from that period. Much like the Fannie Mae and Freddie Mac data, the Blackbox data contain interest rates and a large number of borrower- and loan-specific characteristics, including FICO score at origination, loan-to-value ratio, five-digit zip code of origination, loan purpose, and whether the loan is fixed or adjustable-rate. The BlackBox data also include dynamic data on monthly payments, mortgage balances, and delinquency status.

U.S. Census Data: We use metropolitan statistical area-level data from the U.S. Census and American Community Survey between 2010 and 2015. In particular, we use incomes, homeownership rates, and home values.

Federal Reserve Bank Data: We use banking regulatory call reports to measure bank capital ratios, assets, deposits, and other data from bank balance sheets.

II.C Lender Classification

We classify lenders as in Buchak et al. (2018).[5] Briefly, a "bank" is a depository institution and a "shadow bank" is not. This definition parallels that of the Financial Stability Board, which defines banks as "all deposit-taking corporations" and shadow banking as "credit intermediation involving entities and activities outside of the regular banking system."

Section III: Empirical Analysis

We present a set of empirical facts regarding price, quantity, and composition of mortgage credit, and industrial organization of the market. These facts motivate our analysis and model, shedding light on the drivers of the comparative advantage of banks and shadow banks. Table 1 shows summary statistics for the main datasets used in our analysis.

III.A Aggregate Facts

III.A.1 Bank Balance Sheets, Jumbo vs. Conforming Volumes, and Prices

We start by documenting three related trends, which we document in Figure 1. As the capitalization of the banking sector declined from 2007 to 2009, we observe a decline in the share of on-balance sheet (jumbo) mortgage originations and an increase in the relative price of these mortgages. From 2009 onwards these trends reversed: as the capitalization of the banking sector increases, balance sheet (jumbo) mortgage originations increase and the relative price of these mortgages declines. We next discuss these trends in more detail.

Figure 1A presents the relative share of the jumbo market in the overall origination volume. This share declined sharply from 28% in 2007 to about 10% in 2009. From 2009 onwards, the jumbo share experienced a substantial increase, reaching about 30% in the 2015 to 2016 period. Figure 1B, which shows total origination volumes, illustrates that this trend was driven by changes in the jumbo market: the jumbo market collapsed before recovering to earlier levels.

Figure 1C shows that these contractions in the jumbo market share were accompanied by increases in the relative interest rates of jumbo mortgages to conforming mortgages, the "jumbo spread," and

[5] A complete lender classification is available at https://sites.google.com/view/fintech-and-shadow-banks.