

bank migration also offsets some of the decline in originations. The cost of capital requirements is a decline in bank profits and consumer surplus of higher-income individuals. In other words, tightening capital requirements trades off bank stability with welfare of high-income consumers and bank profits. The effect is asymmetric. As we show below, lowering capital requirements primarily operates on the balance sheet retention margin: it increases the share of mortgages retained on bank balance sheets, but would otherwise have little effect on mortgage origination. Raising capital requirements, on the other hand, operates both on the balance sheet retention margin and the shadow bank migration margin. It decreases the share of mortgages on bank balance sheets but increases the number of loans originated by shadow banks.

Mortgage Origination and Redistribution

Increasing and decreasing capital requirements have an asymmetric impact on mortgage origination. Cutting capital requirements by half, to 3%, would result in a very modest increase of \$16 billion in the total volume of mortgage origination (to \$1,779 billion), driven primarily by increases in jumbo lending. The market structure of lending would be relatively unchanged and jumbo rates would decline by 15 bps. Both high-income borrowers and banks benefit from loosening capital requirements, but the benefits are small, with consumer surplus increasing by \$3 billion¹⁸ and lender profits increasing by \$3 billion. These gains in consumer surplus fall primarily to high-income individuals, with individuals in the top income quartile gaining roughly \$47 in consumer welfare, compared to \$6 for individuals in the bottom income quartile.

Increasing capital requirements, on the other hand, causes significant changes to mortgage origination. Consider increasing the capital requirement from 6% to 9%. Total mortgage originations decline somewhat, by \$54 billion, but results in a large shift from jumbo to conforming mortgages, and from banks to shadow banks. Jumbo origination shrinks by \$151 billion, or 40%, relative to the market with capital requirement of 6%. This decrease in jumbo mortgage supply results in a 44 basis point increase in jumbo rates relative to the baseline jumbo interest rate of 5.05%, while the conforming rate remains virtually unchanged at 4.88%, resulting in a large increase in the jumbo spread. These increases in interest rates are driven almost entirely by increases in banks' marginal costs of originating jumbo loans on balance sheet rather than changes in markups, and these marginal costs increase by 46 basis points over the baseline markup of 1.6 pp.

Approximately two-thirds of borrowers who would have obtained jumbo loans still obtain mortgages, with about one-third choosing not to borrow. \$97 billion worth of mortgages shift to the conforming market. Banks and shadow banks each capture approximately \$49 billion of these originations, resulting in a 4 pp increase in the share of loans originated by shadow banks. In other words, the 9.5% decline in bank lending substantially overestimates the consequences of increasing capital requirements on mortgage origination, which declines by 3% *only*. This migration away from jumbo lending at banks and towards conforming lending at shadow banks illustrates the importance of the shadow bank migration margin. Increased capital requirement results in a \$54 billion net decrease in

¹⁸ We compute consumer surplus as a lifetime present-value dollar equivalent measure of *expected utility* (integrated over consumer specific shocks ϵ_{ijctg}), assuming a subjective discount rate of 4.00% over a period of 10 years.