



Monetary Policy in the New Mediocre

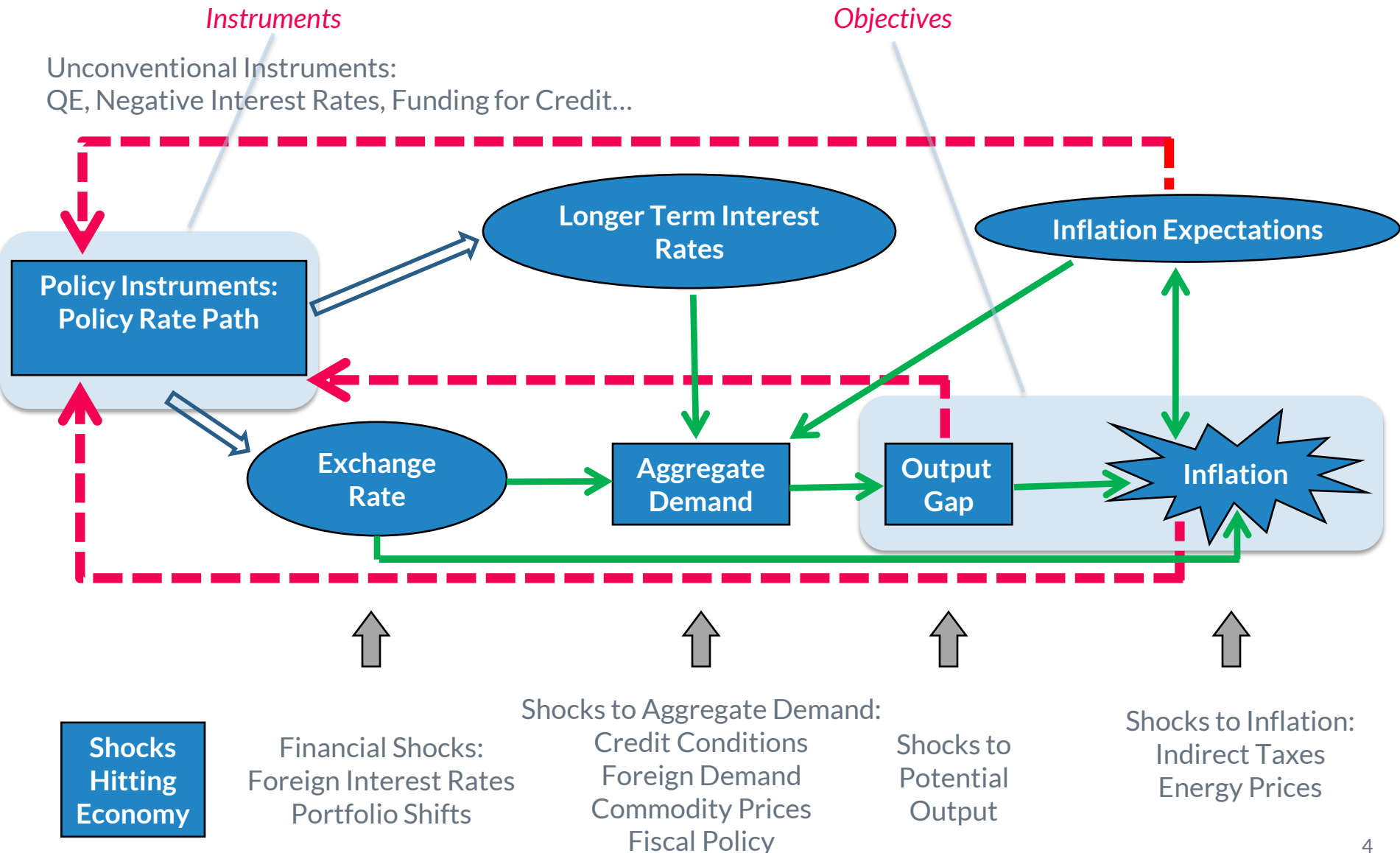
Douglas Laxton
Research Department, International Monetary Fund

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What is Inflation-Forecast Targeting?

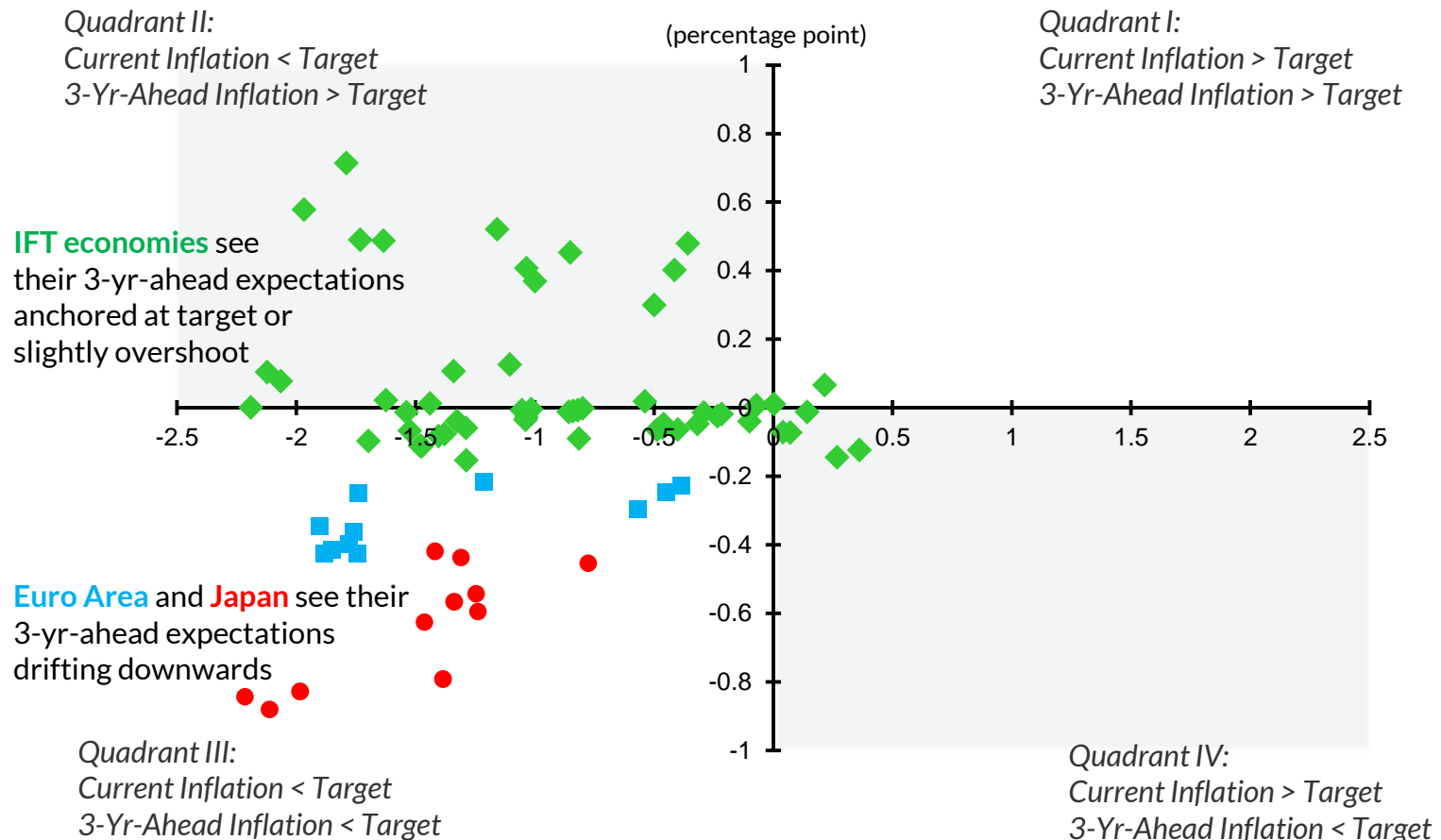
- ▷ Otherwise known as flexible inflation targeting.
- ▷ Under IFT, central bank's inflation forecast is an ideal intermediate target:
 - used to communicate how the central bank is managing the short-run output-inflation tradeoff (explicit or implicit dual-mandate);
 - based on all available information and views about how the economy works.
- ▷ Emphasis on uncertainty and “avoiding dark corners” (prudent risk-management approach to policy formulation and communications).

Monetary Transmission Mechanism



Long-term Inflation Expectations Better Anchored in IFT Economies

Deviation of Consensus Headline Inflation Forecasts from Target



Note: The IFT economies include Canada, the Czech Republic, New Zealand, Sweden, and the United States.
Source: Consensus Economics long-term forecasts, 2015-17.

DE Transparency Indices for Canada, New Zealand, and the Czech Republic

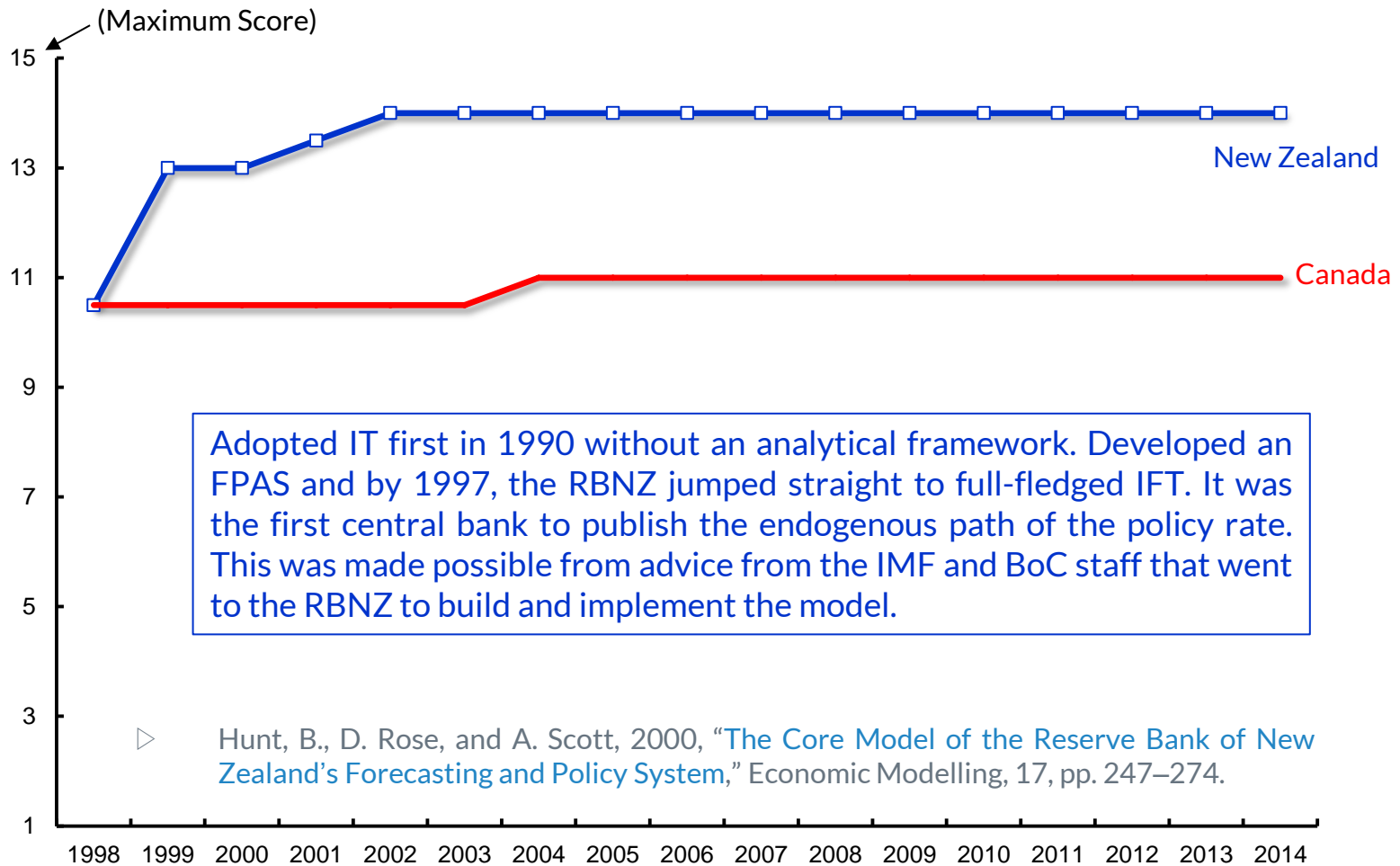


Source: Dincer and Eichengreen (2014).

History of Model Development at RBNZ

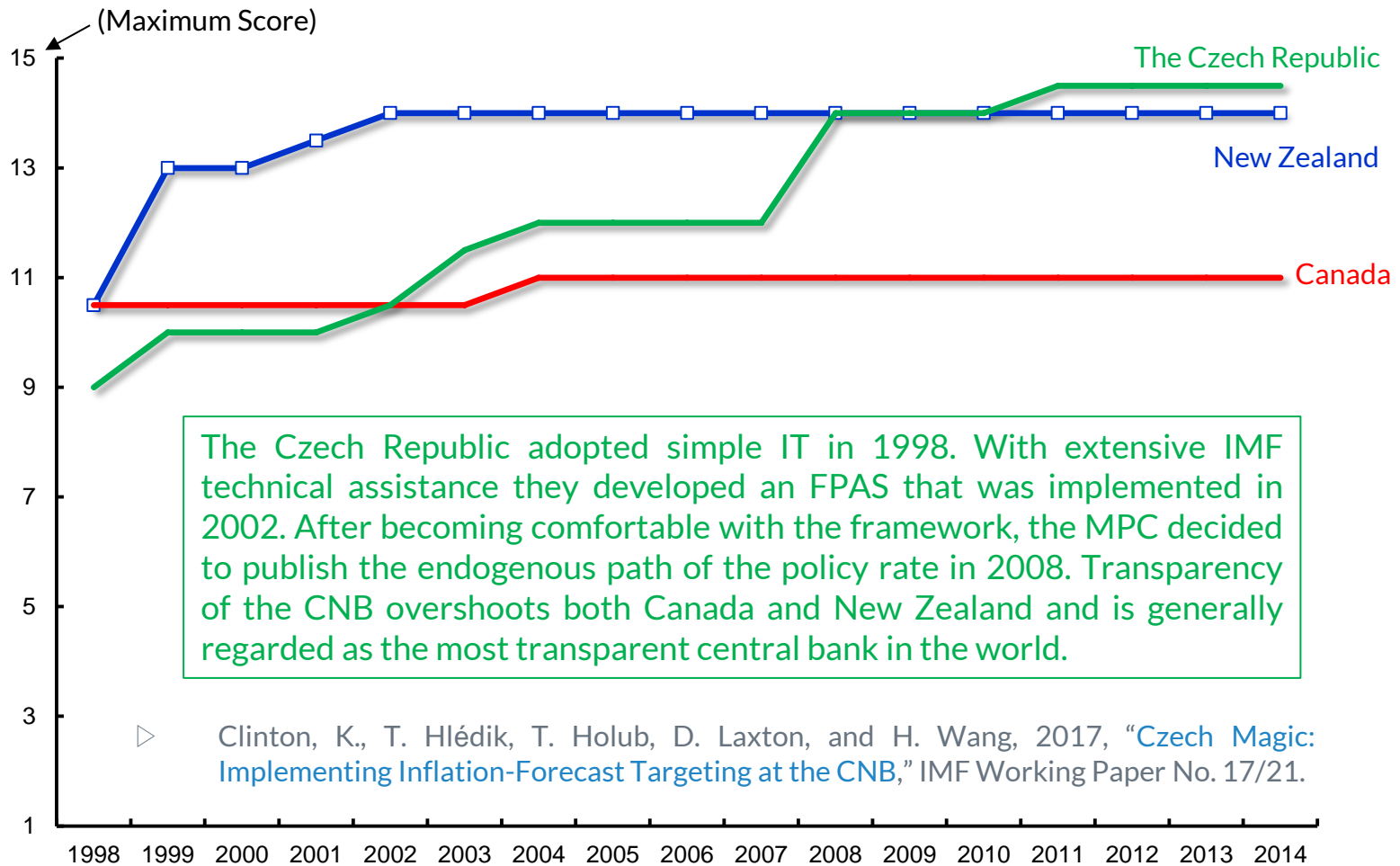
The Bank maintained medium-sized econometric macro models during the 1970s and early 1980s and these played an important role in forecasting. However, structural changes in the economy and data issues from the mid to late 1980s meant that these models were increasingly side-lined. At the outset of inflation targeting in the late 1980s, such models were no longer seriously used. Reliance was placed on forecasting through spreadsheets and the use of single equation models (e.g., markup models for inflation). In the mid-1990s, the Bank developed its Forecasting and Policy Analysis System—a calibrated macro model that now plays a core role in the forecasting process.

DE Transparency Indices for Canada, New Zealand, and the Czech Republic



Source: Dincer and Eichengreen (2014).

DE Transparency Indices for Canada, New Zealand, and the Czech Republic

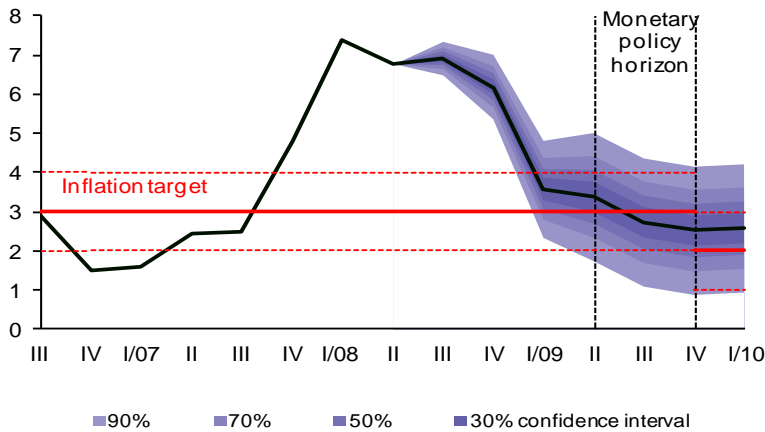


Source: Dincer and Eichengreen (2014).

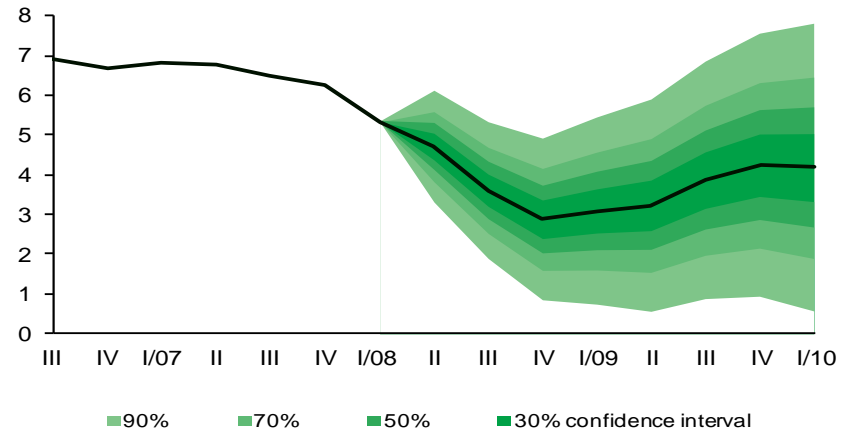
Example of Conventional Forward Guidance

Czech National Bank Signaled Weakness and Policy Intentions, August 7, 2008

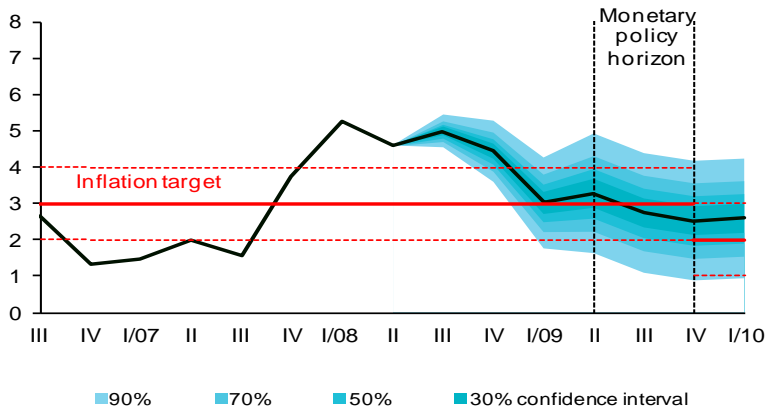
Headline Inflation



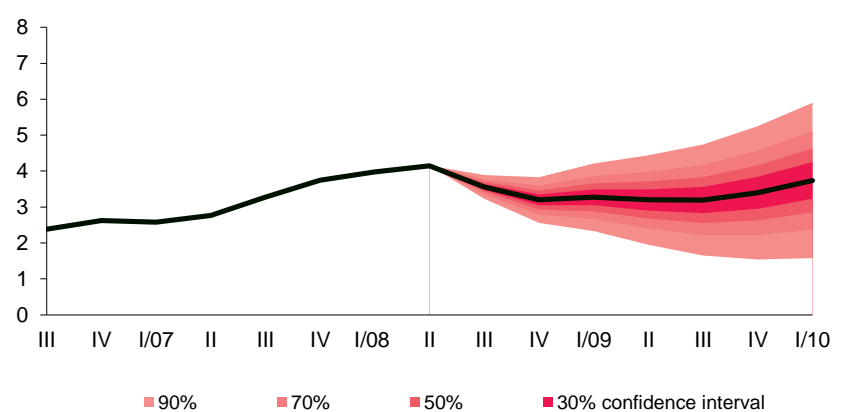
Real GDP Growth



MP-relevant Inflation



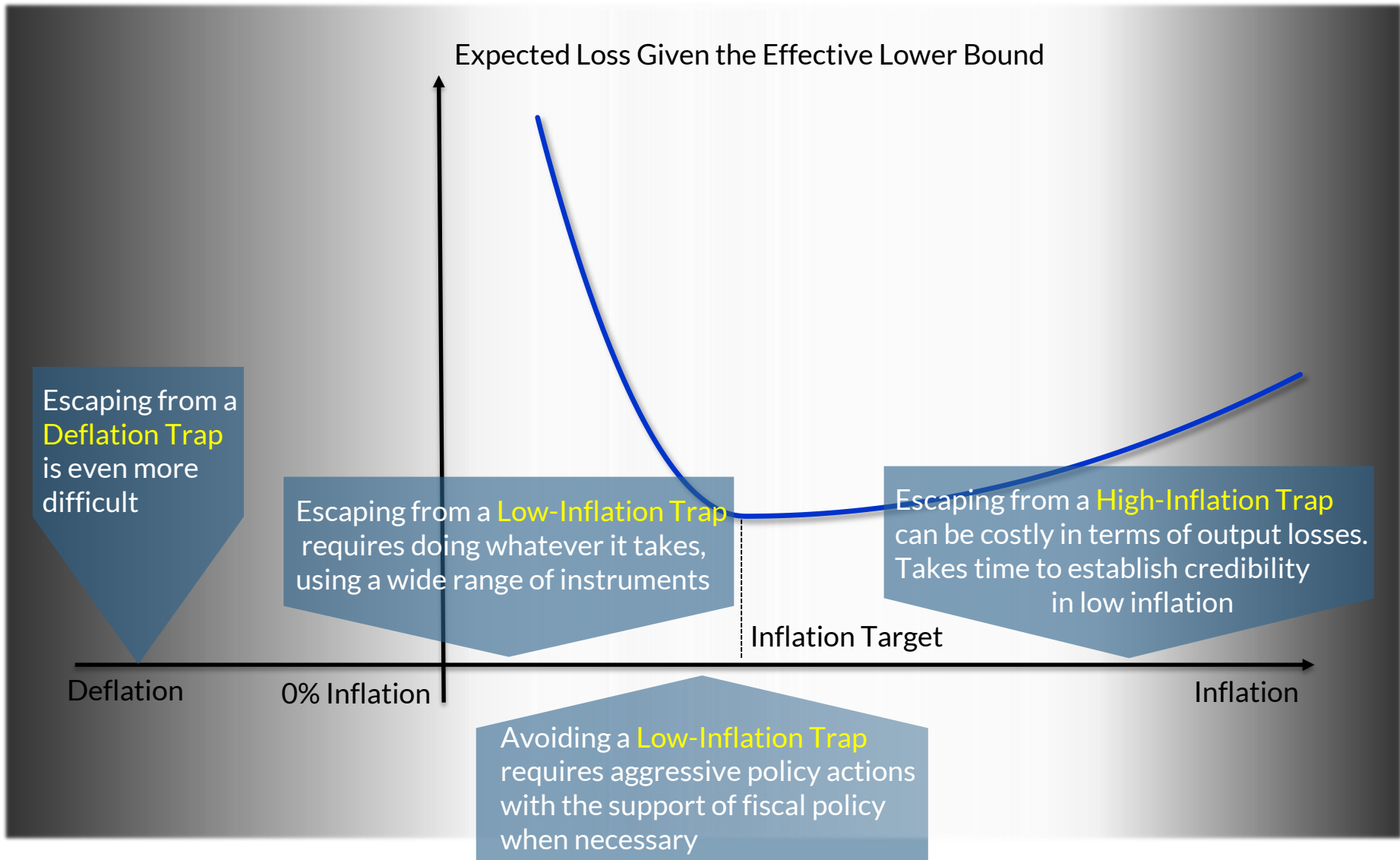
Interest Rate (3M PRIBOR)



Rest of the Presentation based on...

- ▷ Arbatli, E., D. Botman, K. Clinton, P. Cova, V. Gaspar, Z. Jakab, D. Laxton, C. Lonkeng Ngouana, J. Mongardini, and H. Wang, 2016, “[Reflating Japan: Time to Get Unconventional?](#)” IMF Working Paper No. 16/157.
- ▷ Benes, J., K. Clinton, A. George, J. John, O. Kamenik, D. Laxton, P. Mitra, G.V. Nadhanael, H. Wang, and F. Zhang, 2017, “[Inflation-Forecast Targeting for India: An Outline of the Analytical Framework,](#)” IMF Working Paper No. 17/32.
- ▷ Helbling, T., O. Kamenik, P. Karam, D. Laxton, H. Wang, and J. Yao, 2016, “[Inflation Targeting in Australia: Performance, Challenges and Strategy Going Forward,](#)” *Selected Issues*, Australia, IMF Country Report No. 17/43.
- ▷ Gaspar, V., M. Obstfeld, R. Sahay, D. Laxton, D. Botman, K. Clinton, R. Duval, K. Ishi, Z. Jakab, L. Jaramillo Mayor, C. Lonkeng Ngouana, T. Mancini Griffoli, J. Mongardini, S. Mursula, E. Nier, Y. Ustyugova, H. Wang, and O. Wuensch, 2016, “[Macroeconomic Management When Policy Space is Constrained: A Comprehensive, Consistent and Coordinated Approach to Economic Policy,](#)” IMF Staff Discussion Notes No. 16/09.

Avoiding Low and High Inflation Traps

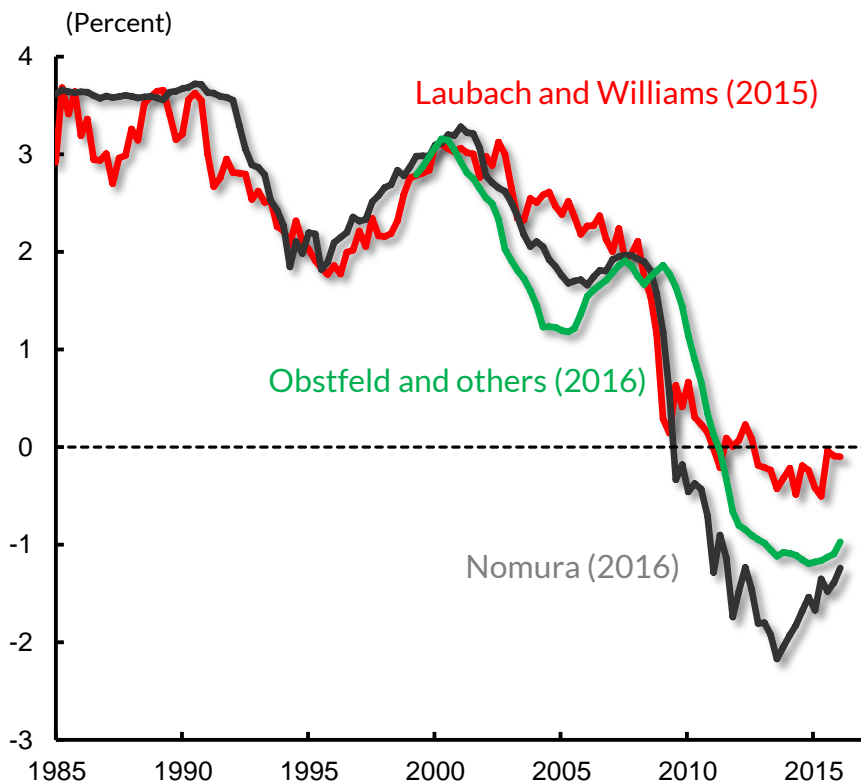


Role of Monetary Policy

- ▶ Monetary policy needs to anchor long-term inflation expectations at the target. Guard against the dark corners of either low or high inflation traps.
- ▶ Other policies (e.g., structural, labor market, government infrastructure, etc.) need to deal with low potential growth. Using monetary policy excessively to deal with low potential growth would just result in stagflation and a repeat of the great inflation of the 1970s.

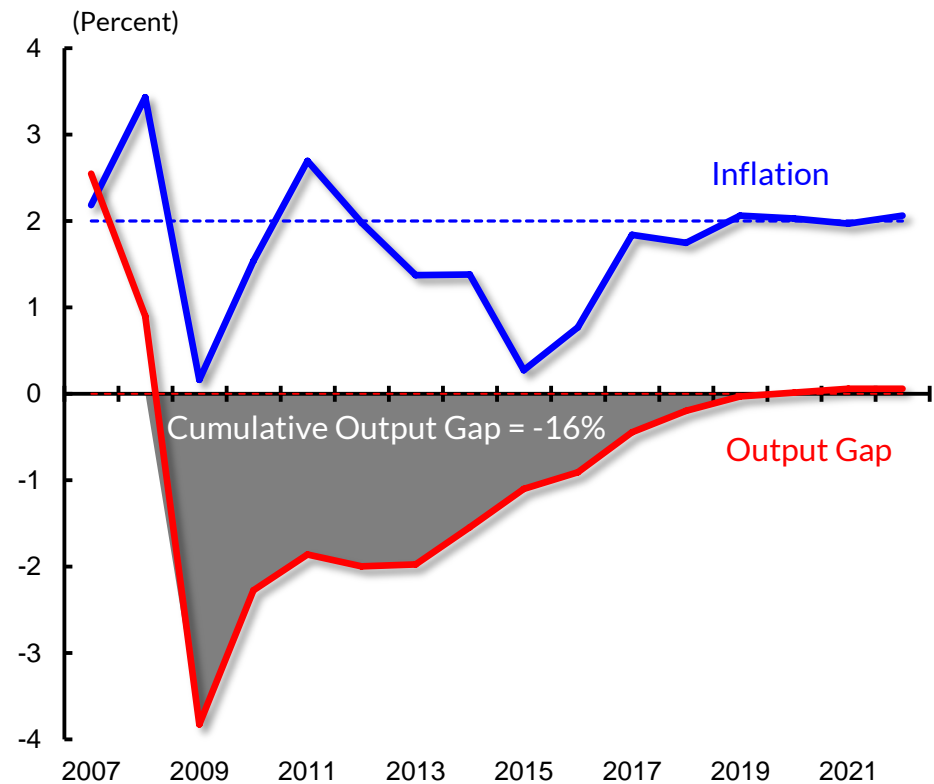
Lower Global Equilibrium Real Interest Rate and Mediocre Performance

Estimates of U.S. Equilibrium Real Interest Rate



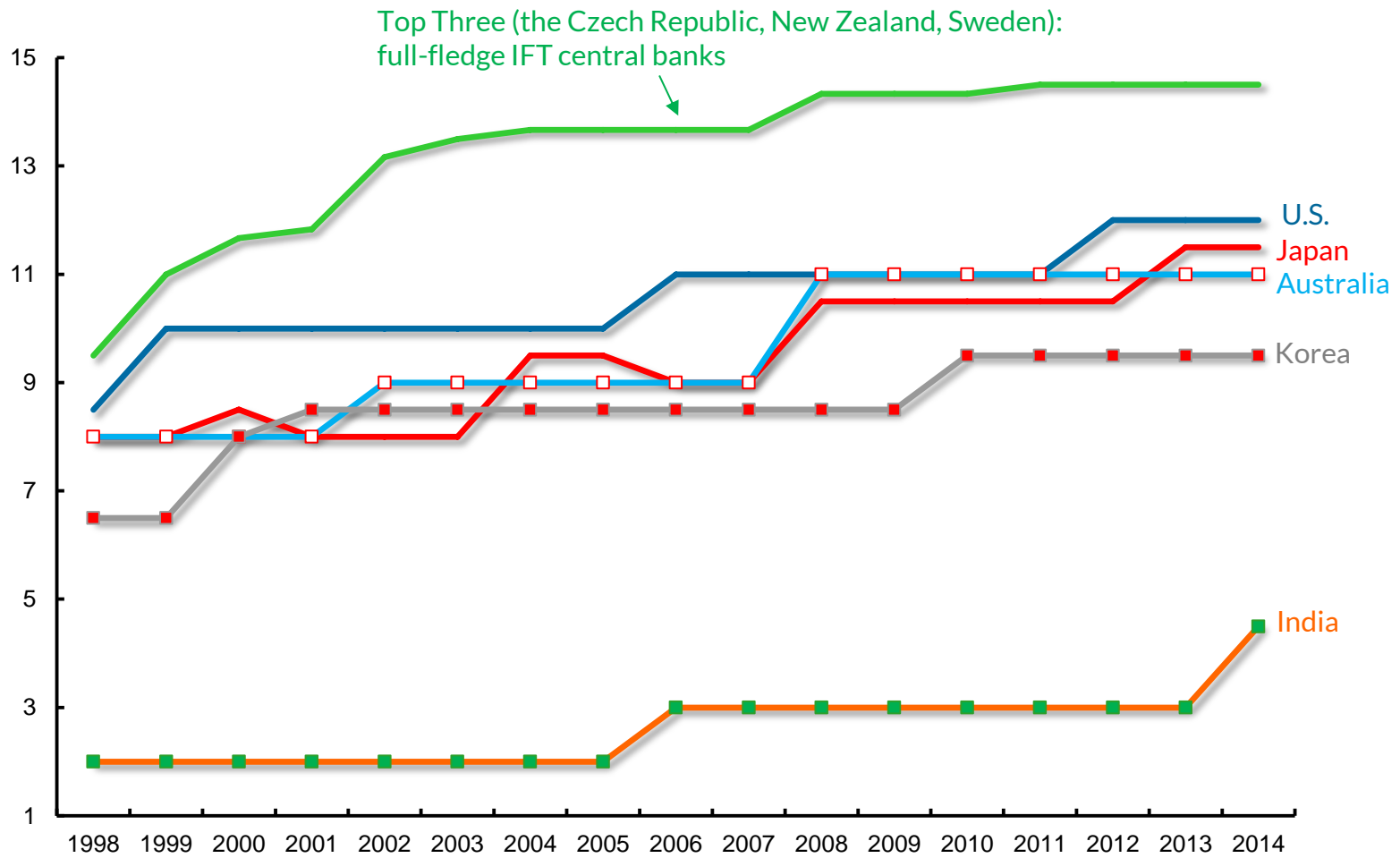
Source: Various studies.

Output Gap and Inflation for Advanced Economies



Source: World Economic Outlook database.

More Dincer-Eichengreen Transparency Indices



Source: Dincer and Eichengreen (2014).

Linear Inflation-Forecast-Based Reaction Function

- ▷ Policy rate takes account of the contemporaneous output gap, as well as the model's forecast of inflation four quarters into the future.

$$i_t = 0.7i_{t-1} + (1-0.7)[\bar{r}_t + \pi 4_{t+4}^{Core} + 1.2(\pi 4_{t+4}^{Headline} - \pi^*) + 0.4y_t] + \varepsilon_t^i$$

$$\pi 4_{t+4} = \underbrace{(\pi_{t+4} + \pi_{t+3} + \pi_{t+2})}_{\text{model forecast of inflation}} + \pi_{t+1} \quad \text{partly monitored} \quad) / 4$$

model forecast of inflation
(depends on all inputs into
forecast including monetary
policy reactions)

Robust Monetary Policy Making under Uncertainty

- ▷ The risk-avoidance principle can be best illustrated by a procedure that minimizes the shortfalls in economic outcomes relative to policymakers' goals.
- ▷ Involves finding the expected path of the policy rate to minimize a quadratic loss function with equal weights on output and inflation, and a smaller weight on interest rate smoothing.

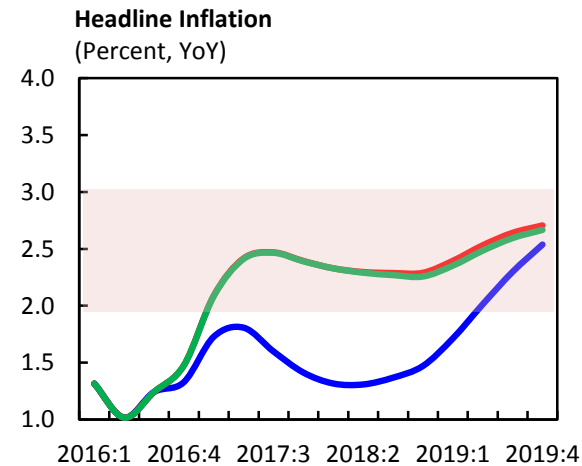
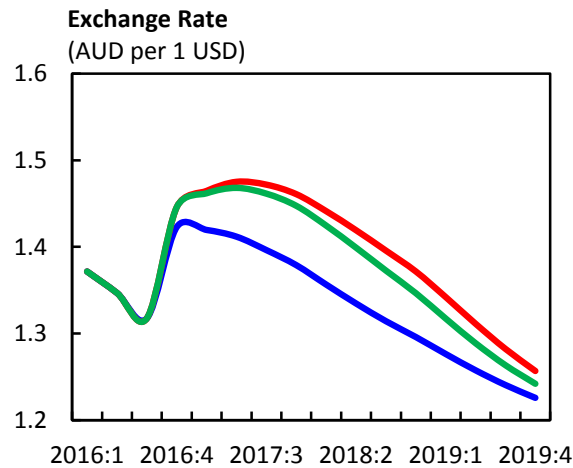
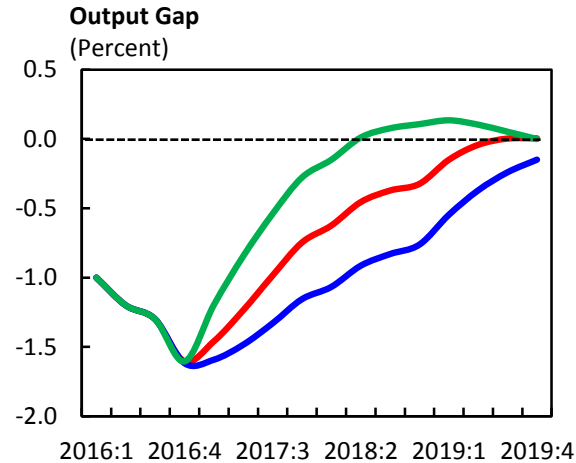
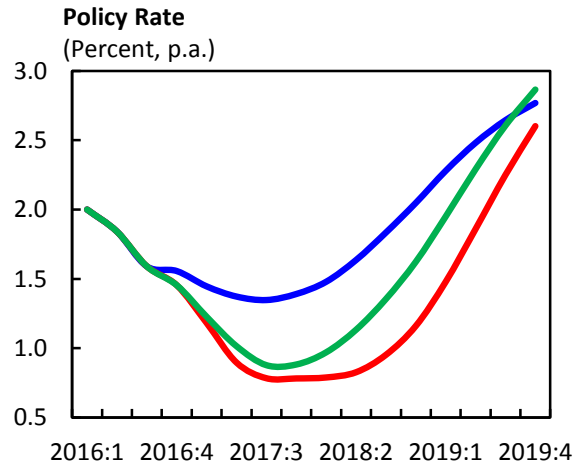
$$Loss_t = \sum_{i=0}^{\infty} \beta^i [(\pi_{t+i} - \pi^*)^2 + y_{t+i}^2 + 0.5(i_{t+i} - i_{t+i-1})^2]$$

$\beta = 0.98$

↓ ↓ ↓ ↓
 Headline Inflation Inflation Target Output Gap Policy Interest Rate

- ▷ Provides more efficient management of the short-run output-inflation tradeoff. Also useful for designing policies to guard against dark corners.

Australia: Baseline Scenario with Alternative Policy Strategies

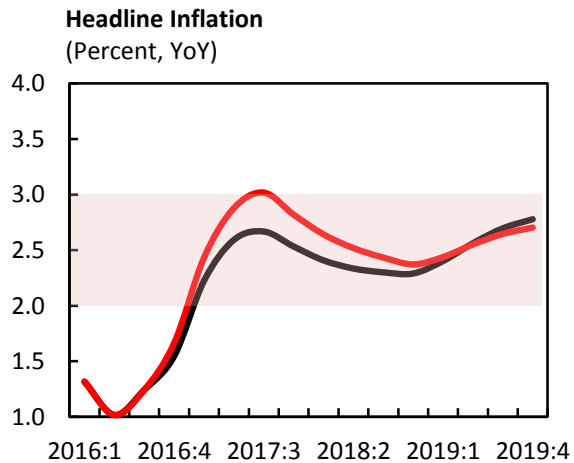
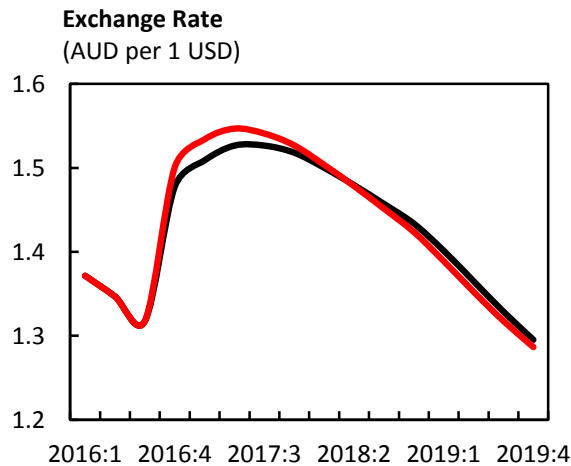
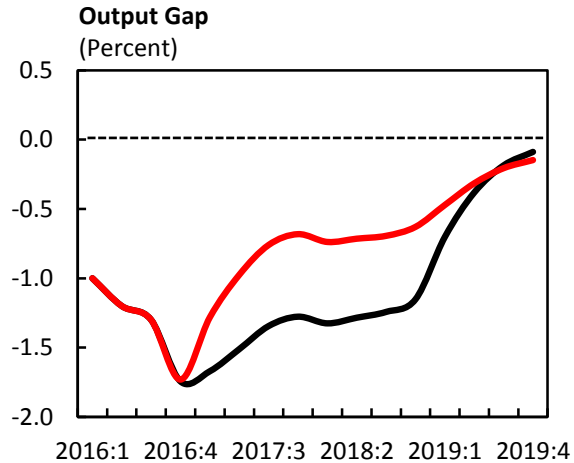
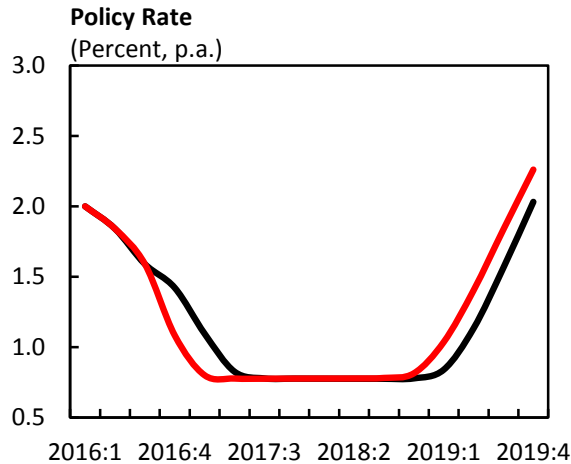


- Linear IFB Reaction Function
- Risk-Avoidance Strategy based on Loss-Minimization
- Risk-Avoidance Strategy based on Loss-Minimization with Fiscal Support

Australia: Baseline Scenario with Alternative Policy Strategies

- ▷ A hypothetical baseline scenario for Australia, 2016Q3-2019Q4. Benign external assumptions for the global economy, gradually rising commodity prices, 0.75 percent effective lower bound on the policy interest rate.
- ▷ “Lower for longer”: Loss-minimization strategy plans to keep the policy rate at the ELB for about one year. More depreciated exchange rate raises inflation and inflation expectations, reduces real interest rates. The output gap closes more rapidly.
- ▷ “Risk avoidance”: The economy is moved further away from the low-inflation dark corner.
- ▷ Fiscal policy can assist monetary policy in providing support to the economy when there are significant risks that monetary policy could be constrained by the ELB.

Australia: Downside Scenario



- Risk-Avoidance Strategy based on Loss-Minimization
- Risk-Avoidance Strategy based on Loss-Minimization with Fiscal Support and More Aggressive Monetary Policy

Australia: Downside Scenario

- ▷ A large and unexpected weakening of economic growth in China and spillovers to the rest of the world.
- ▷ Interest rate goes to the ELB quickly.
- ▷ “A planned overshoot”: Loss-minimization strategy plans for a moderate overshoot of the 2.5 percent midpoint of the target range, which raises longer-term inflation expectations, reduces real interest rates and depreciates the exchange rate. The additional stimulus helps eliminate the slack in the economy faster.
- ▷ Fiscal policy provides effective support to the objectives of monetary policy, which left to itself would achieve less satisfactory outcomes, especially with respect to the level of output and unemployed resources in the economy.

Comprehensive Policies to Escape from a Low-Inflation Trap

Structural policies ensure reliable policy transmission mechanisms and create policy space

Instruments

Monetary



Fiscal



Macro-Critical Structural Reforms

Objectives

- Deal with persistent slack and low inflation at the effective lower bound

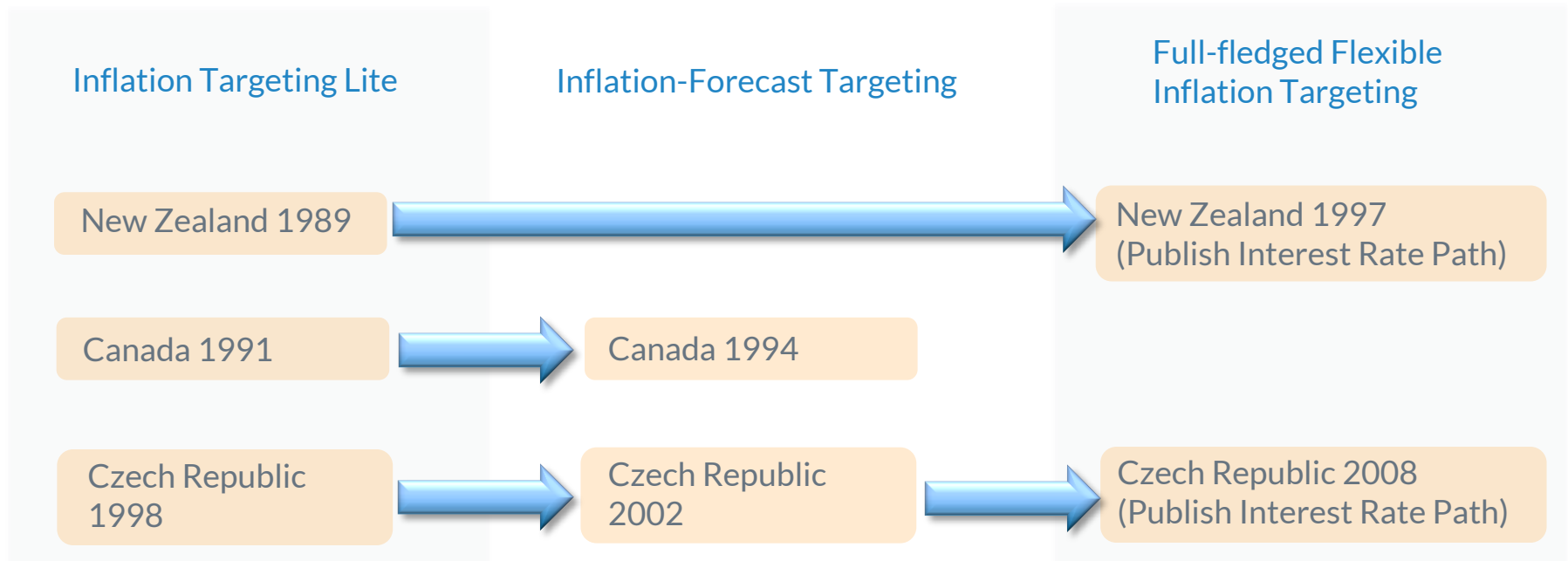
- Raise potential growth
- Raise the equilibrium real interest rate and support credit demand

Demand-support policies offset any short-run contractionary or unwanted distributive effects from structural reforms

The End

Thank you for your attention.

Short History of IFT with Learning from Others



- ▷ Clinton, K., C. Freedman, M. Juillard, O. Kamenik, D. Laxton, and H. Wang, 2015, “[Inflation-Forecast Targeting: Applying the Principle of Transparency](#),” IMF Working Paper No. 15/132.
- ▷ Clinton, K., T. Hlédik, T. Holub, D. Laxton, and H. Wang, 2017, “[Czech Magic: Implementing Inflation-Forecast Targeting at the CNB](#),” IMF Working Paper No. 17/21.
- ▷ Obstfeld, M., K. Clinton, O. Kamenik, D. Laxton, Y. Ustyugova, and H. Wang, 2016, “[How to Improve Inflation Targeting in Canada](#),” IMF Working Paper No. 16/192.

Monetary Policy Transparency Checklist

- ✓ Announced numerical long-term **inflation objective**.
- ✓ Clear about **policy tradeoffs** (use forecasts to provide information about managing the output-inflation tradeoff).
- ✓ Publish **monetary policy report**.
- ✓ **Press conferences** explaining and answering questions about monetary policy objectives, decisions, and the forecast assumptions.
- ✓ **Minutes** describing differences in views using a consistent staff baseline forecast as a reference point.
- ✓ **Endogenous policy interest rate path** that is consistent with the dual mandate.
- ✓ Publish **complete macro forecast** and description of the forecasting and policy analysis system.