

Chapter 11 – Financial Innovation: Pros and Cons

Technical change is a hallmark of modern economies. In the world of education, for example, students now come to class with their laptops. And, if they're bored, they can surf the Web, listen to their MP3 player, or text their friends on their cellphone. A generation ago, students had to make do with pencil and paper, and if they were bored, they didn't have many alternatives.

Technical change is also an important part of the world of finance. Financial innovations – large and small – have surfaced frequently in recent decades in ways that changed many people's lives. Some of the changes are obvious – like the advent of ATM machines. Others are less tangible, but no less important. These include the introduction of new financial products ranging from money-market mutual funds (which spread in the 1970s) to subprime mortgages (which grew rapidly before the financial crisis of 2007-09). In some cases, the new products – such as asset-backed commercial paper (ABCP), collateralized debt obligations (CDOs) or credit default swaps (CDS) – are used only by financial professionals. But even so, they can have broad impact on the process of financial intermediation and the economy as a whole.

In looking at financial innovation over the last few years, it is natural to ask if it is good or bad. Does all innovation make us better off? This is a tough question, because it is very difficult to measure the benefits or the costs of particular innovations.¹ Innovations that attract demand in a market economy presumably help those who purchase them. If so, the innovations that propelled the trend expansion of the U.S. financial sector seem helpful: The sector accounted for more than 7% of GDP in the current decade, roughly double its average share in the 1960s.

Financial innovation may also have helped to moderate business cycle fluctuations. That is, prior to the crisis that began in 2007. Innovations such as credit cards and home equity loans allow households to keep their consumption smooth even when their incomes are not. The increased availability of credit to businesses (say, through the high-yield corporate bond market) allows them to smooth their spending across short periods when revenues do not cover costs. Partly as a result of these innovations, the overall swings of the U.S. economy were smaller starting in the mid-1980s. In contrast, when credit became temporarily unavailable to healthy borrowers in earlier periods – so-called *credit rationing* – private spending swings amplified economic cycles.

The increased availability and reduced cost of credit resulting from various financial innovations also has helped to achieve longstanding public goals. Since the Great Depression of the 1930s, the U.S. government has promoted home ownership. It has

¹ The benefits can depend on the point of view: Some students may wish to use their MP3s and cellphones during class, but their teachers and classmates could be distracted.

done this both through the tax code (homeowners can deduct mortgage interest payments from their income before computing their income tax) and through the creation of government-sponsored enterprises (GSE – see Chapter 13) to finance home mortgages. In recent decades, the trend increase of owner-occupied housing has been accompanied by a large rise of mortgage debt.

However, the financial crisis of 2007-09 is a stark reminder that financial innovations can bring substantial costs along with the benefits described above. Many households lost their homes when falling house prices made it impossible to refinance their subprime mortgages (see the Chapter 7 module: Subprime Mortgages). Many intermediaries underestimated the risks of new financial products and were compelled to deleverage in the crisis (see the Chapter 3 modules: Leverage and Shadow Banking). Some new products – such as ABCP – proved difficult to issue in a pinch, threatening the survival of several intermediaries. Over-the-counter derivatives that facilitated the transfer of risk also made it difficult for intermediaries to know who faced losses from defaulting mortgages. The resulting uncertainty contributed to the seizing up of key markets for liquidity, such as the interbank lending market (see the Chapter 3 module: Interbank Lending).

The crisis also teaches us that rapid financial innovation can be a source of systemic risk. When financial products without a track record expand rapidly in a buoyant economic environment, investors tend to underestimate the risks that only occur in periods of economic stress. Separately, innovations that help conceal concentrations of risk can make the financial system more vulnerable to a shock. In both cases, the problem is that investors do not obtain adequate compensation for the risks that they take because they do not understand the risks or because the risks are invisible.

How can investors and borrowers manage the risks of financial innovation? Financial education is one answer. For example, some subprime borrowers could have obtained a cheaper prime loan by providing complete documentation of their income and employment (see the Chapter 7 module: Subprime Mortgages).

However, financial education is only a partial answer. Even experienced financial professionals tend in good economic times to underestimate risks of new financial products. Consider the failures and the losses of some of the largest intermediaries in the 2007-09 crisis. Experts who managed the risk-taking at these financial institutions did not distinguish effectively between financial products that helped their firms and those that threatened their existence.

The crisis itself already has led to a market-driven reversal of some recent financial innovations, including ABCP, subprime mortgages, CDOs and over-the-counter derivatives. As the risks became self-evident, informed market participants sought appropriate compensation (Core Principle 2). Problems in the future are more likely to arise from new instruments that lack such a risk history, or in cases where inadequate disclosure conceals the risks.

Going forward, governments may wish to tighten financial market rules in ways that slow innovation. A track record that spans both good and bad economic episodes can help expose the risks of new financial products before they spread too widely. Officials concerned with financial stability are likely to focus on rapidly-expanding innovations that could pose a systemic threat. However, governments also have to be cautious that slowing financial innovation could slow economic growth, or limit the ability of households and businesses to smooth spending across temporary income shortfalls. Policymakers face a difficult balancing act in securing both the stability of the financial system and broad access to credit.