Box 1 The effects of foreign exchange interventions on banking system's balance sheets

If the Central Bank wants to increase liquidity in the system, it reduces its policy interest rate which makes marginal funding of the financial system through the Bank less expensive, hence increasing the demand for liquidity, all other things being equal.[1] This is reflected in the balance sheets of the Central Bank and the banking system as a whole (i.e. the Central Bank and deposit institutions). The accompanying table shows a simple example of how this can occur. The Central Bank's holding of domestic securities, which deposit institutions use as collateral or repo loans, increases by 1 m.kr.[2] The Bank deposits this amount at the deposit institutions' account at the Bank, leading to a corresponding increase in base money (notes and coin in circulation and reserves with the Central Bank). This is offset by a 1 m.kr. decrease in the deposit institutions' domestic securities portfolio since the Central Bank owns the securities temporarily, until the repo trade reverts two weeks later. Instead, deposit institutions have more liquidity which they can use to increase lending to the public. The banking system's liabilities towards the public increase and so does the money supply, and because of the money multiplier the actual increase exceeds that in base money.

Unsterilised interventions have virtually the same effect. All that changes is that, instead of an increase in

The banking system's balance sheets (m.kr.)

Monetary policy action	Central Bank: Assets	Central Bank: Liabilities	Deposit institutions: Assets	Deposit institutions: Liabilities
Market operation (Central Bank buys domestic securities)	Domestic securities +1	Base money +1	Domestic securities -1 Reserves with Central Bank +1	
Unsterilised intervention (Central Bank buys foreign securities)	Foreign reserves +1	Base money +1	Foreign securities -1 Reserves with Central Bank +1	
Sterilised intervention (Central Bank buys foreign securities and sells domestic securities)	Foreign reserves +1 Domestic securities -1		Foreign securities -1 Domestic securities +1	

1. A more detailed discussion of the arrangement of repo auctions with the Central Bank of Iceland is found in Kristinsson (2000).

2. Under the accounting method used to record Central Bank repo auctions, it is in effect the Central Bank's claims on credit institutions which increase by 1 m.kr. rather than its domestic securities portfolio. By the same token, it is the deposit institutions' claims on domestic agents that decrease by 1 m.kr., rather than their domestic securities portfolios. The scenario is presented in this way for consistency with the main text, which is a conventional description of the impact of monetary policy on central bank balance sheets. In economic terms, the two effects are identical.

the Central Bank's domestic securities portfolio, its foreign portfolio increases, i.e. the Bank's foreign reserves increase. The Central Bank sells deposits denominated in domestic currency in exchange for deposits denominated in foreign currency amounting to 1 m.kr. The Bank deposits this sum in the institutions' account at the Bank and base money increases by 1 m.kr. By the same token, the deposit institutions' foreign securities portfolio falls, but their liquidity increases. The liabilities of the banking system as a whole increase, as does money supply just as if this were a conventional open market operation.

However, if the Central Bank sterilises the intervention in the foreign exchange market, it reduces liquidity again by reducing its repo transactions with deposit institutions, since it removes liquidity from the system and replaces it with domestic securities to the amount 1 m.kr. The overall impact of this transaction is that base money remains unchanged and all that has altered is the relative shares of domestic and foreign assets held by the Central Bank and deposit institutions. The Central Bank now owns less domestic securities and larger foreign reserves, while the deposit institutions' foreign portfolio shrinks to match its greater domestic securities. Thus the liabilities of the banking system as a whole towards the public remain unchanged, and so does the money supply.

The above analysis is a simplification of the process behind these transactions. It ignores the possibility that the Central Bank could intervene by buying foreign deposits from foreign banks (for example with foreign-denominated borrowing) or that domestic institutions could borrow abroad and sell the equivalent amount to the Central Bank. Domestic deposit institutions' foreign liabilities would then increase by 1 m.kr. instead of their foreign securities portfolio decreasing by the same amount. Thus the above analysis shows in effect the total impact on (domestic and foreign) credit institutions, but the impact on the money supply remains the same. In evaluating the economic effects of interventions, such a simplification is irrelevant.