The Phillips Curve and Israeli Monetary Policy

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Boston Federal Reserve Bank conference, June 9-11 2008, "Understanding Inflation and the Implications for Monetary Policy: A Phillips Curve Retrospective".

The issues:

- the determinants of the inflation rate in Israel
- the transmission mechanism of monetary policy and the role of the Phillips curve.

The economy and some history

- The economy is small (GDP = $200 bn), and open ((X+M)/2Y = 45%), with a completely open capital account.
- In the mid-1980s the economy suffered from very high inflation (450% in 1984).
- A successful stabilization program was undertaken in 1985; inflation fell to the 20% range immediately, and was gradually reduced during the 1990s.

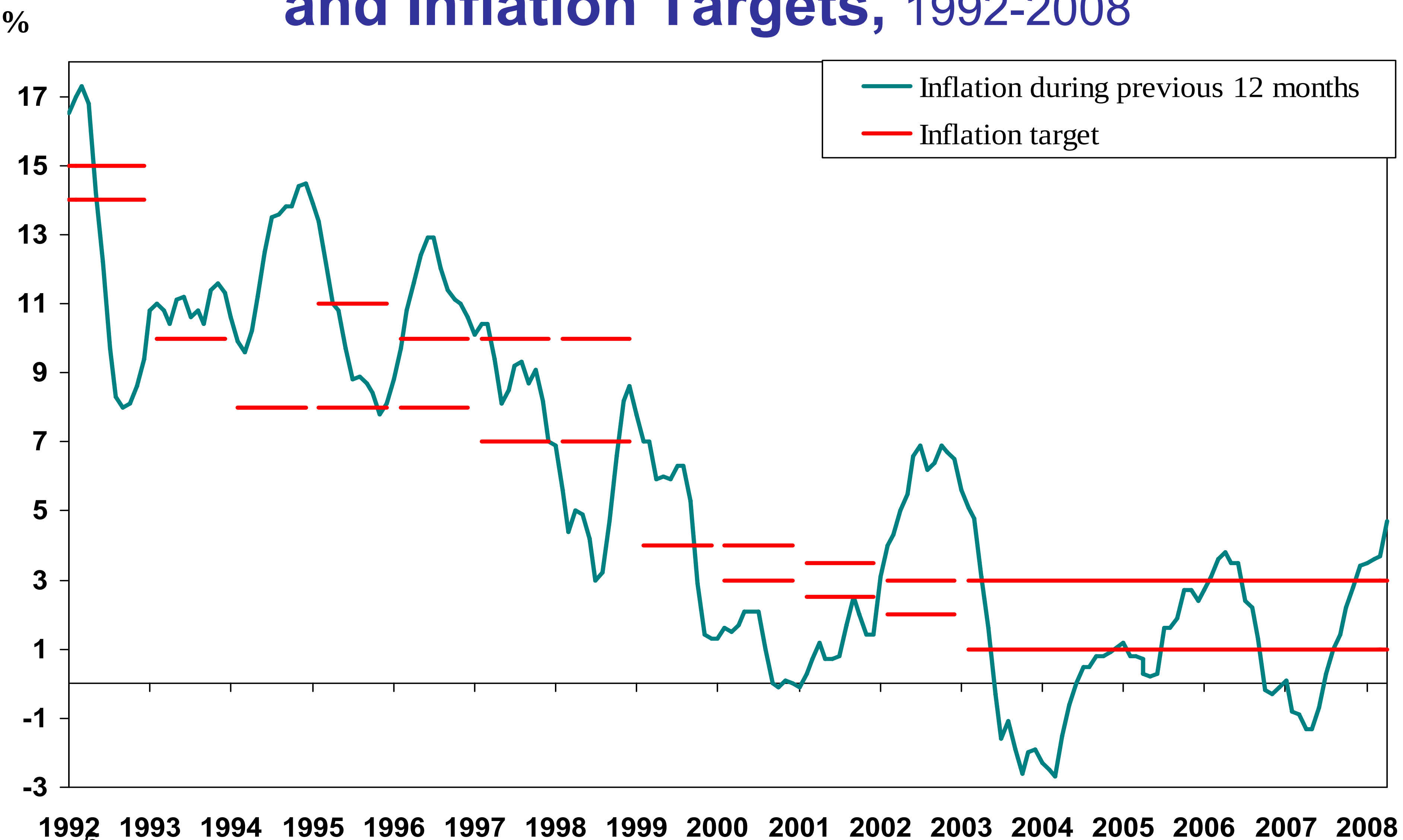
History, continued

- Nonetheless, many contracts remained denominated in dollars, including rentals of apartments.
- An inflation targeting regime was introduced in 1991-92, but the exchange rate continued to be managed within a band until 1997. The band was effectively ended in 1997 and formally abolished in 2005.
- The inflation target is specified as a range, currently 1-3%. The target is headline CPI inflation. The Bank has examined and rejected the case for using a core inflation measure as the target.

Growth Rate of GDP
2000-2008*

* 2008 – BOI Forecast.

Rate of Inflation in Last 12 Months and Inflation Targets, 1992-2008



- In the first half of this decade, monetary policy was apparently managed by a rule that focused on expected inflation, approximately

$$\Delta i = \alpha (\Pi^e - \Pi^*)$$

i.e. a Taylor (Hall) rule without an activity variable.

- IMF critique and the need for a model or models

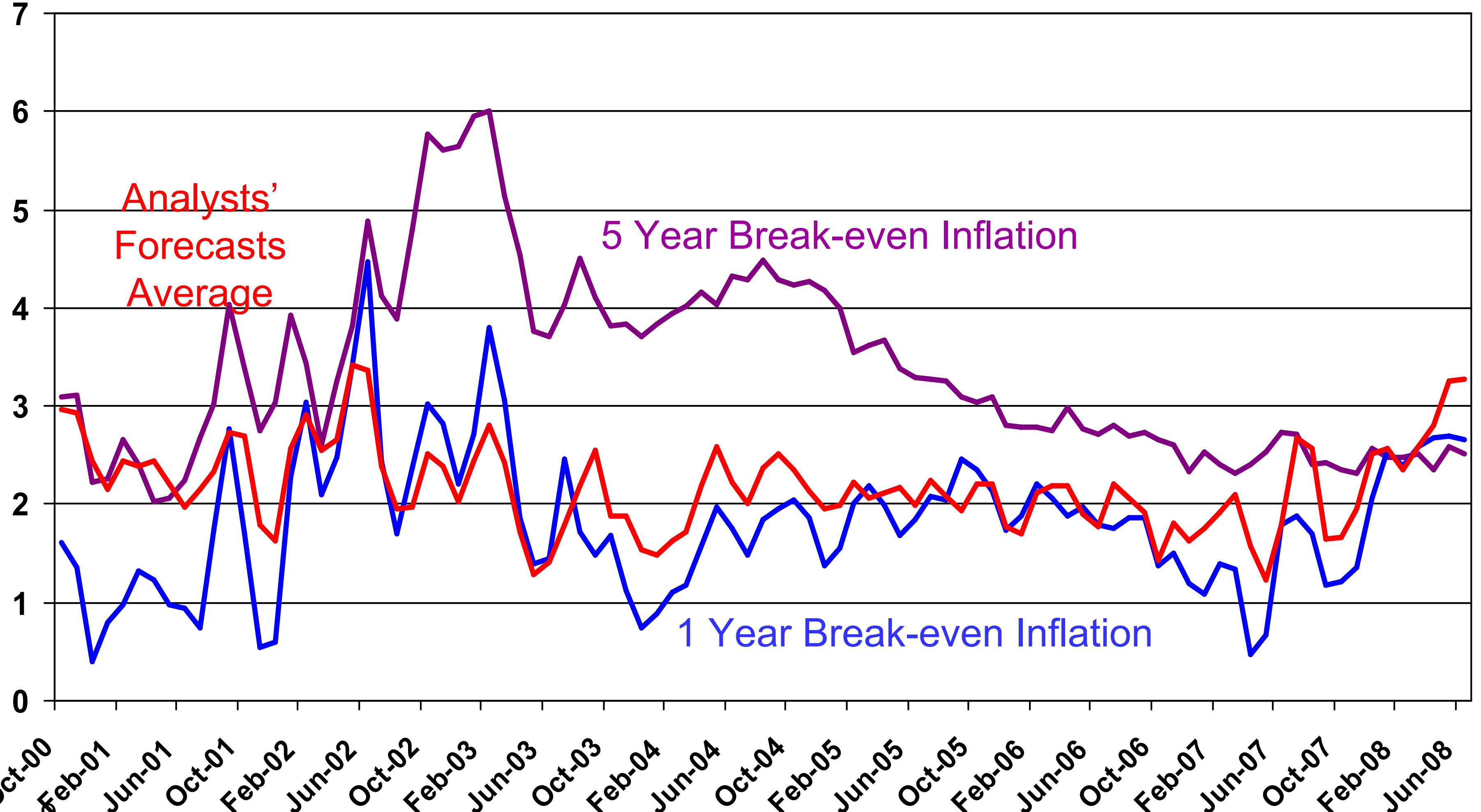
- Also a concern about interest rate gap with US.

Measures of expected inflation

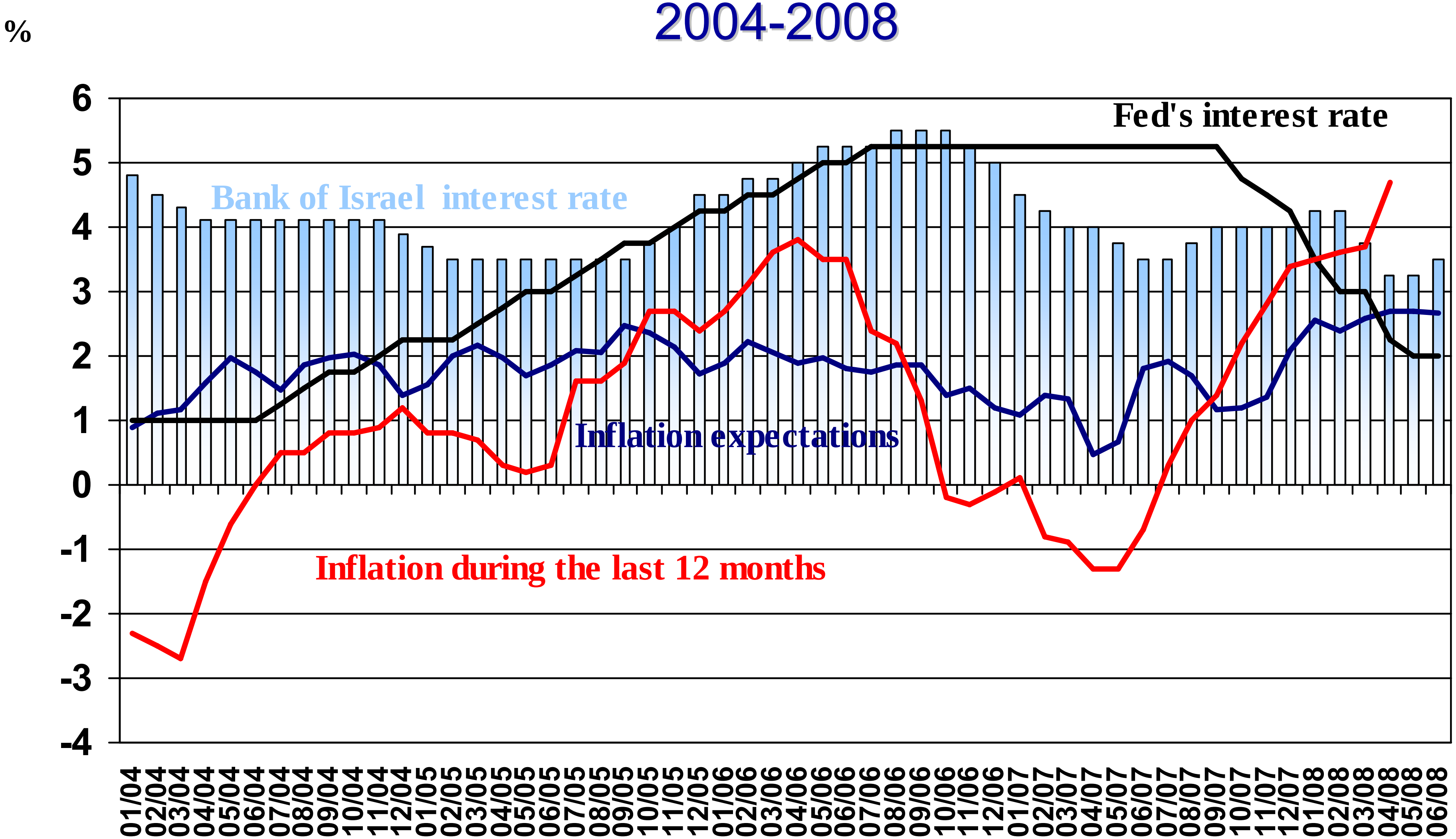
- Break-even inflation rates from the money and bond markets
- Analyst forecasts
- Company surveys
- Consumer surveys
- BOI internal forecasts

Inflation Expectations

2008.6-2000.10



Bank of Israel Interest Rate, Inflation Expectations*, and the Fed's interest Rate, 2004-2008



*For 12 months, as derived from the capital market.

Models

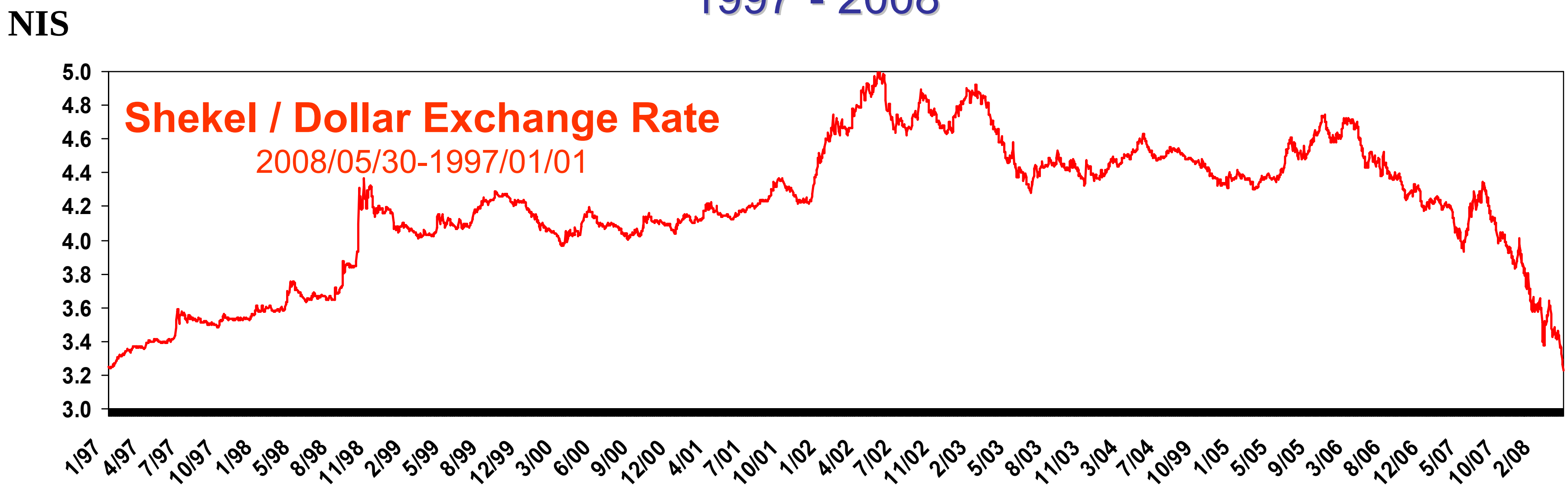
- DSGE
- More Keynesian

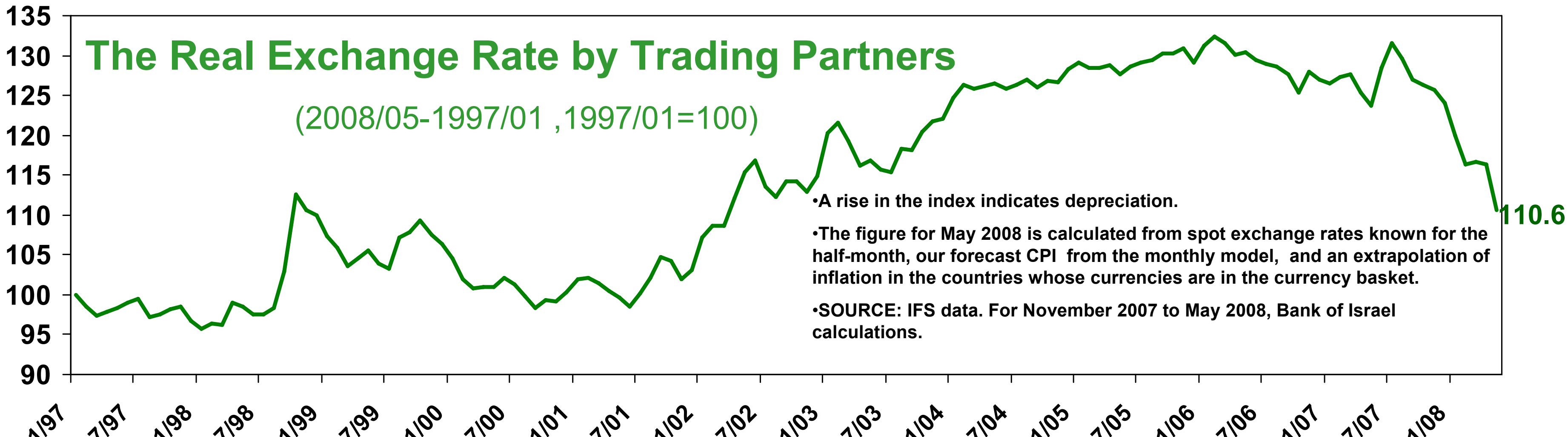
- Each contains a Phillips-curve like mechanism, building in the case of the DSGE model on an HP filter for a measure of the output gap, and in the case of the second model on a production function, with the unemployment rate being used to define the full employment labor force.

- The inflation predictions in each model are very sensitive to the assumed path of the exchange rate.

The Nominal and Real Exchange Rates

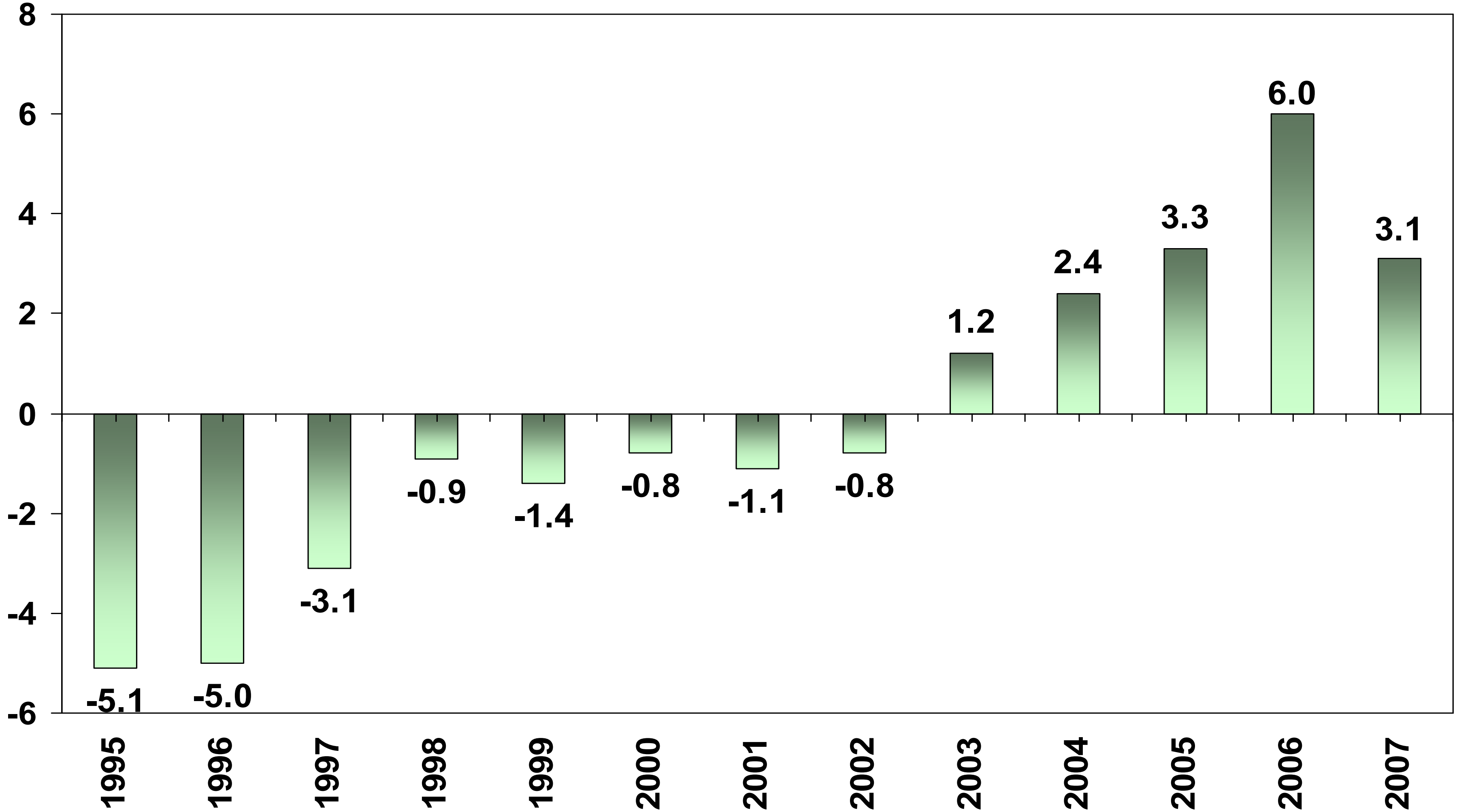
1997 - 2008





*The Nis/$ chart is on a daily basis, while the real exchange rate chart is on a monthly basis.

Current Account of Balance of Payments
as Percentage of GDP, 1995-2007 (Annual)



•SOURCE: Balance of Payments, Central Bureau of Statistics.

Recent problems

- Until about 6 months ago the conditional model forecasts were reasonably similar, and indicated similar paths for inflation and for interest rate decisions.
- That is no longer true. Key factors:
  - As the economy is near full employment, estimates of the output gap differ substantially (Stock-Watson story)
  - The impact of imported inflation is hard to forecast
  - Delinking from the dollar (details to follow)

Current policy problems and dilemmas

Facts:

- Inflation in April was 1.5%, 0.6% above the expectation.
- Inflation over the last 12 months was 4.7%, nearly 1% higher than the month before.
- Core inflation 1 (excluding food and energy) was 2.9%
- Core inflation 2 (excluding also fruit and vegetables) was 2%
- Q1 growth was 5.4% at an annual rate, with exports continuing to grow rapidly despite our expectation that the US slowdown would have a strong negative effect.

Facts contd: delinking from the dollar

- Until late last year, the exchange rate – rental link could be relied upon to produce a rapid exchange rate passthrough.
- This was the main and immediate transmission channel of monetary policy. The more traditional channels – via domestic demand – were weak and difficult to identify.
- This year, despite the rapid appreciation of the shekel, housing rental rates have contributed significantly to inflation and its underprediction.

Facts contd: the exchange rate

- Despite the low interest rate, rapid capital inflows continue – driven in significant part by Israelis bringing their assets home.
- Despite the continued impressive performance of exports, the rapid real appreciation is likely to have an impact on real activity.

Final fact: the financial crisis

- One of Israel's biggest banks was exposed to MBS's, but has now sold all those assets. The banking system now has very little exposure to such assets.
- Nonetheless spreads have widened in Israel as elsewhere, for both the government and corporations, and stock prices are down significantly.
- At this stage flows of venture and private capital do not appear to have been much affected.

The current policy choice

- Inflation is well above the target range, and has to be dealt with.
- We have a lexicographic dual (or triple) mandate, with price stability as the central goal.
- Given the volatility of our inflation rate, we believe we have to aim to return inflation to within the target range within a year.
- The transmission mechanism still works importantly through the exchange rate – so we have an export-inflation tradeoff, and of course a more general Phillips curve tradeoff.

Thank you