ANALYSIS

DANMARKS NATIONALBANK

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Globalisation complicates current account interpretation

Danish exports of goods are increasingly produced outside Danish borders

Globalisation implies that goods sold abroad by Danish firms to an increasing extent are completely or partially produced abroad.

Read more

Danish current account surplus does not entail fewer jobs abroad

In 2015, Danish manufacturing firms had just under 380,000 employees abroad, while foreign firms had just under 80,000 employees in manufacturing in Denmark.

Read more

Corporate structures affect the current account

Globalisation can complicate the interpretation of developments in imports, exports, investment income and GDP, because these may be influenced by firms' head office location and internal accounting structure.

Read more

Globalisation increases global prosperity

The costs of dividing a production chain into many links in different countries have fallen as trade barriers and transport costs have declined. As a result, firms are now producing or buying sub-components and services practically all over the world and they are able to sell their products globally.[1] This analysis examines the impact of the globalisation of production on Denmark's current account.

Globalisation enables firms to expand far more than would be possible within the borders of a single country. It also allows them to increase productivity because of intensified competition, and because they get access to new knowledge and technology abroad. All this leads to lower prices for the benefit of consumers, who also win by gaining access to a broader range of goods and services.

Some parts of society may, however, incur costs in connection with globalisation. For example, some jobs will disappear locally when a firm chooses to outsource parts of its production to another country. The same applies internally in countries where production gradually moves from rural areas to large cities. The costs of globalisation are hard to quantify, e.g. because it is very difficult to distinguish them from technological advances that may also lead to loss of jobs locally.

To ensure that the gains from globalisation and technological advances are broadly distributed, labour market flexibility and adaptability are important, and this requires ongoing upgrading of skills. Denmark is in a good position in that respect, as it has a flexible labour market, a high level of education and continuous supplementary training, so the advantages of globalisation and technological advances benefit most Danes. As a result, their aversion to globalisation is limited.[2] Other countries find it more difficult to ensure a broad distribution of the gains, so opposition against globalisation is much stronger.

Partially rolling back free trade would make all countries poorer. This is not the right solution to offset costs of globalisation. Instead, efforts could be made to ensure that the benefits are distributed across the entire population.

Globalisation is important for a small country like Denmark

In 2015, Danish firms had more than 1.3 million employees abroad, cf. Chart 1 (left), while foreign firms had just under 300,000 employees in Denmark, cf. Chart 1 (right). In particular, Danish firms have many employees abroad in the trade, transport and manufacturing industries as well as in business service (including cleaning, where e.g. ISS has many employees). These are also the industries where the number of employees abroad has gone up in recent years. For instance, the number of employees abroad in manufacturing increased by almost 62,000 to approximately 378,000 from 2010 to 2015, while foreign firms employed just under 80,000 in manufacturing in Denmark.

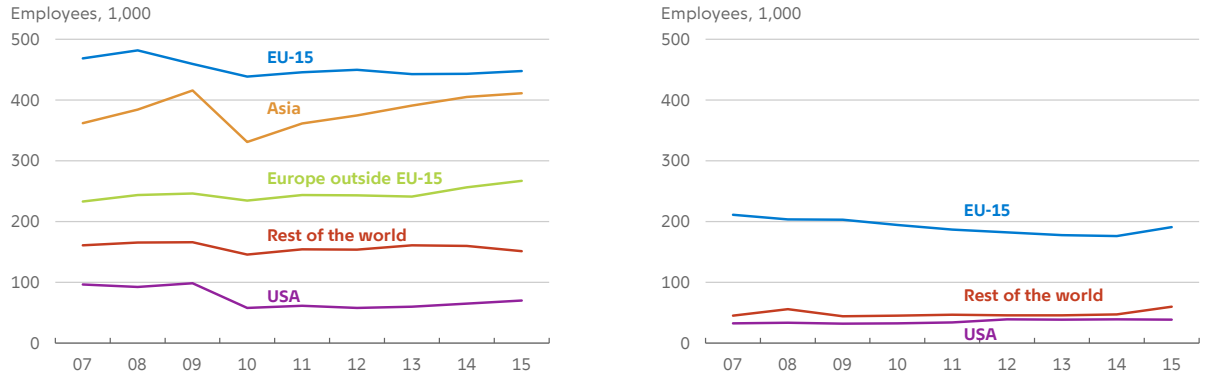
Because the production chain is split across several countries, firms own a substantial capital stock abroad, e.g. factories, wind farms and port terminals. The value of the foreign subsidiaries of Danish firms amounted to almost kr. 1,250 billion at end-2016, corresponding to more than 60 per cent of the Danish gross domestic product, GDP, or almost 20 per cent of the value of the capital stock in Denmark, excluding housing. The foreign subsidiaries are located mainly in Denmark's neighbouring countries and in large countries, including the USA, cf. Chart 2. At the same time, foreign ownership of firms in Denmark is also sizeable, amounting to approximately kr. 680 billion at end-2016.

1 See Nellemann and Nissen (2016) for a detailed analysis of the impact on Denmark of global value chains.

2 See European Commission (2016).

Danish firms have many employees in foreign subsidiaries, and foreign firms have many employees in Denmark

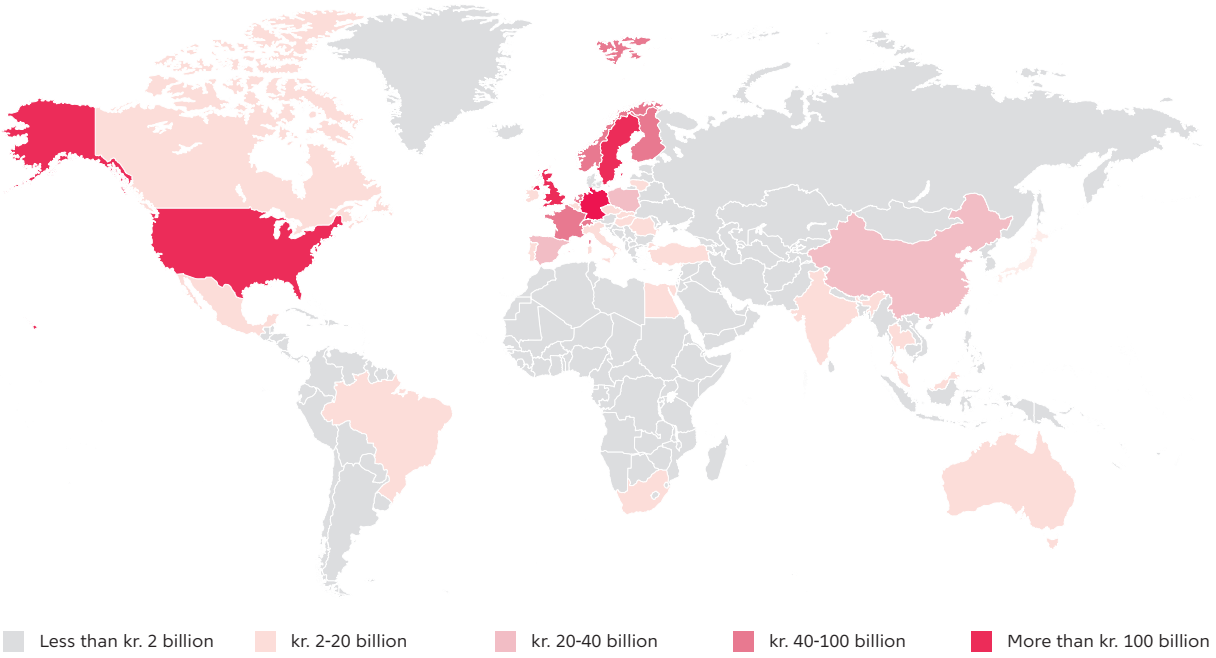
Chart 1



Source: Statistics Denmark.

Danish firms have subsidiaries mainly in countries close to Denmark and in the large countries

Chart 2



Note: The map shows the value of Danish firms' direct investments, excluding pass-through investments (directional approach). The data refers to the first counterparty country, which is not necessarily the country in which the actual investment is made, cf. Damgaard and Elkjaer (2017).

Source: Danmarks Nationalbank.

Globalisation complicates current account interpretation

Danish exports of goods are increasingly produced outside Danish borders

Goods sold abroad by Danish firms are not produced by labour and capital in Denmark alone, but also by labour and capital in all the countries producing sub-components for the goods.[3] A large share of the physical goods that are being sold abroad by Danish firms, and that consequently are part of Danish exports, has never been in Denmark. The reason is that sales are included as Danish exports if the legal ownership of goods passes from a Danish to a foreign resident[4]. Thus, it is not important where the goods are physically located or where they were produced.[5]

For example, part of Danish exports to the USA is produced in US factories by US workers, but the Danish head office has legal ownership of the product. Hence, the Danish trade surplus vis-à-vis the USA does not necessarily mean that Denmark wins jobs, while jobs are lost in the USA. Instead, it means that the amount for which firms registered in Denmark sell goods to US residents exceeds the amount for which firms registered in the USA sell goods to Danish residents.

Globalisation can make it necessary to look at a broader set of economic indicators

Globalisation complicates interpretation of the current account and the national accounts more broadly. Since 2005, Danish firms have increased their exports of goods purchased or produced abroad, i.e. the firms sell goods abroad that have never been located in Denmark. In 2016, sales of these goods comprised almost 16 per cent of total exports of goods by Danish firms – increasing from just under 3 per cent in 2005.

Exports not crossing Danish borders have risen strongly since 2005 Chart 3

Note: Net profits from sales abroad (merchanting and processing).
Source: Statistics Denmark and own calculations.

There are two types of such trades: merchanting and processing.[6] Net income from those types accounted for more than 4 per cent of GDP in 2016, cf. Chart 3.

Merchanting exports cover Danish firms' purchases of goods abroad that are resold abroad without processing. Traditionally, merchanting has been defined as the purchasing and selling of commodities by a merchant (hence the name) for profit. Merchanting trade may also cover intergroup transactions, for instance a Danish firm manufacturing a product in a subsidiary abroad. The subsidiary sells the product to the Danish parent company which resells the product to the final buyer abroad without the

3 See Nellemann and Nissen (2016) for a detailed description of global value chains.

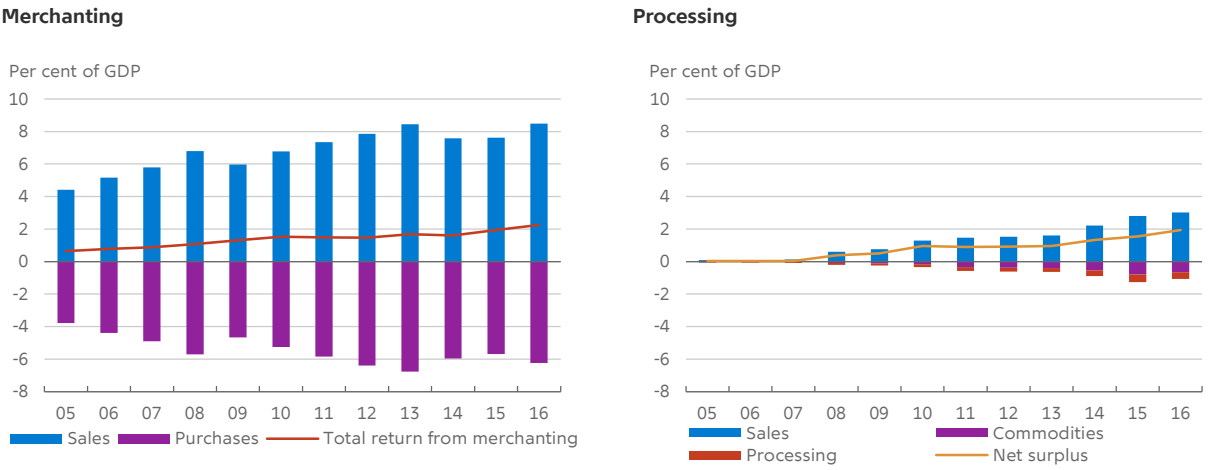
4 A Danish resident is a legal entity in Denmark, e.g. a company registered in Denmark.

5 These trades have only been included in exports of goods on the current account since September 2014 when Statistics Denmark adopted the new international ESA2010 guidelines. Such trades were previously regarded as exports of services. While this change affects exports of goods and services, it has no impact on total exports.

6 See Statistics Denmark (2016).

Strong rise in earnings from purchases and sales of goods abroad (merchanting) and from goods processed and sold abroad (processing)

Chart 4



Note: Left-hand chart: The total value of purchases of goods and services is included in "Merchanting, purchases", and the total value of sales is included in "Merchanting, sales". "Merchanting, purchases" is included as negative exports in the compilation of the current account. Right-hand chart: Net earnings from processing are difficult to compile, e.g. because the processing service also includes costs for production of goods sold in Denmark, and because some commodities may originate in Denmark.
Source: Statistics Denmark and own calculations.

product physically crossing the Danish border. The difference between the purchase price and the sales price is included as exports and Danish output.[7]

Merchanting profits have increased substantially, from 0.7 per cent of GDP in 2005 to a little over 2 per cent of GDP in 2016, cf. Chart 4 (left). This is mainly attributable to a strong rise in the merchanting sales by manufacturing firms, cf. Bo and Burman (2016). Presumably, a substantial part of these sales are intergroup transactions where the registered profit margins can be very high.

Processing means that products of Danish firms are processed abroad before they are sold abroad. For that type of sales abroad, transactions are registered individually on the current account. The purchase of the commodity is registered as imports of goods (if the commodity is purchased abroad), the production costs abroad are registered as imports of processing services, while the sale of the finished product is registered as exports of goods.[8] The net trade surplus from sales of processed goods abroad increased from nothing in the mid-2000s to almost 2 per cent of GDP in 2016, cf. Chart 4 (right).

The rising activity of Danish firms abroad may impact a number of variables in the national accounts, including imports, exports, investment income and GDP. Depending on how an international group chooses to organise itself for accounting purposes and the country in which it establishes its head office, income from the activity abroad will be placed in different national accounts variables. This can make it more difficult to interpret their development.

A change from merchanting to processing or vice versa leads to fluctuations in both imports and ex-

7 Of course, merchanting exports to Denmark may also occur, e.g. where goods are produced in Denmark and sold to a foreign firm which subsequently resells the goods to a Danish resident. The profit margin obtained from these trades by the foreign firm must be deducted from Danish output.

8 A firm may choose to own the commodity itself, e.g. if the foreign processing firm does not have sufficient liquidity to purchase it.

ports, while net exports are unchanged. The reason is that if a firm chooses to let its head office purchase and own all commodities used in its production abroad (processing), the purchase of commodities is included as imports, while the entire value of the finished product is included as exports. If, instead, the firm lets a foreign subsidiary purchase and own commodities and the firm's head office subsequently purchases and resells the finished product (merchanting), only the net earnings are included as exports.

Separation of output and investment income can be influenced by the way the firms are organised for accounting purposes. The reason is that it is hard to quantify the share of value added attributable to each sub-component or service and, accordingly, to determine what the intergroup prices should be. This applies to firms, but probably even more so to tax authorities and producers of statistics.

For example, the head office may pay a low price for goods from subsidiaries abroad and subsequently sell them at a profit. This results in substantial value creation (output) at the head office, reflecting e.g. research and development, marketing, investment risk or group administration, which are activities generating considerable value added.[9]

Alternatively, the head office may pay a high price for goods from subsidiaries abroad. This means that a larger part of the value creation is generated abroad, and the subsidiary makes a profit. However, this accrues to the owners, i.e. the head office, as investment income (which is included in gross national income, GNI, rather than in GDP).

The location of the head office is also very important, e.g. because intellectual property rights are often owned by the head office. By way of example, Ireland's GDP rose by more than 26 per cent from 2014 to 2015 as a number of multinational corporations moved their head offices and intellectual property rights to Ireland, cf. OECD (2016). The value added generated by those intellectual property rights are now included as Irish output. The owners of the multinational corporations did not move to Ireland, however, so a considerable part of the value creation does not accrue to Irish residents.[10]

The above illustrates that in the international guidelines for compilation of the current account it has been necessary to make choices of compilation methods as a result of globalisation. The selected methods are well-founded, but in connection with e.g. a change in the location of a firm's head office it may be necessary to look at a broader set of economic indicators to attain a complete and accurate view of the economic development.

For small, open economies with large international corporations, strong fluctuations in imports, exports, investment income and output may occur solely a result of changes in the way international corporations are organised for accounting purposes, i.e. changes that have limited impact on employment and consumption opportunities.

Moreover, it should be noted that GNI is often a more stable measure of a country's economic development, because GNI is not much affected by whether a firm chooses to transfer income to its head office via merchanting exports or via investment income.

The current account is the difference between a country's savings and investment

Higher earnings from merchanting and processing do not necessarily result in a larger current account surplus. This depends on how the earnings are used. If they are used to raise Danish wages, distributed to Danish owners or spent on domestic investment, imports may increase. If they are paid out to foreign owners as dividends, this is equivalent to investment income leaving the country. In order to understand developments in the current account, it is important whether the earnings are saved or whether they are consumed or invested in domestic real capital, cf. Jørgensen et al. (2017).

9 However, intergroup prices may also be set to some extent in order to minimise the group's total tax payments. Viewed across countries, merchanting exports tend to be concentrated especially in countries with favourable tax conditions, including Hong Kong, Luxembourg, Panama and Switzerland, cf. Fard et al. (2017).

10 The non-resident owners may choose to receive the profits as dividend payments (investment income out of Ireland) or as buy-back of own equities (registered as a capital gain, cf. the section below).

The current account can be seen as the difference between a country's total domestic savings and investment in real capital – and thus as its financial savings abroad. A larger current account surplus may be attributable to e.g. increasing savings or decreasing domestic investment in real capital.

Activities abroad may potentially impact domestic savings and investment and hence the current account. When Danish firms invest abroad, this could, in principle, be at the expense of domestic real capital investment, which would, viewed in isolation, increase the current account surplus. This does not seem to be the case, however, cf. Isaksen et al. (2016). If anything, investment activity in industries where firms typically invest abroad is slightly stronger than in other industries, cf. Chart 5.

Increased activity abroad can alternatively lead to higher corporate savings. While their savings have fluctuated considerably since 2005, they were only slightly higher than the 2005 level in 2016, cf. Chart 6.

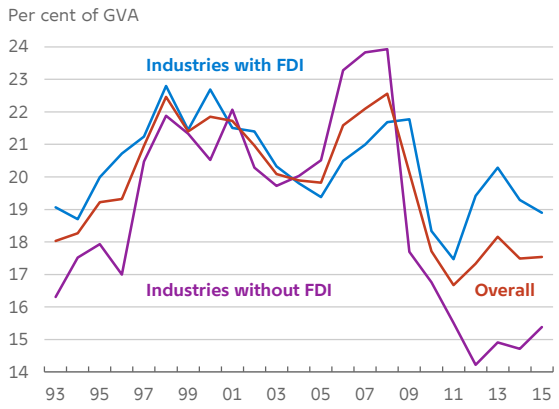
In the long run, all income, including domestic residents' income from activity abroad, can be expected to be translated into consumption and investment in real capital. Households save in order to spend later. It is thus not clear that the increasing activity abroad by firms (merchanting and processing) increases the structural current account surplus of Denmark.

The extraordinarily large current account surplus seen today is found to be temporary, cf. Jørgensen et al. (2017). It reflects, in particular, that households have large savings and low investments – inter alia in order to reduce their debt.

Activity abroad may lead to the current account surplus being slightly overestimated in the statistics

Hence, the Danish current account surplus that we are seeing now is not to any significant extent found to be attributable to corporate activity abroad. However, some studies find that more merchanting increases the current account surplus. According to Beusch et al. (2017), the surplus in countries with significant merchanting exports is approximately 3 per cent of GDP larger than in countries without any significant merchanting exports. They argue that firms use earnings from merchanting exports to finance investment abroad, i.e. domestic savings increase, while domestic investment is not affected.

FDI do not reduce investments in real capital in Denmark Chart 5



Note: GVA is gross value added. FDI is Foreign Direct Investments, i.e. investments abroad by Danish firms. Investment ratios are excluding residential investments. Industries with FDI are manufacturing, energy supply, trade, transport, finance and insurance as well as knowledge services. Industries without FDI are agriculture, forestry, fisheries, water supply and refuse collection, building and construction, hotels and restaurants, information and communication, property trading and rental, travel agencies, cleaning and other operational services, culture and recreation and other services and private households. Public administration, training, education and healthcare, along with raw material extraction, are excluded from the calculations.
Source: Danmarks Nationalbank and own calculations.

Corporate savings have not kept up with the increased activity abroad Chart 6

Note: Net profits from merchanting and processing. Gross savings of non-financial corporations.
Source: Statistics Denmark and own calculations.

The current account includes income from activity abroad less expenses to preserve the capital stock abroad. This means that a surplus used to finance investment abroad leads to a larger capital stock abroad, and seen from a corporate perspective, the result is an expansion and not just investment to preserve an existing capital stock. Hence, according to the argumentation presented in Beusch et al., firms with merchanting exports tend to expand abroad rather than distributing profits to the owners or investing in domestic real capital.

In order to examine whether firms with activities abroad are greater contributors to the current account surplus than other firms, we look at financial savings (savings less investment) for Danish firms with and without foreign subsidiaries located abroad. At first glance, financial savings of firms with activities abroad seem to be larger than those of other firms, cf. Box 1.

There may be several reasons for this, however. For example, it may reflect real choices by owners who wish to save by leaving profits in the firm, e.g. by expanding abroad, while owners of firms without foreign subsidiaries choose to obtain dividend payments or to invest in Denmark. In this case, the causality is from savings to activity abroad. Firms save in order to expand abroad – they don't save because they have activities abroad.

In accordance with international guidelines for compilation of the current account, there are also some factors which could imply that the real financial savings in firms with activities abroad are overestimated. The reason is that these firms often disburse profits as buy-back of own shares rather than by payment of dividends, cf. Chart 7.

Since 2012, Danish listed companies have bought back own shares to the amount of around kr. 37 billion annually, cf. Danmarks Nationalbank (2017). Virtually all of them have activities abroad. By including the buy-back of own shares by listed non-financial corporations as investment income to the shareholders, the financial savings ratio will fall for firms with direct investments. In fact, the difference in financial savings ratios between firms with and without FDI

Firms with activities abroad have larger financial savings Box 1

Based on Statistics Denmark's accounts statistics, we compare financial savings in non-financial corporations with and without FDI. In this way, FDI is used as a proxy for activity abroad. Aggregate financial savings in Danish non-financial corporations with FDI are considerably higher than for other Danish firms, cf. the chart to the right.

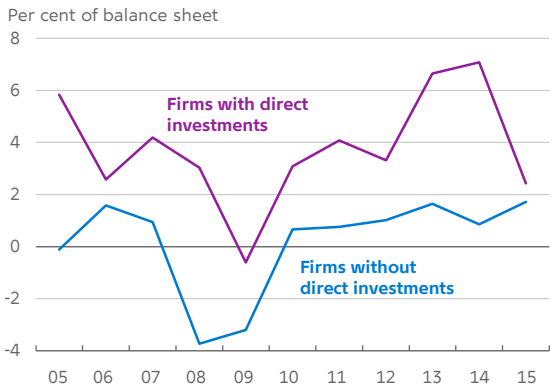
Firm-level financial savings are constructed as follows:

financial savings =
profit after tax – dividends – Δfixed assets + Δinventory

Aggregated across all firms, this measure more or less follows financial savings (net lending) in the national accounts.

Data is constructed from data on firms' inward and outward FDI, combined with data from Experian and Bisnode on firms' annual financial data. Firms with FDI are selected based on the criterion that, for at least one of the years 2005-15, the firm had a positive gross outward FDI stock, either in the form of equity or intercompany loans. The selection of both types of firms is held constant during the period in order to avoid annual shifts in financial savings resulting from changes in the number of firms. The two selections without and with FDI include 42,971 and 1,918 firms, respectively. The original data set included 109,349 firms in 2005 and 124,524 firms in 2015.

Firms with activity abroad have larger financial savings than other firms



Note: Adjustment has been made for the fact that several firms may be part of the same group. As long as just one of the firms in the group makes direct investments, the group will be included as making direct investments. The adjustment does not change the results of the analysis to any significant extent.
Source: Bisnode, Experian, Danmarks Nationalbank and own calculations.

is reduced by more than half. Consequently, the buy-back programmes can to a large extent explain why firms with activities abroad tend to have higher financial savings ratios than other firms.

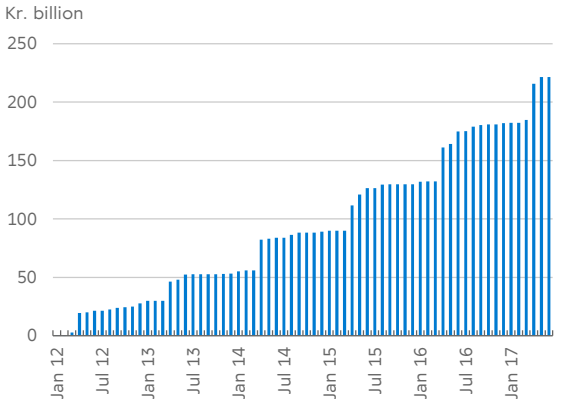
The buy-back programmes may also impact the current account. According to the international guidelines for compilation of the current account, only dividends are included as investment income, while buy-back of own shares is not included.[11]

When foreign firms make substantial investments in Danish listed equities, the buy-back programmes reduce the registered investment income paid to non-residents. Obviously, the same applies to investment income received from non-residents when foreign firms buy back own shares.

It is difficult to assess the extent of buy-back programmes among foreign firms. There are indications, however, that in Denmark they have a greater impact on investment income paid than on investment income received. For example, the return from foreign portfolio equities owned by Danish residents is great-

Since early 2012, Danish listed companies have bought back own shares to the amount of kr. 225 billion

Chart 7

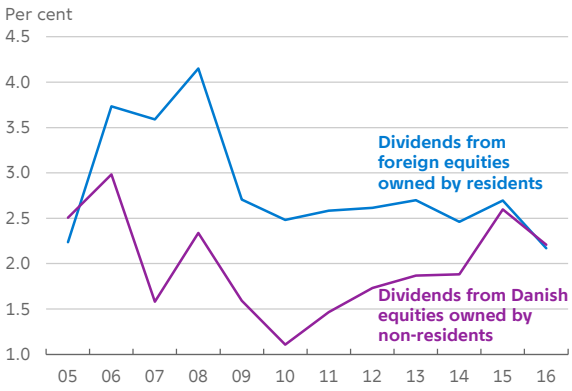


Note: Accumulated buy-back of own shares.
Source: Danmarks Nationalbank.

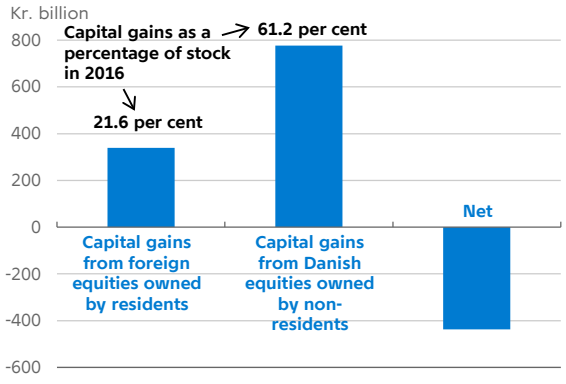
Non-resident investors in Danish equities obtain low dividends, but large capital gains

Chart 8

Dividends from portfolio equities



Accumulated capital gains, 2005-16



Note: Left chart: Dividends are defined as the dividend to stock ratio.
Source: Danmarks Nationalbank.

11 Imputed investment income is calculated for direct investments, e.g. subsidiaries, so that the entire profit after tax is registered as investment income for non-residents, whether the profit is paid out as dividend or not. Imputed income is not calculated for portfolio investments, however. Non-residents' investments in Danish listed equities are virtually only portfolio investments.

er than that from Danish portfolio equities owned by non-residents, cf. Chart 8 (left), while non-residents obtain larger capital gains, cf. Chart 8 (right).

In quantitative terms, the potential overestimation of the Danish current account surplus is relatively limited, however. Assuming that the rate of return on Danish portfolio equities owned by non-residents equals the rate of return residents receive from investments in foreign portfolio equities, the current account surplus will be reduced by approximately 0.3 per cent of GDP per annum.

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ABOUT ANALYSIS

As a consequence of Danmarks Nationalbank's role in society we conduct analyses of economic and financial conditions.

Analyses are published continuously and include e.g. assessments of the current cyclical position and the financial stability.

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ECONOMICS AND MONETARY POLICY

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