Leeds, Michael A., and Peter von Allmen. 2007. *The Economics of Sports*, Third edition. Addison-Wesley.

Rappaport, Jordan, and Chad Wilkerson. 2001. "What Are the Benefits of Hosting a Major League Sports Franchise?" *Federal Reserve Bank of Kansas City Economic Review*, 86(1): 55–86.

Sports Business Daily, http://www.sportsbusinessdaily.com/

Sports Business Journal, http://www.sportsbusinessjournal.com/

CHRISTOPHER MAXWELL
Boston College

O Economic Development, Technological Change, and Growth

Volatility and Growth. By Philippe Aghion and Abhijit Banerjee. Clarendon Lectures in Economics. Oxford and New York: Oxford University Press, 2005. Pp. viii, 148. $35.00. ISBN 0–19–924861–3. *JEL 2006–0729*

Dissatisfied with existing models of economic volatility and growth, Philippe Aghion and Abhijit Banerjee in *Volatility and Growth* advance a new theoretical framework for studying the dynamic relations between long-run economic growth and business cycle fluctuations. Based on the Clarendon lectures given in Oxford, the book unabashedly seeks to recruit researchers to join their quest to better understand the linkages between volatility and growth.

The central contribution of the book is to integrate credit constrained entrepreneurs into a Schumpeterian model of endogenous growth and demonstrate that adding this friction helps theory match the data much more closely than existing theories. Credit constraints are modeled as limits on borrowing and these limits are in turn motivated with a model of imperfect information and imperfect contract enforcement.

As a benchmark, the book begins by introducing productivity shocks into both the AK and Schumpeterian models of endogenous growth without incorporating credit constraints. In the AK model, greater volatility accelerates growth by increasing precautionary savings, but the drop in risk-adjusted returns from greater volatility provides an offsetting influence so that the net effect depends primarily on the intertemporal elasticity of substitution. Using U.S. data to parameterize the model, they find that greater volatility increases savings, investment, and growth in this AK model. In the Schumpeterian model, long-run, productivity-enhancing investments determine long-run growth, not investments in directly productive endeavors. Since recessions reduce returns from short-run, directly productive activities, recessions can enhance the relative return to long-run, productivity-enhancing investments and thereby stimulate long-run growth. Aghion and Banerjee show that a mean preserving increase in productivity shocks tends to increase R&D investment and growth in the Schumpeterian model.

The problem—and hence the motivation for the book—is that the data reject the predictions emerging from these models. Volatility and growth are negatively, not positively, related. Moreover, volatility is associated with both less investment and slower productivity growth. R&D expenditures do not rise with volatility as suggested by the benchmark Schumpeterian model. A new theory is necessary to account for observed correlations.

The book next introduces credit constraints into the Schumpeterian model of endogenous growth. In the model, productivity enhancing investments require a long-run commitment of capital. Consequently, liquidity shocks that interrupt these long-term investments lower the probability that these projects will succeed. With no credit constraints, these liquidity shocks do not inhibit these long-run investments because firms can borrow. With credit constraints, however, economic downturns disproportionately reduce the appeal of long-run investments, relative to short-run, directly productive activities, because long-run investments face liquidity risk. Entrepreneurs anticipate this and reduce investment in long-run productivity enhancing investments when there are recessions. Under plausible parameters, Aghion and Banerjee show that volatility reduces long-run investment expenditures and, hence, long-run growth, especially in economies with poorly functioning financial systems.

Besides matching the observation that volatility and growth are negatively correlated, this Schumpeterian model with credit constraints makes additional, testable predictions. The theory suggests that credit constraints slow economic growth by reducing investment in long-run productivity enhancing investments. The model predicts that credit constraints make growth more sensitive to the volatility of exogenous shocks and that credit constraints make long-run investment more pro-cyclical. Using cross-country regressions, the book finds broad support for these predictions. In extensions, Aghion and Banerjee show how this framework can be extended to an open economy and demonstrate how to endogenize volatility.

With imagination and clarity, this Aghion and Banerjee open new avenues for research. Rather than representing the culmination of a research agenda that dots every "i" and crosses every "t," this book motivates an ambitious research program in which many are sure to contribute. Over time, researchers will provide more details on the types of financial contracts, markets, and intermediaries that most effectively ease growth-retarding credit constraints relative to financial innovations that ease investments in immediately productive, though non-productivity enhancing, activities. Similarly, policy reforms and innovation may affect risk diversification, the ex ante screening of firms before they are funded, or the ex post monitoring of firms after they are funded. Each of these distinct changes in the operation of the financial system might alter the types of investments that an economy undertakes. Moreover, more microeconomic evidence will surely provide greater insights into the actual mechanisms at play. This book is a must read for anyone interested in doing research on economic growth, business cycle fluctuations, or their interactions.

Ross Levine
Brown University and NBER

The Arab Economies in a Changing World. By Marcus Noland and Howard Pack. Washington, D.C.: Peterson Institute for International Economics, 2007. Pp. xv, 350. \$24.95, paper. ISBN 978–0–88132–393–1. *JEL 2007–1125*

When inaugurating the Dubai Book Fair in 2007, Sheikh Mohamed bin-Rashid Al-Makhtoum, the ruler of Dubai, lamented the fact that there were so few books published in the Arab world and his wish was for a thousand books a year to be published. It has been said that the number of books published in the Arab world is only about 1 percent of the world's production. Unfortunately, the picture is even more bleak when it comes to books on Arab economies, whether published in the Arab world or anywhere else for that matter. So, from that standpoint alone, *The Arab Economies in a Changing World* is indeed a welcome contribution.

The book discusses important challenges facing Arab economic policymakers. It gives an overview of demographic trends in selected Arab countries and plays up the region's limited exposure to globalization, concluding that there is a need to significantly increase economic output to absorb the growing labor force. The book argues that, while economic growth was comparable—and indeed social indicators fared better—to that of other regions in the world over the past few decades, the challenges faced by Arab economies are now more pressing than ever. This is because of high population growth in the past that is now rapidly increasing the size of the labor force. The missed opportunities associated with failure to take advantage of globalization make the challenge of raising the growth rate even more daunting. What makes the book particularly interesting is the authors' multifield approach to the topic. Not only do they look at macro- and micro-economic determinants of growth, but they also weave into the analysis the role of politics, religion, and culture in explaining economic performance and the lack of deeper integration with world markets. It is likely that the book will find a ready audience in the West, but will it sell in the Arab world? That depends on how Arab readers will relate to the message.

What then is the message? There is a pessimistic tone running through the book—notwithstanding the conclusion that policies do not appear to be weaker than the relevant comparators from outside the region—that leaves the reader with the sense that overall economic performance of Arab countries has been lackluster, if not altogether poor, and the future is not too bright as opportunities may be dwindling. This may be right, but in my view the case is far from proven. I will focus my comments on: (i) the ongoing transformation of Arab economies; (ii) the role of foreign direct investment; (iii) the relevance of security on growth; and (iv) what I call some of the sweeping generalizations made in parts of the book that, at best, are debatable.

Let me start by saying that Arab countries are not all the same. While the book recognizes upfront the diversity of Arab countries, the authors throughout interchangeably use the terms "Middle East," "Middle East and North Africa (MENA)," and the experience of eight (or