Society can achieve a greater democratization of finance and stabilization of our economic lives through radical financial innovation.

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Advances in information technology create tremendous opportunities for fundamental innovations in risk management, such as the expansion of insurance to protect against a decline in the value of one’s home and even to protect a nation against a decline in its GDP.

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Economic Inequality

Most long-term economic risks that people face today are borne by each individual or family alone. Social welfare exists primarily for the very poor but is limited even for them. In today's world, we cannot insure against risk to our paychecks. We cannot hedge against the economic risk that our neighborhoods might gradually decay. We cannot diversify away the risk that economic and societal changes will make old age difficult, and thus our elderly are left vulnerable to the risk that a stock market crash will wipe out their retirement savings. Many people live in relative poverty today because of a failure to control such risks.

Economic inequality is likely to worsen in the coming years for several reasons. First, research shows that as people age their incomes become more unequal. Young people in their 20s earn close to the same income, but as time goes on the differences grow such that by the time they’re in their 70s and 80s, some people have saved a million dollars in their 401(k) plans and others are living off their Social Security payments. Thus, by extending our lives, medical advances are exacerbating inequality.

On a global scale, the level of inequality is staggering. It remains to be seen whether efforts to build a more equitable and fair globalized world will succeed or whether globalization will leave even further behind those who live in countries that at this point cannot take advantage of the opportunities for development that information technology and open markets present.

Perhaps most important in any discussion of inequality is the winner-take-all effect, wherein slight differences in performance or ability can lead to dramatic differences in economic rewards. The classic example of the winner-take-all effect is the musician or singer who, as a result of technological advances in recording and distributing music, sells millions of songs to a vast audience—to the demise of many quite talented local performers who don’t manage to land recording contracts. The ongoing explosion of technological advancements may well have a similar effect on many more occupations.

Another interesting aspect of economic inequality is its essentially random nature. That is, purely random outcomes affect our economic well-being in important ways. The realization that a sudden technological innovation or economic shock, for example, could render one’s training and career obsolete or unnecessary is indeed sobering. Public understanding of risk at this level is essential to building support for adopting risk management innovations that address the substantial random causes of economic inequality.

A New Financial Order

While technological innovations may be behind some of the causes of economic inequality, on the other hand, advances in information technology create tremendous opportunities for fundamental innovations in risk management. New technologies can do cheaply what was once expensive by systematizing our approach to risk management and by generating vast new repositories of information that make the dispersal of risk possible. The principles of financial management—heretofore largely the purview of the already well-off members of our society—can now be extended to include society as a whole. If we are to thrive, finance must be for all of us, in deep and fundamental ways.

Democratizing finance means effectively solving the problem of gratuitous economic inequality, that is, inequality that cannot be justified on rational grounds in terms of differences in effort or talent. The following ideas describe a new financial order that could stabilize our economic lives:

Livelihood and home equity insurance. The purview of insurance should be extended to cover long-term economic risks. Today, we can buy life insurance, but it’s based on a 19th-century problem: the average life span throughout the 1900s was less than 50 years, and thus the probability of the early death of a parent was high. And disability insurance is based on old technology. That is, in an effort to insure against a shock to one’s income, all the insurance companies can offer is a policy based on something they can verify—a medically certified physical disability. Today, information technology allows expansion of the scope of insurance in such a manner that people could be offered livelihood insurance to protect themselves against declines in indexes of income in their occupation. Livelihood insurance would stimulate greater diversity in human capital investment since young people choosing career paths so often are driven by financial considerations rather than by what they can do best.

Home insurance today largely protects the value of your home in the case of fire—again, fire was a far bigger risk in the 1900s than it is now. Today, what is important is the increasing volatility of the real estate market. Home equity insurance could protect homeowners against declines in home
prices in their city. It would be based on an index of home prices in a defined geographical area rather than on individual homes to avoid the “moral hazard” of rewarding owners who don’t properly maintain their homes. As an experiment, the city of Syracuse, New York, created a home equity insurance policy in 2002. A few other U.S. cities have also done so. In each case, the motivation was to manage the real estate risks that homeowners face and thereby to encourage them to stay as investors in the city. Such insurance policies can help reduce the risk of urban decline by countering incentives to sell when the market is perceived as at risk of falling.

The creation of macro markets. I envision large international markets for long-term claims on national and occupational incomes, as well as for illiquid assets such as real estate. Some of these markets would be far larger in terms of the value of the risks traded than anything that exists today, dwarfing today’s stock markets. Macro markets would help remove pressures and volatility from our overheated stock market, individuals and institutional investors could buy and sell macro securities as they do stocks and bonds today. We can already see the beginnings of macro markets. For example, in 2005 Argentina issued gross domestic product (GDP) warrants, claims on the nation’s GDP, and sold them to foreign investors.

Macro markets, when they become liquid and more pervasive, will make risks more palpable because they will allow us to see the day-to-day, even minute-to-minute, changes in fundamental economic values that are invisible today. When people see the price of a claim on their nation’s GDP, the price of a claim on their occupational income, or the price of homes in their city fluctuate substantially, they will perceive the risks much more precisely.

This risk manifestation would be made even more pervasive someday by a new economic information infrastructure based on global risk information databases, or GRIDs, and enabled by indexed units of account, new units of measurement and electronic money for better negotiating risks. With enough information, even a market for the combined GDPs of the entire world could be established. Current financial theory is far enough advanced that the limit of risk management is the entire world’s assets.

Income-linked loans. Banks and other lending institutions could provide loans to individuals, corporations, and governments contingent on their future incomes. The loan balance would automatically be reduced if income falls short of expectations. Similar to what corporations can do now, income-linked loans would help to democratize finance by effectively allowing people to sell shares in their future incomes. To the extent that the income measure used to settle the loan contract is an occupational income index, there is no moral hazard that the borrower would work less hard to reduce the loan. With such loans, those whose occupational income turned out to be disappointing would see much of their loan forgiven, and those whose occupational income turned out to be surprisingly good would have to give up some of their surprise income to support those whose occupational income turned out to be disappointing. Such loans would provide protection against the hardship and bankruptcy that afflict many borrowers today. They would also encourage people to take more risks with their income and so perhaps make more idealistic and imaginative choices for investing their human capital.

The most important income-based loan program in higher education is the Australian Higher Education Contribution Scheme (HECS), created in 1989. Most students in Australia who borrow for their education do so through the HECS program. The idea has spread to New Zealand and South Africa, and likely will be launched soon in the United Kingdom.

Inequality insurance. There is a serious risk that income in the future will be distributed far less equally than it is now. That is, the rich will continue to get richer and the poor will continue to get poorer. At this point, the most important risk management tool of all that we have in our society is the progressive income tax and associated welfare payments funded from those taxes, which, despite tax loopholes, effectively mitigate against income inequality. Inequality insurance—which I am loosely calling insurance so as to frame it as a risk management vehicle focused on protecting all of us from future risks, as opposed to a Robin Hood scheme—would not be based on the sort of tax schedules used today, wherein income tax is determined by the tax bracket a household falls into. Instead, governments would legislate the amount of tax revenue necessary for any particular tax year and then would divide that amount across all households such that the after-tax income for each household would result in the same ranking in terms of income that the household held before taxes. By maintaining that rank, this system freezes income inequality at present levels. While this system may not appear dramatically different than the current tax bracket–based system, and at first people may not notice significant changes in their taxes, it is in fact fundamentally different in that it prevents further income disparities. It helps people at all income levels, not just those below the poverty level and including, importantly, a significant share of the population whose incomes are or could fall to just above the poverty level.

Intergenerational social security. Typically, three generations are alive at any given time: the working adults, and the elderly and children. Today’s Social Security system guaran-
Intergenerational social security would reframe Social Security to be a more truly social insurance system, allowing genuine and complete intergenerational risk sharing. The new system's defining characteristic would be to pool the risks that different generations hold—risks that today are primarily dealt with only to a limited extent within the extended family. An attractive scheme would be simply to specify contributions as a percentage of every working person's income equal to the percentage of people who are retired. (Approximately 11 percent of the U.S. population is retired; Social Security contributions per person total 12.4 percent of income up to $94,200 in 2006.) As demographics change, the contribution percentage would automatically change too. Each retired person would receive benefits from the pool proportional to his or her average indexed earnings. Unlike the current system, intergenerational social security doesn't promise a fixed income to retirees regardless of what's happening to those still working; instead, it divides up the available income among people alive at the time so that they all share the effects of the current state of the economy.

International agreements for risk control. Substantial international risk sharing among countries arranged by their governments, presumably with help from international agencies, is possible. Governmental risk sharing, which would augment the risk sharing done by individual citizens through devices such as livelihood insurance, macro markets, and income-linked loans, would take the form of contracts between nations. The contracts would be long term (perhaps 50 years or more) and would be designed to share the total effect of all risks to the countries as measured by economic impact gauges such as per capita GDP or its analogues. The contracts would specify a formula according to which countries whose per capita GDP grew more than expected would pay countries whose per capita GDP grew less than expected. The contract could also impose limits on the fraction of GDP paid by any country, to make ultimate compliance more likely under extreme circumstances. Current sensitivity to risk on the part of governments serves as a disincentive to undertake major new initiatives for fear that a bad outcome could have negative consequences for millions of citizens. International agreements that mitigate this sensitivity would stimulate creativity and growth on a large scale.

Higher Education's Role in Building the New Financial Order

Colleges and universities support the computer science, finance, economics, statistics, mathematics, and psychology departments and others from which flow many of the advances in financial theory, behavioral finance, and information technology that undergird the new financial order. Each of the ideas outlined above depends on progress in these fields, which has been remarkable in the last few decades. It is crucial that educators consider the mission and purpose of these departments and the good they can accomplish, and avoid pitfalls such as the finance department serving as a vocational school for future investment bankers.

Certainly, economic inequality both within the United States and around the globe is a compelling circumstance that higher education institutions can make valuable contributions toward alleviating by advancing development of the knowledge and tools to address it. Similarly, if society is to truly democratize finance, then risks and the financial devices and services to address them must be made readily understandable to ordinary people, not just finance experts. Colleges and universities can fill a crucial role in helping to advance the base of common knowledge that must precede acceptance and adoption of the new financial order.

Conclusion

Society can achieve a greater democratization of finance and stabilization of our economic lives through radical financial innovation. The same breathtaking technology that generates new risks can be adapted to the purpose of managing those risks. We must remember our economic vulnerabilities in this time of technological change, and not take prosperity for granted. We should be willing to try risk management ideas that seem—at first—unnatural, possibly even unworkable. We should be ready to make risk management arrangements on a very large scale, aggressively pursuing the risks that have the potential for great damage. Given the problems and inadequacies of today's financial arrangements and the economic uncertainty of our future at a time of global change, we must do our utmost to make a new financial order a reality.

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