Shadow Banking in the Dutch National Accounts

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  - You may be right
  - But you may be wrong

Introduction

- From the financial crisis, we have learned that the less traditional areas of the banking system may bear significant risks
  - Hedge funds
  - Securitization vehicles
  - Other financial intermediaries
- On the other hand, shadow banking is an illusive concept that is difficult to define
- This paper is an attempt to define and quantify this sector

Definition of shadow banking

- Broad definition
  - Disagreement among researchers. Most agree that may:
    - Act as financial intermediaries: They can serve as both lenders and borrowers
    - Be “bank-like” in nature: Make loans, take “deposits”
    - Be unregulated: Deposit insurance, liquidity guarantees, and capital requirements generally not present
  - Poszar (2010): “Shadow banks are financial intermediaries that conduct maturity, credit, and liquidity transformation without explicit access to central bank liquidity or public sector credit guarantees”
  - Shadow banks use “collateralized credit” which is deposit-like because in bankruptcy, these lenders receive money first
  - Possible institutions: Finance companies, broker/dealers, securitization vehicles, hedge funds, investment banks, money market funds (MMFs)
  - Possible vehicles/activities: Asset-backed commercial paper, asset-backed securities, collateralized debt obligations, credit derivatives, repos, securities lending

Definition of shadow banking

- Functional definition
  - Instruments used during securitization, Bouveret (2011)
    - Commercial paper, ABS, repos, and MMFs
  - Hedge funds, Dovicova (2014)
  - A "runnable" link, Gallin (2013)
  - Reliance on "backstops," Claessens and Ratnovski (2014)
    - obtained privately by operating within banks, or
    - obtained publicly by government guarantees

Definition of shadow banking

- Functional definition (continued)
  - FSB (2013), 5 economic functions in the intermediation chain which relate to
    - Maturity or liquidity transformation
    - Leverage or flawed credit risk transfer
    - Regulatory arbitrage
  - These functions are:
    - Management of collective investment vehicles with features that make them susceptible to runs
    - Loan provision that is dependent on short-term funding
    - Intermediation of market activities that is dependent on short-term funding or secured funding of assets
    - Facilitation of credit creation
    - Securitization-based credit intermediation and funding of financial entities

Definition of shadow banking

- For this paper, shadow banking is intermediation by entities that do not have explicit access to central bank liquidity or public sector credit guarantees, but limited to credit intermediation related assets
  – Combination of “broad” and “functional”
  – Broad definition: National Accounts subsectors MMFs, non-MMF investment funds, other financial intermediaries and financial auxiliaries
    - captive financial institutions and money lenders are left out of account
  – Functional definition: Only credit intermediation assets are selected
    - deposits, securities and loans

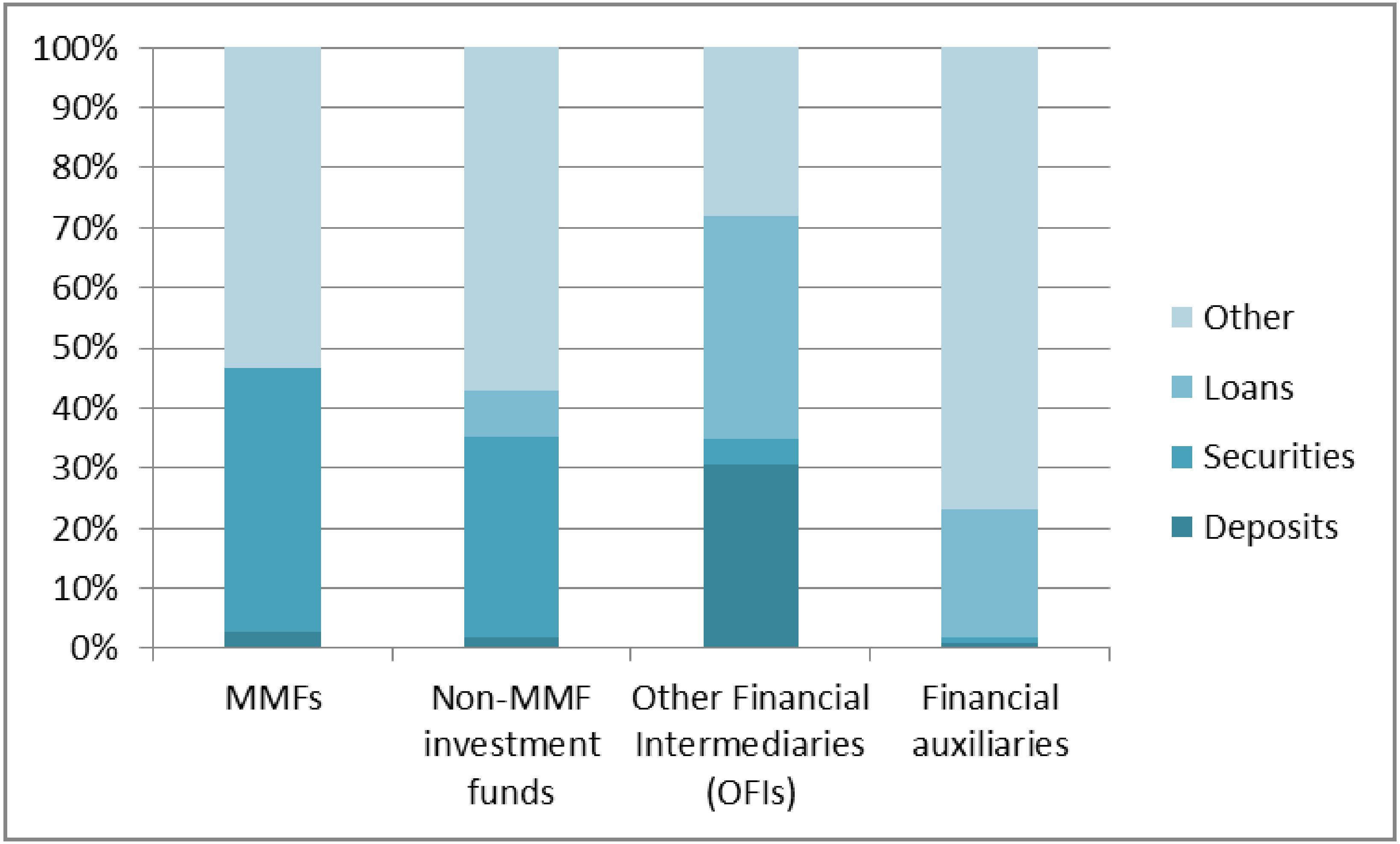
What is Shadow Banking?

- Chain
  - Borrowers ->
  - Loans ->
  - Pooling/securitization (ABS, MBS) ->
  - Re-securitization, and/or tranching (ABS, MBS, CDO) ->
  - Intermediation (broker/dealers, insurance companies, commercial banks) ->
  - Money market funds, repos, mutual funds ->
  - Investors

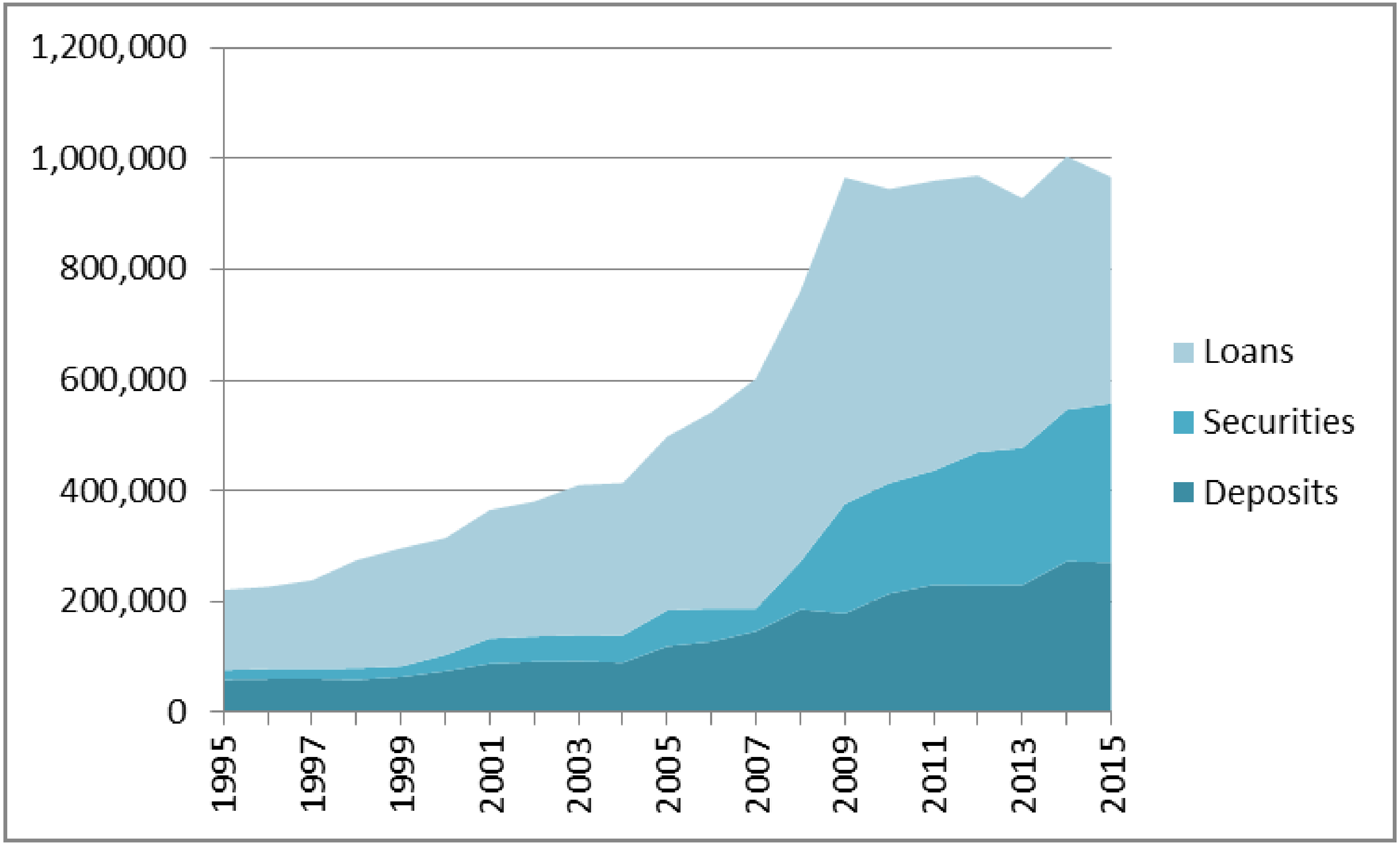
What is shadow banking?

- Benefits
  - Creation of safe, liquid assets
  - Insufficient supply of such assets
  - Risk transfer and risk diversification
  - Adverse selection issues, economies of scale, and specialization
- Costs
  - Runs, rollover risk, and increased haircuts
  - Financial leverage
  - Systemic risk
  - Regulatory arbitrage

The Dutch shadow banking system



Assets, Dutch shadow banks



Size of Dutch shadow banking, 2015

- The size of shadow banking in the Netherlands is €966,488 million in 2015, 143% of GDP
  - MMFs: €4,190 million
  - non-MMF investment funds: €313,751 million
  - other financial intermediaries: €604,988 million
  - financial auxiliaries: €43,559 million

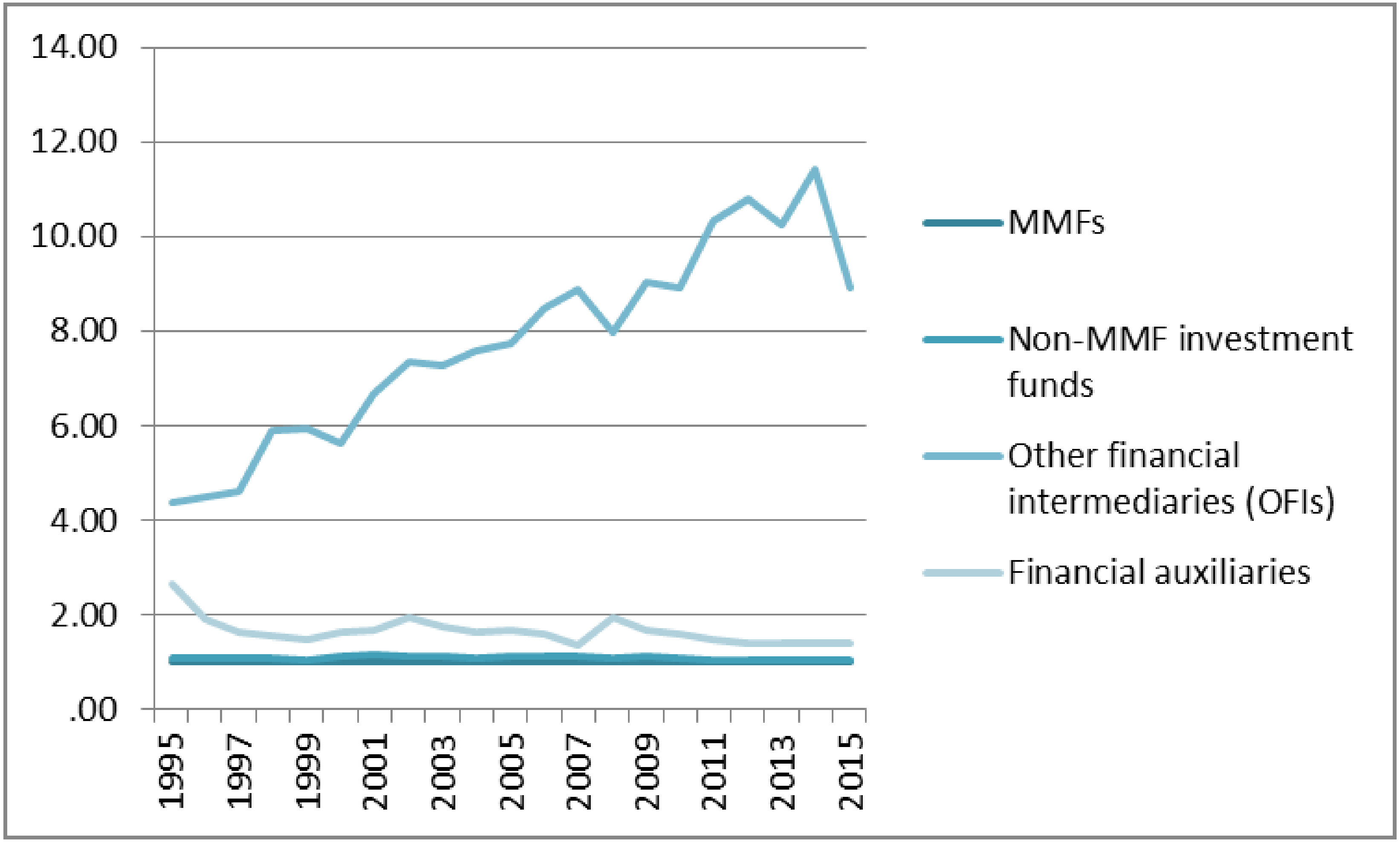
Trends in Dutch shadow banking

- Shadow bank portfolio largely constant pre-crisis
- After the crisis, loan holdings decreased (2/3 to 42%) and securities holdings increased
- Pre-crisis growth driven by OFIs, with €41,407M in deposits in 1995 and €172,505M in 2008
- Investment funds have increased in shadow banking assets at 39% per year since the crisis
  - Portfolio transfer from pension funds

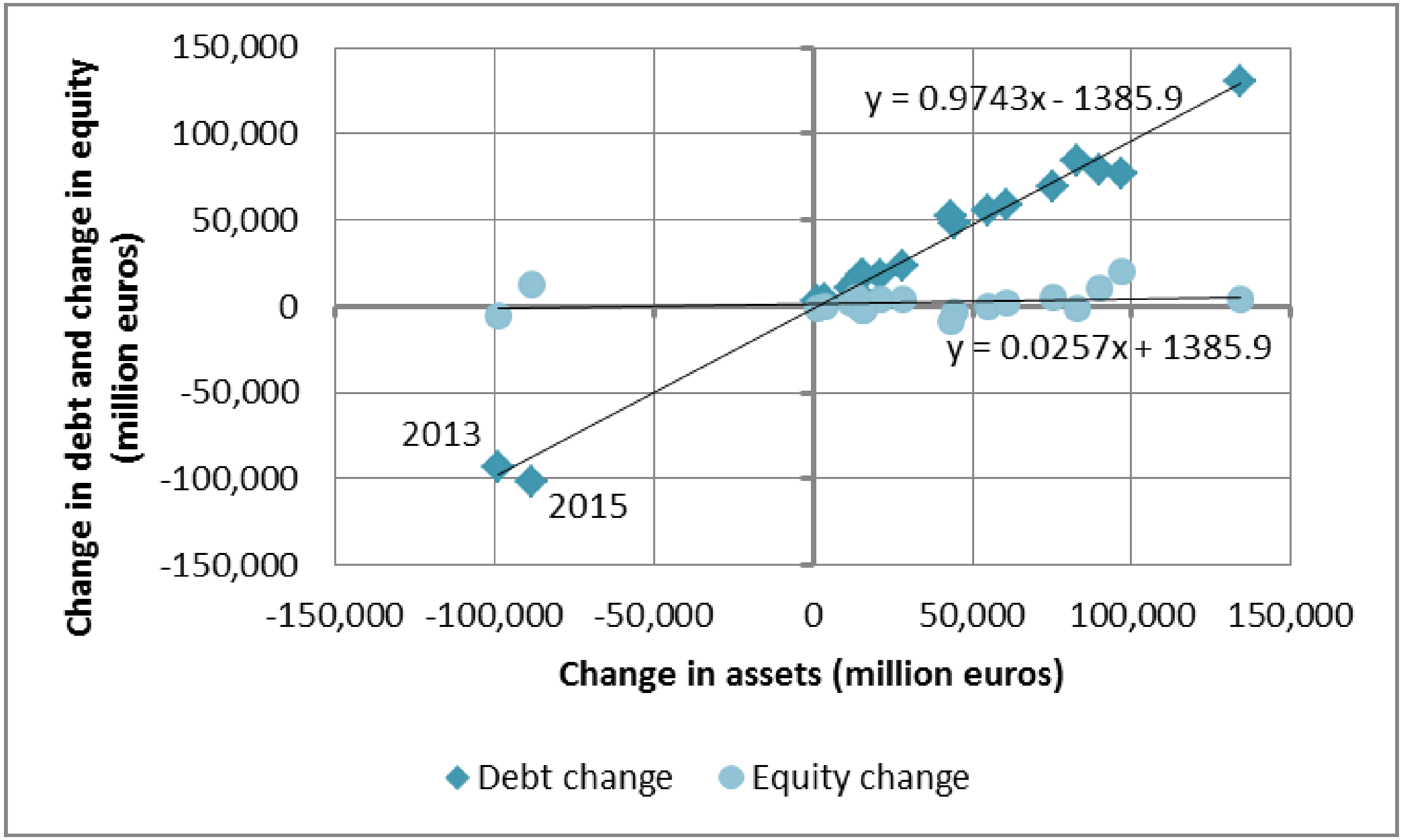
Leverage and OFIs

- Leverage is high and is increasing, especially in OFIs
- Most change in assets of OFIs is associated with a change in debt, rather than a change in equity
- Leverage appears to be procyclical

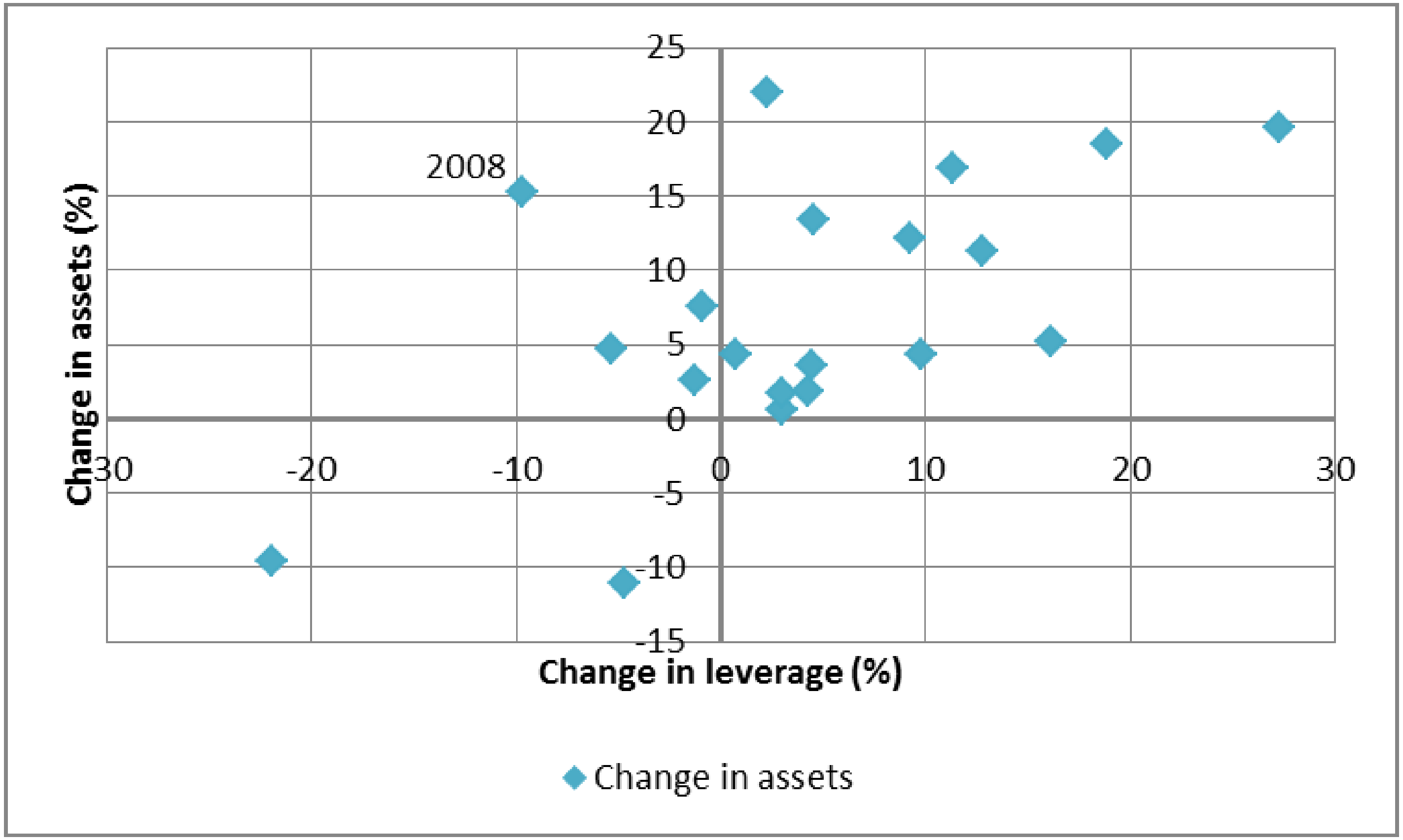
Leverage, Dutch shadow banks



Change in asset decomposition



Leverage and assets



Conclusions

- Data collection can be strengthened to improve monitoring
  - Repos
  - Securities lending
- Sector accounts are a valuable source of data
- Many risks associated with shadow banking
  - Credit risk transfers
  - Maturity and liquidity transformation
  - OFIs increasingly leveraged, and it's procyclical

Assets and market size

- Imagine two institutional arrangements
  - Arrangement one: Bank takes deposits and makes loans
  - Arrangement two: Intermediary A makes loans and sells bonds, to intermediary B, which buys bonds and takes deposits
  - Ignoring capital, arrangement two will result in double the total assets
- National accounts perspective: Consumption of services of shadow banks *by other sectors*
  - Similar to Gallin (2013), Corrado *et al.* (2014)

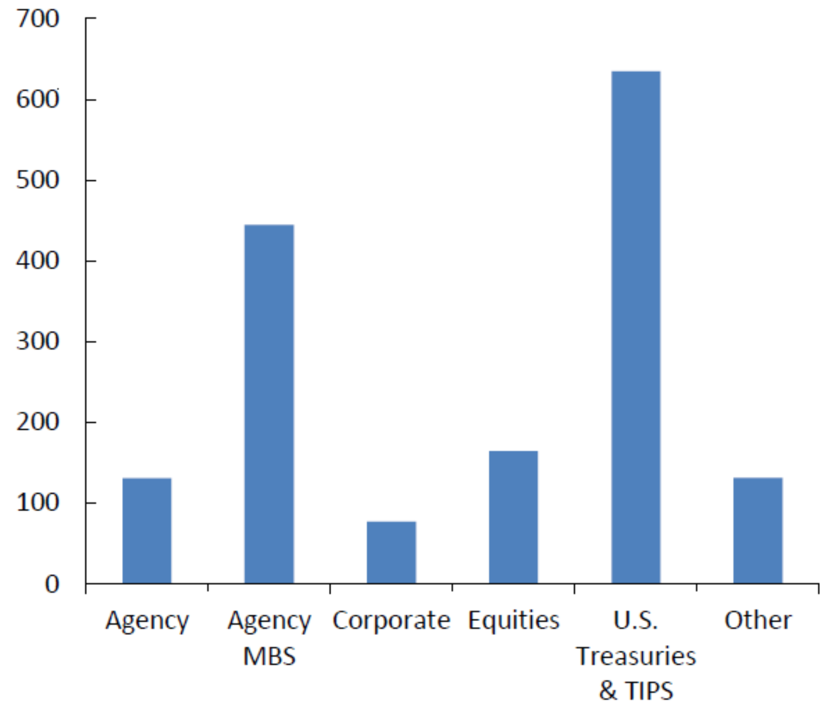
Private-label ABS and repos?

- How many ABS/MBS/CDOs are sold directly to investors?
- Funding loans only relates to issuance (flow) rather than stocks, and is going to be relatively small
- Data on triparty repos in the US suggest that most collateral is not private-label ABS/MBS

Private label ABS and repos?

Figure 5: Collateral Composition in the Triparty Repo Market ($ billions)

Participants in the triparty repo market mainly use collateral consisting of U.S. Treasury and agency MBS securities



Source: Baklanova, Copeland and McCaughrin (2015)

Leverage of OFIs

- Is OFI leverage a problem?
  - The process of securitization separates loan pools into tranches
  - Senior tranches are protected from losses, but not immune
  - Losses are absorbed by investors
  - Hypothetically, they do not need any equity
- How much of pro-cyclical leverage is due to expansion/contraction of private-label ABS issuance?
  - Is this a composition effect since OFIs constitute a collection of industries
  - How would Figure 5 look for other industries?