Quantitative Easing and Direct Lending in Response to the COVID-19 Crisis

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Summary of Findings

The COVID-19 crisis cut off firms' cash flow and available funds, threatening the survival of many firms. The Federal Reserve responded with numerous programs, including quantitative easing (QE) and direct lending to firms, to prevent a collapse in firms' available funds.

QE refers to the Federal Reserve's large-scale purchases of Treasury bonds and other long-term securities financed by increased bank reserves. In March 2020, the Federal Reserve announced purchases of at least $500 billion in Treasuries and $200 billion in agency mortgage-backed securities totaling 3.3 percent of 2020 GDP. At the end of the same month, it modified the announcement, making the purchases open-ended as needed to support market functioning and monetary policy transmission. In June 2020, it announced purchases of at least $80 billion in Treasuries and $40 billion in agency mortgage-backed securities per month. For comparison, the first announced QE in November 2008 consisted of purchases of up to $600 billion in agency debt and mortgage-backed securities worth 4 percent of 2008 GDP.

The Federal Reserve also introduced new programs to lend directly to firms. In March 2020, it announced purchases of newly issued investment-grade corporate bonds and loans through the Primary Market Corporate Credit Facility. The purchase price was informed by market conditions plus a 100bps facility fee. In April 2020, the Federal Reserve announced loans to small and mid-size businesses through various Main Street lending facilities. The loans were for five years at LIBOR plus 3 percent, with interest payment and principal repayment deferred for one and two years, respectively.

This paper develops a dynamic general equilibrium model to evaluate various channels through which Fed programs work. QE and direct lending to firms work through three channels. Expanding bank reserves lowers the liquidity premium that non-reserve assets earn above the return of on-demand deposits. Decreasing the net supply of assets with volatile returns, such as Treasury bonds and bank loans, lowers the volatility risk premium. Stimulating the economy lowers the credit risk premium. All these channels lower the loan-deposit spread and stimulate firms' investment and output.

The model indicates that the liquidity premium channel is, quantitatively, the most important. Since bank reserves were greater in 2020 than in 2008, the liquidity premium channel was weaker, and Fed programs were less expansionary. More generally, since bank reserves rose after 2008, this mechanism suggests that later QE programs had smaller effects than the first.

Direct lending to firms is more expansionary than QE because QE stimulates bank lending and worsens the credit risk frictions associated with firms' borrowing from the private sector, while central bank direct lending substitutes bank lending and mitigates the frictions.

According to the model, a QE program worth 4 percent of GDP would have raised real GDP by 3.1 and 0.5 percent in 2008 and 2020, respectively. A direct lending program of the same size would have raised real GDP by 3.4 and 0.8 percent in 2008 and 2020, respectively. As bank reserves increased, QE and direct lending became less expansionary over time, but direct lending became *relatively* more expansionary than QE. To achieve the same expansionary effect of a lending program, the Federal Reserve would have needed a 10 percent larger QE program in 2008 and a 60 percent larger QE program in 2020. For given costs, risks, and constraints on the use of QE and direct lending, the relative increase in the stimulus provided by direct lending may have been one reason why the Fed resorted to it in 2020 but not in 2008 and suggests that the Fed may use it again in the next crisis.