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The interbank currency swap market

Towards the end of 2001 an interbank currency swap market was set up in Iceland. Rules were set for the market in March this year allowing, but not obliging, the Central Bank to trade in it. The interbank market for currency swaps is intended to facilitate cash management by foreign exchange market makers and will hopefully strengthen interest rate formation. Turnover in the market was just over 123 b.kr. during the first 7 months of its operation, and the Central Bank conducted one transaction there. Most market trading has been for terms of 3 months or less.

Trading began in an informal interbank market for currency swaps on November 26, 2001. It was established by market makers in the interbank forex market and the Central Bank (see article on the foreign exchange market in *Monetary Bulletin* 2001/3). General rules were set for trading arrangements and this informal market was envisaged as the predecessor for a more formal one. Rules on the interbank market for currency swaps then took effect on March 15, 2002 and are in line with the original arrangement.

What are currency swaps?

A currency swap is an agreement between two parties to buy or sell currency (generally) at spot rates, which reverts at the end of an agreed period for a specified price (the forward rate). Such agreements actually involve a double contract, i.e. a spot rate currency trade and a currency forward agreement.

Rules for the interbank market

The interbank currency swap market is governed by Rules no. 187 issued on March 8, 2002. Trading in the market is confined to a single type of swap, currency swaps, where the principal changes hands at the start of the agreement and on its completion. Market makers in the interbank foreign exchange market are entitled to belong to the currency swap market. The Central Bank may also trade there, but is not obliged to even if requested to do so. Participants in the interbank markets for foreign exchange and currency swaps are Búnadarbanki, Íslandsbanki, Kaupthing Bank and Landsbanki.

Trading in the market is conducted in Icelandic krónur and US dollars, and participants are obliged to quote binding buying and selling rates for the US dollar, if requested by any other participant, for eight periods. The reference amount is US$ 3 million, but participants are free to negotiate other sums. Periods are one week (S/W), 2 weeks (T/W), one month (1 M), 2 months (2 M), 3 months (3 M), 6 months (6 M), 9 months (9 M) and one year (12 M). Participants may negotiate other periods among themselves.

For each period, the maximum interest rate spread shall be 25 basis points. Bids shall be updated at intervals of no less than 5 minutes and published on a separate page in the Reuters information system to which market participants have sole access. Trading may take place from 9:30 to 14:00 every business day. A market participant who has quoted a rate which results in a trade shall notify the Central Bank, stating the amount in US dollars, the length, spot rate and forward points (premium on the spot

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rate based on the interest rate differential between the currencies). The Central Bank publishes figures for turnover on a Reuters page at the end of each day.

Example of a typical trade

Participant A has dollars but is short on krónur for the next 3 months. A has several options available, one of which is to borrow krónur in the interbank market for krónur. He can also trade in the currency swap market, in effect putting up the equivalent amount in US dollars as a pledge.

A decides to call B and ask for a quote for a 3-month currency swap with a reference amount of US$ 3 million. B presents a quote for a spot trade at a rate of 100 kr. per dollar and 160 forward points (one point = 1/100 i.e. 160 points equals 1.60 kr. per dollar). A accepts the bid, sells US$ 3 million at a rate of 100 and receives 300 m.kr. for them. After three months A will buy US$ 3 million at a rate of 101.6 (the spot rate plus forward points) which is equivalent to 304.8 m.kr. The difference that B receives for the Icelandic currency, 4.8 m.kr., is the yield he requires on the amount in krónur less the yield he can earn from the dollars during the period when the agreement is in effect.

The interest rates used as a reference in the interbank market for currency swaps are interbank rates for krónur and interbank rates for US dollars. Market participants calculate the interest spread (like the spread in the foreign exchange market), for which the market rules stipulate a maximum of 25 points for the total of the joint domestic and foreign interest rate spread. A lower figure is permissible. Conditions at any time determine whether participants see benefits in narrowing the spread.

There can be various reasons for A and B to agree on a currency swap. Conditions in the interbank markets with krónur and foreign exchange can sometimes make trading there look unfavourable to either party. Often it does not take very heavy trading to cause movements in Iceland's small markets. According to Rules on the Solvency Ratio of Credit Institutions and Undertakings Engaged in Securities Services, the credit equivalent of currency swaps is considerably lower than for direct loans in the króna market since parties to a currency swap hold indirect pledges in the currencies being swapped, meaning that the main risk is posed by unexpected price changes but the principal should be secure. A and B could also regard it as an advantage not to need to hedge their trade further against future foreign exchange risk since the swap consists of two agreements, a spot trade and a forward trade.

One feature of currency swaps is that they are classified as off-balance sheet items. The principal of

Forward points

The way that a swap works is that one party buys/sells dollars against krónur at a spot rate (in a spot trade) and at the same time makes a forward agreement to sell/buy US dollars against krónur after a specific time at a specific rate known as the forward rate (in a forward trade). Thus a currency swap is a single agreement involving both a spot trade and a forward trade.

The forward rate does not represent a forecast by parties to the agreement about the exchange rate of currencies after a specific time. It is merely the sum total of the spot rate and the forward points, which are based on the interest rate differential between the respective currencies. Forward points can be either positive or negative (often referred to as the forward premium/discount). Since the Icelandic króna is a high-interest currency at present compared with main trading partners and the interest rate differential is positive, the forward points are positive (i.e. there is a forward discount on the spot rate that leads to the forward rate being higher than the spot rate).

Forward points are calculated as follows:

$$\text{Forward points} = S \cdot \left(\frac{1 + (v_{ISK} + a_{ISK}) \cdot d/360}{1 + (v_{FOR} + a_{FOR}) \cdot d/360} \right) - S$$

S = spot rate

v_{ISK} = domestic interbank interest rates

a_{ISK} = domestic interest rate spread (positive in the case of forward buying, otherwise negative)

v_{FOR} = foreign interbank interest rates

a_{FOR} = foreign interest rate spread (positive in the case of forward sale, otherwise negative)

d = number of days

an agreement does not swell a financial institution's balance sheet and therefore does not constitute part of the base used for calculating liquidity and required deposits.

Another characteristic is that currency swaps do not affect the foreign exchange balance. Financial institutions are obliged to maintain the differential between their foreign-linked assets and liabilities within ±30% of their equity. Currency swaps are posted both to assets and liabilities in the foreign exchange balance, so they do not affect the differential between them.

Trading in the market

The interbank currency swap market has only been operative for just over seven months. From its launch on November 26, 2001 until June 21, 2002 total trading amounted to just over 123 b.kr. Over the same period, turnover in the interbank forex market amounted to 556 b.kr. and in the krónur market just over 218 b.kr. As the table shows, the bulk of transactions have been at the shorter end of the market. One-week trades are far and away the most common, followed by 2 weeks and one month. There have been few trades for a longer term than 3 months. This is a similar pattern to that seen in the interbank market for krónur. Hitherto, market participants have taken advantage of the interbank market for currency swaps as a cash management tool rather than for risk management, and trading has taken place almost entirely at the shorter end of the market.

By far the largest amount of trading in the market uses the reference amount of US$ 3 million. The largest individual trades so far involved US$ 10 million. One swap has been made in the market involving Icelandic krónur and euros.

The Central Bank may trade in the currency swap market but is not obliged to even if requested to do so, any more than it needs to be active in the interbank forex market. The Bank has not participated in trading in this market with the exception of a currency swap that it made with one market maker in December 2001. On that occasion, the Bank sold Icelandic krónur equivalent to US$ 38.5 million in four phases, for terms of one, two, three and four months. These transactions accounted for just over 3% of total trading during the first seven months.

As shown in the chart, daily trading in the market is prone to swings. On some days trading is zero, but on others it is very brisk. The record trading volume so far was on April 3 and 4, 2002 at US$ 57 million each day, or 5.6 b.kr. Average turnover per day from the opening of the market to June 21 was just over US$ 9 million, or the equivalent to three trades at the reference amount.

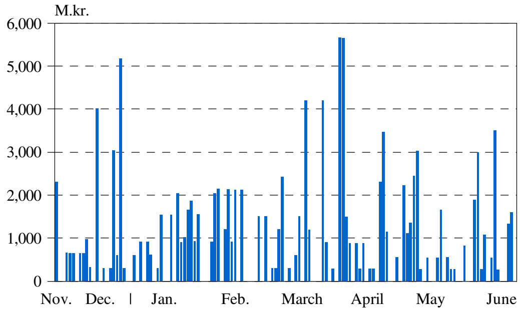
Overview of trading in the foreign currency swap market November 26, 2001 - June 21, 2002

Period	*Number of trades*	*Total trading in the interbank market*		*Total trading (million ISK)*[1]	*Central Bank trading (million USD)*	*Central Bank trading (million ISK)*[1]
		Million USD	*Million EUR*			
One week (S/W)	143	436	.	42,849	.	.
2 weeks (T/W)	85	268	.	26,428	.	.
1 M	96	302	10	30,707	10	1,043
2 M	22	73	.	7,164	9.5	991
3 M	30	97	.	9,503	9.5	991
4 M	1	10	.	991	9.5	991
6 M	7	21	.	2,075	.	.
9 M	9	27	.	2,696	.	.
12 M	4	12	.	1,179	.	.
Total	397	1,245	10	123,592	38.5	4,017

1. Spot rate.

Daily turnover in the interbank currency swap market

November 26, 2001 - June 21, 2002



Source: Central Bank of Iceland.

Experience of the market

The market for currency swaps is not an isolated phenomenon, since its products are both domestic currency and dollars. It links up the interbank markets for krónur and foreign exchange, and therefore ought to strengthen price formation in both. The interbank market for currency swaps is an important tool for market participants' cash management, allowing them to swap krónur for dollars and vice versa. It has therefore given the market greater scope for hedging its exposures and controlling its flows. In interbank markets, financial institutions negotiate credit lines with each other. The weighting of different types of trading within the credit line depends upon their character, but currency swaps weigh considerably less than, for example, direct borrowing in the interbank krónur market.

Although the formal interbank market for currency swaps is still young, Icelandic banks were engaged in such transactions before its inception. Currency swaps are therefore nothing new, but a formal market bolsters interest rate formation with continuous bids and lowers the spread compared with the earlier arrangement.

Currency swaps are not the only type of swap. The most common are interest rate swaps, where interest payments are swapped in the same currency. Swaps are one financial market product which has gained popularity over the past two decades, largely for their flexibility and effectiveness as a risk management tool.