Collateral versus Bank Lending Channel: Evidence from a massive earthquake

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Abstract

We examine the existence of collateral and bank lending channels simultaneously and compare the economic significance of each channel. For this purpose, we identify exogenous shocks to a firm's debt capacity and a bank's lending capacity by measuring damage to individual firms and banks caused by a massive Tohoku earthquake in 2011. We have the following findings: (1) damage to a firm's tangible assets and that to the net worth of its primary banks deteriorate the firm's credit availability, indicating the existence of both collateral and bank lending channels, (2) a firm that faces a tighter credit constraint after the earthquake reduces its borrowing amount and the level of production and sales activities, (3) in aggregate, the damage incurred by the earthquake and transmitted through the collateral and bank lending channels substantially decreases the output in the region, and (4) some of the financial support measures such as investment subsidies and earthquake insurance payment alleviate the negative impact.

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