

Research Report

The Value of Financial Innovations

STUDIES HAVE FOCUSED ON INNOVATIONS IN VARIOUS CONTEXTS BUT LARGELY EXCLUDED FINANCIAL INNOVATIONS, DESPITE THEIR NOTABLE IMPORTANCE. THIS STUDY ANALYZES THE TYPES OF FINANCIAL INNOVATIONS BY MAJOR BANKS AND THEIR PAYOFFS. THE RESULTS INDICATE THAT SECURITY AND CREDIT INSTRUMENTS CONSTITUTE THE MOST COMMON FINANCIAL INNOVATIONS. THE AVERAGE RETURNS TO A FINANCIAL INNOVATION ARE \$146 MILLION. IN ADDITION, RADICALNESS AND FINANCIAL RISKINESS INCREASE THE RETURNS, WHEREAS COMPLEXITY DECREASES THEM.

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Introduction

In 2008, the world economy plunged into a major recession, caused primarily by the crisis in financial markets (Phillips, 2009). Much of this crisis could be attributed to high-risk and complex financial innovations introduced during 2000–2008, including those related to subprime mortgages and credit default swaps. In response, observers have called for more investigation into the different kinds of financial innovations that exist, their effects (Frame and White, 2004), and the potential drivers of their financial success (e.g., financial risk or complexity).

In particular, financial innovations may have sparked the financial crisis, but they also have offered significant benefits for consumers and for the growth of national economies. For

example, financial innovations are responsible for home mortgages, student loans, and car loans, which empower lower and middle class consumers; credits for successful entrepreneurs; and credits to the emerging markets, which has helped raise millions of people out of dire poverty (Lerner and Tufano, 2011). Consumers depend on financial innovations, and such innovations account for a substantial portion of world economies and the huge market capitalization of banks.

From the consumer perspective, two aspects of financial innovations make them unique (Lerner and Tufano, 2011): First, even the most useful innovations are often challenging for consumers to grasp. Their complexity makes it difficult for consumers to embrace financial innovations, yet it also may be nec-

essary to produce benefits for consumers. Second, though all innovations involve some financial risk, the returns to financial innovations are intimately tied to their riskiness (i.e., risk-return trade-off). Again, financial risk may be necessary to provide benefits but difficult for consumers to embrace. These variations in the types of innovations as well as in the industries create the need to study financial innovations as phenomena in their own right (Lerner and Tufano, 2011).

By considering what drives the market to value or punish financial innovations from the consumer's perspective, which is outstandingly relevant for marketing, we focus on the financial risk and the complexity of financial innovations, as well as the degree of radicalness, a feature common to all innovations. With a unique data set, including ratings of all three drivers by financial experts who adopt a consumer perspective, we investigate how financial innovations vary during recessionary versus expansionary times and between the United States and Western Europe. This is motivated by the recent financial crisis, the biggest boom and bust since the great depression that hit different locations in the world. In turn, we seek answers to the following questions:

1. How are various kinds of financial innovations distributed across product groups?
2. What are the stock market returns to these financial innovations?
3. How do the complexity, financial risk, and

radicalness of financial innovations affect their stock market returns?

4. How do economic cycles and locations affect the distribution and stock market returns of financial innovations?

Description of the Sample

In total, our final sample consists of 428 product announcements from 39 banks in the United States and Western Europe (Germany, United Kingdom, Switzerland, and France) from 2001 to 2010. Each bank made an average of eleven announcements. Banks or news sources announce their most important innovations, so our sample of announcements should also be representative of the most important financial innovations launched by anyone during this period. Most financial innovations were introduced by two American banks, US Bancorp und Citigroup, followed by two German banks, HypoVereinsbank and comdirect.

Distribution of Financial Innovations

Financial innovations consist of five product groups: securities, funds, credit, account management, and insurances. For example, a security innovation would be the commercial mortgage-backed securitization launched by Deutsche Bank. The loans get secured on a wide range of commercial properties, including offices, retail, industrial, residential, hotels, and pubs. Goldman Sachs launched a U.S. equity fund for investors that seek equity growth opportunities and cash flow to help low- and moderate-income families to buy

Independent Variables	Cumulative Abnormal Return (CAR)
Complexity	-0.42***
Risk	0.29**
Radicalness	0.23***
Recession	0.38**
United States	-0.04
Security	0.31**
Fund	0.17
Credit	0.16
Account management	0.25**
Assets	-0.04
Radicalness × recession	-0.30**
Risk × recession	0.01
Radicalness × United States	-0.15
Risk × United States	0.20**
F-value	3.16***
R ²	8.00%
N	428

*p <0.1; **p <0.05; ***p <0.01

Table 1: Drivers and Inhibitors of Successful Financial Innovations – Regression Results

homes. Citigroup introduced a lower-income program. Bank of America introduced the “Keep the Change” program for customers: The bank rounds up all debit card purchases

to the nearest dollar amount, then transfers the difference from the customer’s checking account to a savings account. Finally, as an example of an insurance innovation, the launch of “Proteski Pinjaman Mitra” by HSBC offers a new credit life protection product.

Security (40%) and credit (25%) innovations are the most frequent innovations; insurance (1%) innovations are the rarest. The percentage of security and account management innovations remained stable both before and during the financial crisis, whereas the percentage of credit innovations decreased during the financial crisis (2008–2010, 30% vs. 2004–2007, 18%; $p < 0.01$). This change might be partly due to the popularity of subprime mortgages and credit default swaps prior to 2008 and their vast unpopularity after the credit bubble burst. The percentages of fund innovations increased during the financial crisis (34%), compared to 2004–2007 (13%) ($p < 0.01$); the increase in fund innovations may reflect the banks’ efforts to introduce ways to spread risk.

Empirical Findings and Conclusion

Banks introduce more fund innovations and fewer credit innovations during the financial crisis; perhaps consumers look more intensively for financial innovations that help them spread risk when they face financial turbulences. Higher saving rates among European consumers and higher loans among U.S. consumers seem to have incentivized European banks to introduce more security innovations and U.S. banks to introduce more credit inno-

vations. That is, banks appear to react to the requirements of their local markets.

To determine the Cumulative Abnormal Return (CAR) to a financial innovation, we adopt the event study methodology. The average CAR to a financial innovation announcement is significantly positive and corresponds to \$148 million. Thus, the market considers financial innovations profitable, not harmful, despite their apparent responsibility for the financial crisis. This result should encourage banks to develop more financial innovations. In addition, the CARs are higher for more radical innovations (see Table 1).

Yet, we also find that the CARs to an announcement of a financial innovation are higher in a recession than in an expansion. In this sense, a recession may offer a chance for banks to stand out from the crowd and use financial innovations to increase their financial value: Banks should act contracyclically and introduce innovations during recessions. CARs increase with the riskiness of financial innovations. An implication of this surprising finding is that banks need not avoid risky financial innovations, and this knowledge may have prompted banks to introduce more risky products in the past decade.

The complexity of financial innovations instead has a negative impact on the cumulative abnormal returns, which is in line with some prior findings outside the banking industry. Thus, we suggest that banks should avoid complex innovations.

Compared with a more radical innovation, the effect of a less radical financial innovation is more positive during recessionary times and more negative during expansionary times. Therefore, banks should time their launch of radical financial innovations to coincide with periods of expansion rather than recessions; once a recession strikes, the negative interaction term for radicalness and recession suggests that they should consider whether waiting might be preferable to an immediate launch of their radical financial innovations.

Finally, increasing risk among financial innovations increases CARs, especially in the United States. The United States may be a more suitable market for launching more risky innovations.

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