Book Reviews

Games in Economic Development

Bruce Wydick. 2008. Cambridge: Cambridge University Press. ISBN: 978–0–5216–8715–7, $33.99 (paper).

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Economists have traditionally focused on technological change, human and physical capital accumulation, or both, as the engines of economic development. The economic models that underpin this canonical approach typically assume anonymous and costless transactions, perfect information, constant returns to scale, and thus unique dynamic equilibria. In this engaging new volume, Bruce Wydick offers a provocative alternative vision of economic development—e.g., that the principal differences between rich and poor communities originate in institutional heterogeneity that leads the former towards cooperative, high-return outcomes while burdening the poor with frequent coordination failures and Pareto inferior equilibria. His argument is not overtly radical; he merely aims to demonstrate how modern game theory can shed useful light on a wide range of phenomena that help explain persistent poverty. But the overall message is refreshingly provocative; in his view the constraints that trap so many people in grinding poverty are associated less with technological or material shortcomings than they are with human dysfunction. In a fallen world, people suffer unnecessarily. The institutional arrangements of society must serve as a check on the excesses of human self-interest if people are to enjoy and maintain higher standards of living.

This message merits attention. Wydick's argument starts with the premise that human interactions are the foundation of virtually all production, exchange, and consumption behaviors. Thus economists should use analytical tools designed for the study of human interaction: those of game theory. The core intellectual challenge of development economics is to explain why historically unprecedented plenty co-exists with abject poverty, often contemporaneously within the same communities or countries, and what interventions might help the poor majority attain the living standards of the fortunate minority. This challenge can be usefully conceptualized as a game with multiple equilibria in which low productivity, risky and costly exchange, and meager consumption are predictable outcomes when the rules of the game—defined by informal social norms, legal institutions, or both—do not guide people toward the high-level equilibria that predominate in high-income countries. Wydick quite effectively presents a range of important economic phenomena—technology adoption, civil war, political corruption, access to credit and insurance, and natural resource degradation—through this lens.

The book begins with a chapter that develops Wydick's claim for the usefulness of game theory for understanding poverty and development problems. He makes the standard economic argument that incentives and expectations matter. But Wydick taps into a rich vein of recent research that highlights how social, psychological, and political considerations—not just material interests—shape those incentives. He also peeks into the black box of expectations, emphasizing the concept of strategic interdependence, that one's incentives are shaped by others' behaviors such that the rules that guide interactions—institutions in North's (1990) formulation—ultimately influence the human outcomes we observe. The feedback between micro-level behaviors and the macro- and meso-level institutions that both shape and are shaped by individual behaviors offers a powerful means of understanding why governments, markets, and communities are simultaneously weak in places characterized by widespread persistent poverty, a phenomenon Brent Swallow and I termed "fractal poverty traps" (Barrett & Swallow, 2006).

The second chapter, supplemented by a brief appendix at the book's end, introduces the structure and solution concepts of a few basic games—battle of the sexes, hawk-dove, prisoner's dilemma, stag hunt, trust—that become the workhorses of the subsequent, topical chapters. The material is highly engaging and accessible, a far cry from most game theory texts.

Chapters 3–12 then tackle a sequence of interesting economic phenomena, employing and extending the game theoretic concepts introduced in the book's first thirty-two pages. Chapter 3 talks about coordination games, both at the macro-scale, such as the "big push" theory commonly associated with Rosenstein-Rodan (1943) and much later formalized by Murphy, Schleifer, and Vishny (1989), in educational investments by individual families, and the matching of capital and labor, as in the well-known models of Kremer (1993) or Rodrik (1996). Chapter 4 focuses on rural development and natural resource degradation, drawing heavily on the work of political scientists Elinor Ostrom and Robert Wade and geographer Jared Diamond.

Chapters 5–7 turn to material that has long been standard fare in development microeconomics courses: risk management and informal insurance arrangements (Chapter 5), agrarian contracts guiding the allocation of land and labor in agricultural production (Chapter 6), and savings and credit arrangements in the presence of information asymmetries (Chapter 7). Wydick quite effectively conveys the essence of the sophisticated—and often quite complex—formal models at the cutting edge of the scholarly literature with simple normal form games.

Chapters 8–12 then move into areas of considerable current scholarly activity, where economists have begun drawing heavily from cognate social science disciplines to study social learning and technology adoption (chapter 8), property rights, governance, and corruption (chapter 9), conflict and violence (chapter 10), social capital (chapter 11), and the political economy of trade and development (chapter 12). These chapters, along with chapter 4, impress the reader with Wydick's fluency in the methods and models of leading researchers from a range of disciplines. Even very experienced economists can learn a good deal from these chapters and the insights they bring from scholars whose work is less well known by mainstream economics researchers today.

The greatest virtue of this volume, besides its innovative and provocative perspective on development economics, is Wydick's wonderfully clear and entertaining prose. *Games in Economic Development* is a remarkably quick and engaging read for an applied game theory text. And even though it primarily employs analytical (rather than empirical) arguments to make the case for a game theoretic understanding of development challenges, the book relies only on basic algebra, which makes it quite manageable for undergraduates and non-technical readers. Wydick very effectively pushes intuition over mathematical formalism, attacking even complex topics—e.g., information cascades, neighborhood effects, multiple mixed strategy equilibria, the dynamics of evolutionary games—in a highly accessible manner. Even the sixteen page appendix relies only on algebra as it offers slightly more depth on the game solution concepts used in the games Wydick employs. By seamlessly integrating important arguments from political science, psychology, and sociology, Wydick underscores the fuzzy boundaries among the social sciences today and the multiple scales of analysis at which we witness the ubiquitous tension between human competition and cooperation. This volume could serve as a good text for undergraduate or master's level courses in development economics or even in applied game theory.

ACE members should take particular interest in *Games in Economic Development*. Wydick teaches at a Catholic institution, the University of San Francisco, is very open about his faith, and devotes a long section of chapter 11, on social capital, to an explicit discussion of the role religion plays in guiding human behavior and in economic development. At a still-deeper level, however, this book is ultimately about the complex nature of human transgression and transcendence. With the right rules and motivations, we can check our sinful excesses and even serve the greater good; without good rules and norms, however, chaos and misery too often prevail.

As a matter of personal taste, the volume is thinner on empirical evidence and includes more examples from modern, wealthy societies than I would have liked for a text on economic development. The few exercises included at the book's end are lightly developed; they seem more an afterthought to help position the book as a course text than a carefully developed element to help students deepen their understanding of the core material. But these are mere quibbles. *Games in Economic Development* offers a lively, provocative and extremely thoughtful work that could helpfully transform the instruction of development economics. I highly recommend it.

References

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