

# *German Working Papers in Law and Economics*

---

*Volume 2007*

*Paper 10*

---

## Law and the Poverty of Nations - The Double Trust Problem

Robert D. Cooter  
Law School, UC Berkeley

Hans-Bernd Schäfer  
University of Hamburg, Germany

### **Abstract**

# **Law and the Poverty of Nations**

Robert D. Cooter\*

and

Hans-Bernd Schäfer\*\*

## **Chapter 1: The Double Trust Problem**

1<sup>st</sup> draft

---

\* Simon Hall School of Law, Boalt Hall, University of California, Berkeley, CA 94720, USA.  
rdc@law.berkeley.edu

\*\* Institute of Law and Economics, University of Hamburg, Rothenbaumchaussee 36, 20148 Hamburg, Germany. Schaefer@uni-hamburg.de

Imagine a banker who asks to be paid by placing one penny on the first square of a chess board, two pennies on the second square, four on the third, etc. Using only the white squares, the initial penny would double in value thirty-one times, leaving \$21.5 million on the last white square. Growth compounds faster than the mind can grasp. Compounded over a century, 2% annual growth rate increases wealth more than 6 times, a 5% annual growth rate increases wealth more than 130 times, and a 10% annual growth rate increases wealth almost 14,000 times.

When growth outruns the imagination, our perceptions of the wealth of nations alter surprisingly. In 1900 Argentina's income per person resembled Canada, and today Canada's is more than three times higher. In 1900 Japan's income per person resembled the Philippines, and today Japan's is six times higher. After World War II, Korea and Nigeria had similar national income per person, and today Korea's is nineteen times higher. In 1960 the national income per person was similar in North and South Korea, and now South Korea's is approximately 14 times higher. Most people cannot imagine China with more economic influence in the world than the U.S., but, if current trends continue, China will surpass the U.S. in national income in 2014.<sup>1</sup> Lifting so many people out of poverty in East Asia in the late 20th Century is one of history's remarkable accomplishments. In contrast, one of history's depressing economic failures in the late 20th Century was sub-Saharan Africa, where GDP per person declined roughly by 25% since 1975.<sup>2</sup>

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. Conversely, if rich nations grow faster than poor nations, the gap between them will widen surprisingly quickly. As the preceding examples suggest, no general pattern exists for poor countries to catch up or fall farther behind rich countries. Some poor countries have grown faster than some rich countries, thus closing the gap, and

---

<sup>1</sup> This prediction was made by C. J. Dahlman, Luce Professor of International Affairs and Information of Georgetown University, in remarks to the Chinese Reform Summit, National Development and Reform Commission (NDRC), Beijing Diaoyutai State Guesthouse, July 12th-13th, 2005. Dahlman extended existing trends, allowed for a modest slowing of Chinese growth rates, and used the purchasing power parity method of comparison.

Since China's population is 4 to 5 times greater than the U.S., China's income per capita in 2014 will still be 1/4 to 1/5<sup>th</sup> that of the U.S.

<sup>2</sup> GDP per person in sub-Saharan Africa has decline since 1975, roughly by the order of 25%. (2005). Special report: Aid to Africa -- The \$25 billion question, *The Economist*. July 2nd, 2005:24-26.

some rich countries have grown faster than some poor countries, thus widening the gap.

The ancient Athenians divided humanity into Greeks and barbarians. Similarly, modern people divide the world into rich and poor nations. When the gap between rich and poor people becomes too wide, each side loses the sense of the other's humanity. If rich nations grow faster than poor ones, then humanity will divide in two, and, conversely, if poor nations grow faster than rich ones, then growth will unite the family of man. Removing the obstacles to growth will benefit everyone, and poorer nations with more obstacles to remove will benefit relatively more.

In the modern world, nations are poor because their economies fail to grow. This does not imply that all people are poor in poor countries and no people are poor in rich countries. We show later that extreme differences in wealth within a society can be so disruptive as to undermine the very basis of development. But compared to sustained growth, other sources of wealth are insignificant. Our explanation of national poverty, consequently, begins with an explanation of economic growth. Innovation is the most important source of sustained economic growth. Sustained growth, however, remains mysterious to economic theory.<sup>3</sup> Dispelling the mystery requires understanding how law affects growth. We will develop a theory of innovation based on law's effects on the financing of innovations.

## I. Separation of Ideas and Capital

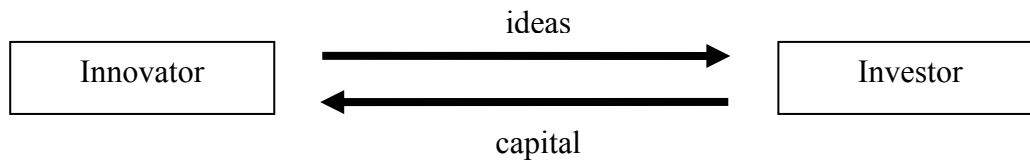
When someone discovers a better way to make something or make something better, developing the new idea requires capital. New ideas and capital resist each other as illustrated by this example: An economist who worked at a Boston investment bank received a letter that read: "I know how your bank can make \$10 million. If you give me \$1 million, I will tell you." The letter captures concisely the problem of financing innovation: The bank does not want to pay for information without first determining its worth, and the innovator fears to disclose information to the bank without first getting paid. As depicted in Figure 1.1, the separation of ideas

---

<sup>3</sup> The only contribution to growth theory that merited a Nobel Prize in economics, which was awarded to Robert Solow in 1987, shows the consequences of innovation, but does not attempt to explain it. Technological progress is exogenous in Solow, R. (1970). *Growth Theory, An Exposition*. New York: Oxford University Press.

from capital is a problem of double-trust: The innovator must trust the investor not to disseminate the idea, and the investor must trust the innovator not to appropriate the capital.

Figure 1.1. Double Trust Problem



To give another real-life example, a Berkeley mathematician named Richard Niles invented bibliographic software called “EndNote” that many professors use on their computers. In the early stage of development, he hoped and feared to receive a call from Microsoft. Microsoft would ask for an explanation of EndNote. Then it might buy his company and make him rich, or develop its own version of his program and bankrupt him. Niles eventually got a call from Microsoft, which he answered with trembling, but Microsoft was merely trying to sell him office software. Later Niles got his sweet reward when a large publisher, Thompson, bought EndNote.

How is the double-trust problem solved? In premodern times with brutal methods and doubtful results. To secure peace between two states of late antiquity, each ruler sent his favorite son or daughter to live with the other ruler. The Vandal king Geiserich gave his son Hunderich as a hostage to the Roman Emperor Valetinian III. He received as hostage the daughter of the Visigoth king Theoderich, who was destined to marry his son if peace was preserved. The daughter was sent back to her father after being mutilated, because Theoderich allegedly was involved in a plot against Geiserich. The favorite children were a kind of “bond” posted to insure the peace. Similarly, a double-bond solves the double-trust problem of economic growth. The innovator explains his secrets to the investor and the investor supplies money to develop the innovation. If the investor keeps the secrets and the innovator uses his best efforts to develop the business, both expect to enjoy extraordinary profits. Alternatively, if the investor uses the trade secrets or the innovator appropriates the investment, their new business will fail. The investment is the

investor's bond that she will keep the innovator's secrets, and the secrets are the innovator's bond that he will use the money as intended to develop his ideas. We will show that double-bonding in civilized societies requires law, especially private law.

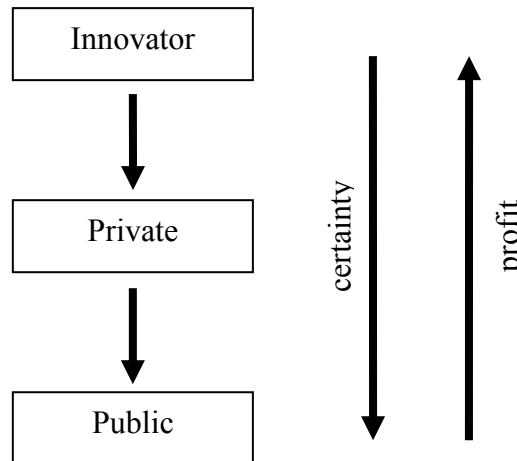
## **II. Information Diffusion and Silicon Valley Finance**

Economic theory distinguishes between public and private information. Like the principles of science published in textbooks, public information is available to everyone. Like the secret recipe for Coca Cola, private information belongs to a few people. An innovator has private information that other people lack. If the innovation is useful, the innovator gains a competitive advantage from its development. The competitive advantage yields exceptional profits, which attract competitors who try to learn what the innovator knows. Thus Coca-Cola attracted competitors like Pepsi who learned to make similar drinks. As competitors come to understand what the innovator knows, the innovator's private information becomes public, the innovator loses his competitive advantage, and its profits return to the normal level.

The diffusion of information gives innovations a life-cycle. First, someone has a new idea and obtains capital to develop it. The innovator may form a new firm and find outside investors, or, alternatively, an established firm that employs the innovator may supply capital. At this stage only a few people in the innovator's inner circle understand the innovation. Once the innovation succeeds in the market, the innovator's organization enjoys exceptional profits and expands faster than its competitors. Observing these facts, competitors try to discover what the innovator knows. Biological evolution eliminates the unfit, whereas economic evolution emulates the most fit. As competitors emulate the innovator, the innovator's profits fall and its growth slows. In the end, competitors assimilate the innovation and the innovator's profits return to an ordinary level.

Figure 1.2 summarizes information diffusion for an economic innovation. The innovator understands the innovation in the first stage, the innovators and some competitors understand it in the second stage, and the public understands it in the third stage. As information diffuses, certainty about the innovation's economic value

Figure 1.2. Information, Certainty, and Profit



increases. When certainty increases, the risk to investors decreases, so the rate of return on the investment also falls.

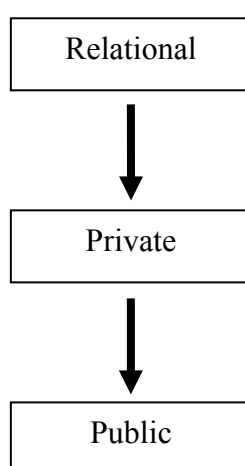
The three stages of information diffusion correspond to three phases of finance in Silicon Valley. According to a popular quip, initial funding for startup firms comes from “the 3 Fs”: family, friends, and fools. Family and friends have confidence in the innovator, even though they cannot evaluate the innovation. Personal relationships motivate these “angel investors,” so we refer to the first stage as *relational finance*. A few fools may invest who think that they can evaluate an innovation without understanding it. (The next chapter explains why government officials are the most relentless fools.)

Most innovators have too few personal relationships with wealthy people to finance an innovation's full development, so they must eventually turn to strangers. The second stage of funding comes from “venture capitalists” who are not family, friends, or fools. Unlike relational finance, venture capital is a form of *private finance*. Finance is private because it comes from a small group of people who are experts at evaluating innovations in an early stage of development. The problem of trust is

severe between founders and venture capitalists. The creative people who found a company often manage it badly. When the founders prove to be bad managers, the venture capitalists must take the company away from them and put its resources under the command of good managers. But venture capitalists may use their power to seize the firm in order not to share profits with the founders, even when they are good managers. Besides venture capitalists, the initials v.c. can stand for “vulture capitalists.”

To solve the double-trust problem, the founders commit to performance goals in order to obtain financing from venture capitalists. If they fail to meet the goals, they lose their investment and their jobs, because the preferred shareholders (who are the venture capitalists) wipe out the common share holders (who are the founders) and appoint new management. The financing contract may say that preferred shareholders can demand repayment of their investment within three years, so the founders must earn enough profits to repay the venture capitalists within three years or risk losing the firm. Or common share holders (founders) and preferred share holders (venture capitalists) may appoint an equal number of directors to the company’s board, plus an independent director accepted by both sides. The independent director holds the decisive vote and thus decides whether or not to replace the founders and appoint new managers of the company.

Figure 1.3. Finance in Silicon Valley



In the third stage, a successful startup sells itself to the public. The startup may sell directly to the public through an initial public offering of its stock, or it may



sell indirectly when a publicly traded company acquires it. In order to sell stock to the public in the U.S., a firm must comply with disclosure rules of the Securities Exchange Commission. After the information is disclosed, brokers quickly disseminate it to the investors whom they advise. Many people understand the innovation sufficiently to decide whether or not to invest in its further development. Because investors are a large group of people, we describe the third stage as *public finance*.

Notice the tight connection between information as depicted in Figure 1.2 and finance as depicted in Figure 1.3. Only the innovator understands the innovation in the first stage and finance is relational. A small group of specialists understand the innovation in the second stage and finance is private. Many people understand the idea in the third state and finance is public. When many people understand the idea, most of the innovator's private information has become public, so he has less to fear from its dissemination by the financier, but the financier still fears that the innovator will appropriate the investment. The double-trust problem shrinks towards a single-trust problem

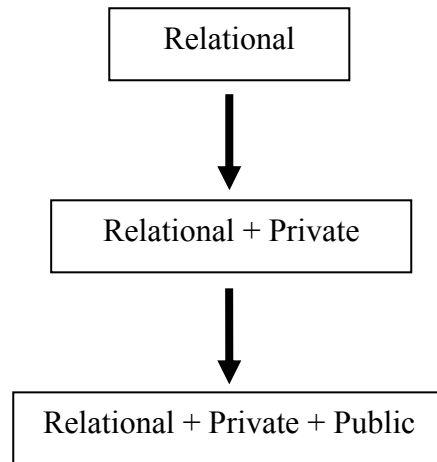
Like biological mutations, most startups fail and a few succeed spectacularly. The first stage is the most risky for investors, so first-stage investors get the stock at the lowest price. Those startups that survive the first stage have something substantial to show to venture capitalists in the second stage. The innovation is easier to understand, but it has not proved its profitability in the market, so second-stage investment is still very risky. Venture capitalists get the stock cheap, but not as cheap as first-stage investors. Finally, having proved its profitability in the market in the second stage, a successful firm ceases to be a startup when it reaches the third stage. Third-stage investors face lower risk and pay a higher price for stock. In each stage of finance for a successful company, the risk moves down and the stock's price moves up. In the stage of public finance, the firm tends towards an equilibrium in which secrets become public, profits fall to the ordinary level, and the double-trust problem dissolves.

### III. Finance and Development

Biologists sometimes say, "Ontogeny recapitulates phylogeny," which means that the development of a single organism from birth to maturity resembles the evolution of the entire species. Similarly, the three stages of finance for a startup in Silicon Valley resemble three stages of historical evolution in capital markets for countries. First, in countries without capital markets, businessmen mostly borrow from family and friends. Finance remains relational, which keeps business small and local. Some peoples, notably Chinese and Jews, have extensive family networks that extend business relationships beyond the usual boundaries. Relationships, however, constrain the amount of capital available to finance growth. To overcome this constraint and increase the scale of business, an economy must supplement relational finance with private finance. In countries where banks dominate finance, an elite of wealthy insiders lend to businesses based on private information. Bank finance corresponds to the second stage in Silicon Valley. As countries become affluent, however, they usually supplement private finance with public finance, which means selling stocks and bonds to the general public. The third stage of finance requires public capital markets such as stock exchanges.

Figure 1.4 depicts the three stages of finance in economic development. The poorest countries rely on relational finance, not private or public finance. Starting from a very low level, relationships can finance the initial stages of growth, as in China. As wealth accumulates, however, relational finance constrains further growth. We know of no modern country that became wealthy by relying exclusively on relational finance. Richer countries supplement relational finance with private finance. Some countries or regions, such as Japan and northern Italy, have achieved affluence mostly through relational and private finance, with relatively little public finance. The U.S. and Great Britain, in contrast, have gone to the third stage and rely mostly on public finance for mature industries. Germany appears to be shifting away from private finance and towards public finance. In general, the richest countries have all three forms of finance, although the mixture of private and public finance varies significantly from one country to another.

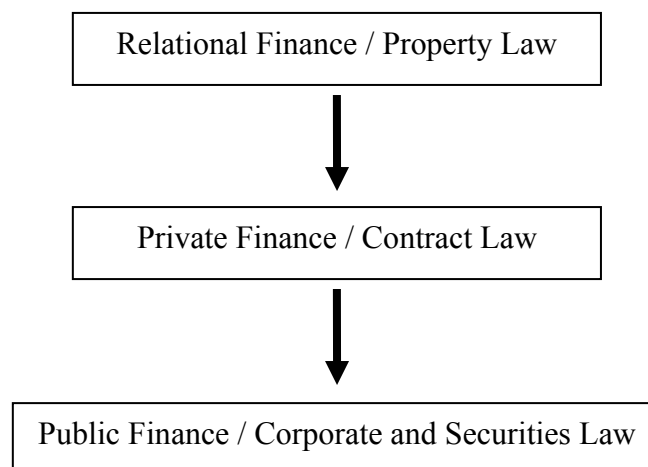
Figure 1.4. Finance and Development



#### IV. Law for Growth

What determines a country's stage of financial development? We have a simple answer: effective law. With effective law we mean not only state law, enforced by the state but any institutional mechanism which protects investors and cares for the enforcement of contracts. The three levels of finance correspond to three levels in the development of effective law, as depicted in Figure 1.4. As we will explain, relational finance requires property law, private finance requires contract law, and public finance requires business law.

Figure 1.5. Finance and Law



Without effective property protection, a person fears that thieves will steal his wealth. Instead of investing, people hoard their wealth. Wealth flows from makers to protectors. With effective property law, in contrast, owners believe that they will enjoy future rewards from current investments. With confidence in the future, extended families can finance business development. Relationships provide information on the trustworthiness of others and informal sanctions to make relatives keep their promises to each other. To invest, families need protection against hoodlums, mafias, cheating accountants, ponzi artists, conniving state regulators, thieving politicians, and other predators. Relational finance can get by without much more legal support than secure property.

As development proceeds, however, sustained growth requires finance from non-relatives. Relationships among non-relatives are too thin for informal mechanisms to carry the burden of enforcing promises. To cooperate together, strangers need to make promises backed by sanctions that third parties enforce. To flourish, private finance requires effective contract law, not just basic property law. Contract law underpins markets for loans, banks, and direct foreign investment. Flourishing private finance also leads to specialized laws for debt collection, bonds, and banking. Clans or gangs can enforce promises. An effective state, however, is fairer and more reliable. Flourishing private finance requires effective contract enforcement by the state.

With private finance, investors retain substantial control over how debtors use money. When finance moves to the third stage, however, the general public who buys stock or bonds puts their funds under the control of insiders who manage the firm. Outside investors cannot control the use of their money, and insiders have many opportunities to appropriate outsiders' investments. Protecting outside investors from inside managers requires more than property and contract law, notably the law of securities, corporations, and bankruptcy, which we call business law.

These facts suggest that finance constrains the sustainable rate of growth. Starting from a condition of lawlessness, imposition of secure property law can cause a spurt of growth based on relational finance. The growth rate, however, eventually settles down to a rate sustained by relational finance. Starting from a condition with

secure property and ineffective contract law, imposition of effective contract law can cause a spurt of growth based on relational and private finance. The growth rate eventually settles down to a rate sustained by relational finance and private finance. Finally, if effective business law supplements property and contract law, growth spurts, and then settles down to a rate sustained by public, private, and relational finance.

Empirical evidence for this pattern will be developed throughout this book. Figure 1.7 shows a strong positive correlation between national income per person and the rule of law. This book is devoted to showing how the latter causes the former.

The law required for each level of finance and growth is not just law-on-the-books. When we speak of "law," we mean rules that control behavior, not merely rules that are written down. This book proposes a "legal theory" of economic growth, but we do not equate the "law" with "written statutes." By itself, writing down laws does not cause economic growth. Written law in a poor country often resembles written law in a rich country, but the effective law differs sharply in the two countries. Property and contract law-on-the-books in India and Nigeria resemble English common law, and property and contract law-on-the-books in Peru resemble the Spanish civil code. The written laws, however, are less effective in India, Nigeria, and Peru than in England or Spain. Like a toothless gear that spins without moving the vehicle forward, ineffective property and contract law do not move the economy forward.

What makes laws effective? Many laws are obligations backed by sanctions for their violation. Sanctions give the victim a credible threat against the potential injurer. Foreseeing sanctions for wrongdoing, the potential injurer is usually deterred from wrongdoing.<sup>4</sup> Written law is as effective as the sanctions that it prescribes.

The sanctions that make law effective come partly from society. When a businessman breaches a contract, for example, the victim may stop trading with the injurer (refusal to deal), break promises owed to the injurer (retaliatory breach), sully

---

<sup>4</sup> To deter a rational person from doing wrong, the expected sanction should equal or exceed the person's gain from wrongdoing. The expected sanction equals the probability of the sanction times its magnitude. A sanction worth \$100 applied with probability  $\frac{1}{2}$  will deter wrongdoing by a rational person whose gain does not exceed \$50. Applying the sanction is unnecessary except when the wrongdoer is too irrational to be deterred.

the injurer's reputation (reputational sanction), and encourage others not to deal with the injurer (boycott). The internet, which makes information so much cheaper to obtain, has improved reputational sanctions and increased trust, especially through consumer evaluations. Reputational sanctions on the internet are so efficient that strangers buy and sell antiques without the buyer examining the item. Besides the internet, communities of people who share social norms can organize themselves to improve the efficiency of informal sanctions such as retaliation, damage to reputation, boycotts, and shunning. Thus most uncut diamonds are traded in a small number of exchanges in cities like Manhattan and Antwerp, where merchant courts disputes among members of the exchange. Banishment from the exchange, which ruins a diamond dealer's livelihood, the ultimate punishment from these merchant courts. Banishment is such an effective deterrent that members can transact for valuable items without written contracts.

By themselves, however, social sanctions will not prevent the worst people from committing theft, intimidation, and fraud. In one-time transactions with high stakes such as real estate purchases, social sanctions will not even prevent ordinary people from cheating. Financing innovation involves high stakes, so it requires effective state law to prevent stealing by the worst people and cheating by ordinary people. Social sanctions are relatively flexible and cheap, so the victims of wrongdoing in business rely on them first, but not last. When social sanctions fail, the victims of wrongdoing may turn to the state. Thus the victim of a broken contract may file a civil complaint against the injurer and threaten to sue for compensatory damages. Approximately 95% of civil complaints in the U.S. result in out-of-court settlements, and only 5% result in trials. When one party is clearly in the wrong legally, a threat to sue is usually enough to induce a settlement. Businesses need the state behind bargains much like diplomats need an army behind diplomacy.

To be effective, a threat must be credible. A threat to sue is credible when the plaintiff stands to gain more in damages from the court than his costs of litigating, including lawyers and delays. By keeping litigation costs down, courts increase the credibility of threats to litigate by parties who are legally in the right and prompt settlements on favorable terms to them. In rich countries, courts resolve many routine business disputes relatively efficiently, so most disputes get settled on

favorable terms to the party who is on the law's right side. In many poor countries, however, inefficient or corrupt courts resolve business disputes relatively inefficiently, which decreases the credibility of threats to sue and prevents the party in the right from settling on favorable terms. Thus the legal costs of debt collection are relatively low in Canada and relatively high in India, Nigeria, or Peru. Where creditors can collect debts at low cost, loans are relatively abundant, whereas high-cost debt collection dries up the supply of loans.

We have explained that social norms are more effective when backed by state law. The reverse is also true: The formal mechanisms of the state work more effectively because of the informal help of citizens. Judges and police cannot do their jobs without cooperation from ordinary citizens. Social sanctions are the first resort against lazy, incompetent, or corrupt officials, and state prosecution is the last resort. Social norms prevent state law from collapsing in bureaucratic impotence.

The two requirements for effective law --social and state sanctions -- do not materialize magically by writing down laws. Effective sanctions depend on institutions. Doctors can diagnose more medical problems than they can cure. The right diagnosis can sometimes help the patient to speed his own recovery through care and exercise, as with many back ailments. Similarly, social science has progressed and improved its power to diagnose institutional weaknesses that impede economic growth. No magic pill cures legal problems, but the right diagnosis can help a state to formulate policies that promote development by improving law.

## **V. Examples**

As summarized in Figure 1.4, relational finance requires effective property law, private finance requires effective contract law, and public finance requires effective business law. This progression increases demands on the legal institutions of society and state. In our view, the most fundamental defect in law that retards economic growth in poor countries is ineffective property law, followed by ineffective contract law, and ending with ineffective business law. We illustrate this progression with some examples inspired by the three stages of finance.

At the lowest level, ineffective protection of property rights devastates an economy, as illustrated by this example from the 1990s.

African Diamonds: Diamond miners in central Africa use hand-tools to dig in a riverbed under the guard of teenage soldiers with Kalashnikov rifles. The miners sell the diamonds to a military officer at a small fraction of world market prices. The diamonds subsequently pass through various intermediaries until they reach Europe. Finally a courier arrives at the central railway station in Antwerp, Belgium, walks quickly to one of the nearby diamond shops, the merchant examines the diamonds and pays in cash, and the courier leaves the city by train within the hour.

In central Africa, producing and transporting diamonds in recent years occurred in conditions that approached anarchy, so central Africa produced few diamonds and received much less than the world price for them. If anarchy were replaced by a secure system of property rights, central African nations could produce diamonds with better technology, export them through the regular channels of trade, and receive the world price. (We say nothing here about the unspeakable cruelties and heinous abuse of human rights from anarchy).

Moscow Security: A man opens a small shop selling household goods in Moscow in 1992. A month later three young men visit him with copies of his bank records. Using these numbers, the men calculate a monthly fee that he must pay them to “protect his shop from hooligans.” If he does not pay, they will destroy his shop. The shopkeeper pays and his business succeeds.

Unlike diamond thieves, Moscow criminals who sell security do not want to take everything from their clients. Selling protection presupposes something to protect. In this example, the Moscow criminals impose a “security tax” that leaves room for the shopkeeper to succeed. However, security is a “natural monopoly,” which means that states can provide it more cheaply and reliably than private parties. When organized criminals provide security, the “tax” is higher and security is lower than when a successful state provides it. The Moscow criminals, consequently, burden business more heavily than successful states that provide security.

Our two examples illustrate that private security of property is better than anarchy and worse than effective state law. Now we turn from property to contracts:

Indonesian Textiles: In Jakarta, a businessman manufactures cloth, makes the cloth into dresses, hand-decorates them, and exports the finished product. The entire process occurs inside a single factory where cotton and silk come in the door and decorated dresses go out the door. Managers in the factory are mostly relatives of the owner.



Rural households outside Jakarta would gladly do the hand-decorations at lower wages than factory workers earn in the city. The businessman, however, is unwilling to leave the dresses in rural households in exchange for a promise by the household to decorate them, and the villagers do not have enough capital to buy undecorated dresses and sell decorated dresses back to the businessman.

In countries with weak legal institutions, economic cooperation usually involves people with personal ties, especially relatives and friends. In the example from Jakarta, the businessman gathers everyone needed to produce a particular product into a single factory, where his relatives can monitor the other employees. Most people, however, do not have enough relatives and friends to achieve the scale of business activity required for affluence. Property and contract law lower the cost of monitoring and extend cooperation to strangers, which facilitates dispersed production, larger organizations, and wider markets.

The example of Indonesian textiles illustrates that weak contract law keeps trade too local and organizations too small. In our view, inadequate institutions to enforce property and contract law is the most pervasive and fundamental defect in the legal framework of poor countries. Citizens enforce legal obligations informally through social pressures, reputation, and esteem. Police, courts, and other state officials enforce legal obligations formally through legal sanctions.

The inability of creditors to collect debts through courts is a pervasive obstacle to business development in poor countries. To illustrate, delays in collecting a debt result in interest charges. Mexican courts assess interest against these delays at rates below the market rate of interest. Debtors, consequently, gain by using the law to delay repayment. The situation is worse in India where collecting a debt through the courts takes years or even decades. In some countries, the judges regularly take bribes to decide a case. An Indonesian friend told us that, instead of trying cases, his country's lower courts "auction" them. Without an effective legal process, lenders must find private substitutes to collect debts. One of Mexico's richest businessmen, Ricardo Salinas, began to build his fortune by figuring out how to avoid courts and still collect debts from poor people who buy consumer durables. His debt collectors keep the names of each borrower's relatives, who care about the family's reputation, and enlist their help in collecting the debt.

A different kind of financial problem known as the “soft-budget constraint” exists in countries with a socialist tradition:

Chinese steel: When the government privatized a steel company in northern China, 33% of the shares were sold to the public, who can resell them freely (“tradable” shares). 47% were allocated to the government and 20% to insiders, who cannot sell them (“non-tradable” shares). The steel company is losing money. Its managers, who have political influence, pressure a state bank to finance its losses by buying its bonds, which are commercially unsound. “Soft loans” from the government enable the steel firm to postpone the painful changes necessary to become profitable.

From China to the Czech Republic, partly privatized companies subsist from soft government loans. In the case of China, their voracious appetite for cash crowds out the bonds of profitable companies that are the engine of China’s growth. Without access to the bond market, profitable private firms must rely on relational finance.

Now we turn to specialized business law, such as corporations, banking, securities, and bankruptcy. For property and contract law, our general thesis is that poor countries under-enforce it. For business law, our general thesis is that poor countries under-enforce and under-develop it. Here is an example.

Ecuadorian stocks: In Ecuador a family has a successful business building shrimp farms on coastal mangrove swamps. To grow faster, the business needs to obtain more capital, either by selling stocks or bonds. The family knows that shrimp prices could fall in the international market. If the family sells stocks, investors will receive dividends when shrimp prices are high, and nothing when shrimp prices are low. If the family sells bonds, however, the investors must receive their periodic payments, regardless of whether shrimp prices are high or low. To reduce its risk, the family wants to sell stock, not bonds. The family seeks advice from a financial expert in Guayaquil, who explains that Ecuadorian investors in a recent year bought at least 150 times more bonds than stocks. The small size of the Ecuadorian stock market makes selling stock impractical. Since the family cannot sell stock and it regards selling bonds as too risky, it decides to grow more slowly rather than borrow money for faster growth.

When people invest in a company that they do not control, they run the risk that the people who control it will appropriate their investment. The problem is harder to solve for stocks than bonds. Stocks entitle their holders to a share of profits. The people who control a company can manipulate reported profits in ways that are

difficult to detect and prove in court. Ineffective corporate and securities laws provide insufficient protection for non-controlling investors, so the stock market cannot flourish. Unlike stocks, bonds prescribe an exact repayment schedule that the issuer must meet or go bankrupt. The repayment obligation for bonds is easier for courts to enforce than profit sharing obligations for stocks. Consequently, the bond market can flourish under conditions where the stock market languishes.

We have explained why bond markets tend to flourish in countries like Ecuador whereas stock markets languish. In these circumstances, business expansion is mostly financed by bank loans. When entrepreneurs must borrow at fixed interest rates rather than borrowing against a share of future profits, their risk is greater. A larger stock market that permitted businessmen to sell more stocks and fewer bonds would encourage entrepreneurs by allowing them to spread their risk. The skew in financing away from stocks dampens investment in startups and slows the pace of innovation.

### **Conclusion: Entrepreneurial Innovation**

Shingles repel rain better than thatch, a tractor ploughs faster than a hand hoe, a word processor corrects errors easier than a typewriter, a moving picture entertains more than a zoetrope, antibiotics cure more diseases than sulfa drugs, exchange with money takes less time than barter, one credit cards replaces a wad of bills, insurance provides more security than silver plate, and stocks spread more risk than bonds. Almost everyone counts changes like these as improvements that enrich a nation, but by how much? Measuring national wealth requires reducing a heterogeneous collection of goods to a single metric. People buy and sell shingles, thatch, tractors, word-processors, antibiotics, insurance, stocks etc. In markets, people compare heterogeneous goods by their price. So markets reduce heterogeneous goods to the metric of money.

Economists multiply the prices of good by the quantities that a nation produces in order to measure its wealth. This is the foundation of such familiar indicators as gross domestic product (GDP) or net national product (NNP). Any such measure presents technical difficulties that have concerned economists for decades and need not concern us in this book. Besides technical difficulties, however, measures of wealth based on market have a deeper problem: Markets imperfectly capture the

value of non-market goods such as primary education, national parks, public health, town planning, graceful buildings, and national security. The same is true of “bads” such as dirty air, congested streets, strip-mall ugliness, crime, unemployment, and beggars on city streets. Economists show great ingenuity in devising ways to measure how much people would pay to have goods and avoid bads that are not priced. These results can in principle correct GDP or NNP in order to measure something closer to the quality of life.

Most people regard money and wealth as instrumental goods, not intrinsic goods like satisfaction, happiness, or welfare. Economists have tried to address measure intrinsic values and find their connection to wealth. For example, in surveys of self-reported happiness (“Is your overall satisfaction with your life very high, high, medium, or low?”), economists find that people report a *little* more happiness on average in richer countries as measured by GDP per capita than in poorer countries. Furthermore, increasing an individual’s wealth causes a large, immediate increase in self-reported happiness, but the increase is short-lived and the wealthier person’s happiness soon reverts to its former level.<sup>5</sup> These results are suggestive, intriguing, puzzling, obscure, frustrating, and controversial. Fortunately, we can avoid the measurement maelstrom and still say something about our topic -- the causes of sustained increases in wealth.

Sustained economic growth comes from many people continually finding better ways to make things or better things to make. A “better” way to make things uses fewer resources, so it costs less. A “better” thing to make is valued more by people, so they will pay more for it.<sup>6</sup> We want to explain how people find better ways to make things and better things to make. When this happens, life improves by almost any measure -- better food, clothing, shelter, health care, longevity, education, travel, entertainment, security, etc. Existing measures of wealth such as GDP per capita suffice to study some essential mechanisms of growth. More comprehensive and convincing measures will someday increase precision in testing hypotheses and refining our theory.

---

<sup>5</sup> Frey, B. and A. Stutzer (2002). What Can Economists Learn from Happiness Research?, *Journal of Economic Literature*. 40: 402-435

<sup>6</sup> By a “better” economy, most economists ultimately mean “increased satisfaction of consumer preferences.” To remind readers of this fact, a philosopher, Peter Hacker, suggested that I replace the word “better” in the manuscript with “spetter” to mean “satisfying preferences better.”

Each innovation brings new information, new information brings extraordinary profits to the innovator, extraordinary profits attract competitors, competitors acquire the information, and the innovator's profits return to ordinary. At the end when the information disseminates, the nation is more productive and wealthier, and the stage is set for the next innovation. By this process, nations become rich. Relative to sustained growth, nothing else is significant for lifting nations out of poverty.

In every country, growth occurs through innovation, but the form of innovation differs with the level of development. In Silicon Valley, innovations are primarily technological, such as new computer chips or programs that were previously unknown to the world. Technology mostly flows from developed countries to developing countries through international trade, investment, and educational exchanges. By the end of the last century, most international obstacles preventing poor countries from acquiring technology disintegrated as major wars ended, communism collapsed or transformed itself, and tariffs and transportation costs fell. The remaining obstacles to acquiring technology are mostly domestic, notably bad organization and impediments to markets.

Instead of innovations in technology, many innovations are "entrepreneurial", by which we mean that they improve organizations and markets. Philip Knight, co-founder of the Nike Corporation, began by selling running shoes out of the trunk of his car. From this beginning in 1972, the company reported \$15 billion in world wide sales of sports equipment and clothing in 2006. Knight obviously discovered something new, but what was it? The company 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 all of the goods that it sells. The business of Nike is research and marketing. Its research discovers new products, which it contracts with other firms to make, and then it markets them through extensive advertising. When Cooter participated in a consulting job for Nike in 1992 that included an overview of the company, he had trouble grasping this new form of business. Now this new form has spread dramatically in America as more and more companies "outsource" manufacturing and focus their efforts on research and marketing. Other examples of recent innovations in organizations and markets in the contemporary United States include hostile takeovers of public companies,

independent directors for corporations, team production in manufacturing (imported from Japan), and extended warranties on complex consumer products.

In developing countries, which lack top universities and large research organizations, entrepreneurial innovations is much more important to the economy than technological innovation. Entrepreneurs in developing countries often adapt organizations and markets that originate in developed countries to local conditions. Adapting organizations and markets to local conditions removes the domestic obstacles to absorbing technology from abroad and increasing productivity of workers. Adaptation in developing countries faces the same obstacles as invention in developed countries. In both cases, the innovator has a valuable idea that requires capital for development, development is highly risky, success attracts competitors, and competitors diffuse the innovation and reduce the innovator's profits. In both cases, the innovator must trust that the investor will not steal his idea and the investor must trust that the innovator will not steal his money. Law and social norms provide the basis of trust between innovator and investor. Property law underpins relational finance, contract law underpins private finance, and business law underpins public finance. Conversely, ineffective property, contract, and business law impede growth in poor countries.

After ineffective law, the most important obstacles to growth are defective policies, which are the subject of the next chapter.