New Zealand inflation targeting pioneer

In 1990, New Zealand became the first country to adopt formal inflation targeting.

Key features of inflation targeting in New Zealand

- the government and the central bank agree on specific numerical targets for inflation

- inflation targeting was adopted only after a successful disinflation had been nearly completed.

- the price index on which inflation targets are based is designed to exclude the first round effects of supply shocks and thus measure underlying inflation.

- the inflation targeting regime is perhaps the most nearly rule like of any country that has adopted inflation targeting, but it still has allowed considerable flexibility.

- accountability of the central bank is a key feature of the inflation targeting regime. Legally, the governor of the Reserve Bank may be dispensed if the inflation target is breached.

- the inflation target in New Zealand is stated as a range, rather than as a point target.

- the relatively narrow target range and a one-year time horizon for targets has resulted in 2 related problems
  - a control problem
  - and instrument instability problem
I. the adoption of inflation targeting

Introduced in February 1st 1990.

It requires the Reserve Bank of New Zealand to formulate and implement monetary policy directed to the economic objective of achieving and maintaining stability in the general level of prices.

Requires the minister of finance and the governor of the Reserve Bank to negotiate and make public the policy targets agreement (PTA) that sets out specific targets by which monetary policy performance in relation to its statutory objective can be assessed during the period of the Governor’s term.

Why was inflation-targeting adopted? Poor economic performance:

New Zealand experienced double-digit inflation for most of the period since the first oil shock. Cumulative inflation between 1974 and 1988 was 480%. Throughout the period, monetary policy faced multiple and varying objectives which were seldom clearly specified, and only rarely consistent with achievement of inflation reduction. As a result of this experience, inflation expectations were deeply entrenched in New Zealand society.

Discussion of a change in monetary policy began in 1984 following the election. A consensus gradually emerged, both in the government and in the Reserve Bank, about the proper objectives of monetary policy as well as the institutional framework needed to achieve those objectives. A key element of this consensus was the need for increased focus on price stability.
NEED FOR COMMITMENT AND CREDIBILITY

The central bank feared that once inflation rates of around five percent had been achieved, people would anticipate an easing of monetary policy. New Zealand’s policymakers realized that some public commitment was necessary to put a cap on inflation expectations.

In addition, attention turned to possible institutional arrangements which would improve monetary policy credibility. It soon became apparent that increased independence of the central bank would be necessary.

The Bank has argued that the costs of inflation result mainly from uncertainty about future inflation and that to minimize that uncertainty the central bank must be charged with and held responsible for achieving price stability. Monetary policy must be both clearly formulated and credible.

Autonomy for the central bank was also argued to promote credibility, transparency, and accountability. The central bank would certainly be more credible if it were both free to set the instruments of policy and also held responsible solely for maintaining price stability, with no incentive to pursue other goals.

Multiple objectives tend to reduce the transparency of monetary policy and also, therefore, too weaken the accountability of both the central bank and the government. Given multiple objectives, failure to achieve one objective can too easily be explained by reference to another objective.
At the time of the signing of the first PTA (policy targets agreement) in March 1990, the bank had already succeeded in bringing inflation down from almost 17 percent at the beginning of 1985 to roughly 5%.

Thus the decision to announce inflation targets occurred after most of the disinflation and its recessionary consequences had already taken place.

The announcement was timed less to promote disinflation then to forestall a rise in inflationary expectations once monetary policy began to ease.

**II. The operational framework**

Initially the goal of price stability was defined as an annual rate of inflation between 0 and 2%.

This was an extremely ambitious goal given the narrowest of the range and the fact that the center of the range was so close to zero.

The central bank initially tried to downplay the likelihood of control problems, however such problems cannot be avoided, and at the end of 1996 the band was widened from 0 – 2% to 0 – 3%.
Measuring Inflation

There has in some ambiguity about the choice of price index for defining the inflation target. Initially the decision was to define the inflation target in terms of the headline CPI.

Accepting a positive average rate of inflation reflects

- index number problems
- the survey methodology
- the difficulty of adjusting for new goods or for improvements in quality

The first PTA admitted that the headline CPI is not an entirely suitable measure:

It incorporates prices and servicing costs of investment related expenditures -- increases in interest rates shown directly as increases in the cost of living.

Policy tightening creates an essentially spurious rise in measured inflation.

   The optimal definition of underlying inflation depends on the structure of the particular economy in the types of economic shocks that faces. The Reserve Bank has in practice paid greater attention to its measure of underlying or core inflation.

The first round effect of interest rate changes on prices is automatically excluded -- also, the bank makes additional adjustments that feels are warranted.
The effects of these adjustments are not inconsequential:

The headline and underlying inflation series have diverged by as much as two percentage points and have occasionally moved in opposite directions.

**Response to shocks – discretionary policy and escape clauses**

The Bank can deviate from the target under special situations:

- A movement in interest rates that causes a significant divergence between the change in the CPI and the change in the CPI excluding the interest rate components.

  This has been used frequently because of the effects of interest rate changes on mortgage and credit charges.

- Significant changes in the terms of trade arising from an increase or decrease in either import or export prices.

  Used twice in 1990, 1991 and in 1994 oil price changes were excluded from the calculation of underlying inflation.

- An increased rate decrease in the rate of the goods and services tax.

- An increase in prices induced by factors such as a natural disaster or a major livestock epidemic.

- Changes in government or local authority tax levies.
The use of adjustments and target definition of inflation is problematic in that it may reduce the transparency and credibility of policy. Since outsiders cannot reproduce the banks judgmental estimates of underlying inflation, an important part of the policy decision process becomes obscured.

**Reasons for narrow focus on price stability**

1. monetary policy affects inflation only in the long run

2. because monetary policy is only one instrument, it can deal with only one goal at a time.

3. multiple objectives allow policy to change in ways that may appear arbitrary thereby lowering credibility in raising inflationary expectations.

4. to require the Reserve Bank to corporate and government agencies objectives such as employment stabilization would compromise its autonomy.

5. multiple objectives reduce transparency and accountability.
Complications due to the exchange rate

Beginning and late 1996 the Reserve Bank constructed and explained the use of a monetary conditions index (MCI) as a means to assess the overall stance of monetary policy.

In New Zealand, the MCI is constructed as a 1:2 weighted average of the trade weighted exchange rate and the 90 day interest-rate.

This weighting reflects the relative impact of a move in exchange rates on inflation versus a move in interest rates

\[
2\% \text{ rise in exchange rate} = 1\% \text{ rise in interest rates.}
\]

The ratio underscores how important the exchange rate is to the New Zealand economy – other countries which have created such indices have found that it takes three or four times as much movement and exchange rates to be equivalent to a 1% rise in interest rates.

In contrast to Germany and Switzerland, New Zealand has never used money growth targeting as an intermediate step to achieve their inflation goals:

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\text{Empirical work has not been able to identify any particular money aggregate which demonstrated a sufficiently close relationship with nominal income growth and inflation.}
\]

In addition to the MCI, the yield curve has also been important in the banks analyses. The yield curve is used as a means of assessing the stance of monetary policy, with an inverted yield curve signaling tighter policy.
III. New Zealand monetary policy under inflation targeting

Three episodes since inflation targeting was adopted

- the second quarter of 1992 through the first quarter of 1994: a period of recovery
- the years 1994 to 1997: a period of rising inflation and interest rates, continued appreciation of the exchange rate, sustained GDP growth. During this period, the inflation target was breached twice briefly.

We focus on the third episode:

The recurring topic after early 1994 was the uncertainty about the level of growth that the economy could sustain without inducing inflation.

Structural reforms started in 1985—liberalization of the economy and opening of the markets to international competition, changes in the wage setting process – were presumed to have made it more difficult for price and wage inflation to develop.

Together with increased credibility of the monetary policy framework, the reforms might permits higher noninflationary growth in the economy.

Estimating the noninflationary rate of growth proved to be difficult.
Throughout 1994, growth was particularly strong in the construction sector. Hence, there was a difference between the tradeable and non-tradeable sectors. This caused problems for monetary policy.

what determines the exchange rate?

purchasing power parity

\[
\frac{e_i^{NZ}}{1US} = \frac{US_t^{NZ}}{1H} \frac{1US}{US_t} = \left( \frac{P_{NZ}}{P_{US}} \right)^{NZ} \frac{1US}{US_t}
\]

\[
e_{i+1} = \frac{P_{i+1}^{NZ}}{P_{i+1}^{US}} = \frac{1 + \pi_{NZ}}{1 + \pi_{US}}
\]

As New Zealand’s central bank increased interest rates during 1994 to slow the economy, this caused the exchange rate to appreciate.

This hurt the exporting sector of the economy but did little to diminish the demand in the non-tradeable sector.
In May 1995 inflation breached the 2% ceiling—the headline CPI rate rose even higher to 4.6%.

This episode demonstrated the control problem inherent in monetary policy.

When historically higher real interest rates appeared to be insufficient to maintain inflation within the target range consistently, the feasibility of the target range was questioned more widely.

The stringent requirements of inflation control caused harm to the real economy, notably the export sector.

The tension is between, on the one hand, choosing a target range which effectively anchors inflation expectations at a low-level but which is so narrow that provokes excessive policy activism and risks loss of credibility by being frequently exceeded; and on the other, a target range which does a less effective job of anchoring inflation expectations, but which requires less policy activism and protects credibility by being rarely breached. – Gov. Brash

At the end of 1996, New Zealand’s central bank agreed to widen the target range to 0 – 3%.