Financial Innovation: The Bright and the Dark Sides

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Summary

"*Everybody talks about financial innovation, but (almost) nobody empirically tests hypotheses about it.*"
Frame and White (2004)

The financial turmoil from 2007 onwards has spurred renewed debates on the "bright" and "dark" sides of financial innovation. The traditional *innovation-growth view* posits that financial innovations help reduce agency costs, facilitate risk sharing, complete the market, and ultimately improve allocative efficiency and economic growth, thus focusing on the bright side of financial innovation. The *innovation-fragility view*, on the other hand, focuses on the "dark" side and has identified financial innovations as the root cause of the recent Global Financial Crisis, by leading to an unprecedented credit expansion that helped feed the boom and subsequent bust in housing prices, by engineering securities perceived to be safe but exposed to neglected risks, and by helping banks and investment banks design structured products to exploit investors' misunderstandings of financial markets. Paul Volcker, former chairman of the Federal Reserve, claims that he can find very little evidence that the financial innovations in recent years have done anything to boost the economy.

Using bank-, industry- and country-level data for 32 mostly industrialized countries between 1996 and 2006, this paper is the first to explicitly assess the relationship between financial innovation in the banking sector and (i) real sector growth, (ii) real sector volatility, and (iii) bank fragility. Specifically, using data on banks' expenditures on innovative activities, we test the innovation-growth and innovation-fragility hypotheses. We find evidence for both bright and dark sides of financial innovation. On the one hand, we find that a higher level of financial innovation is associated with a stronger relationship between a country's growth opportunities and investment and GDP per capita growth and with higher growth rates in industries that rely more on external financing and innovative activity. On the other hand, we find that financial innovation is associated with higher growth volatility among industries more dependent on external financing and innovative activity and with higher idiosyncratic bank fragility, higher bank profit volatility and higher bank losses during the recent crisis.

Overall, our results suggest that there are both "bright" and "dark" sides to financial innovation. Financial innovation appears to encourage banks to take on more risks, which helps provide valuable credit to firms and households, which in turn enhances capital allocation efficiency and the overall economic growth. On the downside, the "dark" side of greater risk taking is that it significantly increases the bank profit volatility and their losses during a banking crisis.