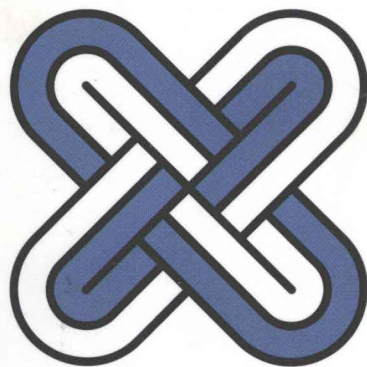


# Solomon's Knot

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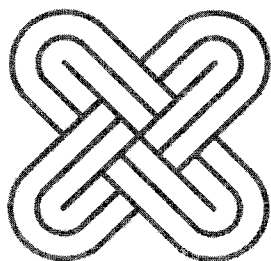
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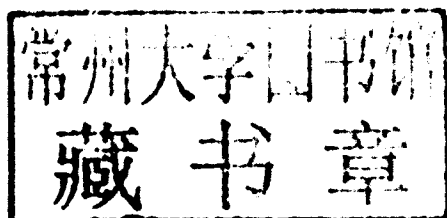
Robert D. Cooter & Hans-Bernd Schäfer

# Solomon's Knot

How Law Can End the Poverty of Nations



Robert D. Cooter  
Hans-Bernd Schäfer



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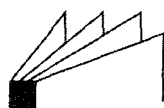
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*Robert Cooter's Dedication*

A common dedication reads,

"To \_\_\_\_\_, without whom this book would have been  
impossible."

During our marriage, my wife and I grew up together.

Because of her, I became myself. Hence

"To Blair, without whom I would have been impossible."

...

*Hans-Bernd Schäfer's Dedication*

Für meine Tochter Anna mit den kleinen festen Schritten

## Preface

How do you become the richest woman in China? Shang Yin, the eldest of a soldier's eight children, opened a printing shop in the 1980s when she was in her twenties. As China moved to a market economy, demand swelled for printed products used by new industries. A short supply of paper bottlenecked Shang Yin's business, until she made the discovery of her life: ships left Chinese harbors for the United States filled with cargo, and they returned almost empty. (The United States imports bulky goods from China to fill stores like Walmart, and exports intangible services like computer programs, Hollywood movies, and banking services.) Shang Yin had discovered a new market, and she reorganized her business to exploit this opportunity. She started buying scrap paper in the United States and shipping it back to China. Business burgeoned at her company, Nine Dragons Paper Industries, and some observers now count her as China's richest woman.

When a developing country has many entrepreneurs like Shang Yin, a cascade of innovations in markets and organizations lifts productivity, wages, and profits. Innovations in markets and organizations combine ideas and capital in bold ventures with big risks and opportunities. The central claim of this book is that sustained growth in developing countries occurs through innovations in markets and organizations by entrepreneurs; developing innovations poses a problem of trust between innovators with ideas and investors with capital (the "double trust dilemma"); and the best solutions require law.

In Shakespeare's *Twelfth Night*, a shipwreck separates brother and sister, who each conclude falsely that the other died. Reunification of Sebastian and Viola at play's end resolves confusion and causes rejoicing (but not by everyone). Similarly, economics began as a close relative to law, but their methodologies diverged in the twentieth century. When the subjects lost communication with each other, some scholars in one subject thought the other subject had died intellectually. In the last quarter of the twentieth century, however, a powerful scholarly movement brought these subjects back together.<sup>1</sup> Reunification of law and economics has resolved confusion and caused rejoicing (but not by everyone). With law and economics reunified, now is the time to explain some causes and cures of the poverty of nations.

These pages avoid economics jargon and technical law. Educated generalists can understand them by thinking hard and not shrinking from numbers. Besides inclusiveness, sticking to ordinary language has another big advantage: it spans disciplines. Specialists in law will encounter simple explanations of unfamiliar economic theories, and specialists in economics will encounter simple explanations of unfamiliar legal theories.

Given the importance of law and economics, readers might suppose that our newly reunified multidiscipline is concerned especially with growth. This supposition is wrong. Economic efficiency distinguishes between growth and efficiency. Increasing efficiency requires reshuffling resources from less-productive to more-productive uses, like shifting a horse and plough to a more fertile field. The theory of allocative efficiency is older, more elegant, and better confirmed empirically than growth theory. The emerging subject of law and economics has focused on traditional economic theory, not the relatively new subject of growth theory.<sup>2</sup> Innovation is the source of sustained growth, and the economic theory of innovation is underdeveloped, especially concerning entrepreneurship. Here is where law can repay its recent intellectual debts to economics. This book, we hope, is a down payment.

How much understanding of national poverty can law and economics deliver? No one predicted that outsourcing of services and computer software would drive so much of India's economic growth, but we can now

understand the reasons for this success. Like evolution in the natural world, innovation is unpredictable looking forward and understandable looking backward. Since innovation is foreseen imperfectly, mystery necessarily clings to economic growth. Law and economics can explain how laws promote development, but they cannot predict the innovations that entrepreneurs will make.



## Acknowledgments

Four institutions helped Bob Cooter and Hans-Bernd Schäfer cross a continent and an ocean to work together on this book: the Berkeley Law and Economics Program, the Hamburg Institute of Law and Economics, the Humboldt Foundation, and the Center for Contract Law at Columbia University Law School. The Humboldt Forschungspreis awarded to Cooter allowed him to visit Schäfer at the Hamburg Institute of Law and Economics. The Center for Contract Law at Columbia University Law School gave Cooter a semester as a visitor to focus on this manuscript. We also thank Bob Litan and Carl Schramm of the Kauffman Foundation for institutional support. For research and editorial assistance, we thank Zhang Wei, Ida Ng, Ursula Vogeler, Frank Müller-Langer, Sönke Häsel, and Axel Moeller.

For the best feast, each guest should contribute a dish. Many guests contributed to our feast of scholarship. Throughout the project, Blair Dean Cooter fixed our lame prose. We would like to thank the participants in two manuscript conferences devoted to this book, which were organized by Paul Edwards of the Mercatus Center at George Mason University and Henry Butler of the Searle Center (then at Northwestern University, now at George Mason University). As we neared completion, Ben Wittes of the Brookings Institution gave us remarkably penetrating comments that led to fundamental improvements in the manuscript, and Jack Rummel's line editing saved us from many errors and irregularities.

As this book draws on years of work and thought, so we would first like to thank those who taught us law and economics over the years. Bob Cooter thanks George Richardson for introducing him to microeconomics; Ken Arrow for teaching him the beauty of economic theory; Richard Musgrave who encouraged his interest in the unrecognized field of law and economics; Albert Hirschman who introduced him to economic development; and Mel Eisenberg who taught him to think like a lawyer. Bob also thanks Wolfgang Fikentscher and Robert K. Thomas for many evenings of discussion and meditation on this book's themes, and Peter Hacker and John Rawls for instruction on how to think about what is important.

Hans-Bernd Schäfer thanks Willy Kraus, who introduced him to development economics and Claus Ott, who taught him law and how to think about law over many years. He also thanks Hein Kötz, with whom he discussed many of the legal matters of the book and many other projects at hundreds of lunches, which now span more than two decades.

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## **Chapter 1**

### **It's about the Economy**

A grand master asks the tournament organizers to pay him by placing one penny on the first white square of a chess board, two pennies on the second white square, four on the third white square, proceeding until all thirty-two white squares are covered. The initial penny would double in value thirty-one times, resulting in more than \$21 million being laid on the last white square. Growth compounds faster than the mind can grasp. Compounded over a century, 2 percent annual growth increases wealth more than seven times, which is roughly the growth rate of the United States in the previous century, and 10 percent annual growth increases wealth almost fourteen thousand times, which is roughly the growth rate of China in the last thirty years.

From the perspective of two centuries, the wealth of the richest countries has risen above the poorest like Mount Everest rising above the Ganges Plain. The gap in wealth opened because the richest countries grew richer, not because the poorer countries grew poorer. Most poor countries today are somewhat richer relative to their past and much poorer relative to the rich countries of the contemporary world. One scholar estimated income per capita for fifty-six countries in 1820.<sup>1</sup> He found that the richest countries in the sample had income per capita of approximately \$1,800 and the poorest had \$400, for a ratio of 4½:1. We repeated this same exercise for 2003 and found the richest countries had income per

capita of approximately \$25,000 and the poorest countries had approximately \$500, for a ratio of 50:1.

The question of whether growth is faster in rich or poor nations will determine whether living standards in the world converge or diverge. If poor nations grow faster than rich nations, the gap between them will close surprisingly quickly. The lifting of so many Asians out of poverty in the late twentieth century, especially by rapid growth in China and India after 1980, is one of history's triumphs. Conversely, if rich nations grow faster than poor nations, the gap between them will widen surprisingly quickly. Income per capita declined in sub-Saharan Africa by roughly 20 percent between 1970 and 1990, which is one of history's failures. Growth has resumed in Africa, but not at a rate that will overtake rich countries.

How does an economy grow? Through business ventures.<sup>2</sup> A bold ship's captain in seventeenth-century England proposes to investors in a port town that they finance a voyage to Asia for spices.<sup>3</sup> The voyage is inherently risky. Weather is uncertain and channels are uncharted. The Dutch prey on English ships, the English prey on Dutch ships, and other pirates prey on both of them. If, however, the captain returns to the English port with a cargo of spices, they will be worth a fortune. The ship's captain must convince the investors that he can do it. He needs a large ship outfitted for two to five years of travel. To convince them, he discloses secrets about how to get to Asia and what to do when he arrives. The captain must trust the investors with his secrets, and the investors must trust the captain with the ship and its supplies.

This is a *double trust dilemma*. To solve it, the captain and the investors form a new kind of firm invented in the seventeenth century for the spice voyages: a joint stock company.<sup>4</sup> The participants—investors, captain, and crew—are legally entitled to shares of the hoped-for cargo. Some participants have larger shares than others, depending on their contributions. With these legal arrangements, the investors stand to gain more from the success of the voyage than by selling the captain's secrets. Similarly, the captain stands to gain more from the success of the voyage than by stealing the ship and its cargo. Self-interest enforces the commitment of the parties to the voyage.

Unlike so many other ships that sail for Asia, this one returns safely after two years. The townspeople spot the vessel sailing toward the harbor and the investors rush to the dock to keep watch over the cargo. They immediately hold a meeting of shareholders called a “general court.” It divides the cargo among the shareholders, they leave the dock with their spices, and the company dissolves.

Similarly, an engineer in Silicon Valley in 1985 has an idea for a new computer technology. The engineer cannot patent the idea until he develops it. Developing it requires more money than the engineer can risk personally. He drafts a business plan and meets with a small group of investors. The engineer fears that the investors will steal his idea, and the investors fear that the engineer will steal their money. Besides the fear of betrayal, developing the idea is inherently risky—it might fail or someone else might patent the idea first. If the innovation succeeds, however, it will be worth a fortune.

The engineer cautiously explains his idea to the small group of investors, who accept his invitation to incorporate and appoint him as chief executive. They distribute shares of stock among themselves according to their contributions, and the shareholders elect a board of directors that carefully balances their interests. With this legal arrangement, self-interest causes the investors to keep the engineer’s secrets and the engineer to use the money as promised. Unlike so many other start-ups, this one succeeds after five years and the firm acquires a valuable patent. The engineer and the investors subsequently dissolve the company by selling it for a lot of money to a large, established firm.

Seventeenth-century spice voyages and twentieth-century technology start-ups involve secrets, up-front investment, high risk, and high return. Many business ventures have these characteristics in muted form. To grow quickly, a business venture must combine new ideas and capital. An ancient motif on this book’s cover depicts two interlinking rings called “Solomon’s knot.” Sailors particularly favored this kind of knot for strength and durability. Like the two rings, King Solomon held together two Jewish kingdoms, according to the Bible. Similarly, ideas and capital must unite to develop innovations and grow the economy.

In every country, growth occurs through innovative ventures, but the form of innovation differs. Innovations in Silicon Valley usually have a technological basis, such as new computer chips or programs that were previously unknown to the world. Technological innovation often requires research universities and similar institutions found especially in developed countries. The relative weakness of research universities and similar institutions in developing countries today limits their capacity for technological innovation. Technology mostly flows from developed countries to developing countries through international trade, investment, and educational exchanges. The flow hastened in the last century when major wars abated, communism collapsed, and tariffs and transportation costs fell.

Instead of improving technology, many innovations improve organizations and markets.<sup>5</sup> Philip Knight began the Nike Corporation by making running shoes with soles formed on the family waffle iron and selling them out of the trunk of his car in 1972. In 2006 the company reported \$15 billion in worldwide sales of sports equipment and clothing. Knight obviously discovered something new, but what was it? The business of Nike is research and marketing. It thinks up new products, contracts with other firms to make them, and then markets them through extensive advertising. Nike does not manufacture anything. Its main facility in Beaverton, Oregon, is a “campus,” not a factory. Instead of manufacturing, it contracts with foreign companies to make the goods that it sells. This new organizational form has spread dramatically in the United States as more and more companies “outsource” manufacturing and focus on research and marketing. Other examples of recent innovations in markets and organizations in the United States include debit cards, hostile takeovers, networks of innovators, and team production (imported from Japan).

Innovation in developing countries mostly takes the form of improving organizations and finding new markets, especially by taking organizations and markets that originate in developed countries and adapting them to local conditions. Before buying edible oil, African consumers smell and taste it to assure themselves of freshness, which requires selling it in open containers. Closed containers, however, have many advantages, including lower shipping and storage costs. Bhimji Depar



Shah figured out how to sell oil in closed containers and retain the trust of African consumers. He started an edible oil company in Thika, Kenya, in 1991 that developed into a business empire. The company's homepage reads: "Integrity is what all our people value and uphold ruthlessly which enables trust leading to empowerment." Selecting reliable salespeople and dispersing trustworthy workers around Africa required innovation in organization like Phil Knight accomplished at the Nike Corporation.

Besides new organizations, adaptations often create new contracts. The textile business in Bangladesh relies on two new contracts: bonds for warehousing and back-to-back letters of credit.<sup>6</sup> Bonded warehouses protect producers against theft or fraud in the chain of distribution, and letters of credit protect buyers against theft or fraud at the point of sale.

In business, adaptation is creative and risky. The adapter has an idea that is new to a developing country. Proving its worth in the marketplace requires risky investment. The investment often goes to building an organization embedding the new idea. The innovator must trust the investor not to steal his organization, and the investor must trust the innovator not to steal his money. If the adaptation succeeds, it attracts competitors, who diffuse the idea and reduce the innovator's profits. Adaptation in developing countries thus faces many of the same obstacles as invention in developed countries.

Instead of adaptation, some people imagine that developing countries can grow by imitation that is mechanical and safe. If growth were this simple, poor countries would already be rich. In poor and rich countries alike, new business ventures mostly fail and the investors lose their money, whereas a few succeed spectacularly and drive growth. Picking out the adaptation that will succeed in Africa is just as hard as picking out the invention that will succeed in Silicon Valley.

Nations are poor because their economies fail to innovate and grow. An economy can fail to grow because of military invasion as in Poland in 1939, or isolation as in the New Guinea Highlands in 1920, or civil war as in Somalia in 2000, or natural disaster as with the Sahara Desert's encroachment on farms, or a bursting financial bubble as in the United