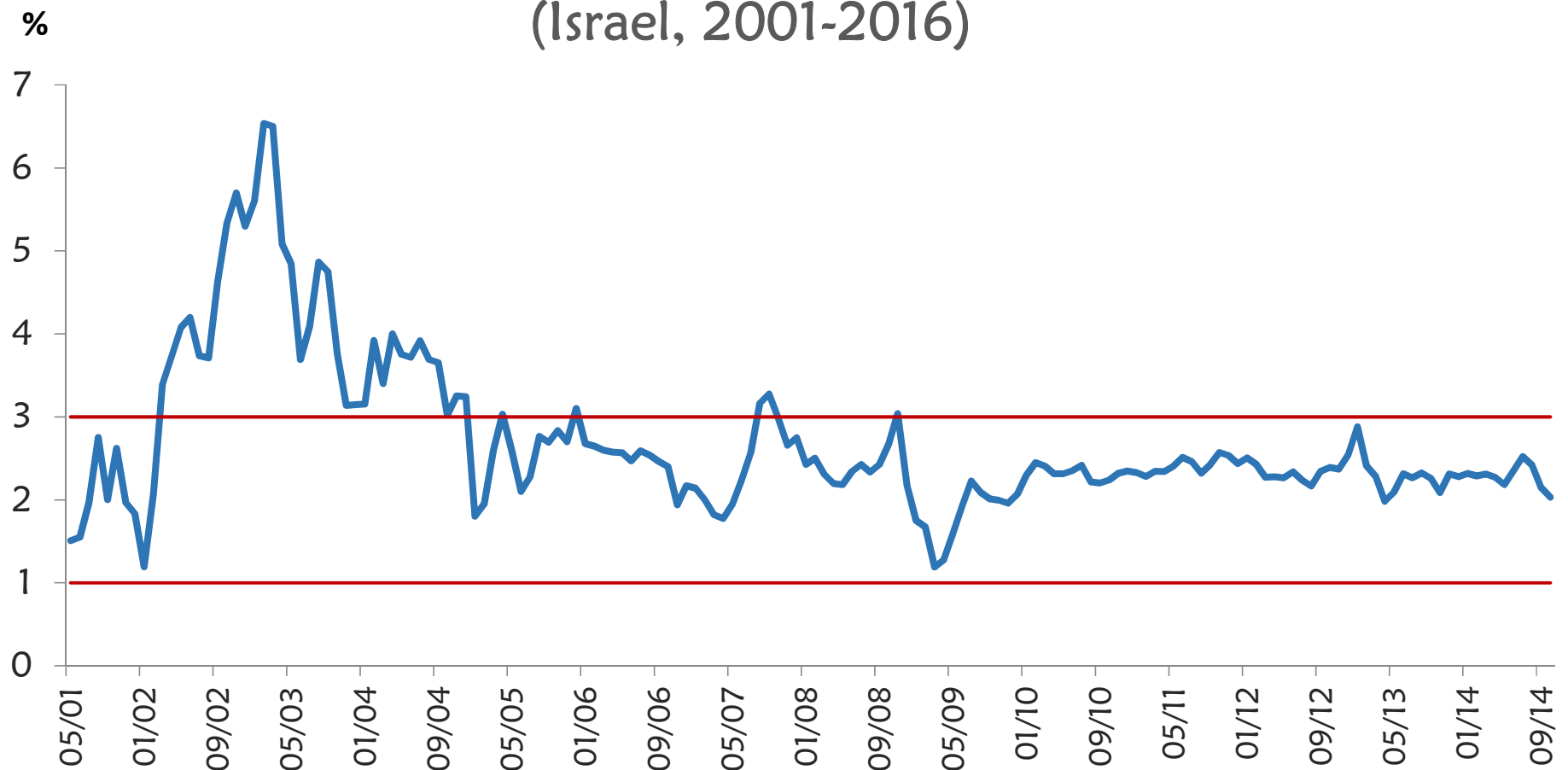
Inflation, Inflation Expectations, and the Key Rate (1990-2016, annual rate, percent)





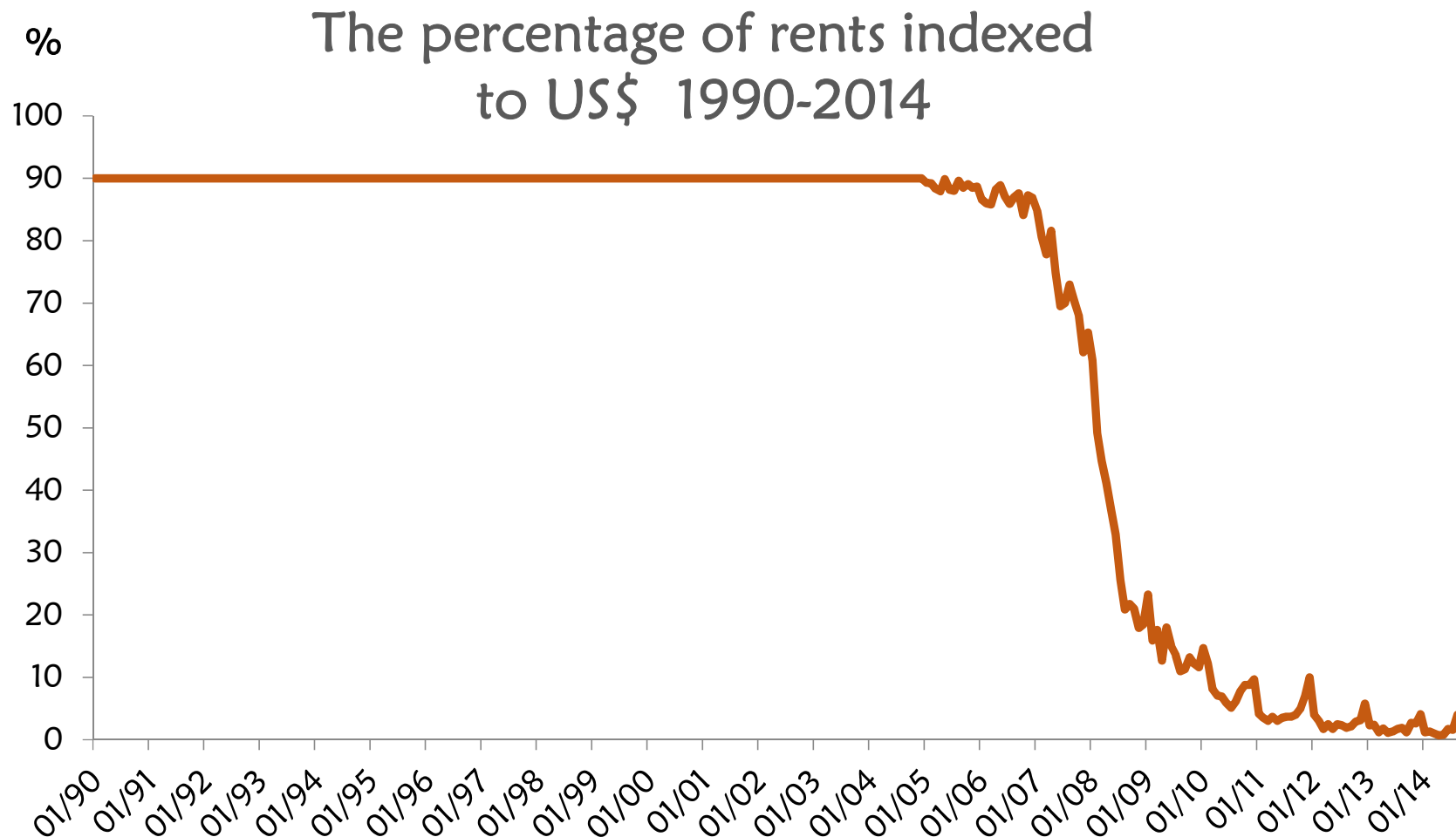
Credibility of Monetary Policy Achieved by 2005

10-year breakeven inflation expectations (Israel, 2001-2016)





Indexation of Rent Contracts in US\$



*Data until 2004– assumes 90%

indexation



Lessons From Israel's Experience





Achieving the Inflation Target

During Disinflation:

- ❑ Focus on inflation (rather than output gap):

 - React aggressively to upward deviations from target

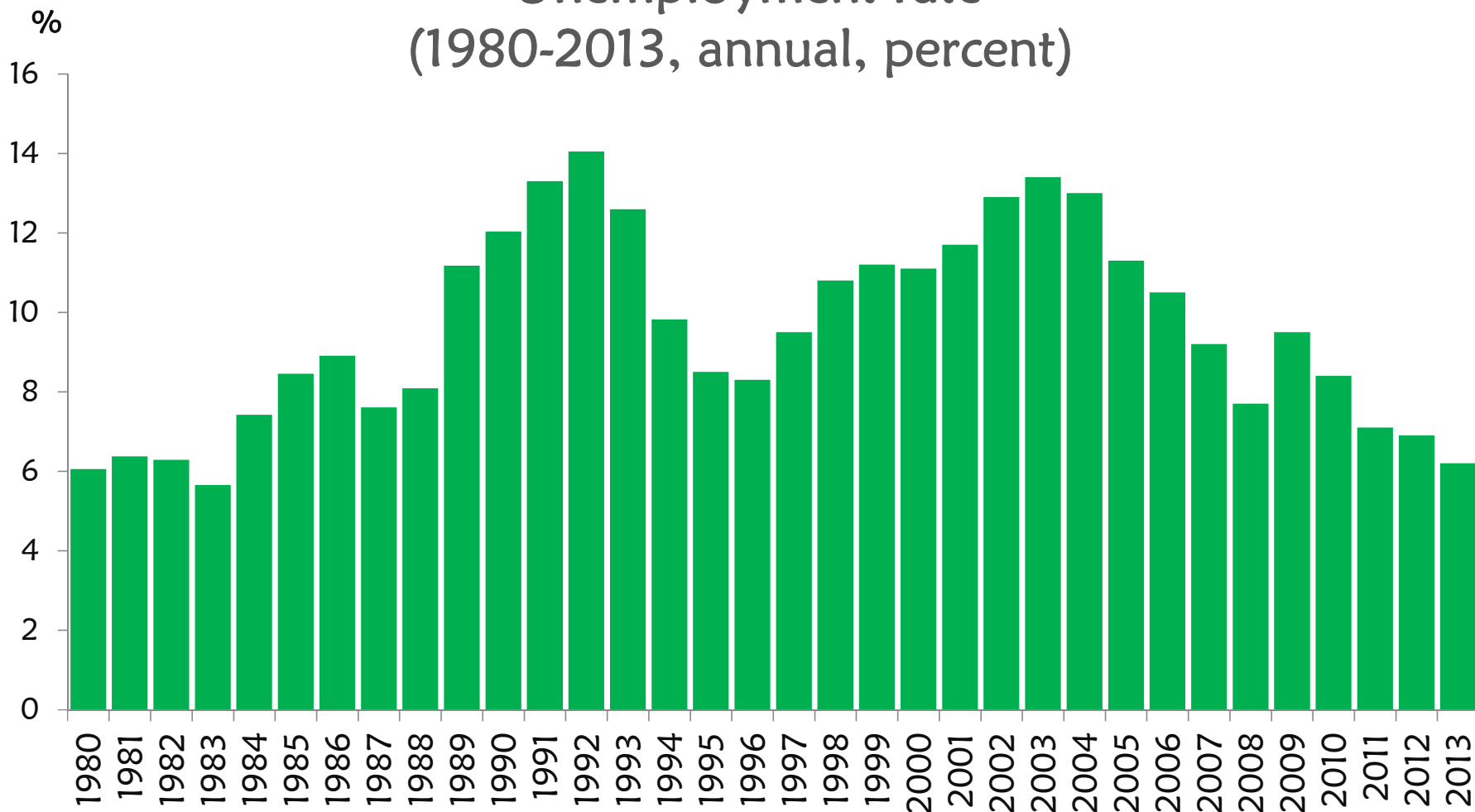
- ❑ Real interest rate is very effective in achieving the inflation target

- ❑ Institutional arrangements of indexation prolong the disinflation process



Unemployment Increased During Sharp Disinflation Periods

Unemployment rate
(1980-2013, annual, percent)





Implementing Monetary Policy

- Use of interest rate policy is dependent on the ability of the central bank rate to affect monetary aggregates
- In countries with underdeveloped banking systems – use of repo is limited
- Central bank can issue central bank bonds
- Central bank can operate by offering deposit facilities to banks



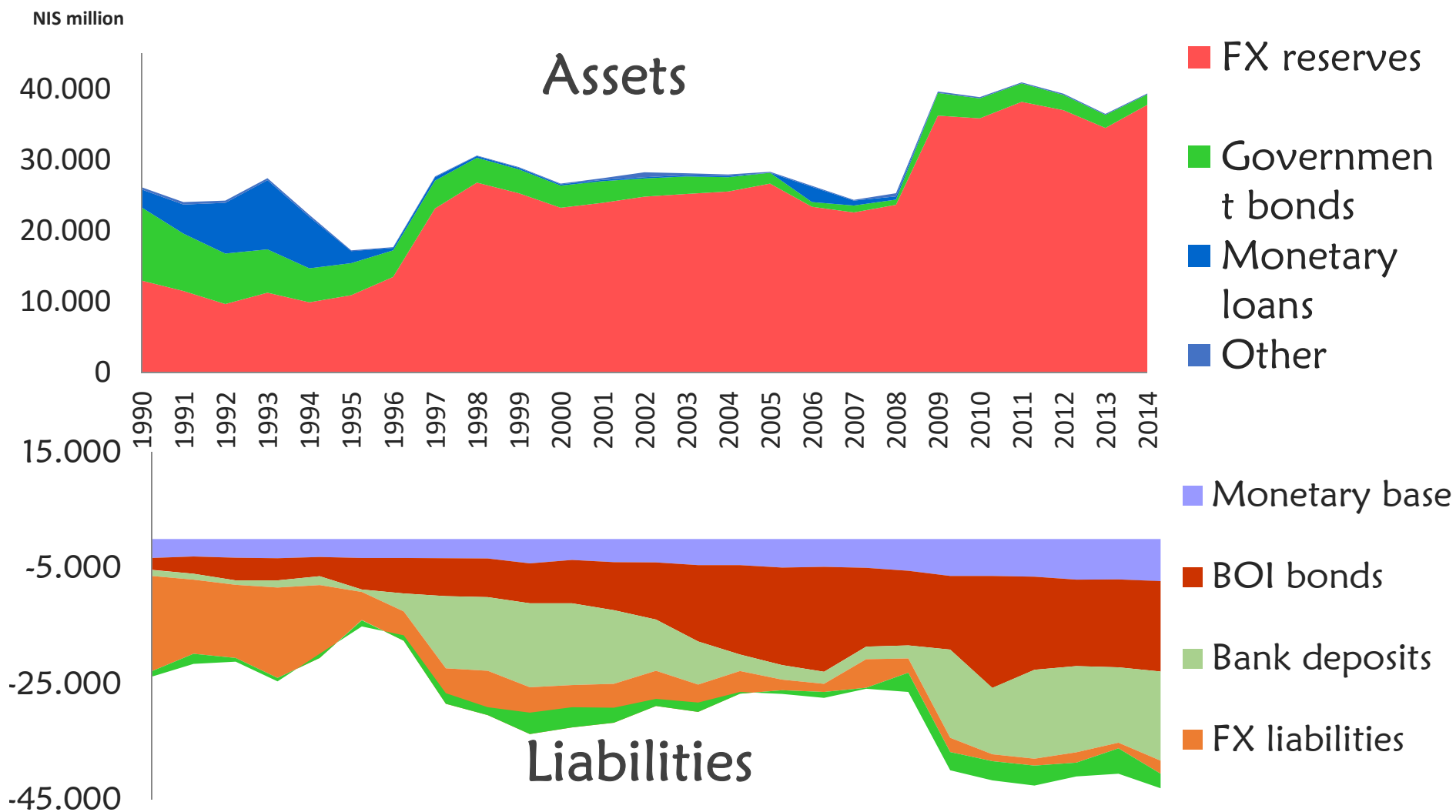
Implementing Monetary Policy (continued)

- ❑ In disinflation stage – fear of floating, as risk of sharp exchange rate depreciation is significant
- ❑ Instead of Taylor rule, provide the central bank with an exchange rate target (band) that is consistent with the inflation target and requires the use of interest rate policy
- ❑ Therefore, managed floats are used – leading to buildup of FX reserves and the need for sterilization



BOI Balance Sheet: Assets and Liabilities

(NIS million, annual, 1990-2014)





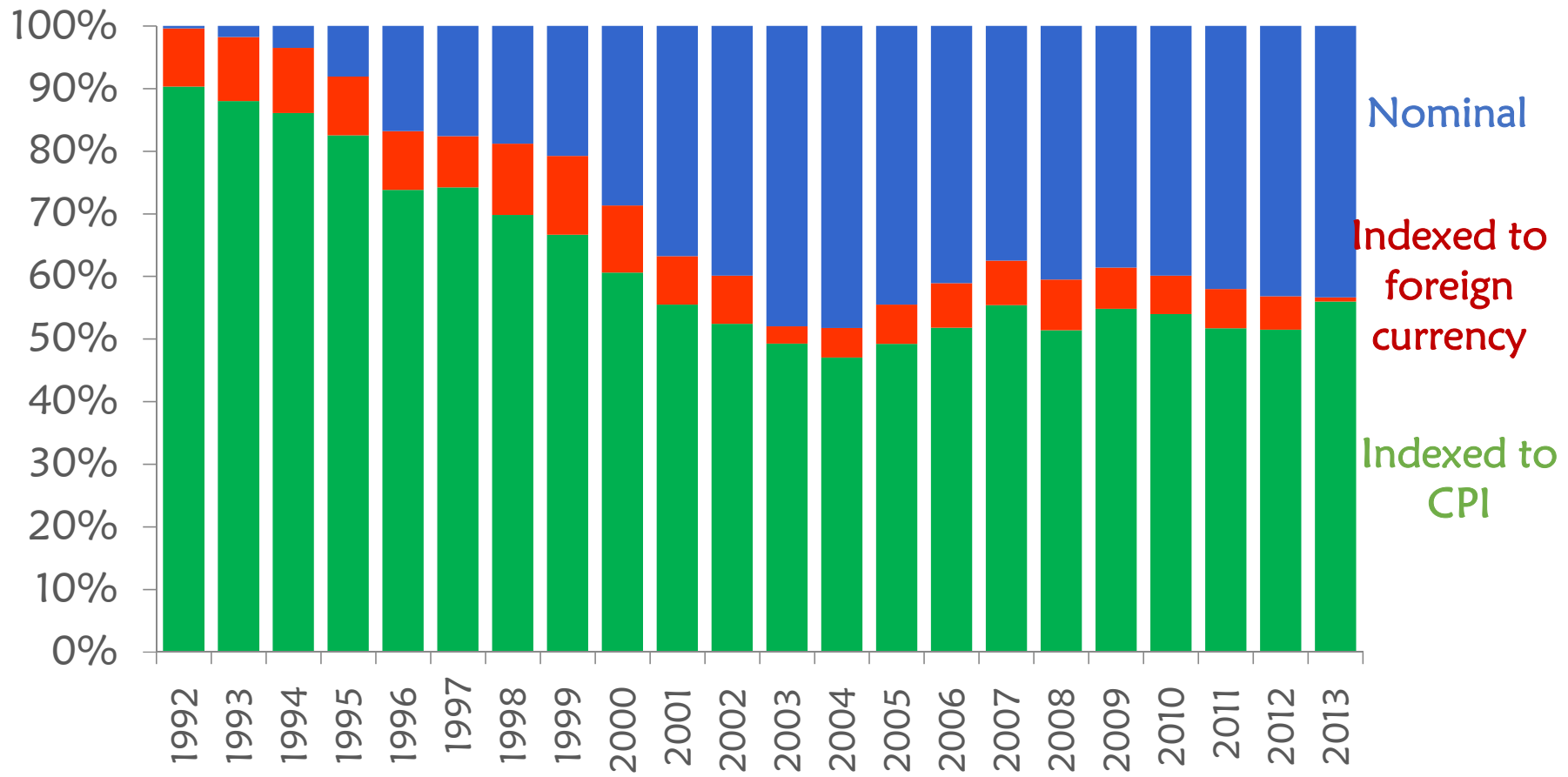
The Final Stage of Inflation Targeting – Anchoring Long-Term Inflation Expectations

- Ability to issue long term nominal government bonds
- Anchoring is achieved when long-term inflation expectations are anchored around the target
- Expectations derived from breakeven inflation when nominal government bonds are introduced in conjunction with existing indexed bonds
- Free float is possible as short terms fluctuations in exchange rate do not undermine price stability



Disinflation Allowed Government to Issue Nominal Debt and Longer Maturities

Market share of government bonds by indexation type – 1992-2013



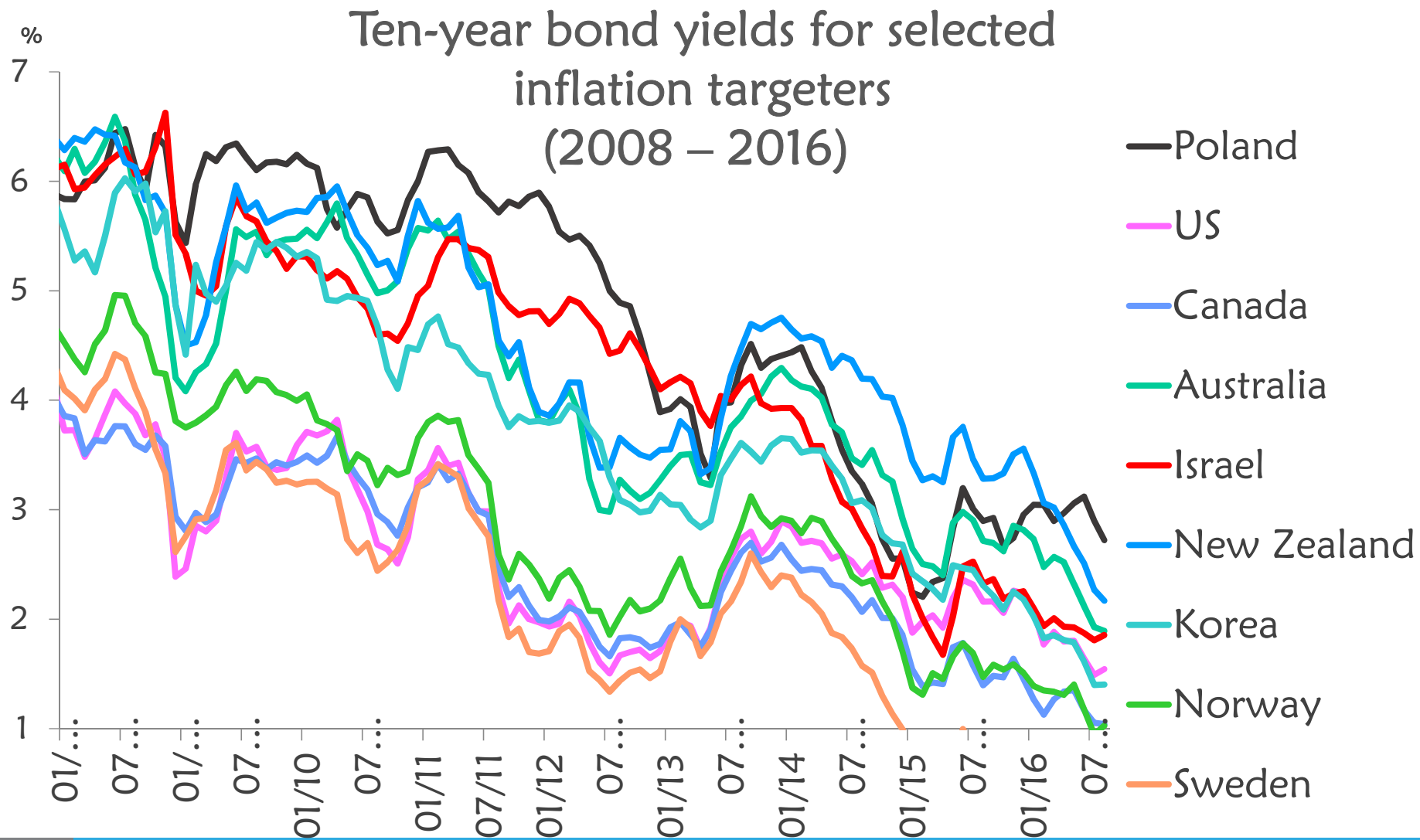


The Final Stage of Inflation Targeting – Anchoring of Long Term Inflation Expectations

- ❑ Flexible inflation targeting – allows for temporary deviations from IT and targeting output gap
- ❑ Use forward looking policy – “ahead of the curve”
- ❑ Incorporating expectations about activity abroad

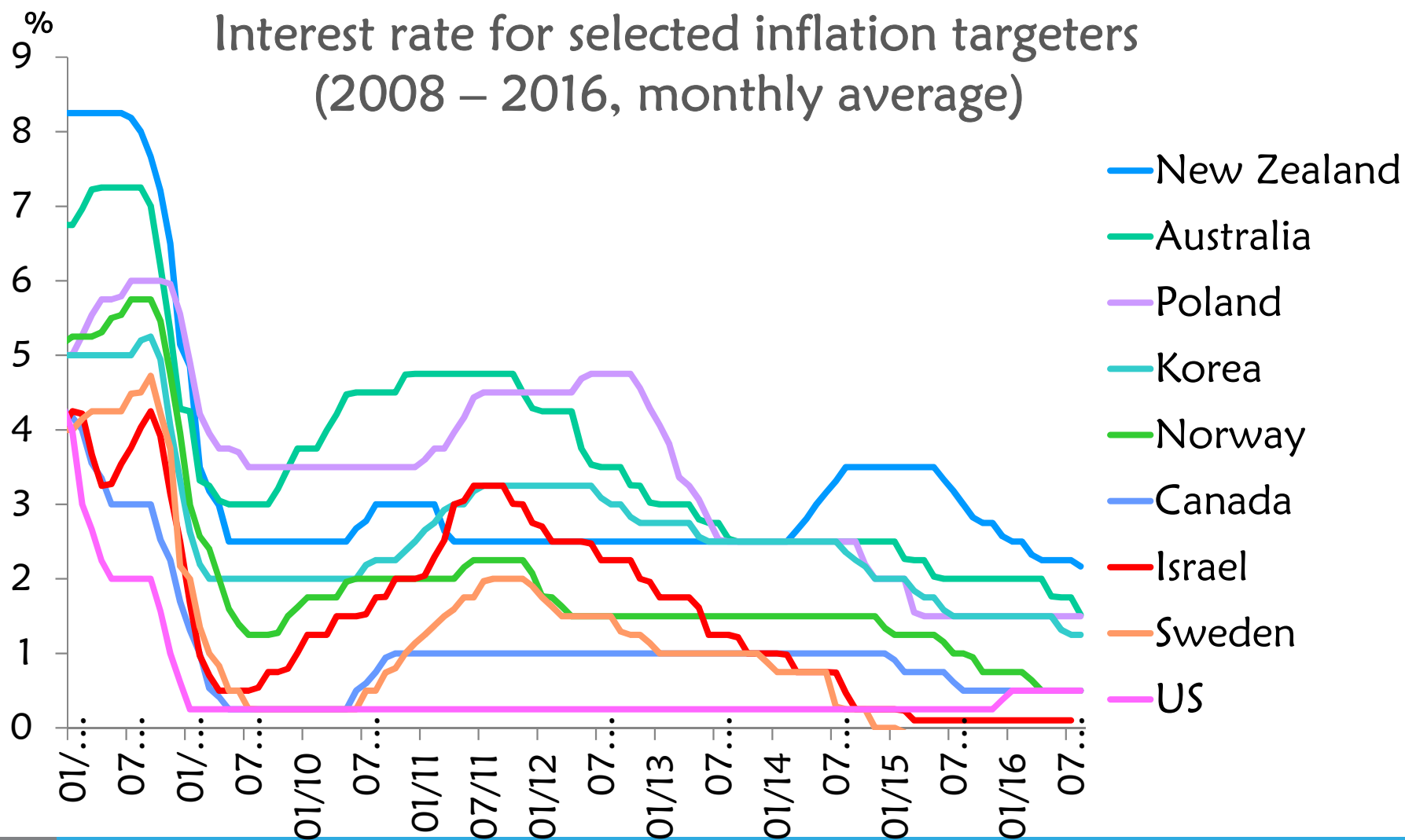


Anchoring of the Long Term Nominal Yields





Short Term Interest Rate Policy Flexibility





Conclusions:

- Initial stages of inflation targeting
 - Focus on inflation
 - Be aggressive
- If necessary, enhance tools by issuing central bank bonds
- If managed float is chosen – sterilize
- Loosen stance only after long term expectations are anchored
- Use forward looking and outward looking Taylor rule

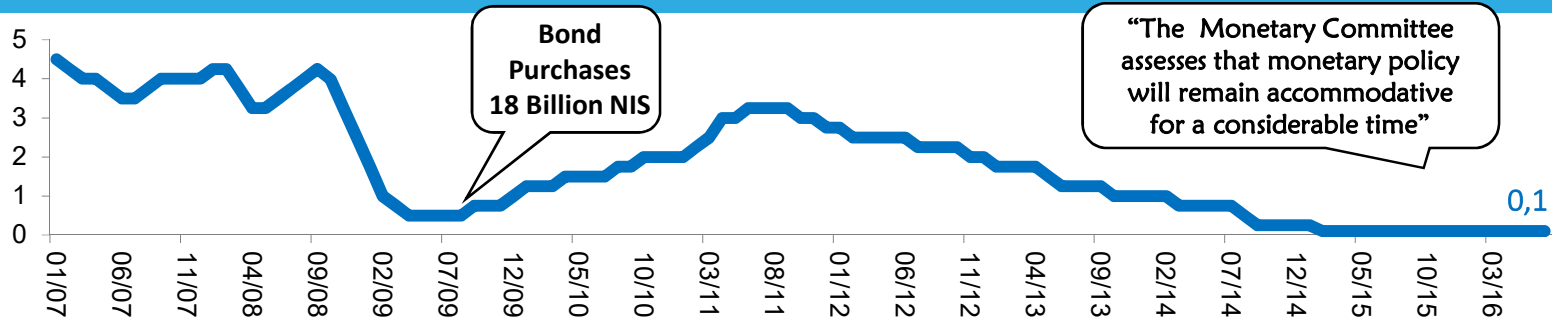


Thank You

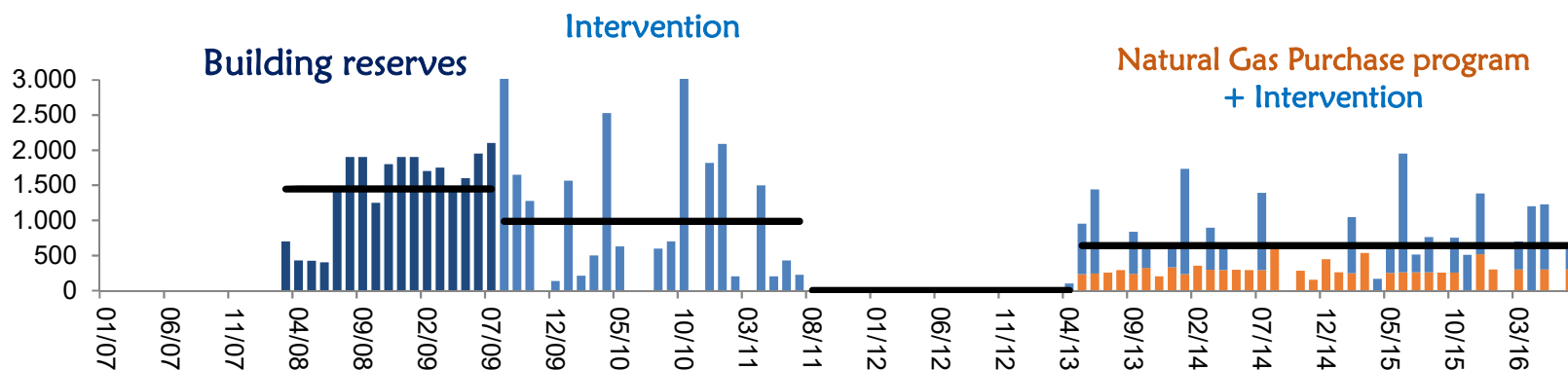


Bank of Israel Policy Tools 2007-2016

Interest Rate (%)



FX Intervention (US\$)



Macroprudential Measures

