

Financial markets and Central Bank measures¹

Interest rate rises and shifts in the markets

The Central Bank of Iceland raised its policy interest rate by 0.5 percentage points in September and again by the same amount in November. In part, the hikes were a response to deteriorating inflation prospects and greater household expenditure capacity following changes in the mortgage market. Competition for housing loans took on a new shape when the banks began offering mortgages on easier terms. The króna has strengthened recently for various reasons. In the beginning of 2005 the Central Bank will cease to make regular currency purchases with the aim of strengthening its foreign reserves, and subsequently only purchase currency in regular trades to meet the Treasury's debt service requirement. Credit institutions have experienced fairly easy liquidity and bank interest rates have not fully tracked changes in the Central Bank's policy rate. Indexed bank rates have gone down after the banks announced new mortgage loans. Equity prices took a sharp dive in October after three years of almost continuous rises. Bond market yields have been relatively stable.

The Central Bank raised its policy rate in September ...

Coinciding with the publication of Monetary Bulletin on September 17, the Board of Governors of the Central Bank of Iceland announced an 0.5 percentage point rise in its policy interest rate, effective from September 21. Reasons for the hike included growing inflationary pressures and the need for a tighter stance in response to the expansionary effect of investments for the aluminium industry. Also, the higher policy rate aimed to offset the easing in financial conditions in preceding months, in particular due to rising inflation expectations.

... and again in the beginning of November

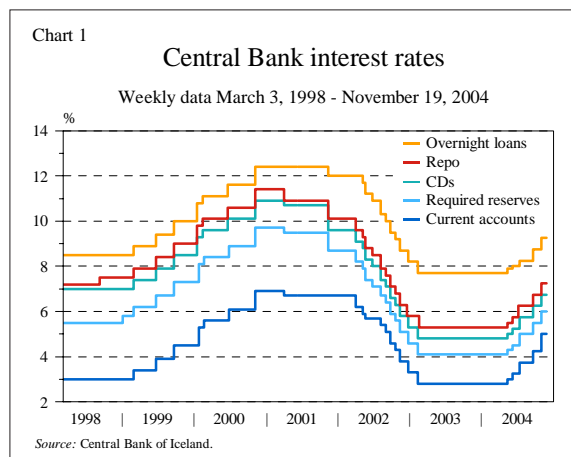
On October 29, the Board of Governors of the Central Bank announced an 0.5 percentage point rise in its policy interest rate, effective from November 2. In part this hike was a response to the greater household expenditure capacity unleashed by new developments in the mortgage market. According to

Central Bank sources, there is intense demand for the new loans. Lower interest rates have created some scope for households to reduce their payments burden, or to leave it unchanged while increasing their indebtedness, which is likely to spur consumption. Inflation has also exceeded the Central Bank's target for several months and there is a risk that expectations will become anchored higher. In its announcement the Central Bank also stated that, in the light of economic prospects, there was a strong case to be argued in favour of raising the policy rate sooner rather later, since a timely hike could mean that interest rates would not need to be raised by as much later.

Stepwise narrowing of the interest rate corridor

Since the Central Bank began raising its policy rate in May this year it has also narrowed the spread between its overnight lending rate and deposit rate for credit institutions from 4.9 to 4.25 percentage points. It plans to narrow this margin further in the coming months, which will reinforce the impact of policy rate changes and dampen volatility in inter-bank market rates. Chart 1 shows the development of

1. This article uses data available on November 19, 2004.



the policy rate and the Central Bank's other main interest rates.

Increase in new mortgage lending by banks ...

Since the banks began offering housing loans on new terms in August, their stock has soared and amounted to 55 b.kr. at the end of October. A sizeable share of these loans have been used to prepay older loans on less favourable terms from the Housing Financing Fund (HFF), pension funds and the banks themselves. However, many borrowers appear to have used this opportunity to increase their mortgage leverage and deploy some of the new borrowing on consumption. It is not yet clear how the banks intend to finance the new loans, but funding them with liquid assets or short-term capital will not be sustainable for long. Housing loans issued by the HFF and its predecessors have been prepaid on a considerable scale, but no official figures are available showing the sums involved. The HFF arranged an extra draw of housing bond categories that it prepaid in October and November and withdrew bonds to a market value of 14.4 b.kr. It also offered to buy back older bonds in the market. Seven bids were made but none were accepted. On October 19 the HFF announced how it intends to enact an extra draw which will be confined to the housing bond categories for which the prepaid bonds were financed. The HFF has also announced the issue of a new category of HFF bonds with a final maturity in 2014, aimed at increasing the flexibility of its liquidity management.

... and new loan limits were introduced

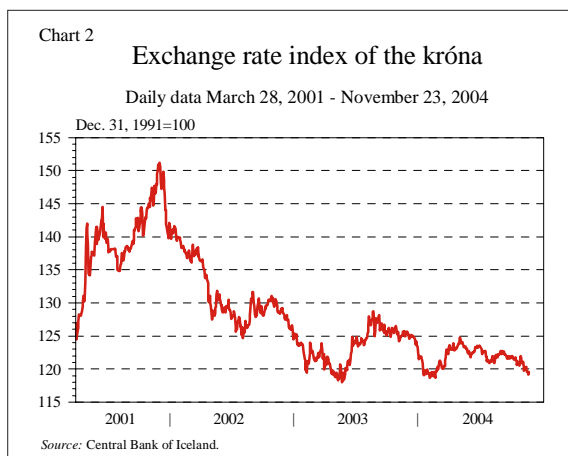
In October the HFF increased its maximum housing loan amount from 9.7 m.kr. to 11.5 m.kr. The Minister of Social Affairs has told parliament that the cap will go up to 13 m.kr. at the beginning of next year. A draft bill currently before parliament will allow the HFF to offer a loan-to-value ratio of up to 90% (based on purchase price). In November, Íslandsbanki announced 100% mortgages, subject to conditions for collateral and life expectancy. Other banks followed suit, with various conditions. These moves obviously exacerbate credit risk, given the stronger risk that such a high loan-to-value ratio could leave equity negative if housing prices turn downwards. In a report commissioned by the Minister of Social Affairs earlier this year,² the Central Bank found that, if a house is purchased when the price is two standard deviations above average long-term prices (as at present), the probability of negative mortgage equity at some stage over the loan period is 83-98% in the case of a 90% loan. This means that, for a long maturity, the equity position is almost certain to turn negative at some point and leave the lender's collateral position less secure. While this need not mean loan losses, the lender will be in an adverse position under such circumstances and more exposed to financial shocks.

The króna has strengthened slightly

The króna fluctuated within a fairly narrow range during the summer and into the autumn, but a relatively slow trend towards appreciation could be discerned. Some strengthening took place following the policy rate hike in the beginning of November and the exchange rate index dipped below 120; it has been in this region several times during the year. Reasons for the recent appreciation include the higher policy rate, which widens the interest-rate differential with abroad, relatively high yields in the Icelandic bond market, announcements of greater-than-expected investment such as further expansion of the Norðurál smelter, and changes in the ownership of major companies. The Central Bank bought

2. *Efnahagsleg áhrif breytinga á fyrirkomulagi lánsfjármögnunar íbúðarhúsnæðis* (The economic impact of changes in housing financing arrangements), June 28, 2004, published on the Central Bank of Iceland website on November 15, 2004.

50 million US dollars from one market maker in a single trade on November 4. Chart 2 shows the development of the exchange rate index this year.



... but Central Bank foreign currency purchases will be reduced next year

Since the beginning of September 2002 the Central Bank of Iceland has made regular purchases of currency in the interbank forex market with the aim of boosting its foreign exchange reserve, which had been severely depleted by the Bank's intervention in the market in 2000 and 2001. From September 2002 until the end of 2004, currency purchases will probably have totalled 75 b.kr. and the reserve is likely to be around 70 b.kr. at the end of the year. The Central Bank does not see grounds for boosting its reserves further for the time being. It has therefore decided, from the beginning of 2005, to cease regular currency purchases with the aim of strengthening its reserves. After that the Central Bank will only purchase currency in the domestic forex market to fulfil the Treasury's requirements for foreign debt service. Accordingly, in 2005 the Bank will purchase 2.5 million US dollars once a week in the market. The Central Bank will purchase currency on behalf of the Treasury for its foreign debt service requirement beyond these scheduled amounts and give forex market makers advance notice of transaction arrangements.

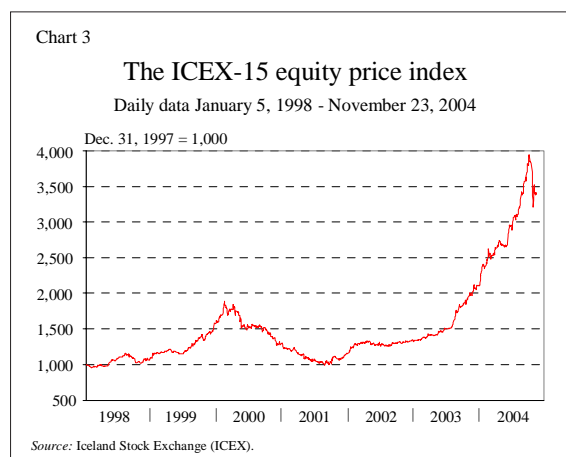
Equity prices fell ...

Equity prices in Iceland have been climbing fairly continuously ever since plans to cut corporate income

tax were announced in October 2001. Coupled with a turnaround in the economy and extensive cost consolidation, this measure caused equity prices to spiral. This year the rises were led by financial companies and for some time the twelve-month increase measured 100%. Strong cross-ownership links between certain companies also affected prices. In the beginning of this year, the Iceland Stock Exchange ICEX-15 index stood at 2,100 but it was nudging 4,000 in the beginning of October. On October 20 a slide began that lasted for 10 business days during which ICEX-15 fell by more than 16%. The largest fall in a single day was 4.23% on October 26, when the Competition Agency published its report on alleged price collusion by oil companies and announced fines against them, which doubtless served to sharpen the slide.

... then climbed some way back

Equity prices began rising again on November 3. ICEX-15 gained a total of 9.5% over the next four business days and is now hovering around a value of 3,400. Positive reports of company performance, expansion in foreign markets and increased investments for the aluminium industry clearly prevented a greater price slide. Chart 3 shows the development of the ICEX-15 index so far this year.



Easy liquidity

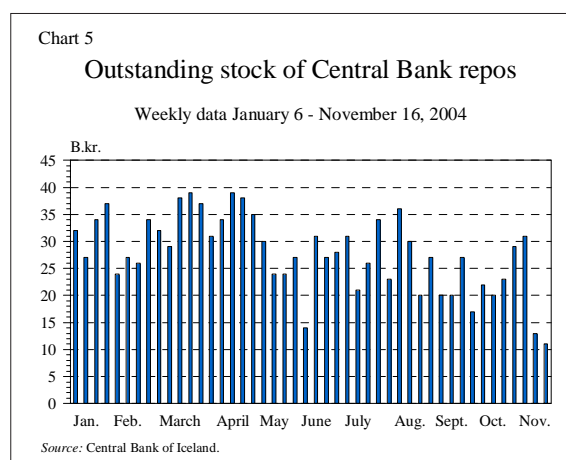
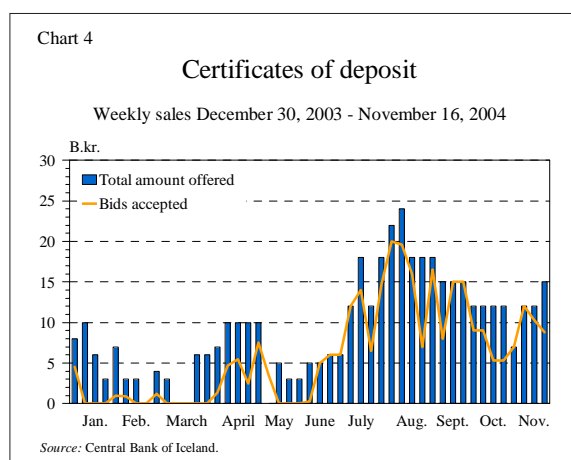
The banks' liquidity position has been quite easy, partly reflecting the Central Bank's regular currency purchases and changes to minimum reserve requirements that went into effect at the beginning of the

year. However, the impacts of both these measures were largely offset by the reduction in Central Bank repo transactions (see Box 1). As a countermeasure, the Bank has offered certificates of deposit (CDs) this year on almost a weekly basis. Chart 4 shows that there has been considerable demand for these instruments, although repo transactions have also been sizeable (see Chart 5). Intermediation of liquidity between individual credit institutions has shown some improvement and the banks have now opened credit lines with each other under the same arrange-

ment as in Central Bank repos, i.e. with secured loans.

Domestic interbank currency rates have been below the policy rate

One effect of easy liquidity is to soften the sensitivity of interest rates in the interbank króna market to changes in the Central Bank's policy rate. Credit institutions with liquid positions have a limited need for Central Bank lending facilities and opt instead for deposit instruments (CDs). It would be preferable if



Box 1 Central Bank regulatory changes and market measures and their impact on liquidity since January 2003

The following is an overview of the main effects that Central Bank measures have had on liquidity in circulation since the beginning of 2003. Four types of measures are examined: changes in the reserve requirement, currency purchases, repos and issues of certificates of deposit (CDs).

Required reserves

In March and December 2003 the methodology for calculating the reserve requirement of credit institutions was changed. As a result of these changes, 23 b.kr. were released from the credit institutions' required deposits (8 b.kr. in March and 15 b.kr. in December 2003; see *Monetary Bulletin* 2004/1). However, the institutions' expanding balance sheets have led their

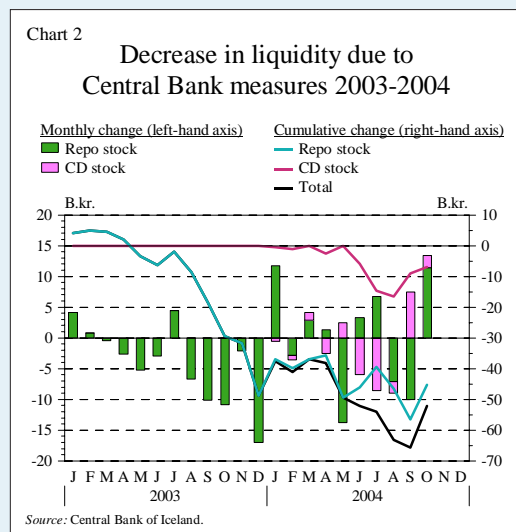
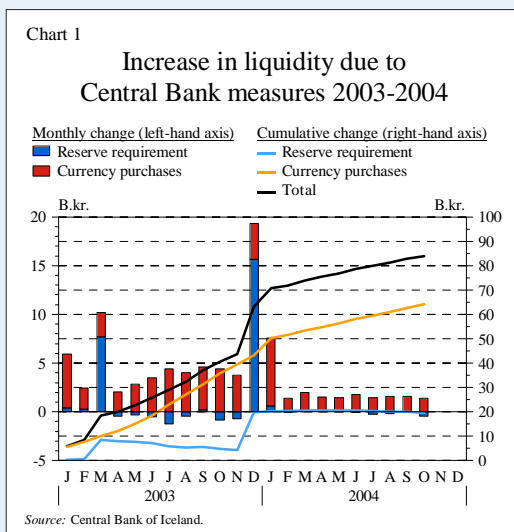
required reserves to increase again. Their reserve deposits with the Central Bank amounted to 31 b.kr. at the end of December 2003 but in September 2004 they were 11 b.kr., i.e. liquidity increased by 20 b.kr. over this period.

Central Bank currency purchases

Central Bank currency purchases over the period January 2003 to the end of October 2004 increased liquidity in the credit system by 64 b.kr. (currency amounting to 4.5 b.kr. was purchased in 2002).

Gross increase in liquidity as a result of Central Bank measures

Central Bank measures therefore resulted in a total



increase of 84 b.kr. in credit institutions' liquidity over this period.

Repos

At the beginning of 2003, the outstanding stock of Central Bank repurchase agreements with credit institutions amounted to 74 b.kr. At the end of October 2004 the outstanding stock was 28 b.kr., a reduction of 46 b.kr.

Certificates of deposit

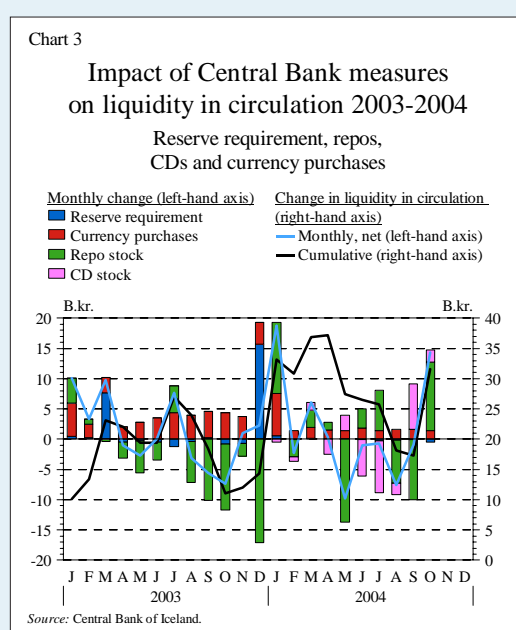
The Central Bank launched regular sales of CDs in the beginning of 2004. The outstanding stock of CDs was 7 b.kr. at the end of October.

Gross reduction in liquidity as a result of Central Bank measures

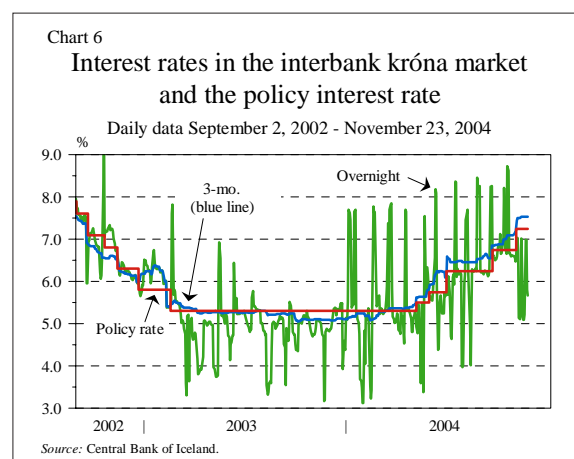
The decrease in repo transactions and the sale of CDs have resulted in a liquidity flow of 53 b.kr. to the Central Bank.

Net increase in liquidity as a result of Central Bank measures

These calculations imply that liquidity in circulation increased by 31 b.kr. over the period from the beginning of 2003 to the end of October 2004 as a result of Central Bank measures and changes to its rules on the reserve requirements.



institutions with ample liquidity were to open facilities for those that are tighter, in order to channel liquidity between them. Central Bank lending and deposits would then make up the balance. Such an arrangement has not been established in Iceland, in part because of risk evaluation criteria in inter-institutional trading. Also, the temporary impact that required reserves have on interest rates can cause fluctuations. A persistent mismatch, on the other hand, indicates liquidity imbalances, and new measures may need to be adopted. Chart 6 maps interbank króna market rates against the Central Bank's policy rate.

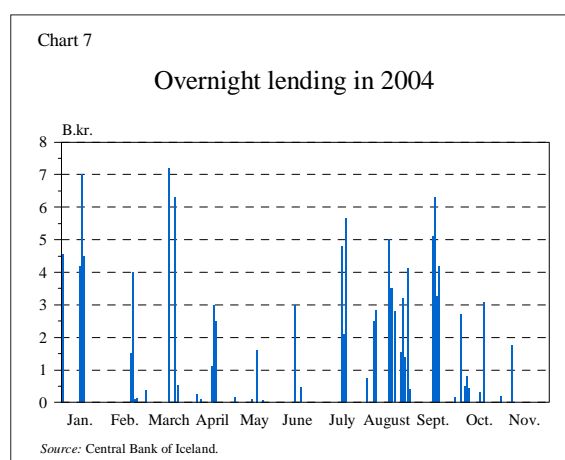


Decline in overnight lending

Easier liquidity of credit institutions has substantially reduced the need for Central Bank overnight lending facilities. O/N loans are now mostly used to close unforeseen gaps that form in payment systems. There are occasional cases when market agents miscalculate their own positions the market position and need to use O/N loans as a temporary bridge, although this is rare. O/N lending is shown in Chart 7.

Other central banks raise their policy rates

The Bank of Canada raised its key policy rate in September and October, by 0.25 percentage points each time. Likewise, the Reserve Bank of New Zealand announced hikes of 0.25 percentage points each in September and October, and the US Federal Reserve hikes of 0.25 percentage points each in September and November. The National Bank of Switzerland raised its repo rate by 0.25 percentage



points in September. Table 1 shows policy rates in selected countries and changes in them so far this year. The euro appreciated sharply against the US dollar in mid-October after lying below 1.24 for some time, and moved to around 1.3 where it has been in recent weeks. From October 26, 2000, when the dollar was at its strongest against the euro, until its weakest rate on November 10 this year, the dollar had slid against the euro by 36%.

Interest-rate differential has widened following policy rate rises

Following the Central Bank's policy rate rises, the interest-rate differential between Iceland and main trading partner countries has widened. The interbank market differential now measures 4.9 percentage

Table 1 Policy rates of selected central banks

%	December 31, 2003	November 19, 2004
Central Bank of Iceland	5.30	7.25
Reserve Bank of Australia.....	5.25	5.25
Reserve Bank of New Zealand.....	5.00	6.50
Bank of England.....	3.75	4.75
Norges Bank	2.25	1.75
Sveriges Riksbank	2.75	2.00
Bank of Canada	2.75	2.50
Federal Reserve System	1.00	2.00
European Central Bank	2.00	2.00

Source: Central Bank of Iceland.

points, compared with 3.1 percentage points in the beginning of May. One consequence of the wider differential is to fuel demand for foreign borrowing, which contributes even further to the strengthening of the króna. However, international interest rates have been at a historical low and are on an upward trend, as Table 1 clearly shows. The Central Bank of Iceland has repeatedly pointed out the inherent risk in borrowing under such conditions, especially the exchange rate risk faced by domestic entities with no foreign currency revenues that could cushion against exchange rate movements. The Bank reiterates this warning and urges caution in this respect. Hedges against exchange rate risk could also be a prudent measure.

Little change in bond market yields

HFF bond yields have changed relatively little in recent months. They rose slightly in the wake of the banks' new mortgage loan offers, but the increase was by and large reversed. The yield is currently 3.58% on HFF bonds with a maturity in 2024 and 3.67% for bonds maturing in 2044. HFF bonds in the amount of 7 b.kr. were auctioned at the end of September. Bids totalling 17 b.kr. were made, of which 4.9 b.kr. were accepted. No auction was held in October because of ample liquidity at the HFF. It is foreseeable that supply of the new HFF Bonds may be lower than was expected before the banks announced their new mortgage offers, possibly spurring demand for existing bonds in the market. Yields on non-indexed bonds have gone up broadly in line with higher inflation and rises in the Central Bank policy rate.

Box 2 Foreign exchange market activity

Since 1989, the Bank for International Settlements has conducted a Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity. Data are collected on turnover in traditional foreign exchange markets – those for spot transactions, outright forwards and foreign exchange swaps – and additionally since 1995, turnover in over-the-counter (OTC) currency and interest rate derivatives. The aim of these surveys is to obtain reasonably comprehensive information on the size and structure of foreign exchange and OTC markets. Increased information also promotes market transparency and reforms. Participants in the survey were 52 central banks and monetary authorities, which is similar to the last survey three years ago but more than double the original number. Each participant reports on foreign exchange activity in its own country. Iceland does not participate in the survey, although the Central Bank has collected foreign exchange trading data which are more detailed than in most other countries.

Preliminary findings were published in September this year. More detailed results will be released at the end of 2004. Further details of the survey are posted on the BIS website, www.bis.org.

Market turnover

Turnover data provide a measure of market activity and can also indicate market liquidity. Turnover was defined as the absolute gross value of all new deals entered into during the survey month (April 2004), measured in terms of the nominal or notional amount of the contracts and adjusted for double-counting. Table 1 presents a comparison of total forex market turnover with previous years, broken down by instrument. In April 2004, average daily turnover amounted to just under USD 1,880 billion,¹ an increase of USD 500 b. since three years ago. Turnover rose across markets but particularly in the spot and forward markets. However, global trading volumes had fallen between 1998 and 2001.

Factors that arguably boosted turnover include the growing importance of hedge funds and the more active role of asset managers in general. Investors also became increasingly interested in foreign exchange as an asset class alternative to equity and fixed income. There were no substantial changes in the currency

1. At the exchange rate of 67.67 kr. = USD 1 on November 9, this was equivalent to 127 thousand b.kr. By comparison, the record for annual turnover in the Icelandic forex market was in 2001, at 1.2 thousand b.kr.

Global foreign exchange market turnover
Daily averages in April in billions of US dollars¹

<i>Instrument</i>	<i>1989</i>	<i>1992</i>	<i>1995</i>	<i>1998</i>	<i>2001</i>	<i>2004</i>
Spot transactions.....	317	394	494	568	387	621
Outright forwards.....	27	58	97	128	131	208
Foreign exchange swaps.....	190	324	546	734	656	944
Estimate gaps in reporting.....	56	44	53	60	26	107
Total "traditional" turnover.....	590	820	1,190	1,490	1,200	1,880
Turnover at April 2004 exchange rates.....	650	840	1,120	1,590	1,380	1,880

1. Adjusted for local and cross-border double-counting.

composition of turnover between 2001 and 2004. The dollar was on one side of almost half of all transac-

tions, followed by the euro, yen and pound sterling. Unsurprisingly, dollar/euro was by far the most traded currency pair, followed by dollar/yen. Shares of the less-traded currencies have increased with the opening (or recovery) of markets in Asia and Eastern Europe.

The UK was the most active trading centre, capturing 31% of total turnover reported in the survey. Next came the United States (19%), Japan (8%), Singapore (5%), Germany (5%), Hong Kong (4%) and Australia, Switzerland and France (3% each).

The OTC market section consists of "non-traditional" foreign exchange rate derivatives such as cross-currency swaps and options and interest rate derivatives contracts. Turnover in the OTC market jumped to more than double the figure in the previous survey. Average daily turnover in April 2004 was reported as USD 1.2 trillion. The increase in activity largely reflects greater diversity of products rather than a shift from exchanges.