# Household net lending – what the micro data indicate

Magdalena D. Riiser, senior adviser, Financial Markets Department, Norges Bank<sup>1</sup>

This article uses a new source to analyse household net lending. While existing statistics are based on macro data, here we use micro data for household financial wealth and debt dating back to 1987. The analysis shows that households in the 35–44 age group were behind the sharp rise in net lending during the banking crisis in the late 1980s. Household net lending in this age group turned from negative to positive during the period. The data indicate two main changes since the early 1990s. First, households in the 35–44 age group have returned to their usual behaviour of negative net lending. Second, net lending in the 45–64 age group has fallen. In isolation, this means that households have smaller financial buffers against negative economic events.

The article also looks at net lending in different groups of households by financial wealth. This analysis shows that, according to micro data, the improvement in overall household net lending in 2007 was limited to the group with the highest financial wealth; among the majority of the population, net lending continued to decline.

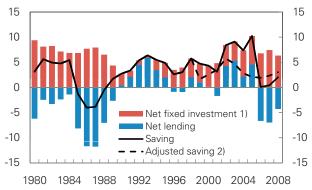
Ahead of the banking crisis of 1988–1993, the household saving ratio fell sharply to negative levels (see Chart 1). When the economy turned, households reduced their debt and stepped up their saving. This led to reduced demand and weaker earnings and profitability in the enterprise sector. Losses on loans to enterprises increased, while losses on loans to households remained modest. In other words, for the banks, the indirect effects of reduced household consumption via increased losses on lending to enterprises were much stronger than the direct effects of losses on loans to households.<sup>2</sup> Analyses of household saving are therefore important in assessing the risk of financial instability.

Household saving consists of net fixed investment and net lending less net capital transfers<sup>3</sup> (see Chart 1). Buying a dwelling is a fixed investment for a household. If we adjust fixed investment for depreciation, we obtain net fixed investment. Households can change their financial wealth by buying or selling financial assets. They can also take out and repay loans. Household net lending is the difference between the change in financial wealth (adjusted for capital gains and losses) on the one hand, and the change in debt on the other.<sup>4</sup>

In the late 1980s, high levels of household borrowing caused household net lending to fall (see Chart 1). Overall saving decreased despite high fixed investment. Net

lending picked up in the 1990s and was largely positive in the following years. In 2002–2005, households took out extraordinarily high dividends as a result of changes in the taxation of dividends. Some of these dividends were lent back to, or reinvested as shares in, the same company. Net lending grew during this period, but turned

Chart 1 Household net fixed investment, net lending and saving. Percentage of disposable income. 1980-2008



<sup>1)</sup> Net fixed investment less net capital transfers.

Sources: Statistics Norway and Norges Bank

<sup>2)</sup> Saving and disposable income adjusted for estimated reinvested dividend payments in 2000-2005 and capital reductions in 2006-2008.

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<sup>&</sup>lt;sup>2</sup> See box "Effects of a fall in household consumption on the enterprise sector" in Financial Stability 2/2003.

<sup>&</sup>lt;sup>3</sup> Norwegian households' net capital transfers are very low.

<sup>&</sup>lt;sup>4</sup> The appendix at the end of this article describes the calculation of net lending in greater detail.

negative again in 2006. Adjusted for estimated reinvested dividend payments, household saving fell in the period 2002–2005. By historical standards, saving has been low since 2006. There might be a number of possible motives behind this low saving rate, including increased optimism among households and reduced uncertainty about economic developments. Whatever the motives, the result is that households are not building up financial buffers which can be used to counter unforeseen negative events.5 In the light of historical experience, it is interesting to study which groups of households drive movements in saving when economic conditions change. In this article, we use micro data for households' financial wealth and debt to look at their net lending. Micro data offer an important alternative to macro data, especially when macro data give us limited information. Unlike macro data, micro data also make it possible to look at patterns in different groups of households, which can give us valuable insight into household saving behaviour.

In this article, we have grouped households on the basis of two characteristics: age and financial wealth. This choice of characteristics is, to some extent, affected by the calculation method. It is an advantage to have characteristics that are relatively constant over time in order to avoid excessive migration of households between groups. The chosen grouping is interesting in the light of changes in behaviour in different age groups. Changes in the taxation of dividends also make it relevant to look at household net lending broken down by financial wealth.

The article is organised as follows: Section 1 provides a brief description of the data. Section 2 looks at overall household net lending calculated using micro data and compares it with data from the national accounts and financial accounts. Section 3 examines whether any age groups have changed their behaviour in terms of net lending. We look at whether the decrease in overall net lending over the past 10–15 years is limited to specific age groups. Section 4 discusses whether specific groups of households had a particular impact on overall net lending in the period 2002–2005, when extraordinarily high dividends were taken out. Section 5 provides a summary.

### Micro data for household financial wealth

Since the mid-1990s, Norges Bank has used micro data from Statistics Norway's income and wealth statistics to analyse household borrowing. In 2005, Norges Bank gained direct access to the detailed underlying data for household income and debt. Now, for the first time, Norges Bank has started to use the underlying data for household financial wealth broken down into individual items. In this article, we use data for household financial wealth from the income and wealth surveys for 1986–2003 (sample surveys) and from the full counts for 2004–2007.

The data are based on the items in tax returns. As tax regimes have undergone changes, most notably in 1992 and 1998, there are several breaks in these items. Some items have been removed, others have been added, or taxation has been extended to include more financial instruments. The first step in processing the data was to create time series for the various items for the period 1986–2007. One characteristic of the data is that they provide taxable values. For many financial wealth items, the taxable value is lower than the fair value, while debt is carried at fair value. To calculate net lending, the correct levels of both debt and financial wealth are required. The second step, therefore, was to calculate fair values for the various financial items.<sup>6</sup>

### 2. Overall household net lending

The estimates of household net lending at macro level are associated with a degree of uncertainty, both because different methods are used in the calculations and because information about households is not readily available. Often, changes in household balance sheets need to be estimated on the basis of developments in other sectors. Net lending is also calculated on the basis of large aggregates. Small errors in these aggregates could result in major changes in the net lending calculated. In some periods, there have been differences between net lending in the institutional national accounts (income accounts) and the financial accounts (see Chart 2).

Micro data are an alternative source for the calculation of net lending (see Chart 2). If we compare them first with the income accounts, we see that net lending from micro data follows movements in net lending in the

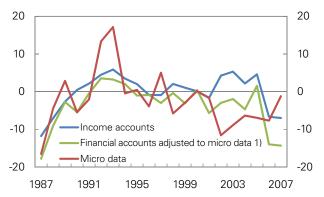
<sup>&</sup>lt;sup>5</sup> This does not rule out households building up buffers other than financial buffers.

We obtained information from the tax authorities and used the guidelines for the completion of tax returns in the period 1986–2007 to reach these fair values.

Net lending at macro level is calculated in the institutional national accounts (income accounts) and in the financial accounts (see appendix).

See Box 9.3 on page 117 of Statistics Norway (2009) and Bø, Røstadsand and Tørum (2003).

**Chart 2** Household net lending as a percentage of disposable income. 1987-2007



<sup>&</sup>lt;sup>1)</sup> Financial accounts for households excluding non-profit organisations and group insurance claims.

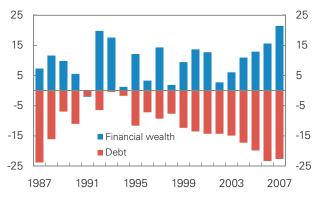
income accounts to a certain extent, especially through to 2002.

There is not a direct accord between the definition of the household sector in the micro data and the income accounts. The income accounts include both households and non-profit organisations, whereas the micro data look exclusively at households.

To some extent, the financial accounts can correct for this difference. We can calculate net lending for households excluding non-profit organisations in the financial accounts, in any case since 1995.9 In this calculation, we exclude financial investment in group insurance claims from the financial accounts, as these accrued pension rights in the Government Pension Fund – Norway are not included in the micro data. We will refer to the net lending figures thus obtained as "financial accounts adjusted to micro data".<sup>10</sup>

Net lending from the financial accounts is closer to net lending from micro data (see Chart 2). There are some differences nevertheless. It is difficult to say which of the two estimates is the more correct, as both are associated with uncertainty. Net lending from micro data is based on sample surveys through to 2004. Small samples in 1989 and 1993 are the reason why net lending from micro data deviates substantially from the financial accounts. Breaks in the items in tax returns in 1992 and 1998 may result in uncertain estimates for those years.

Chart 3 Growth in household financial wealth and debt.<sup>1)</sup> Percentage of disposable income. Micro data. 1987-2007



<sup>&</sup>lt;sup>1)</sup> Growth in financial wealth adjusted for capital gains/losses. Increase in debt shown as a negative value.

Sources: Statistics Norway and Norges Bank

When it comes to the financial accounts, there is a break in the items in 1995. In addition, net lending in the financial accounts is based to some extent on estimates rather than observable values in the period 2000–2005, as extraordinarily high dividends were taken out (see Section 4). The deviation from the micro data is greatest during this period when the estimates in the financial accounts are particularly uncertain. New information from micro data may therefore lead to better evaluation of the estimates in the financial accounts in periods where the statistics have shortcomings.

Looking at the micro data, the period since 1999 features increasingly strong growth in household debt (see Chart 3).<sup>11</sup> At the same time, there has been strong accumulation of household financial wealth. In our data, the increase in financial wealth in the period 2004–2007 is by far the largest in terms of both duration and magnitude. The increase is dominated by bank deposits, shares not registered with the Norwegian Central Securities Depository" (non-VPS-registered shares) and receivables<sup>12</sup> (see Chart 4).<sup>13</sup> From 2000 onwards, receivables have increased in importance in the overall transactions. This is probably related to changes in the taxation of dividends and very high dividends being taken out (see Section 4). Since the introduction of tax on dividends in 2006, receivables have decreased.

<sup>9</sup> Households excluding non-profit organisations in the financial accounts differ slightly from households in the micro data.

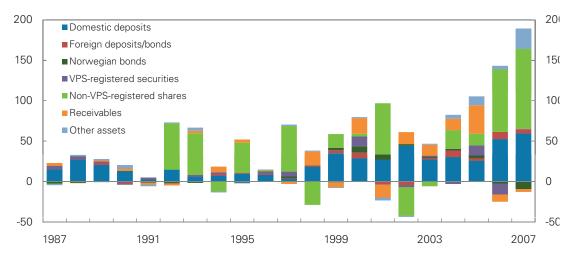
<sup>10</sup> In the data from the financial accounts, disposable income is taken from the national accounts. This does not correspond fully with the sector correction where we exclude non-profit organisations.

The micro data do not show a decrease in debt for households as a whole during the banking crisis in 1988–1993 (see Chart 3). As we cannot adjust debt in the micro data for exchange rate movements, this observation is uncertain. The micro data do, however, show a decrease in debt in some age groups.

<sup>&</sup>lt;sup>12</sup> When a household issues a loan to other households or enterprises, this is accounted for as a receivable.

<sup>&</sup>lt;sup>13</sup> In this analysis, we have looked at net lending in absolute NOK terms and relative to disposable income. The latter is most relevant when comparing household behaviour over time, especially as decisions on consumption and saving are made given income. When looking at the composition of net lending in a specific year, or at which groups of households make the largest contribution, we use the absolute values in NOK.

Chart 4 Growth in household financial wealth adjusted for capital gains/losses. Billions of NOK. 1987-2007



## Net lending in different age groups

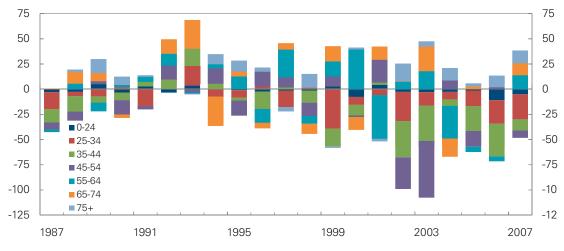
Macro data do not provide information about which households change their behaviour and how. Micro data, on the other hand, provide a fresh insight into these questions.

At micro level, net lending is defined as the change in financial assets and liabilities – adjusted for capital gains/ losses – for each individual household. This means that our calculations need to follow the same household over time. This is problematic when the data are based on a sample that changes its composition over time. The sample does not include the same households every year.

One way of overcoming this challenge is to define groups of households that are relatively constant over time. It is therefore important to choose a characteristic which does not change that often. Age is one such characteristic, especially if we define ten-year intervals. For example, we can look at a group of households aged 25–34. Households in the 25-year cohort in a given year will be in the 34-year cohort ten years later. As a result, these households will be part of the same age group (25–34 in this case) for a period of ten years. This ensures that the composition of the group is to some extent unchanged. 15

The majority of Norwegian households own their own dwelling. Their behaviour is therefore greatly affected

Chart 5 Household net lending by age. Billions of NOK. 1987-2007



Sources: Statistics Norway and Norges Bank

<sup>14</sup> A household's age is defined as the age of the main income earner or, failing this, the age of the oldest member of the household.

<sup>&</sup>lt;sup>15</sup> As the data are based partly on a sample survey, the same households will not necessarily be included in the group each year. We assume that the households in the sample are representative of their age groups, allowing us to study changes in their behaviour. The issue of households flowing in and out of age groups also arises when we use data from full counts, but this has been ignored in this article.

**Chart 6** Household net lending as a percentage of disposible income. 35-44 age group. 1987-2007

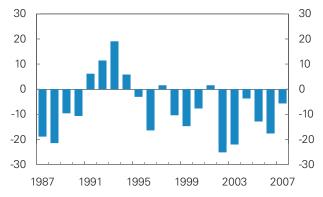
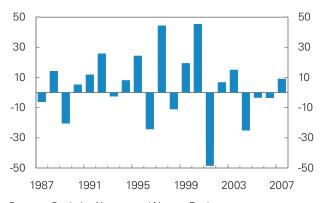


Chart 8 Household net lending as a percentage of disposible income. 55-64 age group. 1987-2007

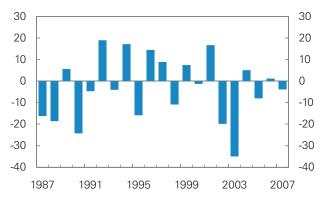


Sources: Statistics Norway and Norges Bank

by borrowing to finance house purchases. As a result, young households tend to have high levels of debt. As this debt is repaid, financial wealth increases. <sup>16</sup> Younger households (up to the age of 44) generally have negative net lending (see Chart 5), while households in the over-55 age group tend to have positive net lending. A demographic change in the population can therefore impact on overall net lending. <sup>17</sup> A higher proportion of households in the more advanced age groups can, in isolation, result in higher overall net lending.

The micro data show that the fall in net lending since 1993 has not been limited to a particular group: net lending has decreased in most age groups. The change in behaviour since the early 1990s is particularly evident in the 35–44 age group (see Chart 6). In this group, net lending turned from negative to positive during the

**Chart 7** Household net lending as a percentage of disposible income. 45-54 age group. 1987-2007



Sources: Statistics Norway and Norges Bank

banking crisis in 1988–1993. Since 1995, these households have returned to their usual behaviour of negative net lending.

Households in the 45–54 age group have shown positive net lending in some years (see Chart 7), but their net lending has fallen since 2002 and has been mainly negative.

The over-55 age groups have generally tended to have positive net lending (see Chart 5), but it seems that households in these groups too have changed their behaviour in recent years (see Chart 8 for the 55–64 age group): their net lending seems to have fallen. We have also seen negative net lending for three successive years for the first time (2004–2006).

The decline in net lending is related to high growth in debt in all age groups since 1999 (see Chart 9). A sharp increase in house prices has led to higher debt for younger households. However, the over-45 age groups have also increased their debt. One reason may be that the number of one-person households has risen over the years. This has meant that more people are taking out loans later in life and are indebted for more years. Another factor may be that banks have made it easier to take out debt by extending the maturity of loans and introducing new products such as home equity lines of credit and interest-only loans. Higher house prices have induced more households to withdraw parts of their home equity. The introduction of home equity lines of credit has made this possible.

Another observation is that all age groups are accumulating financial wealth, and on a larger scale since 2004 (see Chart 10).<sup>21</sup> As mentioned in Section 2, bank deposits and non-VPS-registered shares account for a signi-

<sup>&</sup>lt;sup>16</sup> See Chart 6 in Riiser and Vatne (2006).

<sup>&</sup>lt;sup>17</sup> Riiser and Vatne (2006) discuss how demographics can impact on household debt.

<sup>&</sup>lt;sup>18</sup> For the relationship between house prices and household debt, see Jacobsen and Naug (2004).

<sup>&</sup>lt;sup>19</sup> See Riiser and Vatne (2006) for debt frequencies in the more advanced age groups.

<sup>&</sup>lt;sup>20</sup> For home equity withdrawal, see Chart 2.9 in Financial Stability 1/04 and Chart 2.10 in Financial Stability 2/05.

<sup>&</sup>lt;sup>21</sup> Despite the accumulation of financial wealth, household net lending has decreased. The main reason for this is that debt has increased more than financial wealth.

50 50 0 0 -50 -50 **■** 0-24 **25-34** -100 -100 35-44 ■ 45-54 **55-64** -150 -150 **65-74 75**+ -200 -200

Chart 9 Growth in household debt by age. 1) Billions of NOK. 1987-2007

1) Increase in debt shown as a negative value.

1991

1987

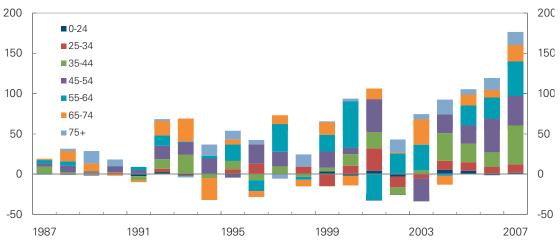
Chart 10 Growth in household financial wealth adjusted for capital gains/losses by age. Billions of NOK. 1987-200

1999

2003

2007

1995



Sources: Statistics Norway and Norges Bank

ficant proportion of the increase in financial wealth. The data show that the older age groups (over-45s) dominate growth in bank deposits, while the 35–54 age groups have been behind most of the increase in non-VPS-registered shares.

### 4. Effect of high dividends in 2002–2005 on household net lending

In the period 2000–2005, household net lending was affected by variations in the payment of dividends as a result of tax changes. Until September 2000, dividends were tax-free. Dividends resolved after September 2000 and in 2001 were taxed at a rate of 11 per cent, but dividends became tax-free again in 2002. It became clear in 2003 that tax on dividends would be reintroduced from 2006. As a result of this, extraordinarily high dividends were paid in the period 2002–2005. This led to high net lending as measured in the income accounts (see Chart 1).

A substantial proportion of the dividends in 2002–2005 were taken out by the owners of non-VPS-registered shares. These dividends were used partly to acquire additional shares in the same company or paid back as loans to the company. We will now look more closely at developments in net lending for these households and the effect on overall net lending.

To explore such issues, we need to follow a group of households over a number of years – in other words, use panel data. The introduction of a full count for household income, assets and liabilities with effect from 2004 makes this possible. We have created a panel comprising the 10 per cent of households with the highest financial wealth in 2004. These households have then been followed through to 2007. Since we calculate net lending as the change in financial items from one year to the next, adjusted for capital gains or losses, this gives us net lending for the period 2005–2007. This period is too short to cover all of the years with variations in dividends. We

Chart 11 Financial wealth, debt and dividends for households in decile 10 for financial wealth. Percentage of total for all households. 2004

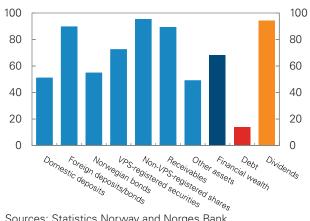
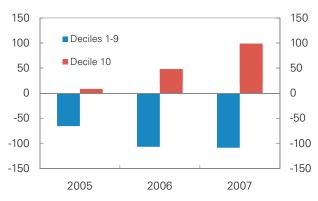


Chart 13 Net lending for households in different deciles for financial wealth.<sup>1)</sup> Billions of NOK. 2005-2007



1) Decile 10 is defined as the 10 per cent of households with the greatest financial wealth in 2004. The same households have then been followed through to 2007.

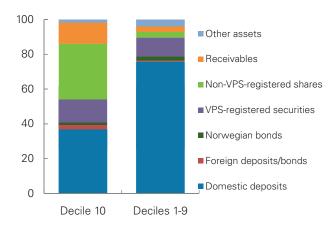
Sources: Statistics Norway and Norges Bank

nevertheless obtain data for both periods – both before and after the introduction of tax on dividends. We have one year with high dividends without taxation (2005) and two years of low dividends (2006 and 2007) due to taxation.

Decile 10 received more than 90 per cent of the high dividends paid in both 2004 and 2005 (see Chart 11). This means that decile 10 is the relevant group to examine changes in net lending due to the taxation of dividends.

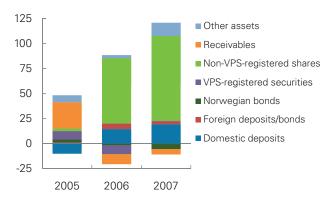
Financial wealth is unevenly distributed among Norwegian households. There is a high concentration of financial wealth in decile 10. Around 70 per cent of total household financial wealth in 2004 is owned by decile 10 (see Chart 11). The concentration of some financial items is even higher: decile 10 accounts for 90-95 per cent of total holdings of non-VPS-registered shares, foreign bank deposits and securities, and receivables. The group also holds a high proportion of VPS-registered shares.

Chart 12 Composition of financial wealth for households in different deciles for financial wealth. Per cent. 2004



Sources: Statistics Norway and Norges Bank

Chart 14 Growth in financial wealth adjusted for capital gains/losses for households in decile 10 for financial wealth.1) Billions of NOK. 2005-2007



1) Decile 10 is defined as the 10 per cent of households with the greatest financial wealth in 2004. The same households have then been followed through to 2007.

Sources: Statistics Norway and Norges Bank

The composition of financial wealth in decile 10 differs from that for other households (see Chart 12). A larger proportion of decile 10's financial wealth is invested in non-VPS-registered shares and a smaller proportion in bank deposits.

Net lending in decile 10 has a number of special features. First, there is a shift in net lending in 2006 following the introduction of tax on dividends (see Chart 13). Net lending in decile 10 rises significantly in 2006. Financial wealth increases, while debt decreases. The composition of the increase in financial wealth also changes in 2006 (see Chart 14). While receivables account for the bulk of the increase in financial wealth in 2005, non-VPSregistered shares and bank deposits dominate the picture in 2006 and 2007. Receivables begin to fall from 2006, probably as a result of the repayment of loans from nonlisted companies to their shareholders.

Second, movements in net lending in decile 10 differ

from those for other households (see Chart 13). While net lending in decile 10 is positive in 2005–2007, it is negative for other households. Net lending in deciles 1–9 falls sharply in 2006 and drops further in 2007. The improvement in overall household net lending revealed by the aggregated micro data for 2007 (see Chart 2) is therefore limited to the wealthiest households (decile 10).

Third, decile 10 accounts for a large proportion of the overall increase in specific items. Decile 10 accounts for a large and rising proportion of growth in financial wealth, but a low proportion of growth in debt (see Table 1). This means that decile 10 is pushing up overall household net lending. However, the level of overall net lending will be determined by net lending in the other groups. Whether overall net lending is positive or negative will depend on how far debt grows in deciles 1–9.

The conclusions in this section are based on data for a limited period (2004–2007). This period features a number of tax changes. It is difficult to say whether households in decile 10 would have had the same impact on overall net lending in previous periods, and what role they may play in the future. The conclusions also depend on the size of transactions in non-VPS-registered shares, which can be difficult to calculate.

**Table 1** Increase in financial wealth adjusted for capital gains and losses and increase in debt in households in decile 10 by financial wealth.<sup>1</sup> Percentage of overall increase for all households. 2005–2007

		-	
	2005	2006	2007
Cash and domestic deposits	-39	28	32
Foreign deposits and bonds	45	64	60
Norwegian bonds	73	59	57
VPS-registered securities	69	67	64
Non-VPS-registered shares	19	84	86
Receivables	74	113	160
Other assets	64	69	52
Financial wealth	36	57	62
Debt	18	11	6
Debt	18	11	6

<sup>&</sup>lt;sup>1</sup> Decile 10 is defined as the 10 per cent of households with the greatest financial wealth in 2004. The same households have then been followed through to 2007.

### 5. Summary

Net lending is an important element of household saving. Whatever the underlying motives, it shows whether households are building up financial buffers that can be used to counter economic shocks. Both the income accounts and the financial accounts provide estimates of net lending based on macro data. In this article, we have presented an alternative way of calculating household net lending: based on micro data. This makes it possible to examine behaviour in different groups of households.

Net lending from micro data moves similarly to net lending in the financial accounts, especially through to 2001. In the period 2002–2005, net lending from micro data is lower than net lending from macro data. The differences are probably related to high dividend payments as a result of tax changes. The high dividends during this period relate particularly to non-VPS-registered shares. Considerable uncertainty is associated with calculating investment in this item in both the macro data and the micro data. As a result, the estimates for overall net lending from both micro data and macro data are uncertain during this period.

During the banking crisis in the late 1980s, households reduced their debt. The household saving ratio turned from negative to positive, driven primarily by higher net lending. Micro data show that it was particularly households in the 35–44 age group that contributed to the improvement in net lending.

Household net lending has fallen considerably in recent years. Micro data indicate that the decline is not limited to any particular age group: net lending has decreased in most age groups. In the 35–44 age group, the improvement in net lending after the early 1990s has reversed, and this age group has returned to its usual behaviour of negative net lending. Households in the over-45 age group, which have generally tended to have positive net lending, have also changed their behaviour. In these groups, net lending has fallen and even turned negative in some years. However, there is a tendency towards higher net lending again in several age groups in 2007.

The micro data suggest that some groups of households may have a particular impact on overall net lending. One such group is the 10 per cent of households with the highest financial wealth. These households own a large proportion of the individual items that make up overall financial wealth, especially non-VPS-registered shares. This group accounted for the bulk of the extraordinarily high dividends in 2004 and 2005 and pushed up overall net lending. The improvement in overall net lending in 2007 was limited to the households with the highest financial wealth. Among other households (the majority of the population), net lending fell in the period 2005–2007.

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### Appendix: How we calculate net lending

There are two methods of calculating net lending. These are used at macro level in the institutional national accounts (income accounts) and the financial accounts respectively. In the income accounts, household saving is defined as income less consumption. Net lending emerges as the difference between saving and net capital transfers on the one hand, and net fixed investment on the other.

The financial accounts contain data on stocks of different financial assets (wealth) and liabilities (debt). Changes in the stocks of an asset consist of transactions and revaluations (capital gains or losses). For example, a rise in share prices will result in the revaluation of the shares held by a shareholder (capital gains). The purchase or sale of shares, on the other hand, represents a transaction. Transactions in financial wealth less transactions in debt give us net lending.

The micro data contain information about different financial items. It is therefore natural to use a similar method to that in the financial accounts to calculate net lending. This means that we estimate transactions in each of the financial items — in other words, the increase in financial wealth and debt adjusted for capital gains and losses.

As mentioned above, it is important to distinguish between transactions and revaluations. With some items, revaluations can be considerable. Such items include securities and items in foreign currency (foreign securities, bank deposits and debt). Amounts in tax returns are stated in NOK and not in foreign currency. It is therefore impossible to calculate revaluations resulting from changes in exchange rates – in other words, revaluations of items in foreign currency. When it comes to securities denominated in NOK, we have tried two alternative methods:

The first method is based on the financial accounts. We calculate the ratio between transactions and stocks for the two items "bonds" and "shares registered with the Norwegian Central Securities Depository" (VPS-registered shares). We use this ratio to estimate transactions in these two items in the micro data. The micro data cover

households, whereas the financial accounts contain information for both households<sup>22</sup> and non-profit organisations. In the calculations, we have used data for households and non-profit organisations from the financial accounts through to 1995, and data for households alone from 1995 onwards. As the accrual of pension rights is not included in the micro data, we omit the item "group insurance claims" in the financial accounts when calculating net lending.

The second method is based on revaluation of VPS-registered shares using developments in the Oslo Stock Exchange's benchmark index until 2001 and the total index from 2001. The estimated net lending figures based on micro data using these two alternative methods do not differ a great deal.<sup>23</sup> As we calculate transactions in an additional item (bonds) with the first method, we have chosen to use the first method in this article – in other words, the ratio between transactions and stocks of bonds and shares registered with VPS from the financial accounts. For the other items, transactions are calculated as the change in stocks from one year to the next.

Shares not registered with VPS (non-VPS-registered shares) account for a large proportion of household wealth. It is difficult to obtain data for market value or transactions for this item. The financial accounts, for example, carry non-VPS-registered shares at nominal value, while the micro data provide the taxable value.<sup>24</sup> In our calculations, transactions in non-VPS-registered shares are calculated as the change in stocks from one year to the next.

To calculate net lending for each household, we need to know about transactions in the various items for financial wealth and debt for that household. The composition of securities held is unique to each household, which makes this task impossible to perform. <sup>25</sup> On the other hand, it is possible to use the overall transactions to estimate transactions for a larger group of households. This reduces the risk of errors. In this article, we have concentrated on looking at net lending for groups of households and not for individual households.

<sup>&</sup>lt;sup>22</sup> Households in the financial accounts are a broader concept than households in the micro data. Households in the financial accounts include individual households/physical persons, unincorporated enterprises and tenant-owner associations.

<sup>23</sup> Net lending calculated using the benchmark index and total index is somewhat more volatile than net lending calculated using the relationship between transactions and stocks in the financial accounts. In addition, the total index includes dividends as well as price changes, which is a disadvantage when estimating revaluations.

<sup>24</sup> In the period of extraordinarily high dividends due to tax changes, the financial accounts contain figures for transactions in non-VPS-registered shares. However, these are not from the normal sources of statistics for the financial accounts, but based on calculations using tax statistics. These estimates are therefore associated with uncertainty.

<sup>&</sup>lt;sup>25</sup> Exercises of this kind can be performed using data from questionnaires for individual households.

Table 2 provides an overview of the items in the micro data and financial accounts (macro data) for 2007. The item "other assets" in the micro data is defined as premium funds, life insurance policies, and interests in housing associations' assets other than the assessed value of real estate. The tax return item "other taxable wealth" is not included in financial wealth in the micro data, as it seems to consist primarily of fixed capital. Although we cannot rule out the possibility of this item including some financial wealth items, especially in the 1980s and early 1990s, it consists primarily of such assets as trotting horses, art, antiquities, other valuables and, from 2006, rights associated with forest properties, such as hunting, fishing and letting rights. The latter were previously included in real wealth, more precisely in forestry wealth. For definitions of the items in the financial accounts, see Statistics Norway's statistics.

**Table 2** Household financial wealth and debt. 2007. Billions of NOK

	Microdata	Financial accounts <sup>1</sup>
Cash and bank deposits	666	695
Bonds	32	22
VPS-registered securities	182	244
Non-VPS-registered shares	420	132
Receivables	116	64
Other assets	66	471
Financial wealth	1,482	1,628
Debt	1,796	1,948

<sup>&</sup>lt;sup>1</sup> Households excluding non-profit organisations and group insurance technical reserves