# New micro-data on household wealth in Denmark: perspectives for national accounts

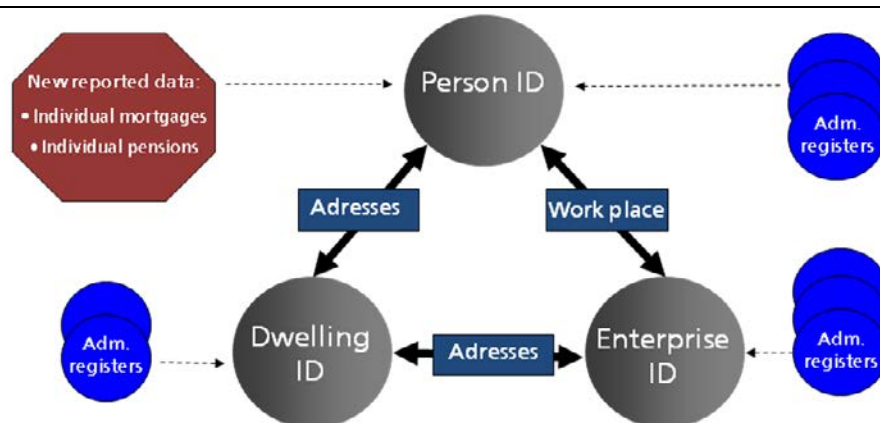Martin Oksbjerg[1]

## Introduction

*Danmarks Nationalbank* is, in cooperation with Statistics Denmark, developing a new annual statistical micro data set on the full population of households' assets and liabilities. A preliminary version of the data set has been used in two analyses by *Danmarks Nationalbank*. A study of the Danish households' comparatively large gross debt used the data to match liabilities with household assets at the household level (Andersen *et al.* (2012 I)). It found that the largest share of liabilities, assets and income is concentrated in those households who generally have large net wealth. Also, Andersen *et al.* (2012 II) used detailed knowledge of the risk profile of individual household mortgage loans to show that the economic situation of most families is robust to shocks. Around the beginning of 2014, Danish research institutions will be given access to the new micro data set.

While developing the new data set, it is important to assess its consistency with other existing statistics. This paper compares the aggregated preliminary data with national accounts for the household sector. Several categories of household net wealth seem consistent between the two, but more analyses are planned in this regard.

## The statistical information setup in Denmark

*Danmarks Nationalbank* is not the only central bank seeking detailed information on household balance sheets. Several others already have surveys and credit registers to collect this information. For instance, the Eurosystem Household Finance and Consumption Network recently completed the first harmonized survey on household balance sheets in the Euro zone (ECB, 2013). *Danmarks Nationalbank*'s goal is similar to that of the other central banks, but due to institutional specificities in Danish public administration, the approach is based on administrative registers instead of surveys.

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Figure 1



Source: Own chart with inspiration from Statistics Denmark.

In Denmark, public sector administrators collect and use centralized administrative registers containing information on all citizens concerning many parts of life. Figure 1 shows how these registers are based on three different units: individuals, dwellings and enterprises. Since all the units in the registers have an ID, additional information on addresses and workplaces can link together information in all registers.

The statistical micro-data set will combine several administrative registers on demography, education, income, socioeconomic situation and balance sheet information. The information on household assets and liabilities is collected mainly from administrative registers from tax authorities. Denmark has a pay-as-you-earn tax system where tax is deducted at the source. For instance, employers report and collect income tax to the authorities on behalf of their employees and banks do the same concerning tax redemption on interest payments. This systematic collection of information from household counterparties makes it possible for the Danish statistical authorities to collect information on most parts of the balance sheet from all 2.8 million Danish households with no additional reporting burden.

However, information on some balance sheet items is insufficient. Firstly, the registers contain no information on the comparatively large stock of Danish pension wealth. Secondly, data on mortgage debt do not include information on the risk profile (for instance, information on fixed interest, variable interest and/or deferred amortization). For that reason additional reporting forms are being set up in cooperation with the reporters. Figure 1 shows how the additional reports from life insurance corporations, pension funds and specialized mortgage banks will link this information to the existing administrative registers via personal IDs.

*Danmarks Nationalbank* and Statistics Denmark are currently defining the new reports on pension wealth and mortgage loans. The legal authority to collect these detailed data is given by the act governing *Danmarks Nationalbank*. However, the reports will be collected by Statistics Denmark, after which *Danmarks Nationalbank* will assess quality by comparing with data from the MFI and ICPF statistics.

# Comparing data from households at micro level to national accounts

The main goal of the micro data set is to improve knowledge about the balance sheets of Danish households for analytical purposes. However, as *Danmarks Nationalbank* already publishes several macro statistics containing information on household assets and liabilities, it is natural to assess quality by comparison the different data sources. Hence, harmonization of micro aggregates and macro statistics is of high importance.

Figure 2 compares household assets (A) and liabilities (B) in an aggregation of the preliminary micro-data with national accounts. The comparison is a work-in-progress, as control for definitional differences between the two data sets are currently being done. In general, Figure 2 shows that several items are reasonably consistent between the two, while others diverge significantly.
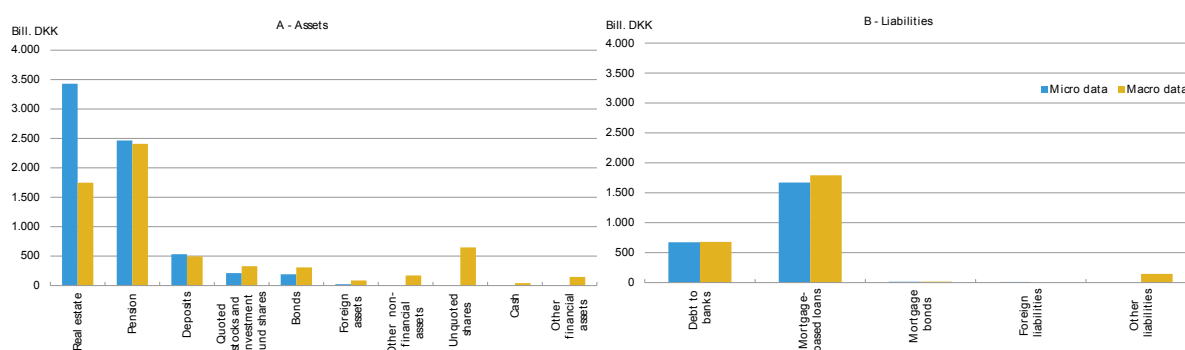
Three general issues emerge when comparing the data, and they are discussed below.

***Valuation.*** The largest item on household balance sheets in the micro data is real estate wealth. However, real estate wealth in national accounts is only about half the size of micro data. This is because non-financial accounts use the Perpetual Inventory Method (PIM) to calculate real estate assets. PIM generally disregards price movements in the current real estate stock and the value of land. In the micro-data, estimated market values are calculated from the public valuation multiplied by the ratio of transaction price and public valuation of all real estate sold in the geographical area. Hence, the real estate assets from micro data currently better accounts for current market value than national accounts.

## Comparison of preliminary micro-data and national accounts 2010

Part A compares the aggregated household assets in the first version of micro data with financial and non-financial accounts. Part B shows the same for liabilities.

Figure 2



Source: Quarterly financial accounts, annual non-financial accounts and own calculations.

Note: Pension wealth in micro data is estimated, since the individual information from future reports is not yet available. In this chart, macro data have been adjusted for known differences in classification between micro and macro data. This implies that the 380 billion DKK in pension funds administered by banks are moved from deposits to pensions. Also the 170 billion DKK in shares in bond funds are moved from quoted shares and investment fund shares to bonds.

**Population.** The micro data set on households includes all people living in Denmark aggregated at the family level while the household sector in national accounts also includes Non-profit institutions serving households (NPISH). The bigger population in national accounts is the most likely explanation for deposits in and debt to banks and mortgage debt being a little larger here compared to micro data. However, when national accounts implement the System of National Accounts 2008 in 2014, NPISH is excluded from the household sector. This will increase consistency between macro and micro data.

**Coverage.** Both on the asset and liability side of household balance sheets are items that are only covered by national accounts. Other non-financial assets (which mostly consist of estimated value of cars), unquoted shares, cash and other financial assets are not part of the micro data even though they add up to 15 per cent of assets in the national accounts. Most of these items would be difficult to include at the individual level, as data currently are not available. Other financial assets mainly consist of insurance reserves which by definition are difficult to disaggregate due to the basic risk sharing attribute of insurance.

## The way ahead

*Danmarks Nationalbank* and Statistics Denmark are currently developing the reports from life insurance corporations, pension funds and specialised mortgage banks, but also other improvements to the data are in the works. Both market value of non-financial assets other than real estate (land, cars and boats) and current value of public servants' pay-as-you-go-based pension schemes are being added to the annual micro data set. It is expected that the new macro data can also help improving *Danmarks Nationalbank*'s existing statistics by comparison as done in this paper. Annual distributional information may in time make it possible to estimate national accounts disaggregated in terms of for instance income deciles or geographical location.

It is expected that the first version of the micro data will be published in 2014.

## References

Andersen, A., et. al. (2012 I). "The Debt and Wealth of Danish Families", Monetary Review – Part 2, 2nd quarter 2012, pp. 1–40, Danmarks Nationalbank, 8 June 2012.

—— Andersen, A., et. al. (2012 II). "Danish Families' Financial Robustness, Variable Rates and Deferred Amortisation", Monetary Review – Part 2, 4th quarter 2012, pp. 1–53, Danmarks Nationalbank, December 7 2012.

ECB (2013), "The Eurosystem Household Finance and Consumption Survey – Results of the first wave", Statistics Paper Series, No. 2 April 2013, ECB.