Robert Hall opened the discussion by raising three issues he felt deserved more attention in the paper’s analysis. First, he claimed that government intervention, in particular, expectations of a free government “put,” can be important for understanding the authors’ finding that bank equity remains relatively constant during their sample. Banks may not allow their equity to change as much as the value of their assets precisely to maximize the value of the effective put option the government provides them by intervening during crisis episodes. Second, he emphasized the point made by Mark Gertler in his comments, that what matters for the macroeconomy is the overall spread between the marginal product of capital and the return to household savings. While spreads in financial markets returned to normal levels relatively quickly after the onset of the crisis, this overall spread has remained persistently high. Third, he pointed out that many large firms have long positions in the bond market. Instead of borrowing by issuing new bonds, most firms can raise funds simply by selling bonds from their portfolios. Frederic Mishkin agreed with this point, and explained that during crises, the agents who are most affected by restricted bank credit tend to be small firms, or even households. He suggested that the authors might therefore consider using their data set to track the behavior of small firms as well as large ones.

Anil Kashyap echoed Mark Gertler and Arvind Krishnamurthy in questioning the authors’ modeling assumption that firms that are prevented from accessing bank credit during a crisis can somehow raise funds directly from households through the bond market. Citing Calomiris, Himmelberg, and Wachtel (1995), he argued that large high-quality firms actually tend to enter the commercial paper market dur-
ing crises to intermediate for firms that are squeezed out of the market for bank loans. Firms that lose access to bank credit may therefore rely more on trade credit from other firms rather than direct credit from households. He and Mishkin nevertheless both stressed the importance of modeling credit frictions primarily from the supply side, rather than on the demand side (as in Bernanke, Gertler, and Gilchrist 1999).

Kristin Forbes sought to expand the scope of the authors’ contribution by pointing out that their analysis can also provide an explanation for some key trends in international markets. In particular, she highlighted the finding that increases in risk are often followed by contractions in capital flows, especially bank credit, and argued that their theoretical setting provides an appealing environment in which to understand this phenomenon.

Adam Ashcraft asked about the extent to which observations from the recent crisis should be extrapolated to other time periods, especially given the rapid structural changes in financial markets in recent years. As an example, he pointed out that many firms were funded by collateralized loan obligations (CLOs) before the crisis, which later fell apart when investors lost confidence in this form of securitized lending. As another, he explained that during the recent period, many big banks have had large “correlation books” (portfolios of derivative securities that are sensitive to the correlation between the default risks of different assets), which might explain the rapid expansion of corporate credit.

Hyun Song Shin initiated the authors’ response by disagreeing with Arvind Krishnamurthy’s claim that market equity is the appropriate measure to compute financial leverage. He did so by distinguishing between book equity, the marked-to-market value of book equity, and market equity. One problem with using book equity to study the balance sheet of an intermediary might be that it only captures historical costs and does not reflect the current value of assets and liabilities. The best measure, he argued, is therefore the marked-to-market value of book equity, which is calculated as the market value of assets minus the market value of liabilities. Market equity, the total number of outstanding shares multiplied by the price per share, by contrast, is an ill-suited measure because it can also include things like noninterest income (e.g., fee income). He further emphasized that the marked-to-market value of book equity is best measured for broker-dealers because their assets and liabilities are very short-term and liquid. Tobias Adrian added that market equity mostly matters for equity issuance, which is rare. Almost all day-to-day management decisions are based on the book value of
equity (or its marked-to-market value), making that the most relevant measure for their analysis.

Tobias Adrian agreed with Arvind Krishnamurthy that firms can obtain funding from intermediaries other than banks, such as hedge funds or special purpose entities broadly referred to as the “shadow banking sector.” He pointed out, however, that many households hold corporate bonds through mutual funds, and argued that this type of passive intermediation can still be accurately modeled by assuming that households hold corporate bonds directly. He noted that in other work (see Adrian, Moench, and Shin 2010), the authors have analyzed the importance of nonbank intermediaries, and find that broker-dealer leverage is a robust predictor of the cross-sectional and time-series variation in stocks and bonds. Nevertheless, he explained that measuring the fraction of funding coming through the shadow banking sector is a difficult task. Hedge funds often invest in many different markets, and shift their asset holdings frequently; this greatly complicates the task of isolating the fraction of hedge fund equity allocated to trading corporate bonds. As another example, special purpose entities typically rely heavily on implicit credit lines from commercial banks, which are also difficult to measure.

Finally, Paolo Colla briefly responded to Mark Gertler’s comments about the potential problems of unobserved firm heterogeneity by referring him to a robustness check in the paper’s appendix that measures firm characteristics two years before the crisis. He explained that the paper’s main results are not sensitive to this change.

References

