Fakultät für Wirtschaftswissenschaften

Institut für Volkswirtschaftslehre (ECON)

Bachelor Thesis in Macroeconomics

„US commercial banks"

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Not yet defined

(Topic 1)

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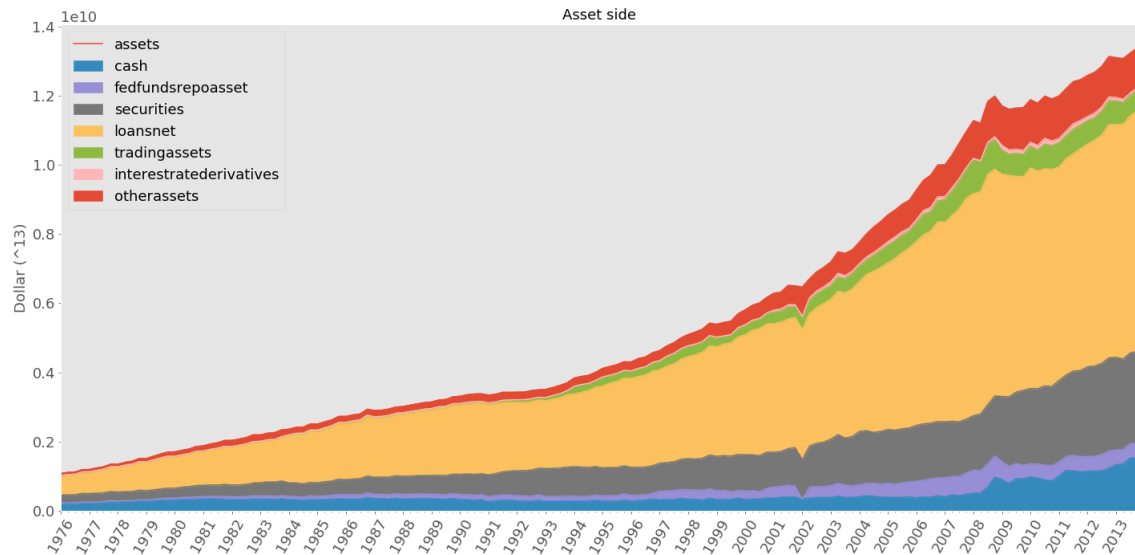alexander.schlechter@student.kit.edu

Contents

1 Introduction

2 Main part

2.1 General look at us banks

Figure 1: Asset side

Graph description: The graph shows the aggregates of the main variables from the asset side of the balance sheet over time.

Key Observations:

- loans make up the largest share of assets

- share of trading assets have risen

- loans and trading assets have risen more than securities

- drop in assets in 2002 and 2008
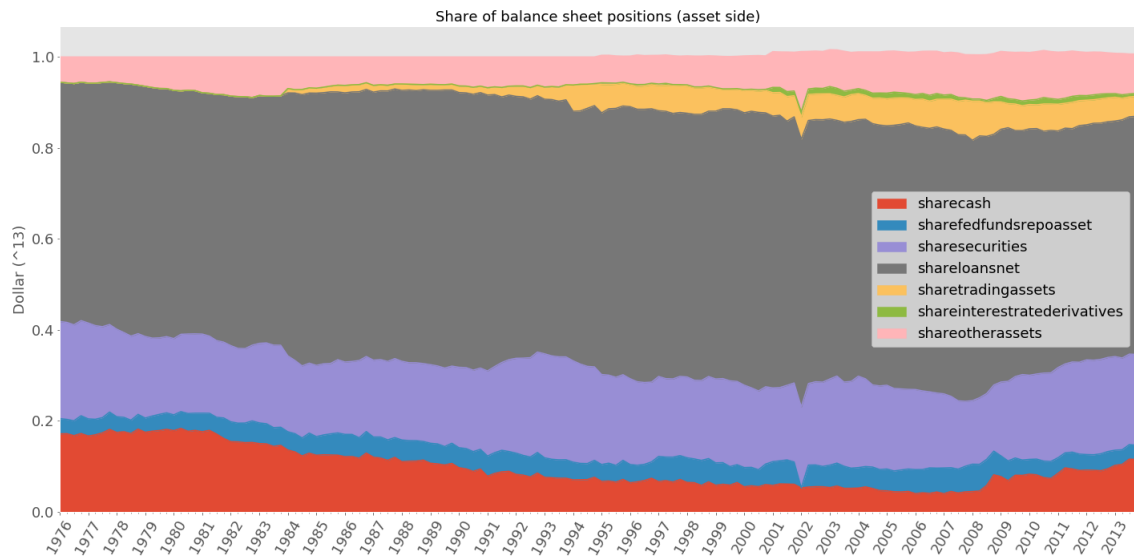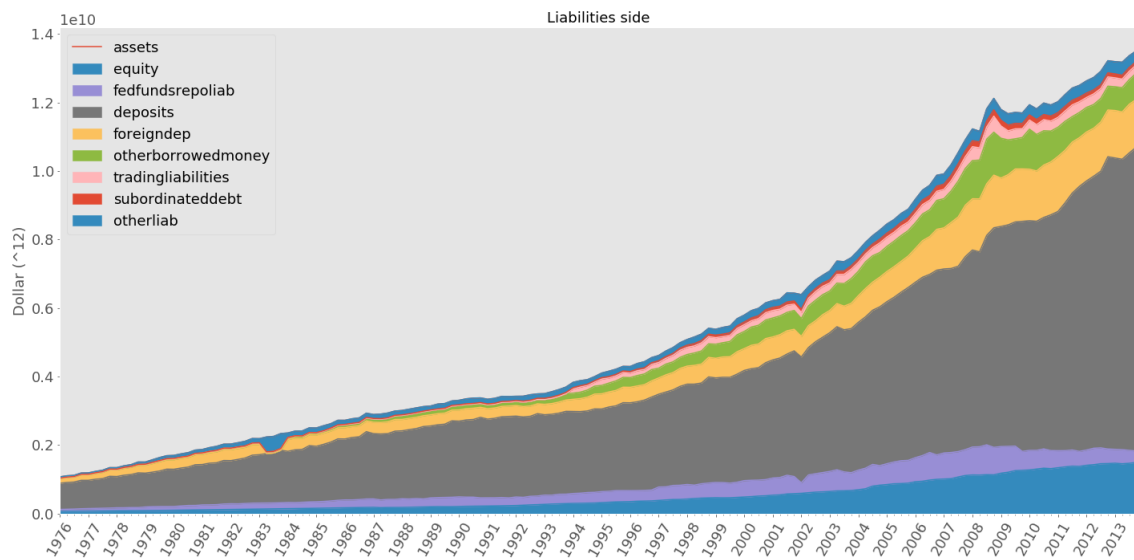
Figure 2: Share of asset positions

Figure 3: Liabilities side

Graph description: The graph shows the aggregates of the main variables from the liabilities side of the balance sheet over time.

Key Observations:

- deposits as main source of funding

Graph description: It shows the share of loan types of total loans over time.

Key Observations:

- real estate loans has largest share
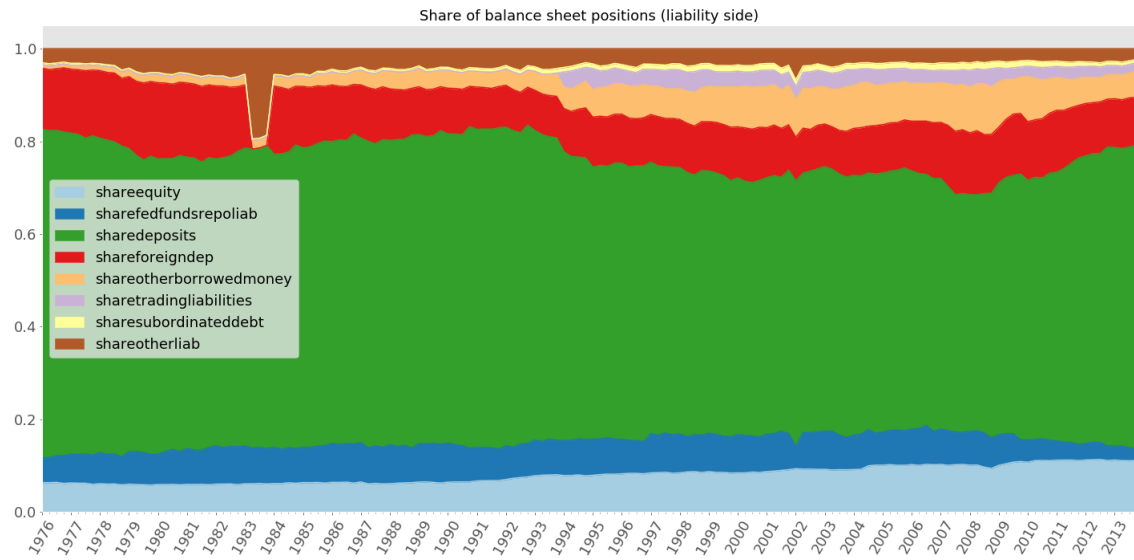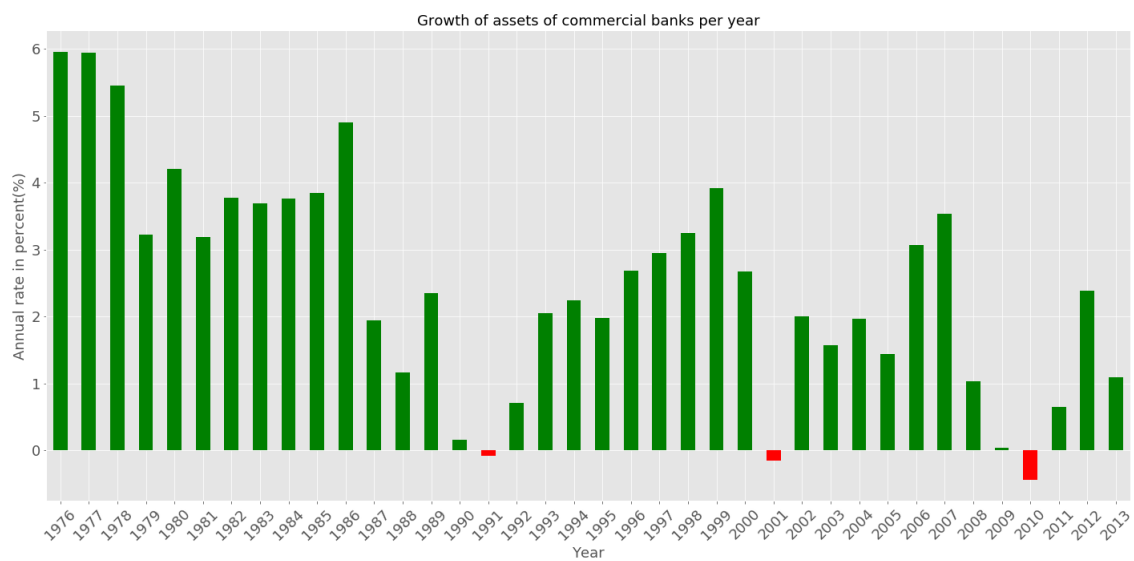
Figure 4: Share of liabilities positions

Share of balance sheet positions (liability side)

Figure 5: Growth of assets

Growth of assets of commercial banks per year

Figure 6: Growth of top 1 percent banks assets

Growth of assets of top 1% commercial banks per year

Figure 7: Growth of all banks vs top 1 percent

Figure 8: Banks default

Count of commercial banks default per year

Figure 9: Loans
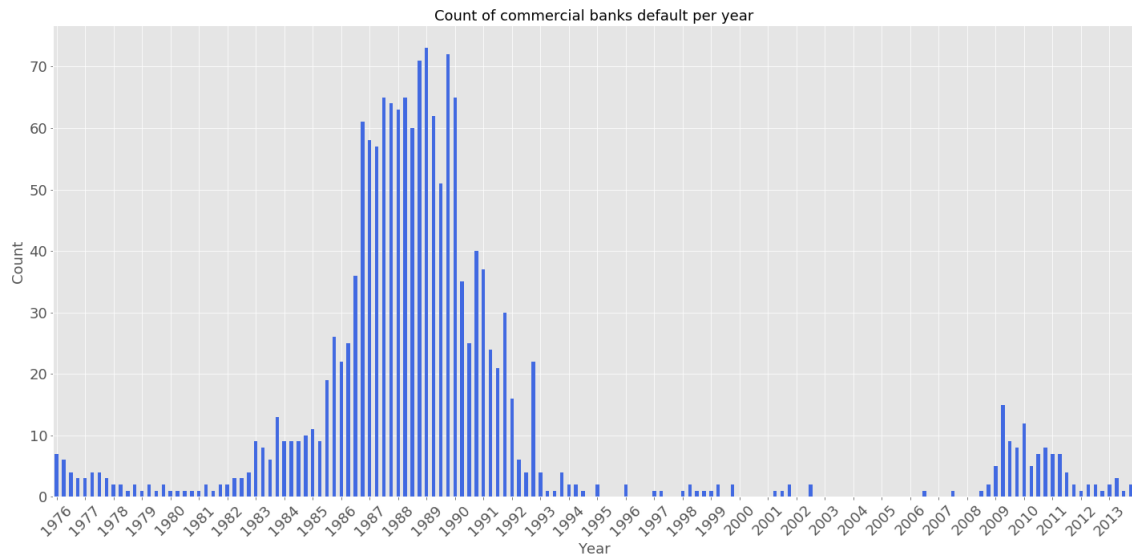

Loan Distribution
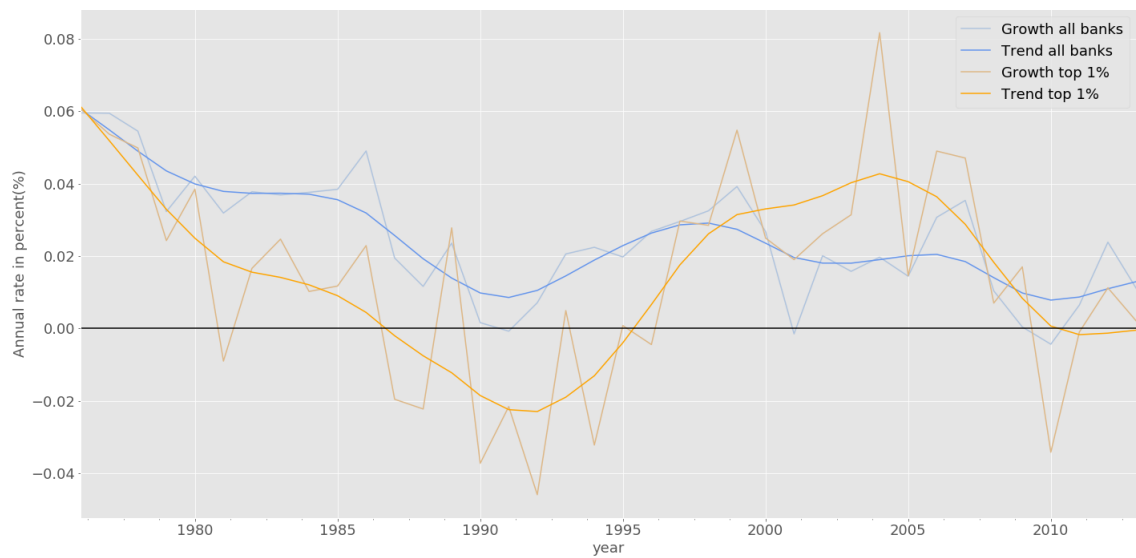
Figure 10: Loans by repricing maturity
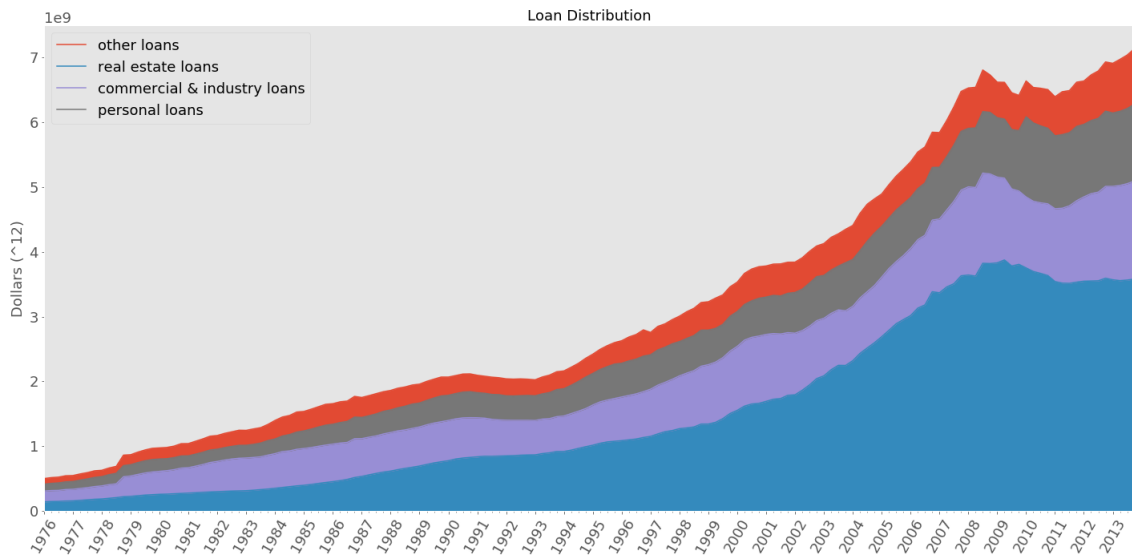

Share of loans by repricing maturity

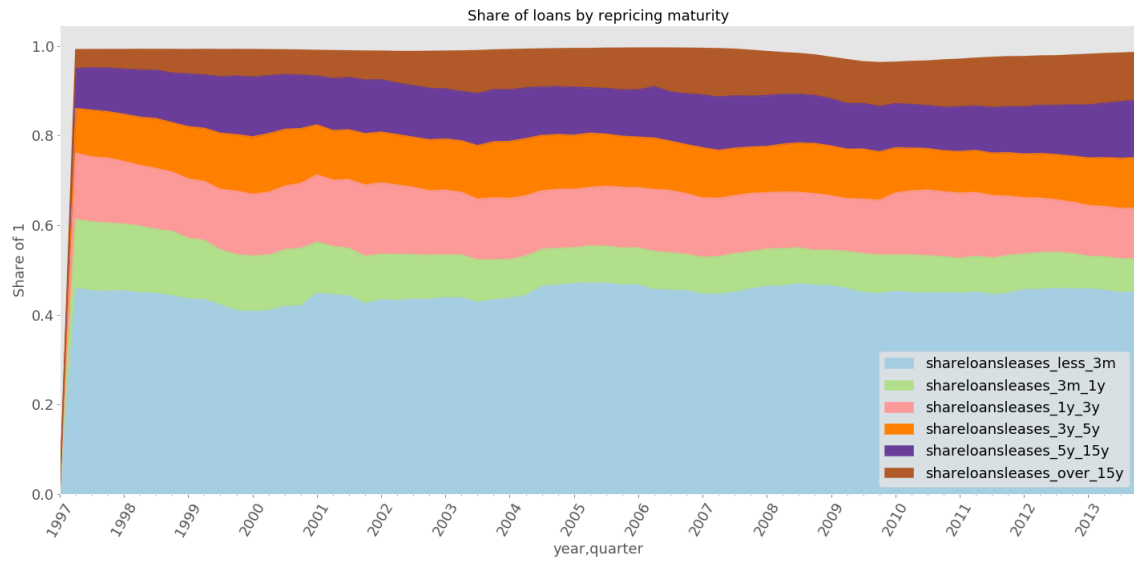## Figure 11: Residential Loans by repricing maturity
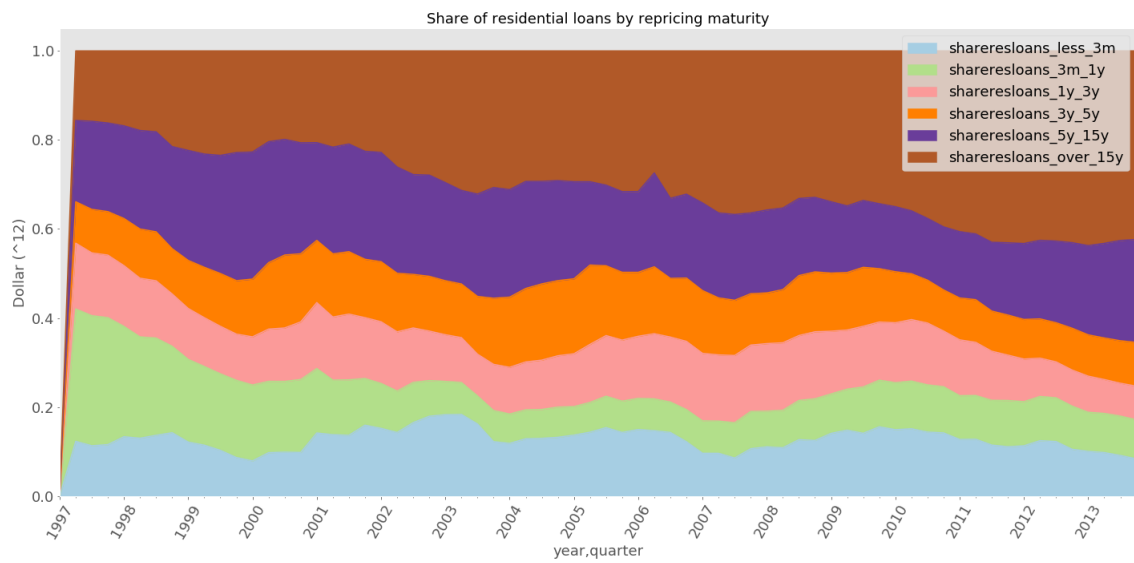

Share of residential loans by repricing maturity

Figure 12: Aggregate assets by percentiles

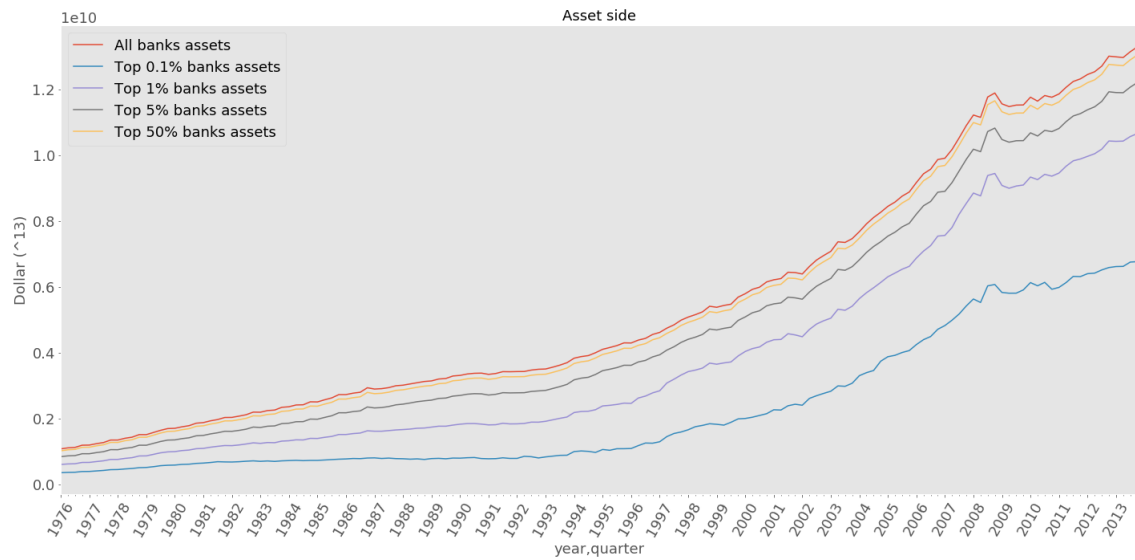Figure 13: Top 10 banks assets vs rest

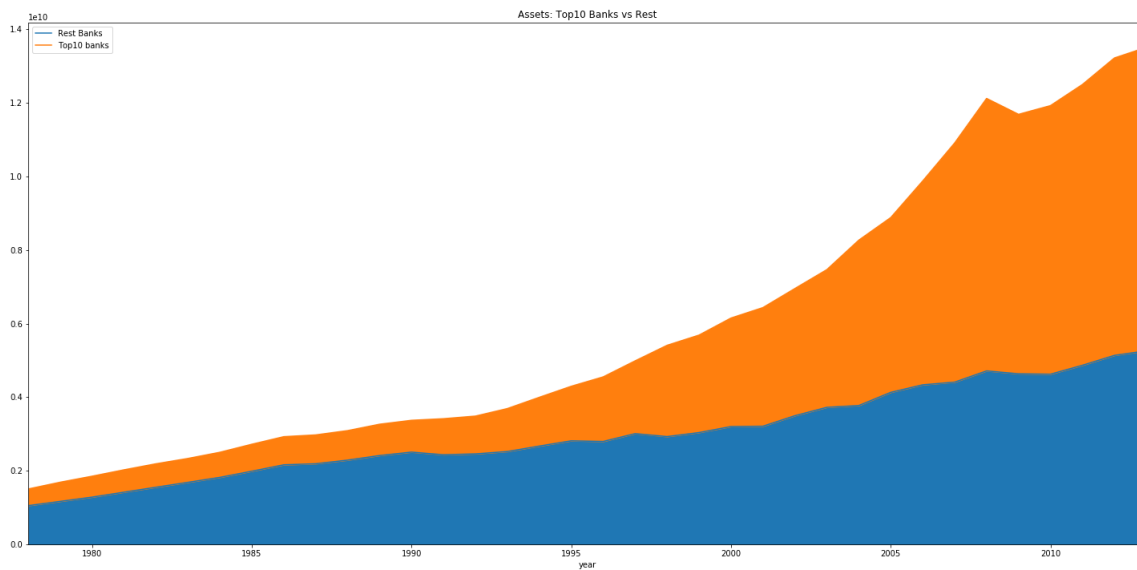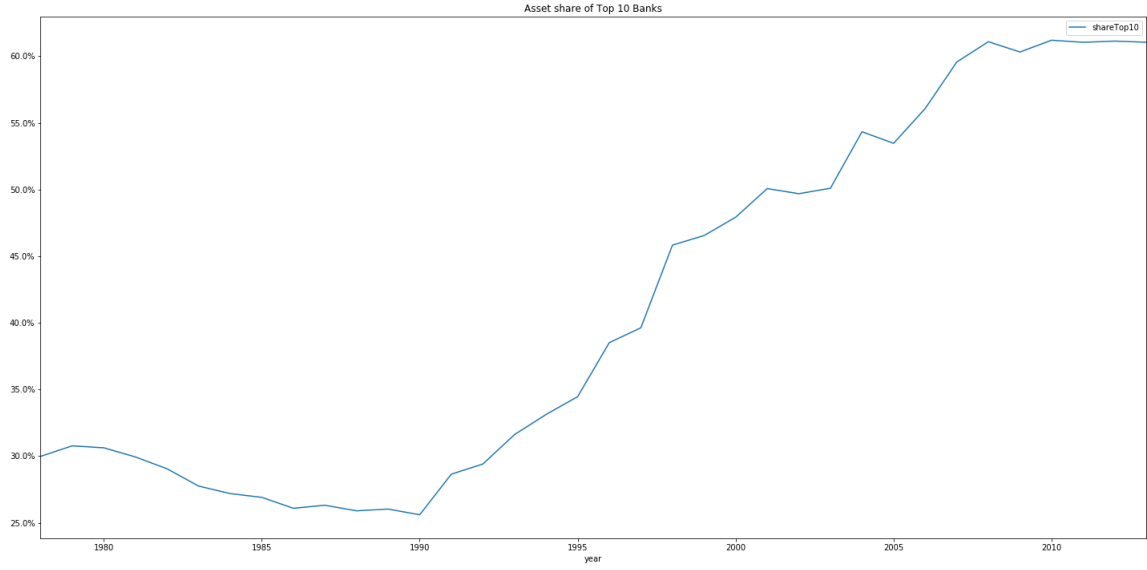Figure 14: Rise of top 10 banks asset share

Banks by asset size

Figure 15: Banks count by asset size

	1980	1985	1990	1995	2000	2005	2010
(-0.001, 100000.0]	12717.0	11674.0	9145.0	6613.0	4810.0	3435.0	2313.0
(100000.0, 1000000.0]	1507.0	2287.0	2693.0	2843.0	3055.0	3562.0	3670.0
(1000000.0, 10000000.0]	174.0	287.0	325.0	342.0	307.0	381.0	413.0
(10000000.0, 10000000000.0]	18.0	27.0	49.0	75.0	80.0	80.0	83.0

In Figure 12, we have in the left column the asset interval size and in the corresponding row the number of banks per year.

Typical small/medium/large bank

Banks are assigned three different buckets (small/medium/large) depending on asset size.

Small bank: $0 <$ assets $<= 10^5$

Medium bank: $10^5 <$ assets $<= 10^6$

Large bank: $10^6 <$ assets $< 10^6$

Figure 16: Asset size by bank

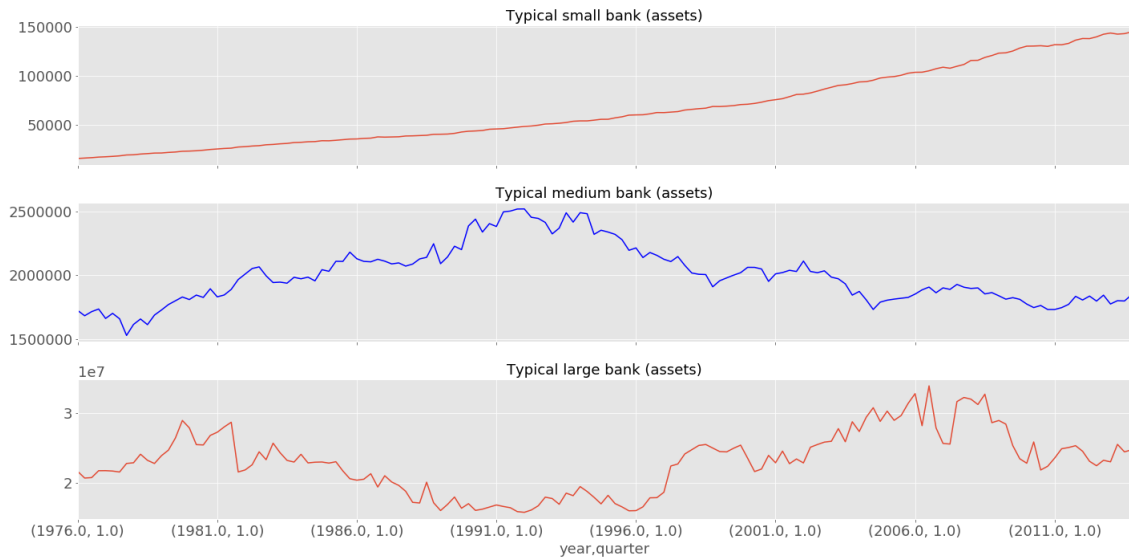Figure 17: Medium vs large bank by asset size
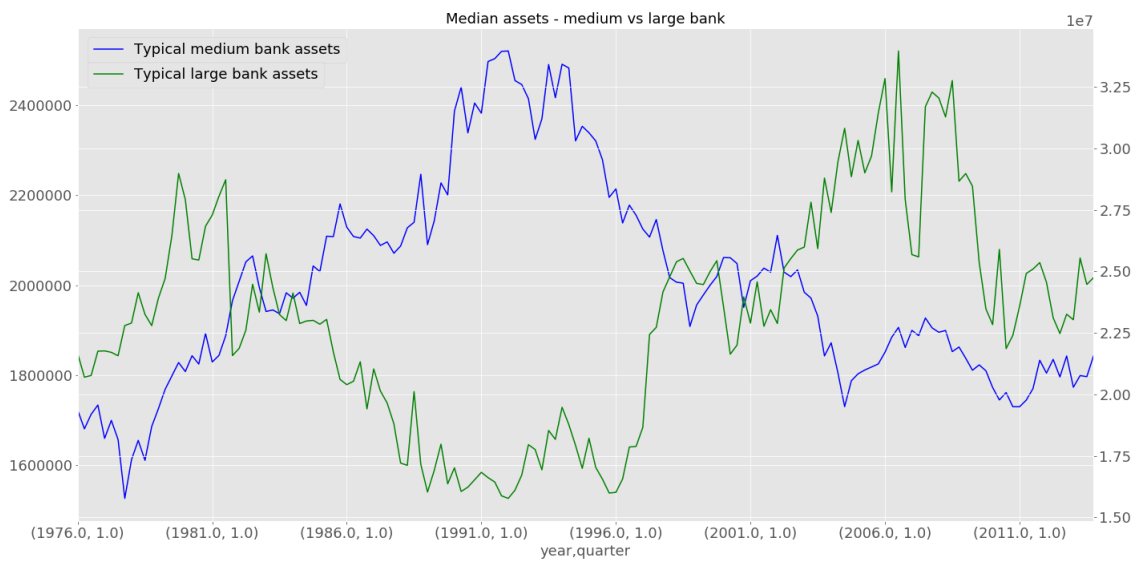
Figure 18: Small bank: liability side

Share of balance sheet positions (liability side)
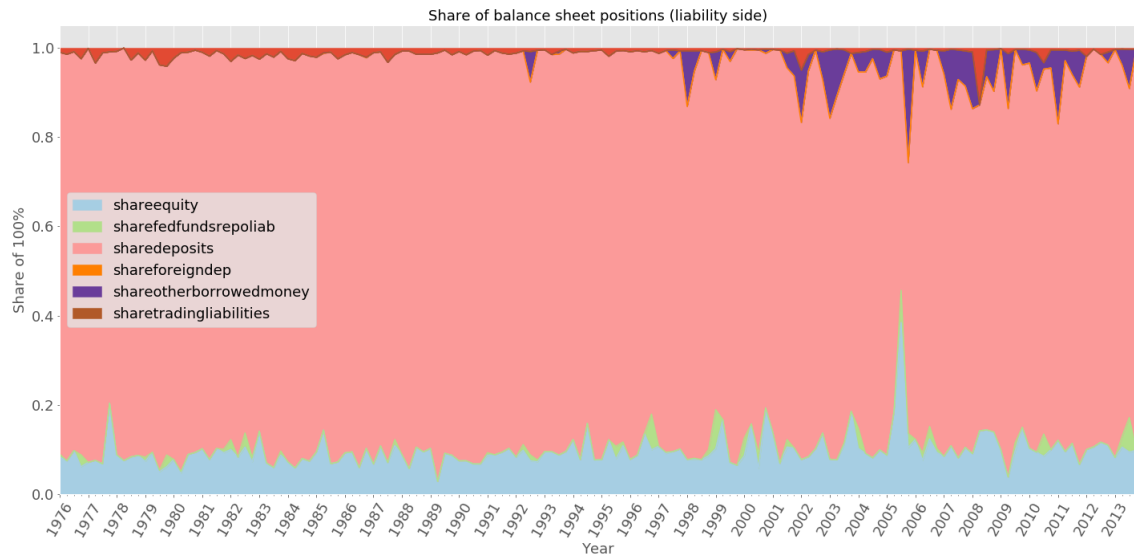
Figure 19: Medium bank: liability side

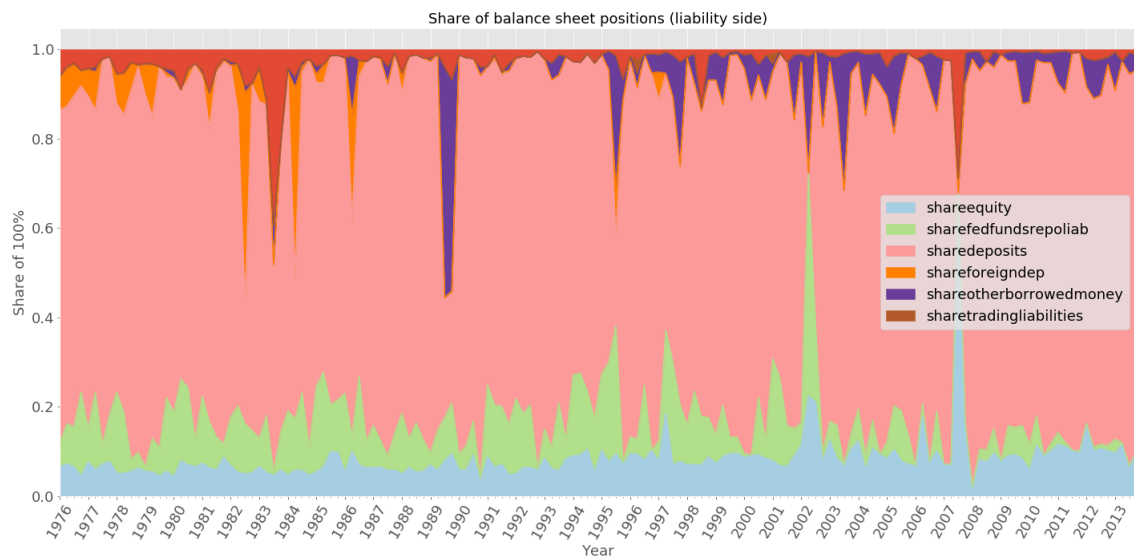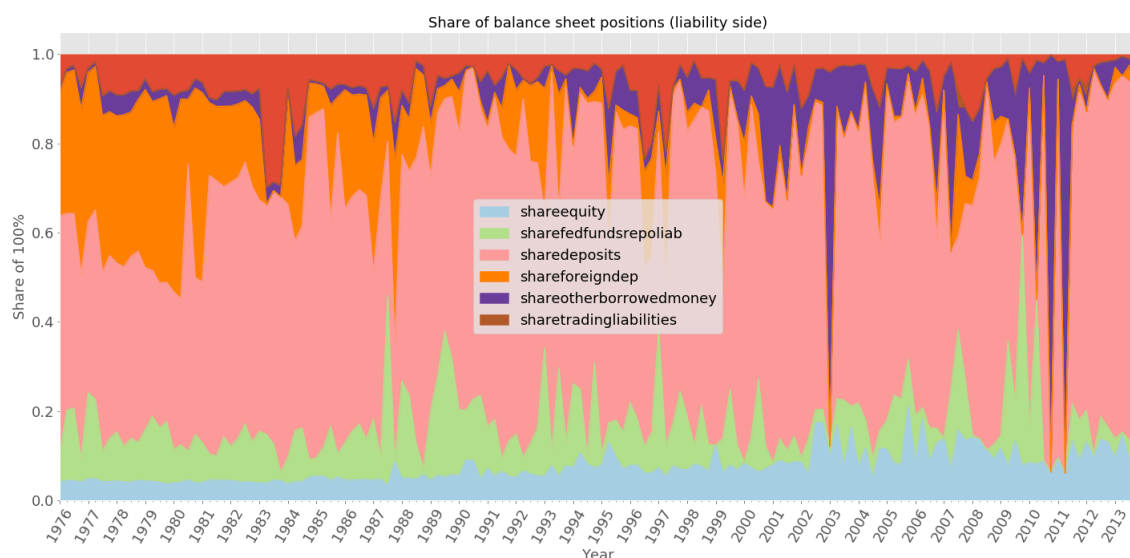Share of balance sheet positions (liability side)

Figure 20: Large bank: liability side

2.2 Looking into leverage

Throughout the analysis the definition of accounting leverage (assets/equity) is used. Equity is calculated by total assets minus total liabilities. In addition, for risk analysis banks belonging a bank holding company were aggregated. Hence, the dataset which was used contained bhcs and independent banks.

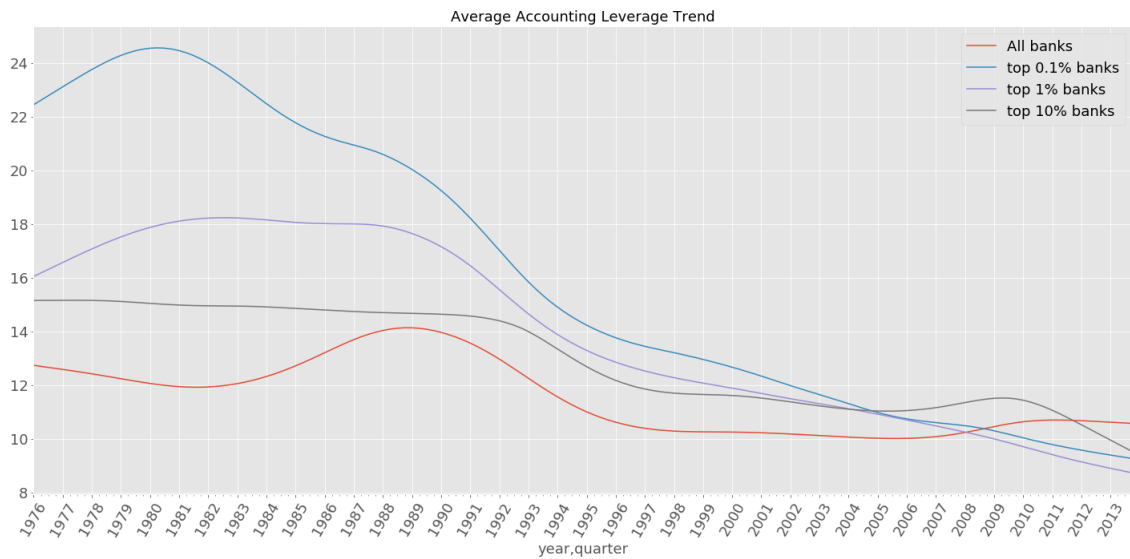Figure 21: Average leverage over time (1976/1-2013/4)
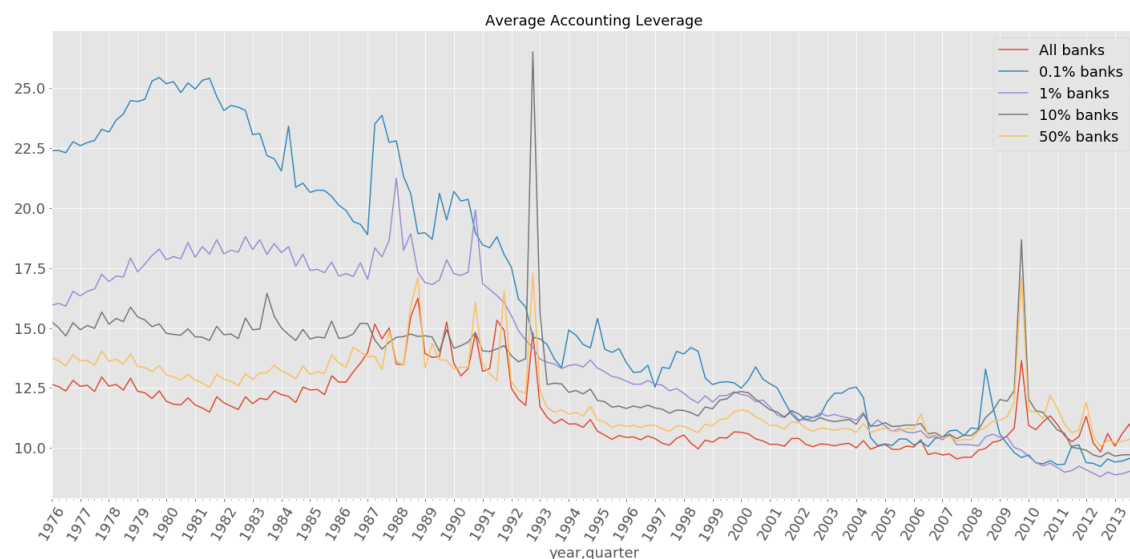
Graph description: The graph shows the average leverage (assets/equity) for every year over all banks. Banks with equity or assets below zero are excluded.
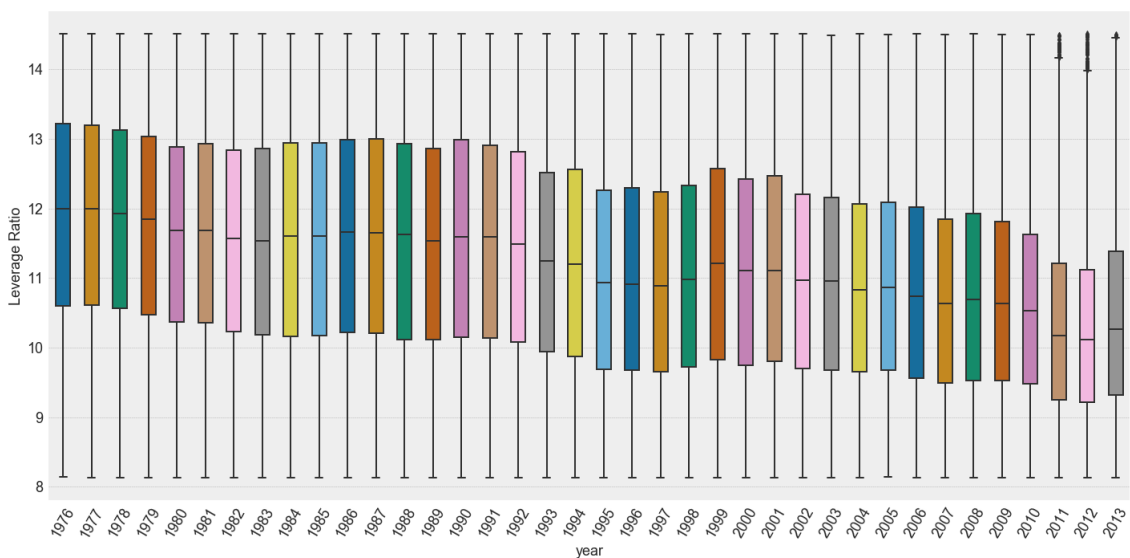*Key Observations:*

- Overall Leverage did fall over time

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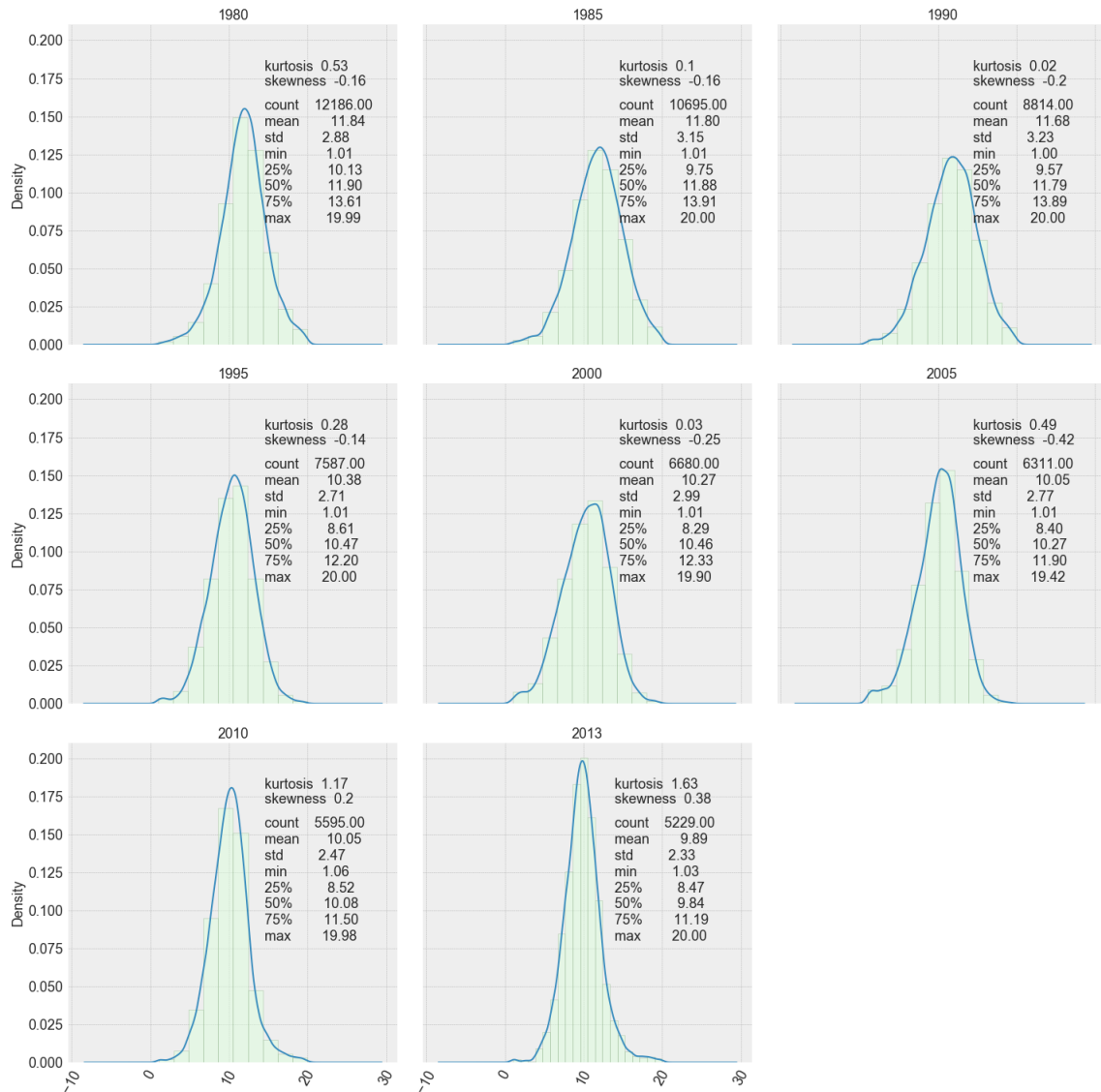Figure 22: Average leverage trends over time (1976/1-2013/4)

- Spike in leverage in year 2008/2009

- Leverage lowest in 2007

- Small spike in year 1999

- Introduction of Basel 1 in 1988 might have lead to continuously decrease in leverage

Figure 23: Boxplots (1976-2013)

A look into the distribution of leverage

Figure 24: Distribution 1980-2013

Graph description: Counts are normed to 1. Only leverage ratios between 0-20 are accounted for. The others are seen as outliers. Leverage ratios are always from quarter 4.

Key Observations:

- large standard deviation in year 2010 with 18.82

- less and higher bars in 2013 indicate higher homogeneity in 2013 compared to the years before.

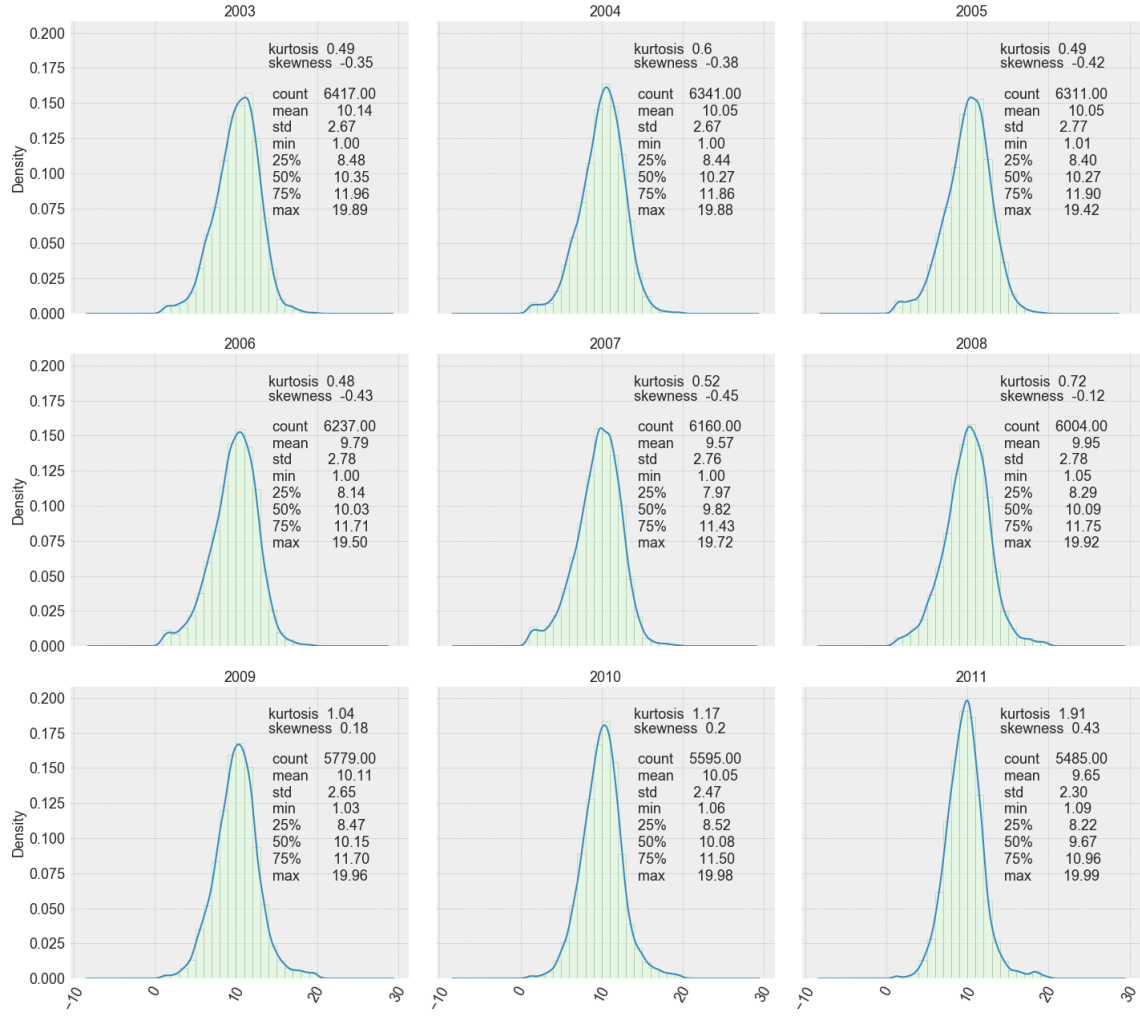Figure 25: Distribution in crisis 2003-2011

Graph description: Counts are normed to 1. Only leverage ratios between 0-20 are accounted for. The others are seen as outliers. Leverage ratios are always from quarter 4.

Key Observations:

- Increasing homogenity over time.

3 Conclusion