

INTEREST RATE ASSUMPTIONS UNDERPINNING THE OECD'S PROJECTIONS

1. This note provides detail on the derivation of the short- and long-term interest rates embodied in the Secretariat's short-term projections and medium-term baseline. To provide additional information, the note also describes the practices of other international organisations (in this case, the International Monetary Fund and the European Commission) and some central banks.

2. In the Secretariat's procedure, policy-controlled interest rates are taken to be set in line with the stated objectives of the monetary authority in question. These rates in turn feed into the determination of market interest rates, the ones more relevant for economic activity and published in the *Economic Outlook*. More specifically, taking objectives as given, short-term interest rates are projected jointly and consistently with other elements of the projection, notably the gap between actual inflation and the target (in the case where there is no explicit target, objectives are inferred from official statements or previous actions), and the gap between actual and potential output.

3. It is important to note, however, that short-term interest rates are not projected as rigidly consistent with the projected developments in output and inflation, in good part because they also reflect the Secretariat's assessment of risks both as regards meeting the inflation objective as well as the resilience of the economy. For example, where a withdrawal of monetary stimulus is required but where there is also a significant risk of weaker activity, hence lower inflation, this will slow the speed of the withdrawal built into the projection.

4. Conceptually, the short-term interest rate projection can be thought of in terms of deviations from the "neutral" short rate; that is, the rate which is consistent with both price-stability and the economy being at full employment. In practice, of course, there is a high degree of uncertainty regarding its level.¹ However, in principle, Secretariat estimates of neutral rates can be gauged from the medium-term reference scenario,² where it is assumed that output gaps are closed and price stability is achieved (if this is not already the case), and therefore policy rates return to estimates of the neutral rate.

5. To determine long-term interest rates, the Secretariat assumes that the expectations hypothesis holds; that is, that long-term interest rates are an average of future short-term rates, which, to be consistent, is calculated from the projected path of short rates produced by the procedure noted above. In addition, account is taken of the term premia, the extra amount of yield that investors in longer-term bonds in each economy require as compensation for the risk of capital losses and/or lack of liquidity. By construction, the term premia are added to the average of future short rates to arrive at the long-term interest rate. That said, the term premia in the major economies have been trending down since 2002 and are now low for a variety of reasons. Some of these factors are expected to dissipate with time³ and accordingly, over the projection

1. For a discussion on the difficulties estimating neutral short rate, see Box I.4, "Where does the 'neutral' interest rate lie?", *OECD Economic Outlook*, No. 76, December, 2004.

2. The most recent version can be found in Appendix I.2 in *OECD Economic Outlook*, No. 79, June, 2006.

3. On the term premia see Box I.2 "Why are bond yields so low", *OECD Economic Outlook*, No. 79, June, 2006.

period and into the medium term, the currently low term premia are assumed to rise back to historical norms.

6. This process contains some unavoidable tensions. First, a path for interest rate differentials between economies is a by-product of the projections and, assuming that uncovered interest rate parity holds there is an implicit path of future bilateral-spot exchange rates. In the Secretariat's projections, however, bilateral nominal exchange rates are held constant (except for Turkey, where the rate *vis-à-vis* the US dollar is adjusted for the still substantial differential between Turkish inflation and the OECD average); that is, a random walk is assumed. In fact, evidence suggests that the random-walk hypothesis performs better, on balance, than open interest rate parity. Second, the starting values of term premia are calculated from observed market long rates but based on the Secretariat's outlook for future short rates and therefore include the difference between the market's and the Secretariat's views of future short-term interest rates, which can be significant. This difference will tend to fade going forward, insofar as the market's and the Secretariat's views on future levels of policy rates converge. (It should also be noted that a similar tension would arise regarding exchange rates if the Secretariat were to use an uncovered interest parity assumption. Insofar as market projections for short rates differ from the Secretariat projections, the initial levels of exchange rates consistent with uncovered interest parity and Secretariat projections of interest rates would also have to be different from those actually observed, assuming common views on the long run equilibrium rates.)

7. The International Monetary Fund uses a procedure similar to the Secretariat's but only publishes annual figures for short-term interest rates for the three major economies.⁴ In its projections, the European Commission sets policy rates "in order to reflect the price stability objectives of monetary policy",⁵ but the actual values for short term rates are not made public.

8. In efforts to increase transparency and predictability, many central banks have moved to publishing projections for inflation and in that context some also publish interest rate projections. Among these, two approaches can be distinguished: showing the short rate profile implied by the market yield curve; or showing the profile consistent with the internal projections of the central bank. The Bank of England, the European Central Bank and Sveriges Riksbank⁶ are examples of the first approach. There are arguments for and against using rates derived from the yield curve. To the degree that central banks are transparent, policy frameworks are credible and information is evaluated by the markets in approximately the same way, then the path implied by the market rates may not be that different than what the bank has in mind. Even if markets hold different views about the strength of the outlook or the speed with which policy will respond, a published forecast built around such an assumption is likely to be more helpful in conditioning markets as to the possible direction of policy changes than assuming no change in rates.⁷

9. On the other hand, the projections implied by the yield curve may not represent the best forecast of future interest rates or be consistent with the central bank's own internal view of the most likely future

4. See IMF (2006), Box A1 "Economic policy assumptions underlying the projections for selected advanced economies", *World Economic Outlook*, September.

5. See European Commission (2006), Box 2.1 "Some specifics about the forecast", *The European Economy: Economic Forecasts*, Spring.

6. See, respectively Box "Interest rate assumptions in the projections" in Bank of England (2004), *Inflation Report*, August; Box A "Technical assumptions" in European Central Bank (2006) *Eurosystem staff macroeconomic projections for the euro area*, June; and Box "Changes in the Riksbank's forecasting methods", in Sveriges Riksbank (2005) *Inflation Report*.

7. This practice had been followed by a number of central banks (for example, the Bank of England, until 2004 and the European Central Bank until recently).

course of interest rates.⁸ To address this problem, the Reserve Bank of New Zealand and more recently the Central Bank of Norway both publish the path of short-term interest rates consistent with their internal forecasts.⁹ This procedure, similar to that adopted by the Secretariat, may well produce a path of interest rates that differs from market expectations.

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- 8 . See Svensson, L.E.O. (2006), “The instrument-rate projection under inflation targeting: The Norwegian Example”, *Inflation Targeting: Problems and Opportunities*, Bank of Canada Conference, February.
- 9 . The Norges Bank (see Box “Projection in *Inflation Report* 1/06 and 2/06, in *Norges Bank Inflation report 2/2006*) and the Reserve Bank of New Zealand (see Chapter 2 “Overview and key policy judgements” in *Monetary Policy Statement*, September, 2006).