

FEEM Winners 2012

Technological Standardization, Endogenous Productivity and Transitory Dynamics

Justus Baron (MINES ParisTech) and Julia Schmidt (Geneva Institute of International and Development Studies)

Standardization is a key element in technological progress, representing the clustered adoption of bundles of inventions. Justus Baron and Julia Schmidt develop a new measure of standardization, which can be interpreted as a proxy for technological change. There are three main findings. First, technology adoption is cyclical, with adoption rates higher during booms than during recessions, underlining the importance of demand effects. Second, standardization is an important driver of investment in equipment and software and is associated with faster productivity growth. Third, although technological diffusion is a long-term process, forward-looking variables (such as stock market indices) quickly respond to the introduction of new standards.

The Price of Development

Fadi Hassan (London School of Economics)

The Penn effect is the stylized fact that richer countries also face higher price levels, with the Balassa-Samuelson model of sectoral differences in productivity growth providing the most well known explanation for this pattern. Fadi Hassan revisits this empirical pattern and shows an important nonlinearity: it turns out that the price-income relation is actually negative for low income countries before turning positive at higher levels of development. Hassan shows that this non-linear pattern can be explained by a development process by which productivity growth is initially concentrated in agriculture, which tends to be largely a non-tradable sector in low-income countries.

Intergenerational Externalities and Sustainable Growth

Itziar Lazkano (University of Wisconsin - Milwaukee)

In principle, investment in clean technologies can reconcile economic growth with high environmental quality. However, in an endogenous growth model with overlapping generations that allows the joint examination of both endogenous growth and intergenerational externalities in environmental quality, Itziar Lazkano shows that inter-generational externalities can distort the demand for clean technologies, if the current generation does not sufficiently internalize the benefits of clean technologies for future generations. Under this scenario, environmental degradation can occur even if individuals place a high value on the quality of the current environment – what matters is the value they attach to the environment of future generations.