# Measuring Economic Security

BY CHARLES GERENA

**"The Economic Security Index: A New Measure for Research and Policy Analysis." Jacob S. Hacker, et al., Federal Reserve Bank of San Francisco Working Paper 2012-21, October 2012.**

Fear is a powerful force. When a family is afraid of losing what they have, they may decide to cut back on nonessentials and save more. But finding the right way to "get over the hump" is challenging, and an unexpected economic loss can still lead to hardship.

Having an accurate measure of the nation's economic security — the degree to which individuals are protected against hardship-causing economic losses — could be useful for policymakers trying to determine the best ways to intervene when people get into financial trouble. A group of researchers from Yale University, Ohio State University, the Urban Institute, and the San Francisco Fed are developing an economic security index (ESI) that goes beyond measuring income volatility or resource adequacy.

Their ESI incorporates data from multiple panel surveys into a single measure that represents the share of individuals who experience at least a 25 percent hit to their annual household income and who lack liquid financial wealth to replace this loss. Household income is adjusted for inflation, out-of-pocket medical expenses, and the estimated cost of debt-service for those with negative financial holdings.

Despite some limitations and the need for further research, "the ESI shows that Americans are not only facing greater insecurity than at any time within a generation, but also that they were at heightened risk even before the recent downturn," note the researchers in their paper. "It also provides a new means of examining the sources of insecurity and the degree to which Americans with different characteristics are vulnerable to it."

**"Why Doesn't Technology Flow From Rich to Poor Countries?" Harold L. Cole, Jeremy Greenwood, and Juan M. Sánchez, Federal Reserve Bank of St. Louis Working Paper 2012-040A, October 2012.**

In an ideal world, the technologies that helped richer countries get rich would eventually find their way to poorer countries. But that transfer doesn't always happen.

A variety of factors influence a country's adoption of technology, from the labor or natural resources it has available to government policies that either promote or discourage certain industries. A recent paper published by the Federal Reserve Bank of St. Louis finds that the efficiency of a country's financial system could play a significant role in technology adoption.

Why? Implementing a new technology requires a significant investment with an uncertain payoff, and investors may not have the necessary information to properly assess risks or monitor how their funds are used. "Financial institutions play an important role in constructing mechanisms that ensure investments are used wisely," note the paper's authors. "They do this by both monitoring firms and implementing reward structures that encourage firms to truthfully reveal their profits so that investors can be fairly compensated."

Monitoring firms cannot be done cost effectively in some countries, however, given the state of their financial systems. In these cases, financial intermediaries must use reward structures in place of monitoring; funding is delayed until a new technology is fully implemented and the firm's performance can be properly assessed. Even with such "backloading" of funds, cash flows generated from technology adoption may not be adequately disclosed.

The paper's authors model the relationship between the level of technology adoption and the state of a country's financial system and find that it helps explain differences in income and total factor productivity between India, Mexico, and the United States. The efficiency of the American financial system seems to position it to adopt advanced technology, while the inefficiency of monitoring in Mexico limits that country to implementing intermediate technology that can be funded using a backloading strategy.

**"The Agglomeration of R&D Labs." Gerald A. Carlino, Robert M. Hunt, Jake K. Carr, and Tony E. Smith, Federal Reserve Bank of Philadelphia Working Paper 12-22, September 2012.**

Companies engaged in similar work may benefit from agglomerating, or operating in close proximity to each other, even in today's age of instant communication. That holds true for research and development firms, according to a recent paper published by the Philadelphia Fed.

Economists from the Philadelphia Fed, Ohio State University, and the University of Pennsylvania analyzed the geographic concentration of about 1,000 private R&D labs in 10 northeastern states. "First, the clustering of labs is by far most significant ... at very small spatial scales, such as distances of about one-quarter of a mile, with significance attenuating rapidly during the first half-mile," report the authors. "The rapid attenuation of significant clustering at small spatial scales is consistent with the view that knowledge spillovers are highly localized."

In addition, they found evidence of significant agglomeration of R&D firms at the metropolitan level. This is consistent with one of the perceived benefits of agglomeration: the pooling and matching of skilled workers. **EF**