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# Private Equity Funds, Capital Flows and the Foreign-Exchange Market

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## INTRODUCTION AND SUMMARY

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In recent years a number of Danish companies have been acquired by foreign private equity funds. Total investments by foreign private equity funds in Danish companies from 2005 up to and including the 1st quarter of 2006 are estimated to have been in the range of kr. 120 billion.

The acquisitions entail capital flows between Denmark and abroad, which are published in the *Balance of payments - Financial account* statistics. These statistics show Denmark's external financial transactions and include, *inter alia*, direct investments, portfolio investments and other investments.

Since the private equity funds primarily finance their acquisitions via bank loans, direct investments give a somewhat less accurate indication of the extent to which Danish companies are subject to foreign acquisitions. The reason is that such bank loans are typically raised by a Danish entity, e.g. a holding company, and bank loans are not included under direct investments. Only equity transfers and loans from the private equity funds are regarded as direct investments. Moreover, such direct investments are often transferred to the Danish holding company via units established by the private equity fund outside its home country. This affects the breakdown of direct investments by country and sector.

Capital flows resulting from the acquisition of Danish companies by foreign private equity funds usually lead to purchase and sale of Danish kroner against foreign exchange in the foreign-exchange market for Danish kroner. The acquisition process typically involves several currency transactions. Up to the settlement of the acquisition there is often an increased demand for kroner, i.e. a tendency for the krone to strengthen, while the settlement itself typically involves a supply of kroner, i.e. a tendency for the krone to weaken. However, even large acquisitions do not affect the exchange rate of the krone to a degree that the players in the foreign-exchange market for Danish kroner cannot handle.

The growing importance of private equity funds in connection with corporate acquisitions has highlighted a number of issues in relation to private equity funds. However, the scope of this article is to contribute to explaining how acquisitions made by private equity funds affect Denmark's external capital flows and thereby the relevant statistics, and the foreign-exchange market. Only acquisitions by foreign private equity funds in Denmark are considered, firstly since acquisitions of Danish companies by Danish private equity funds do not normally result in external capital flows, and secondly because there has been less acquisition of foreign companies by Danish private equity funds than vice versa.

### WHAT IS A PRIVATE EQUITY FUND?

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A private equity fund invests in companies on behalf of a group of investors. On the face of it, a private equity fund therefore resembles an investment association, but there are substantial differences. For instance, a private equity fund is an active owner, while an investment association is a passive co-owner. Another major difference is that investments in private equity funds are only open to selected investors, and that they are not negotiable in the same way as investment fund shares. In addition, a private equity fund typically concentrates on a few companies, while an investment association diversifies its risk.

Finally, investments by private equity funds are leveraged, which is not generally the case for investment associations. The equity capital of the private equity fund, i.e. the investors' contributions, normally constitutes a relatively small share of the capital. The structure of a private equity fund is described in more detail in Box 1.

### CAPITAL FLOWS

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Capital flows in connection with the acquisition of a Danish company by a foreign private equity fund are outlined in Chart 2, where a distinction is made between Denmark and abroad.

This distinction is relevant to the *financial account of the balance of payments*, which is a statement of capital flows between residents and non-residents, irrespective of currency.<sup>1</sup> A euro-denominated transaction between two Danish companies is therefore irrelevant to the balance of payments, while a krone-denominated transaction between a Danish and a foreign company is relevant.

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<sup>1</sup> Residents are companies domiciled in Denmark, regardless of whether they are under Danish or foreign ownership, and persons intending to stay in Denmark for a period of at least one year, irrespective of nationality.

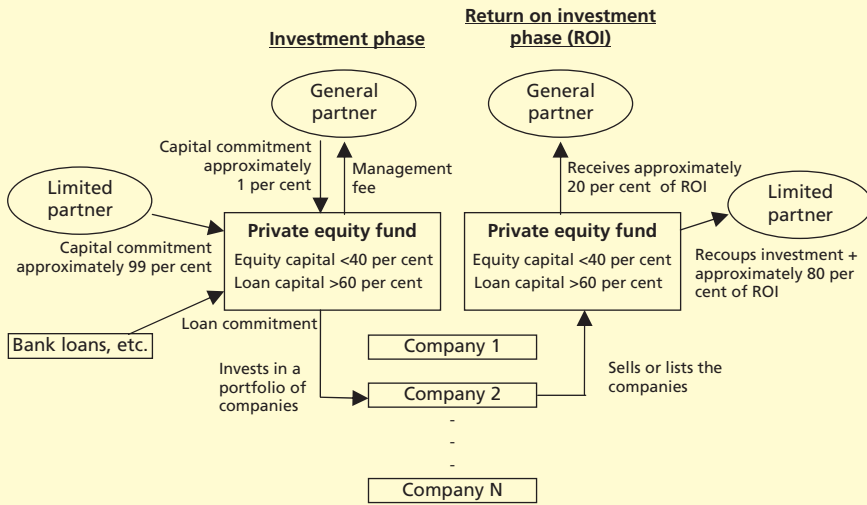
STRUCTURE OF A PRIVATE EQUITY FUND

Box 1

Private equity funds primarily invest in unlisted companies or listed companies that are subsequently delisted. The objective is to sell the companies after some years, realising a profit that is distributed among the investors, cf. the Chart below.

"STRUCTURE" OF A PRIVATE EQUITY FUND

Chart 1



Participation in a private equity fund normally requires substantial capital, and the investors (limited partners) are typically institutional investors and wealthy private individuals. The investors make a capital commitment that the private equity fund may draw on in connection with acquisitions.

A private equity fund is administered by persons (general partners or administrators) specialised in company acquisitions and development. They receive a management fee, typically 1-2 per cent of the capital commitment, and invest in the private equity fund themselves. This means that the administrators have a financial interest in the investment. In addition, they usually join the Board of Directors of an acquired company in order to exert influence on the company.

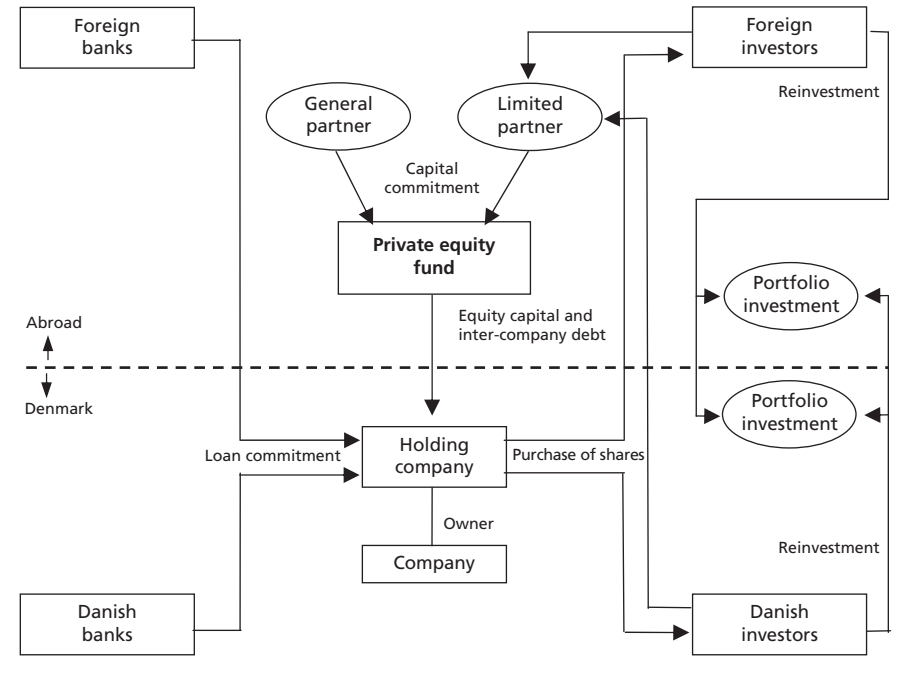
When a private equity fund acquires a company, it normally does so via a leveraged buyout (LBO). Equity financing via the partners' capital contributions seldom exceeds 40 per cent and is often lower, with a typical distribution of 1 per cent from the administrators and the rest from the investors. The rest of the capital for the acquisition is obtained via loans using the private equity fund's ownership of the acquired company as collateral.

When the companies are sold, the investors recoup their investment and typically 80 per cent of any return on investment (ROI). The remaining 20 per cent goes to the administrators. The private equity fund is subsequently wound up.

Source: Brealey, Myers and Allen (2006).

## CAPITAL FLOWS IN CONNECTION WITH ACQUISITIONS

Chart 2



In the *foreign-exchange market for Danish kroner*, where kroner are traded against foreign exchange, the parties' residential status in relation to the balance of payments is, however, irrelevant. The supply of and demand for kroner is what matters. In other words, some capital flows may be relevant to the balance of payments, but of no significance to the exchange rate of the krone, and vice versa.

In most cases, the private equity fund establishes a Danish holding company that finances the acquisition using equity provided by its owner, i.e. the private equity fund, as well as leveraged financing via bank loans, etc. In other cases the company is acquired by a foreign private equity fund without the involvement of a holding company. This generates capital flows directly to the acquired company.

*Leveraged financing* often comprises loans from foreign banks, which generates capital flows between Denmark and abroad if the loan is raised by a resident, in this case the holding company. Loans may also be raised from Danish banks, in which case there are no capital flows between Denmark and abroad.

*Equity financing* takes place via equity capital transfers and loans from the private equity fund, collectively referred to as direct investment. Irrespective of whether a holding company has been established, equity

financing leads to capital flows between Denmark and abroad, either to the holding company or to the acquired company.<sup>1</sup>

The original owners of the acquired company may be either Danish or foreign investors, and their reinvestment of the funds in Denmark or abroad also influences the capital flows.

## IMPACT ON CAPITAL-FLOW STATISTICS

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### **Leveraged financing leads to underestimation of trading volume**

Direct investments relating to the acquisition of Danish companies by private equity funds reached kr. 35 billion in 2005 and the 1st quarter of 2006. However, this amount by no means reflects the private equity funds' total acquisitions, which are estimated to have been in the range of kr. 120 billion, to which should be added the debt of the acquired company. The reason is that the private equity funds' acquisitions are primarily financed via bank loans raised by a Danish entity, e.g. a holding company, and bank loans are not registered as direct investments.

Consequently, direct investments do not necessarily provide a full overview of foreign acquisitions of Danish companies, and typically the distribution in the capital-flow statistics differs from the distribution seen when one company acquires another, i.e. an industrial acquisition, in which case there is a closer correlation between the direct investment and the acquisition price, cf. Chart 3. When the acquirer is a private equity fund, most of the capital inflow is classified as other investment and only a small part as direct investment.<sup>2</sup>

### **Decline in portfolio shares**

When a foreign private equity fund acquires a Danish listed company, a decline is often seen in non-residents' portfolio shares in Denmark. This effect is not unique to acquisitions by private equity funds; it is also seen in connection with industrial acquisitions. The reason for the decline is that in many cases some of the shares in the acquired company are owned by non-residents prior to the acquisition. The distribution of equity instruments thus shifts from portfolio investments to direct investments, and particularly other investments.<sup>3</sup>

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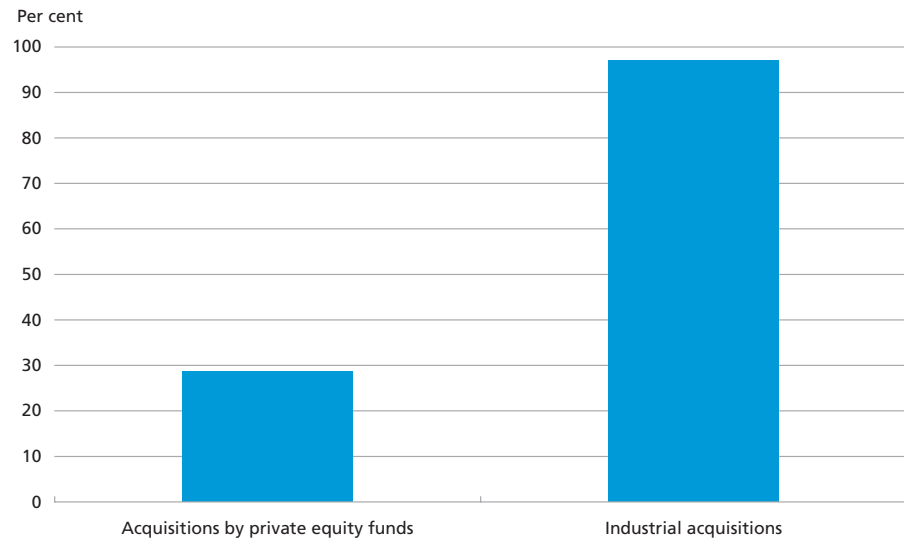
<sup>1</sup> The capital commitment to the private equity fund may, however, come from Danish investors, in which case there is a capital flow from Denmark to the foreign private equity fund.

<sup>2</sup> In connection with the establishment of a Danish holding company, foreign direct investments in Denmark may even decline. For example, the foreign private equity fund may already have a direct investment in the acquired company. If the private equity fund, when acquiring a larger stake in the company, transfers ownership to a holding company established in Denmark, and the value of the original direct investment exceeds the value of the new direct investment in the holding company, direct investments in Denmark, viewed in isolation, will decline.

<sup>3</sup> Where a foreign investor has held a direct investment in the acquired company, the decline is naturally registered under direct investments.

DIRECT INVESTMENTS AS A RATIO OF THE ACQUISITION PRICE, 2005 AND THE 1ST QUARTER OF 2006

Chart 3



If the non-resident investors reinvest in Danish securities, no decline is seen in non-residents' portfolio investments in Denmark.

There is no clear picture of the reinvestment pattern, but a review of the major acquisitions by private equity funds from 2005 up to and including the 1st quarter of 2006 does not reveal any tendency for foreign investors to reinvest in Denmark. The explanation could be that investors adhere to a particular sector index.

### Impact on distribution by industry and country

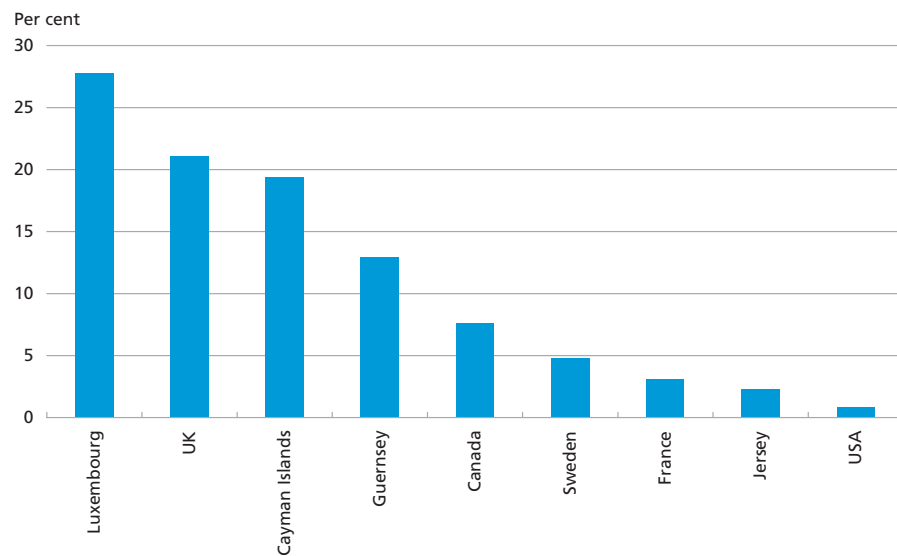
When a foreign private equity fund establishes a Danish holding company, the balance-of-payments statistics do not register a financial transaction between the private equity fund and the acquired company since the latter is owned by the Danish holding company. However, the transaction does lead to capital flows from abroad to the Danish holding company, which e.g. receives equity capital transfers and loans from the private equity fund, as well as loans from foreign banks.

In relation to the *distribution by industry*, a foreign direct investment is often registered under "non-financial holding companies", and not in the category in which the acquired company operates.

The *distribution by country* of the direct investment is also affected since the investment is typically made via companies established outside the private equity fund's home country, cf. Chart 4. For example, if a US private equity fund acquires a Danish company via a company in Luxem-

DISTRIBUTION BY COUNTRY OF DIRECT INVESTMENTS IN DENMARK BY FOREIGN PRIVATE EQUITY FUNDS IN 2005 AND THE 1ST QUARTER OF 2006

Chart 4



bourg, the direct investment in either the holding company or the acquired company comes from Luxembourg, not the USA.

## THE FOREIGN-EXCHANGE MARKET

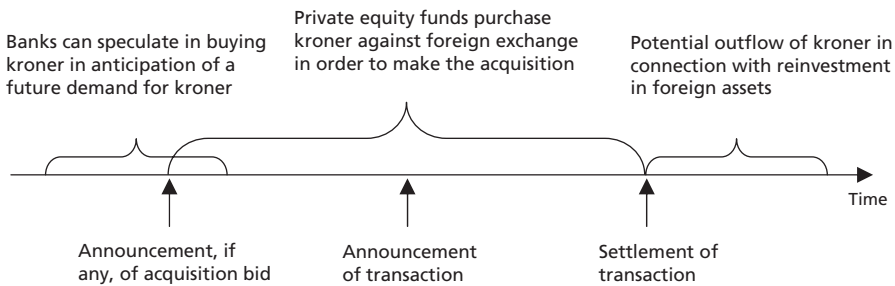
All trading of foreign exchange against kroner affects the exchange rate of the krone. So it is not possible to isolate the specific impact of the acquisition of a Danish company by a foreign private equity fund. In connection with major transactions it may nevertheless be interesting to monitor the development in the exchange rate, since the sums involved can be substantial. In many cases, however, the correlation between capital flows and the exchange rate of the krone is blurred by foreign-exchange-market transactions in the opposite direction, and in any case capital flows need not necessarily lead to trading in kroner against foreign exchange, cf. above.

### Trading in Danish kroner in connection with acquisitions, and the impact on the exchange rate of the krone

Where the acquisition of a Danish company by a foreign private equity fund involves purchase and sale of Danish kroner against foreign exchange, the currency transactions may take place at several stages, cf. Chart 5. Firstly, when the private equity fund obtains the necessary amount in Danish kroner to acquire the company; and subsequently,

## TIMELINE: EXAMPLE OF ACQUISITION

Chart 5



when the transaction is settled and the former owners receive the agreed purchase price, which they may retain in Danish kroner or exchange for other currencies. Furthermore, expectations of an imminent acquisition may induce foreign-exchange dealers to stock up their speculative portfolios with kroner before the private equity funds begin to obtain kroner.

### Financing the acquisition

When a foreign private equity fund acquires a Danish company, the private equity fund must usually obtain an amount in Danish kroner as payment to the former owners. For this purpose the private equity fund typically allies itself with one or several foreign or Danish banks.

As previously described, the private equity fund usually contributes equity capital constituting a small part of the purchase sum. Equity contributed in foreign exchange can be exchanged for Danish kroner by purchasing kroner and selling foreign exchange either spot or forward. If the amount involved is large, it may be beneficial to spread the transactions over a period of time in order to allow the foreign-exchange market for Danish kroner to absorb the transactions.

The remaining – and larger – part of the purchase sum is financed via loans which are either raised directly in Danish kroner or in another currency that is likewise exchanged for kroner either spot or forward. FX swaps also enable krone-denominated liquidity to be obtained at short notice, cf. Box 2.

The impact on the exchange rate of the krone depends on the structure of the specific acquisition in respect of leveraged financing and use of foreign-exchange transactions. The impact may even be zero.

In the case of acquisition of a Danish company with settlement in Danish kroner, the share of the purchase sum that is obtained via spot and forward transactions will affect the exchange rate. The private equity fund's banker requests Danish kroner, which is purchased from



THE MOST FREQUENTLY USED PRODUCTS IN THE FOREIGN-EXCHANGE MARKET FOR DANISH KRONER AND THEIR IMPACT ON THE EXCHANGE RATE

Box 2

The impact of foreign-exchange transactions on the exchange rate of the krone depends on the transaction type. According to a BIS survey of the transaction volumes in the global foreign-exchange and derivatives markets in April 2004, spot transactions, forward transactions and FX swaps accounted for, respectively, 20 per cent, 8 per cent and 69 per cent of the total transaction volume in the foreign-exchange market for Danish kroner, cf. Abildgren (2006), which describes this market in more detail.

- Spot transaction: purchase or sale of one currency against another for settlement within two banking days of the trade date.
- Forward transaction: purchase or sale of one currency against another for settlement more than two banking days after the conclusion of the contract.
- FX swap: foreign-exchange transaction comprising a spot trade combined with an opposite forward contract.

An FX swap can be used for short-term financing, whereby kroner is lent to the swap counterparty for a period, against another currency as collateral.

If Danish kroner is traded spot against another currency, any impact on the exchange rate is seen at once. With forward transactions, i.e. when Danish kroner is purchased or sold for delivery on a future date, the effect on the exchange rate is usually also observed immediately, since the banks typically hedge forward transactions via spot transactions. If a client concludes an agreement with a bank to purchase Danish kroner for delivery on a future date against payment in another currency, the bank usually purchases the Danish kroner immediately at the current exchange rate, whereby the exchange-rate risk is eliminated.

In contrast, an FX swap does not affect the exchange rate of the krone since an FX swap corresponds to a spot transaction with an opposite forward transaction – for example, a client buys kroner spot from and at the same time sells kroner forward to a bank. All other things being equal, the purchase of kroner strengthens the krone. The forward sale of kroner is hedged by the bank via the immediate sale of kroner, and, all other things being equal, this weakens the krone. The net impact on the exchange rate is thus zero.

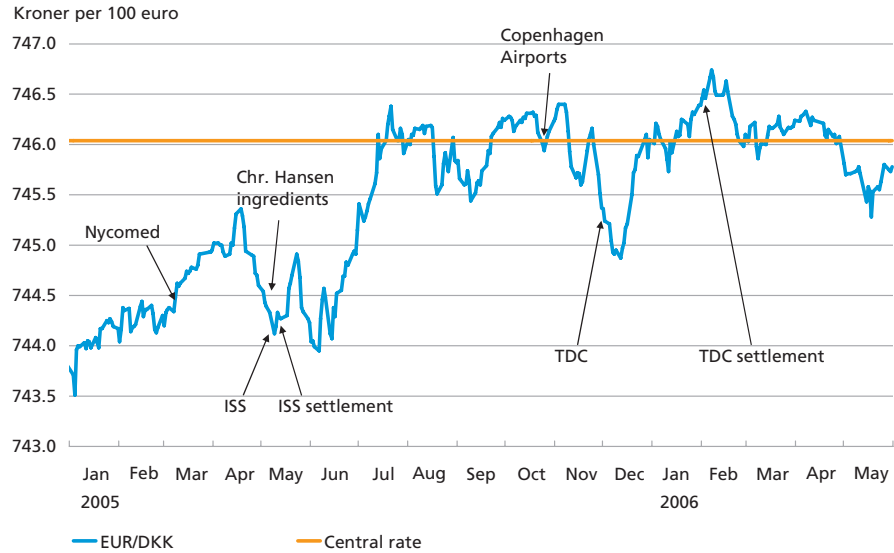
other banks and the banks' other clients, and, all other things being equal, this demand strengthens the exchange rate of the krone. Danish kroner may be purchased from either Danish or foreign banks. Foreign banks may hold positions in Danish kroner for an extended period, but typically a demand for Danish kroner ends up in Denmark since the foreign banks contact Danish banks to purchase kroner.

The part of the acquisition that is financed via loans in Danish kroner – including via FX swaps – does not normally affect the exchange rate. The more of an acquisition that is financed via loans in Danish kroner the smaller the impact on the exchange rate of the krone.

Considering the largest acquisitions of Danish companies by foreign private equity funds in 2005 and the 1st quarter of 2006, there was a

EXCHANGE RATE OF THE KRONE AND MAJOR ACQUISITIONS BY FOREIGN PRIVATE EQUITY FUNDS

Chart 6



Note: Strengthening of the krone means that the exchange rate measured in kroner per 100 euro falls, and weakening of the krone means that the exchange rate rises.

The arrows for Nycomed and Chr. Hansen ingredients refer to the dates of announcement of the transactions. The arrow for ISS refers to the date when it was announced that the transaction would take place. The arrows for Copenhagen Airports and TDC refer to the dates when the bids were announced. The "settlement" arrows refer to the time of settlement of the transaction with the previous shareholders.

tendency for the krone to strengthen in connection with the financing of the acquisitions. The largest acquisition in Denmark so far is that of TDC A/S, which was acquired by five private equity funds that jointly established a Danish holding company, Nordic Telephone Company (NTC). The bid for TDC was announced at the end of November 2005. Since the loans to finance the acquisition had been raised in euro, but settlement took place in Danish kroner, NTC – via its bankers – had to purchase Danish kroner against foreign exchange, which led to a demand for kroner. At the same time, the krone strengthened vis-à-vis the euro in a two-week period from the end of November to the beginning of December, cf. Chart 6.

Another major transaction took place in May 2005 when two foreign private equity funds acquired ISS A/S. The private equity funds submitted a bid in late March 2005, and on 9 May it was announced that the acquisition would take place. The krone rate was by and large unchanged in the days around the announcement of the bid. In the period up to the announcement that the transaction would take place, and on the actual announcement date, the krone strengthened significantly against the euro. The krone also strengthened in connection with the announcement of the Australian company Macquarie Airports' bid for Copen-

hagen Airports A/S on 24 October 2005. Other large acquisitions in 2005 included the acquisitions of Nycomed by Nordic Capital and of Chr. Hansen's ingredients division by PAI Partners, which were announced on, respectively, 10 March and 29 April 2005. No significant impact on the krone vis-à-vis the euro was registered just before or after the announcement of the Nycomed transaction, whereas the krone strengthened in connection with the announcement of the acquisition of Chr. Hansen's ingredients division.

The exchange-rate impact of transactions by private equity funds can be neutralised if Danmarks Nationalbank intervenes in the foreign-exchange market to stabilise the krone against the euro. It is therefore relevant to consider whether Danmarks Nationalbank intervened in the periods when foreign private equity funds made acquisitions. On a net basis Danmarks Nationalbank bought foreign exchange and sold kroner in order to curb the strengthening of the krone in May, June and December 2005. In all other months of 2005, Danmarks Nationalbank either intervened to prevent the krone from weakening, or did not intervene at all. This means that Danmarks Nationalbank's intervention to counter a strengthening of the krone coincided with the two largest acquisitions, i.e. ISS in May and TDC in December.

In addition to any impact that a private equity fund's purchase of kroner may have on the exchange rate, an effect may also be seen before the private equity fund's bankers start purchasing kroner. When other banks' foreign-exchange dealers become aware that a transaction is likely to take place soon, the banks may begin to purchase kroner ahead of the expected transaction, in anticipation of future demand and a strengthening of the krone.

In connection with the acquisition of TDC there were rumours of a forthcoming sale throughout much of 2005, and the rumours intensified up to the end of November when NTC made an official bid. These rumours may have affected the banks' krone positions and thereby the exchange rate of the krone, which strengthened vis-à-vis the euro in the last week of November.

### **Settlement of the acquisition**

Capital flows affecting the exchange rate of the krone may also occur when private equity funds settle their acquisitions of Danish companies with the previous owners. The potential impact depends on how the former owners invest the proceeds from the sale. If the former owners exchange kroner for foreign exchange in order to invest the funds in foreign shares or bonds, this will have a weakening effect on the krone, all other things being equal. On the other hand, if they retain kroner

and reinvest in other krone-denominated assets, there is no immediate impact on the exchange rate. To the extent that the former owners purchase krone-denominated shares from other shareholders, who then reinvest in securities denominated in other currencies, the exchange rate is naturally affected at a later time.

Since most of the former ISS shareholders received payment on 11 May 2005, the krone weakened against the euro around this date, cf. Chart 6. NTC settled the acquisition of TDC on 1 February 2006, and in the subsequent period the krone was also seen to weaken. In February 2006, non-residents' portfolio shares in Denmark declined by kr. 36 billion, which was mainly attributable to the Danish company NTC's acquisition of TDC shares from non-residents. Many of the original shareholders in both ISS and TDC were non-residents, and most of them have presumably reinvested abroad. Naturally, Danish shareholders also had the option to reinvest in foreign securities. The many former shareholders who did not reinvest in Danish securities led to the exchange of substantial sums in Danish kroner for foreign exchange within a relatively short period. The large supply of Danish kroner may have contributed to the krone's weakening in early February.

## CONCLUSION

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As described above, the acquisition of Danish companies by foreign private equity funds is of significance to the interpretation of the statistics for Denmark's external capital flows and the acquisitions may lead to demand for and supply of kroner. However, the capital flows stated in the statistics do not necessarily match the flows in the foreign-exchange market for Danish kroner.

There is typically a demand for kroner in the period up to the settlement of the acquisition, and a supply of kroner in connection with the settlement. However, this all depends on how the acquisition is financed and how the original owners reinvest the proceeds.

In general the transaction volume in the foreign-exchange market for kroner is so limited that higher demand for or a larger supply of kroner in connection with the acquisition of major Danish companies by foreign private equity funds is typically reflected in the exchange rate. However, this is a situation that can be handled by the players in the foreign-exchange market for Danish kroner, including Danmarks Nationalbank. The latter can intervene to smooth exchange-rate fluctuations and hold the krone stable vis-à-vis the euro.

In the cases of TDC and ISS, the acquisitions by private equity funds must be assumed to have led to minor net demand for kroner, since

there were Danish shareholders that reinvested in krone-denominated securities.

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