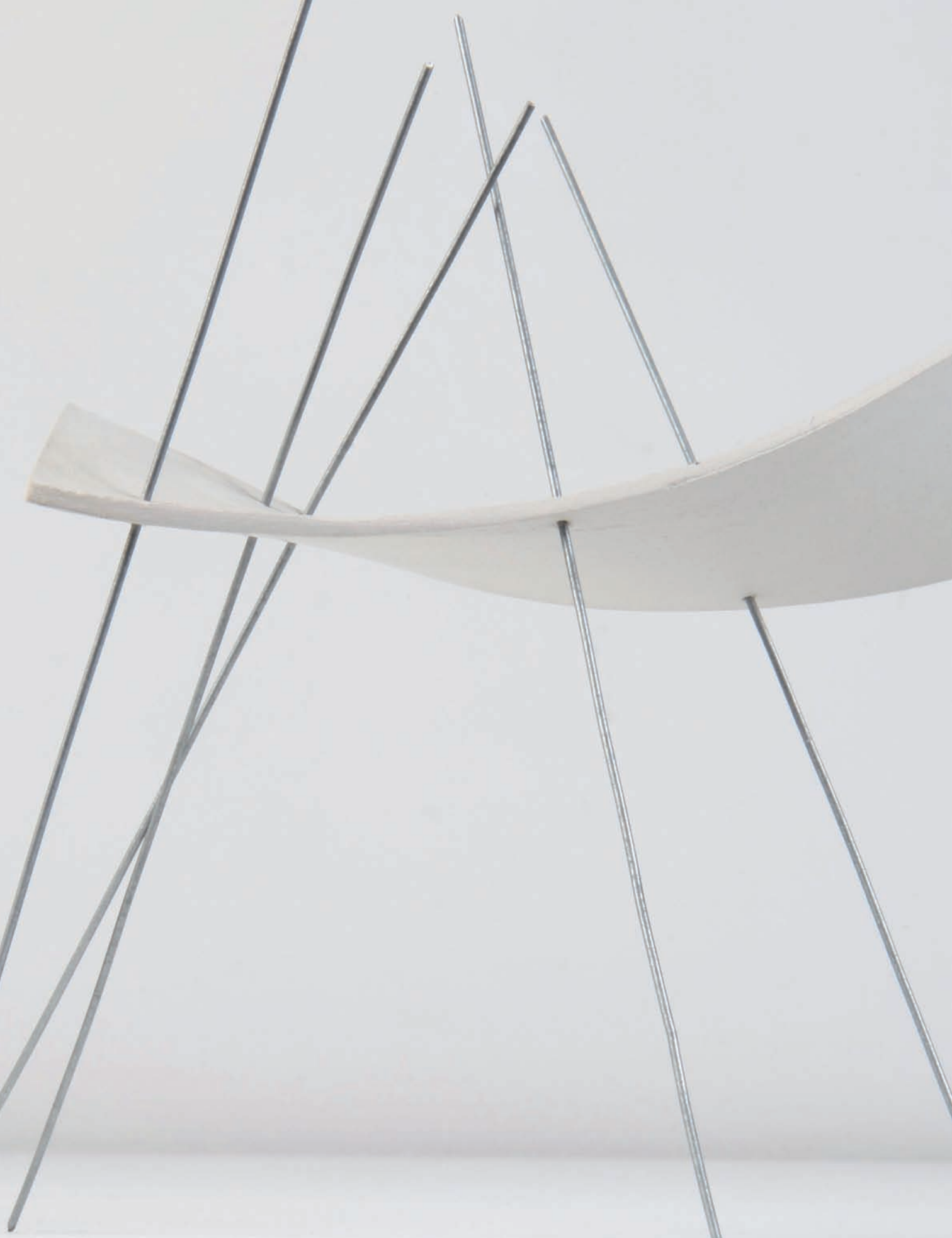


Predicting the Economic Future Through Convergence: The Case of China[1]

Daniel Altman

In economics there are few axioms and fewer laws. The science, if it can be called that, lacks the certainty of mathematics and the elegance of physics, which may be why quite a few run-of-the-mill mathematicians and physicists turn out to be excellent economists.

But economics does come close to these other disciplines in its mapping of individual decisions and economic growth. Models of economic growth, in particular, will look familiar to physicists, as they sometimes appear to mimic the motion of particles influenced by forces like gravity. These models, which became popular during the 1980s and have endured since then, are usually called "neoclassical" because they draw heavily on "classical" mathematical and statistical techniques developed much earlier, in the 1920s.

From the neoclassical models arose perhaps the only relationship that economics has been able to establish between the prospects for growth of different countries. That is not to say that the models gave birth to a law. Rather, they suggested a relationship that, when tested in the real world, appears to hold true: convergence.

The idea of convergence began with the simplest models, in which there was little to distinguish between economies. In these models, it looked as though every economy was on the same path of growth. Some had a head start, and these were the wealthy ones. The others, however, would catch up to the leaders eventually. In fact, the further behind they

1. Adapted from *Outrageous Fortunes: The Twelve Surprising Trends That Will Reshape the Global Economy* by Daniel Altman, published in paperback by St. Martin's Griffin.

Blanca Muñoz, *Espacio combado* (model), 1998

were, the more quickly they would close the gap. As time passed, the workers in every economy would be heading toward the same average level of productivity, and thus, in a world of competitive markets, the same wages and material standards of living.

Plenty of observable evidence indicated that this theory might be right. Countries that lagged far behind the leaders — the poorest ones — could make dramatic leaps forward by making basic improvements in public health, education, and infrastructure, which would eventually allow them to move their people off the land and into cities, where they could take advantage of the economies of scale implicit in industrial production. Moreover, the laggards could copy technologies from the leaders rather than having to develop them on their own, leapfrogging through economic time. As they began to compete head-to-head with the leaders in the highest-value markets, however, their progress would naturally slow.

Yet this simple form of convergence didn't seem to be happening in many parts of the world. African countries, for example, actually lost ground to the rich West in the second half of the twentieth century. And some countries that appeared to be catching up to the West for a few decades, like Japan, hit a wall before they reached the same standards of living, falling inexplicably short of the target. Indeed, as the theory of convergence became canonical in economics textbooks during the 1980s, bestselling books predicted that Japan would pass the United States to become the world's greatest economic power. That never happened, and today few economists would predict that it ever will.

So economists re-examined the theory of convergence. They decided that the basic idea could still be correct, but with a caveat: countries' living standards could converge in the long term, but only if they had similar economic foundations. Those foundations were the deep factors whose importance was easily perceptible yet hard to quantify. Some were immutable, like geography or cultural traditions; landlocked countries could not easily get access to the sea, nor could countries accustomed to strong rulers suddenly forget their history. Others, like legal philosophies and the depth of ingrained corruption, could be changed, though only with great effort and over the course of years. Together, these deep factors created the backdrop for all economic activity. The economy could rise and fall with its usual cycle, but the deep factors determined the economy's potential to grow in the very long term, decades or even centuries into the future.

Countries that shared several of these deep factors could be put in the same "convergence club," meaning that the basic dynamic of convergence could be expected to hold between them. Only by changing one or more of the deep factors could a country jump from one club to another, thereby changing its target for living standards and its long-term path of economic growth. In the late twentieth century, Japan hit a wall because it didn't have the same deep factors underpinning its growth as the United States. Its markets weren't as competitive, and the bureaucracy governing its business environment was more cumbersome. It wasn't in the

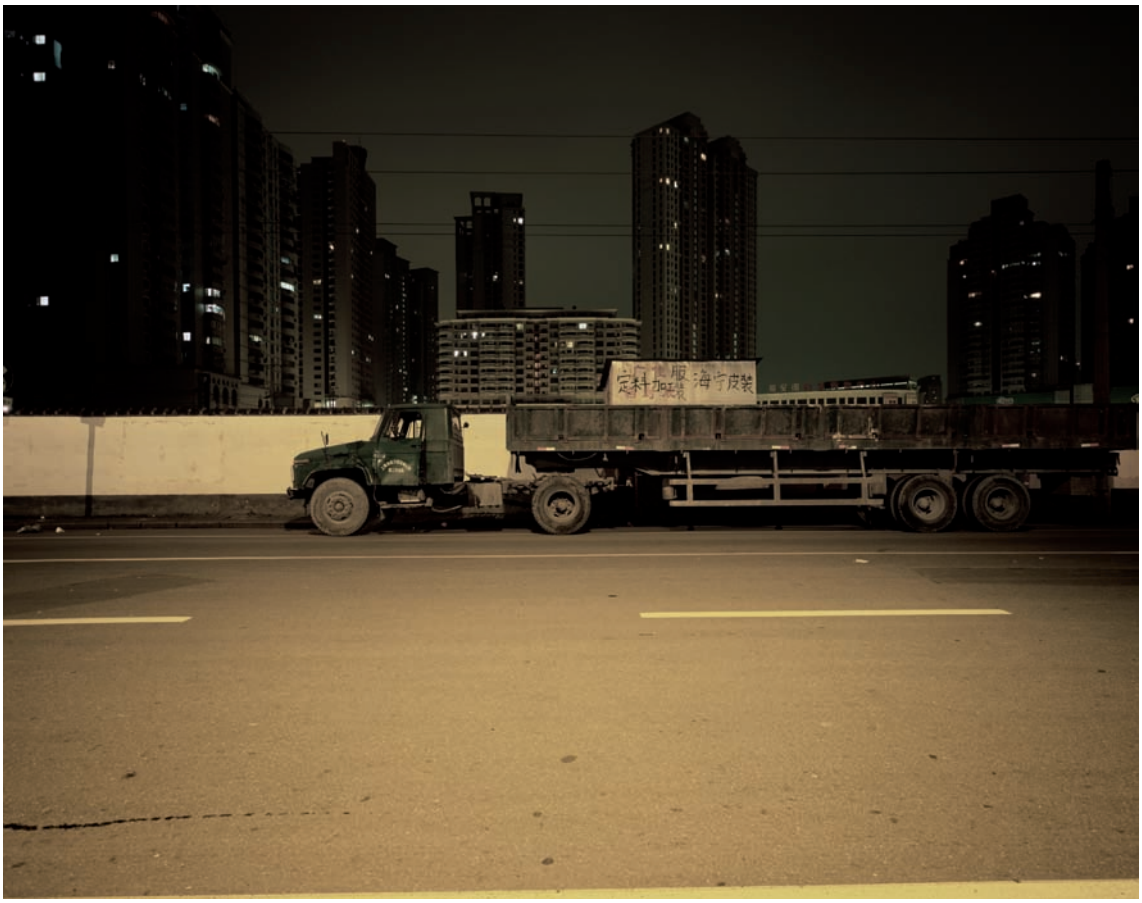
same convergence club, and, even at its full potential, it couldn't be expected to catch or pass the United States.

This new theory, called conditional convergence, has endured in the mainstream of economics, in large part because of the strength of the empirical evidence that supports it. Early calculations showed that, controlling for population growth and the rate of investment in capital goods, per capita income in a sample of 121 countries did appear to converge over time (Mankiw, Romer, and Weil 1992). A later study showed that, conditional on their ability to export, East Asian economies seemed to converge towards similar income levels; those with lower standards of living tended to grow faster (Fukuda and Toya 1995). Conditional on having similar economic and political institutions, African countries in the post-colonial period also displayed convergence (Murthy and Ukpolo 1999). These studies divided countries into convergence clubs in different ways — after all, you can slice and dice the world's economies however you want — but the distinguishing characteristics in each club were important enough to influence the members' economic futures.

Despite the dramatic changes in the Chinese economy since the late 1970s, there are still vast differences between China and these wealthier economies that are likely to hold China back. Some of them might be changeable within the next couple of decades, and some of them might not

An exploration of conditional convergence becomes particularly interesting when you consider what it means for the future. If you can figure out what club a country is in, you can essentially see its future by looking at other members of the club that sit further along the convergence path. Today, the country whose economic future raises the biggest question marks is China. Can it continue to grow so rapidly? Will its living standards ever catch up to those of the United States and Western Europe, or even those of the wealthier countries in East Asia?

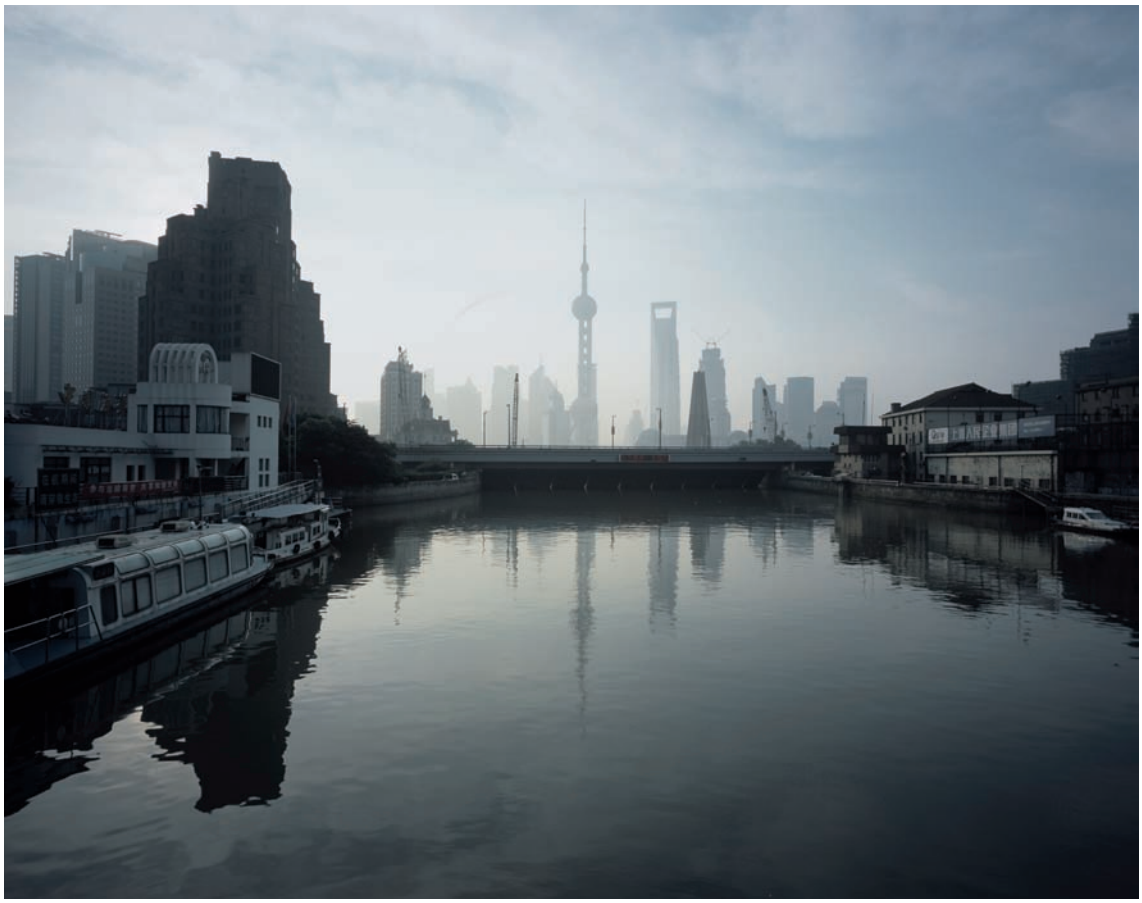
Until the late 1970s, China was languishing in one of the lower-productivity convergence clubs. The Cultural Revolution had eliminated or literally put out to pasture many of the country's best minds, and China's massive yet ill-conceived industrial mobilizations — backyard steel-smelting, for example — had yielded little fruit. The country was largely shut out of overseas markets through a combination of regulations and the poor quality of its output. Starting after World War II, China had steadily lost ground to its industrializing neighbors (Pettis 2008). Having chosen a unique set of economic institutions, in which central planning of the economy was mixed with the atomization of industrial production in thousands of villages, China was arguably in a convergence club all its own — and not a very fast-moving one.



Szymon Roginski, *Shanghai 15,* 2008

That changed when Deng Xiaoping, who began to take over the central posts in the Chinese government after the death of Mao Zedong in 1976, initiated a series of economic reforms. He reached out to foreign leaders, began to open China to overseas markets, allowed more Chinese students to study abroad and even laid the groundwork for the return of small, private entrepreneurship. As his regime continued, the state tacitly gave more and more day-to-day control of finance and industry back to the market by allowing private companies to operate and grow, even when their existence seemed to contravene official dictums (Chang 2008).

These reforms made a fundamental difference to China's growth, and the productivity of its workers started to catch up to that of local heavyweights like South Korea and Japan. But is drawing level with South Korea or Japan an attainable goal, or will China come up short, just as Japan did in its pursuit of the United States? The answer depends on whether China is in the same convergence club as its neighbors.



Szymon Roginski, *Shanghai 37,* 2008

The answer is probably no. Despite the dramatic changes in the Chinese economy since the late 1970s, there are still vast differences between China and these wealthier economies that are likely to hold China back. Some of them might be changeable within the next couple of decades, and some of them might not.

Two factors that economists regard as particularly important to convergence in incomes, especially as poor countries close the gap with rich ones, are openness to trade and the ease of starting a business (Aghion and Howitt 2009). China has done much to open its markets since Mao's death, but it still has a long way to go. Details of the trade agreements that helped it to join the World Trade Organization in 2001, such as by how much its exports can undercut the prices of domestically produced goods in the United States and Europe, are still being disputed today. And though China marched right in when other countries swung open their doors to its boatloads of cheap manufactured goods, it has not yet opened its own markets to the same extent.

When it comes to opening a business, China ranks even further behind. The World Bank's annual study of environments for entrepreneurs, appropriately called "Doing Business," ranked China 151st out of 181 countries in the category "Starting a Business." The ranking, based on a survey of the experts and business people surveyed by the bank, compares the time and money needed to start up a small business in different countries, encompassing both the burden of bureaucratic procedures and the legal requirements for financing. In China, an entrepreneur would need to have financial capital on hand amounting to more than 130 percent of the average annual income in order start a business. In 91 other economies, from Afghanistan to Zimbabwe (and including heavyweights such as the United States, Japan, and Germany), no such requirement exists. China may be the world's second-biggest economy, but there are very few places in the world where it's more difficult to hang out one's shingle for the first time.

It may be a stretch, to assume that China's hierarchies will flatten out, or that its government will substantially reduce its presence in many sectors of the Chinese economy, a presence that can crowd out private ventures and deter foreign investment

Making China's business environment even more challenging is a pervasive lack of transparency. China's complex bureaucracy has allowed corruption to become entrenched, and the government has been known to use the legal system to bully foreign companies. Economic data are regularly revised and contested; as a recent video series presented by *The Atlantic* pointed out, even estimates of the country's population vary by hundreds of millions of people.[2] In part because of these factors, business negotiations in China tend to be based more on personal relationships and trust than on numbers and contracts (Sebenius and Qian 2008).

These factors can be fixed. China has a strong central government that can institute new regulations quickly and enforce them with an iron fist. In time, China can become as encouraging an environment for new investment, both by foreigners and by its own people, as any other industrialized country. There are other factors, however, that are not so easy to alter. In the very long term, these factors may turn out to be the most important ones.

Confucianism is perhaps the leading influence on Chinese business practices, or at least the single factor that most distinguishes Chinese practices from those of other countries (Ministry of Culture of the People's Republic of China 2003). The teachings of Confucius date back

2. *On the Frontlines: Doing Business in China*, written by Bob Schapiro and produced by Dovar Chen (2009).

centuries, and they are deeply ingrained in Chinese society. The Chinese government has even embraced them in recent decades alongside its official communist ideology; the *People's Daily*, the influential state newspaper, called for an understanding of Confucianism's "precious business philosophies" in 1996 (Chen 2001). Yet some of its central tenets, though they may have benefits at the social level, are not necessarily conducive to economic growth.

Confucian ethics teach that one should value the collective over the individual. Though Confucius himself did not view the supremacy of the collective as a justification for conformism — he was more of the opinion that individuals could shine within the collective, as long as the collective remained harmonious — his ideas became distorted in modern China (Bell 2008). According to Daniel Bell, a scholar of Chinese philosophy at Tsinghua University in Beijing, Confucianism was melded with Chinese authorities' legalistic inclinations to lend a legitimizing cultural resonance to their strict imposition of law and order. A second and related tenet of Confucianism could be termed propriety, or an adherence to ceremony or tradition; it encompasses the "respect for elders" that is a hallmark of many East Asian civilizations. In Confucianism, this deference belongs not just in family relationships but also between ruler and subject, master and servant, and employer and employee.

Together, these tenets of Confucianism — and the way they have been interpreted by the Chinese authorities in recent times — have helped to maintain rigid hierarchies in Chinese businesses. Even Confucius, Bell concedes, did not believe that young people should engage in critical thinking. First, they had to learn the teachings of their elders. They had to attain more seniority within the collective before they could begin to challenge established ideas and innovate.

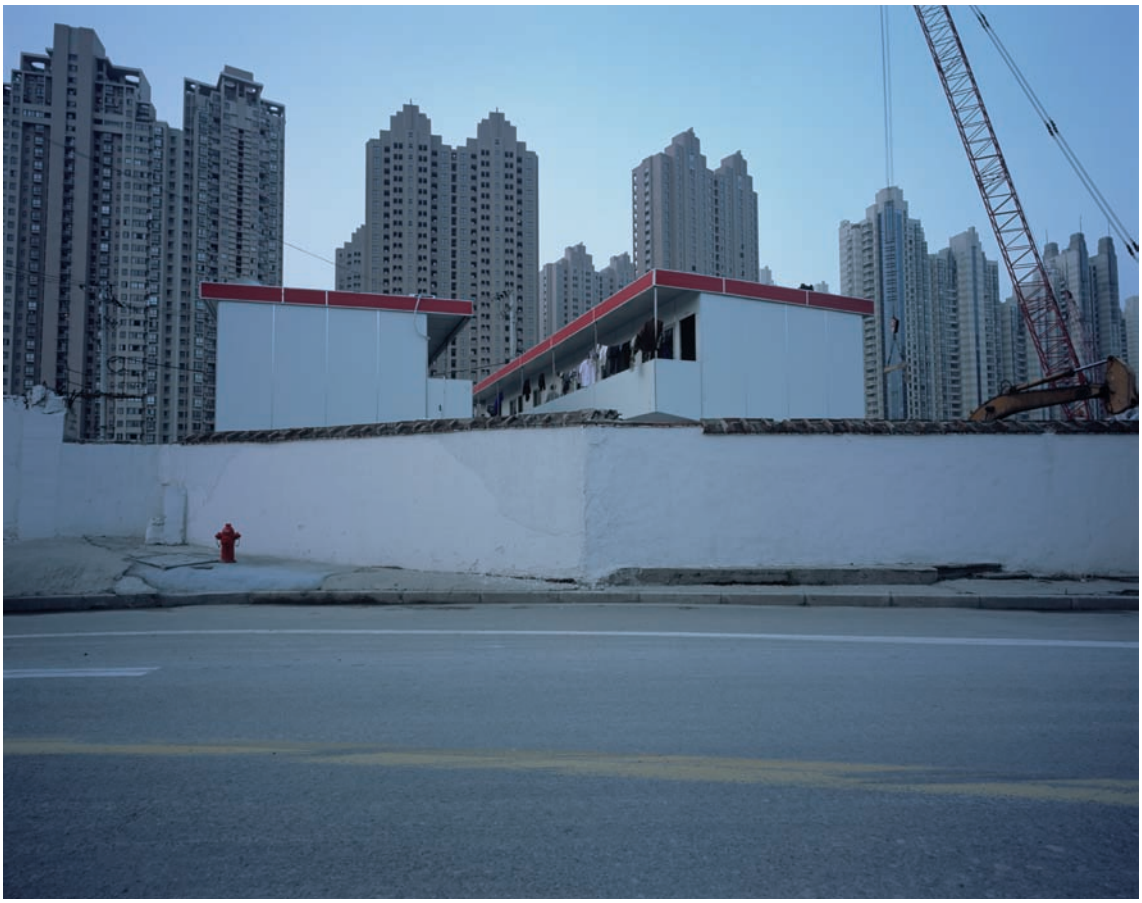
These hierarchies within the collective can be problematic in a mature economy. As the management researchers Fang and Hall (2003) point out, when Chinese managers make decisions, the consequences of those decisions must cascade down through many levels of corporate hierarchy, perhaps being diluted along the way; this time-consuming process can reduce a company's ability to react quickly to changing business conditions. Meanwhile, incompetent managers can stay in their jobs simply because of their seniority. The ideas of junior workers are rarely implemented, even if they have the temerity to raise their voices, because their proposals get stuck on the way up the chain of command. In a country where starting a new business is difficult, the problem is exacerbated; young workers frustrated with the Chinese system might try to emigrate rather than striking out on their own as entrepreneurs.

The combination of these two tenets is implicit in the bulk of large Chinese firms, because the government — the ultimate "elder" that supposedly represents the collective — has a controlling interest. It is not always a healthy interest. Maximizing profits is not necessarily the government's only goal; if it were, the government would sell its interest in companies when

Szymon Roginski, *Shanghai 43,* 2008

doing so would yield the biggest payoff (Clarke 2003). Research shows that government-dominated companies pay lower dividends and have a less healthy cash flow (Bradford, Chen, and Zhu 2007). The same is true for companies with complex, hierarchical ownership structures. Publicly traded Chinese companies can have as many as five classes of shares, while American companies rarely have more than two or three (Qi, Wu and Zhang 2000).

There is one other cultural current that runs just as deeply as Confucianism. Through books, films and classes, Chinese people learn a very particular story of the birth of their nation, in which the great struggle through the millennia has been to unite the enormous land mass and diverse ethnicities of China into one nation. Those who sought to carve China into smaller kingdoms are usually the villains; those who sought to unite it are the heroes. Those heroes are often merciless and violent, like the Qin emperor Shi Huang, who cut a bloody swath across China with armies of tens of thousands of men as he united seven kingdoms into one empire in



Szymon Roginski, *Shanghai 47,* 2008

the third century BC. That empire eventually fell apart, but the next rulers to unite China — the Sui — were just as ruthless. And so the story goes all the way up to and including Mao. The message is clear: to be united and realize the dreams of a great Chinese nation, the Chinese people need strong rulers who brook little dissent.

The message carries through to the boardrooms of Chinese companies, which tend to concentrate the instruments of power in the hands of a single strongman who unites the three most important roles in the company: chief executive, chairman of the board, and representative of the Chinese Communist Party (Opper and Schwaag-Serger 2008). The boss thereby represents the interests of the government, which is often the biggest stakeholder, but common shareholders are marginalized.

Not surprisingly, the narrative of uniting disparate kingdoms to form a single, stronger empire also has echoes in the growth strategy of Chinese companies. Some of the biggest, like the

appliance maker Haier, have grown at astonishing rates by gobbling up their smaller competitors. Doing so can generate economies of scale and lower prices for consumers, but, if one company becomes the unchallenged industry leader, then that company will have little incentive to innovate or cater to changing preferences.

The rhetoric of some Western politicians suggests that they believe China will eventually embrace democracy and transparency, perhaps after a long period of economic opening. Yet that will not necessarily change all of the deep factors that are limiting China's growth; the links between political institutions and the economic climate are not always so strong. For example, South Korea, despite becoming a democracy, still has a very Confucian culture with the attendant repercussions for innovation and corporate hierarchies. Russia, another large country long governed by a strong central authority (be it a tsar, Joseph Stalin, or Vladimir Putin), has essentially tried democracy and rejected it over the past twenty years; corruption and government strong-arming of foreign companies continue unabated. Sweden, for decades a democratic country, maintained heavy state involvement in the economy until the turn of the millennium.

It may be a stretch, therefore, to assume that China's hierarchies will flatten out, or that its government will substantially reduce its presence in many sectors of the Chinese economy, a presence that can crowd out private ventures and deter foreign investment. Indeed, three decades after its "Open Door Policy" began, China's government is still heavily involved in virtually all of its big companies. This involvement amounts to actual ownership and control, in contrast to the government-led coordination and protections for private companies that helped industries to grow in South Korea, Japan, and Taiwan during the twentieth century.

In addition, the government is unlikely to rein in the massive bureaucracy that allows it to maintain control of municipalities thousands of miles from Beijing, even though that very bureaucracy is often what stands in the way of new businesses. It may also be reluctant to increase the transparency of its legal system, since that same lack of transparency can be used to hamper and curtail the activities of foreign companies at the government's whim.

All of these factors will combine to lower the target for material living standards in China — or, to put it more technically, they reduce the level of per capita income toward which China is converging. With these factors in place, China simply is not in the same convergence club as the United States. More likely, it is in a club along with other nations that share at least some of its cultural grounding, legal framework, history of state involvement in the economy, industrialization patterns and climate, perhaps including Vietnam and Kazakhstan. As these examples suggest, countries do not have to be the same size to be in the same convergence club. The deep factors that underpin economic growth set the achievable limits for material living standards; those limits can be similar in countries of various sizes.

This is not to say that China is incapable of progress. One study completed in the late 1990s suggested that younger managers in Chinese companies were more individualistic than

those of previous generations, a characteristic that could help to promote innovation in the long term (Ralston et al. 1999). By now, many of those young managers are undoubtedly in positions of power. But there are simply too many deeply ingrained differences for China's people to attain the same incomes as their Western counterparts at the end of its current growth spurt. Those incomes ultimately depend on workers' productivity; you are paid for what you produce. Chinese workers, even with access to the latest gadgets and manufacturing techniques, cannot be as productive as American or European workers if they do not have the same entrepreneurial opportunities, a transparent regulatory framework, strong legal protections, efficient corporate structures, and the ability to innovate.

China may just manage to catch the United States and become the world's biggest economy. But it will hold onto the title for only a few years before the United States, growing more quickly in both population and the productivity of its workers, passes China again

In the neoclassical model, only economies with similar deep factors can expand at the same rate when they settle into their steady growth pattern. If China's deep factors are inferior for the purposes of economic growth, then it will begin to lose ground. In other words, its average incomes will start to fall behind those of the world's economic pacesetters. The Chinese people, having become substantially richer relative to the rest of the world, will slowly become poorer again.

So, what does all this mean? First, consider the conventional wisdom. Several years ago, a Goldman Sachs report predicted that China would overtake the United States as the world's biggest economy in 2041 and would continue to widen the gap for many years afterwards (Wilson and Purushothaman 2003). In 2048 the amount by which China extended its lead every year would slowly begin to fall, in percentage terms, but only by a tiny amount each year. More recently, the British author Martin Jacques predicted that China would replace the United States as the world's main superpower, Shanghai would overtake New York as a financial center, and the yuan-renminbi, China's currency, would supplant the dollar in world markets.[3]

Now, consider an alternative scenario that encompasses the points made earlier in this chapter, namely that: 1) China is not converging to the same living standards as the world's wealthiest nations; 2) China's economic growth will stabilize sooner than expected, and

3. Paraphrased from Jacques's comments on BBC World News on June 25, 2009; Jacques is the author of *When China Rules the World: The End of the Western World and the Birth of a New Global Order.* New York: Penguin Press, 2009.

3) China's long-term economic growth rate will be lower than those of the world's established economic leaders. A reasonable prediction might be that China's growth stabilizes by 2050 at the latest, having grown more slowly than Goldman Sachs predicted; its population grows no faster than that of the United States; and its long-term growth rate in average incomes is slightly lower than that of the United States, say 1.5 percent versus 2 percent. Under these conditions, China may just manage to catch the United States and become the world's biggest economy. But it will hold onto the title for only a few years before the United States, growing more quickly in both population and the productivity of its workers, passes China again.

As a result, investors and entrepreneurs who have seen unlimited potential in China will be sorely disappointed. With lower material living standards, Chinese people will never be able to buy as many goods and services as their wealthier counterparts in the United States and Europe. The Chinese market will be immense, but it will not eclipse the world's other major economies. Moreover, the risk to shareholders and creditors implied by corruption, lack of transparency, and the Chinese political system will no longer be offset by the reward of huge profits. The fad for Chinese securities will slowly but surely peter out. In the long march of economic history, China's moment will be impressive, but brief.

This is not to say that China is doomed to inferior economic growth and living standards forever. Even the most deeply ingrained traditions can change over the course of decades, or in a shorter period of time if disruptive or revolutionary forces are in play. In Eastern Europe, for example, the collapse of state socialism and the Soviet bloc left several countries with a blank slate. They held onto their culture, but they were free to choose some of the bedrock institutions of their economies all over again. But as Japan's example goes to show, holding onto culture — and other deep factors — can keep the limits to growth in place.

REFERENCES

Aghion, Philippe, and Peter Howitt. 2009. *The Economics of Growth.* Cambridge, Massachusetts: MIT Press.

Bell, Daniel A. 2008. *China's New Confucianism: Politics and Everyday Life in a Changing Society.* Princeton, NJ: Princeton University Press.

Bradford, William, Chao Chen and Song Zhu. 2007. "Ownership Structure, Control Chains, and Cash Dividend Policy: Evidence from China." *Center for China Finance and Business Research Working Paper Series* 20.

Chang, Gordon G. 2008. "China After 30 Years of Reform, I." *Forbes,* December 16.

Chen, Ming-Jer. 2001. *Inside Chinese Business: A Guide for Managers Worldwide.* Cambridge, MA: Harvard Business Review Press.

Clarke, Donald C. 2003. "Corporate Governance in China: An Overview." *China Economic Review* 14 (4, January).

Fang, Yuan, and Chris Hall. 2003. "Chinese Managers and Motivation for Change: the challenges and a framework." *Proceedings of the 15th Annual Conference of the Association for Chinese Economics Studies Australia*.

Fukuda, Shin-ichi, and Hideki Toya. 1995. "Conditional Convergence in East Asian Countries: The Role of Exports in Economic Growth." In Takatoshi Ito and Anne O. Krueger (eds.), *Growth Theories in Light of the East Asian Experience*. Chicago: University of Chicago Press, 247–265.

Mankiw, N. Gregory, David Romer and David N. Weil. 1992. "A Contribution to the Empirics of Economic Growth." *The Quarterly Journal of Economics* 107 (2, May).

Ministry of Culture of the People's Republic of China. 2003. "The Confucian Ethics and the Traditional Chinese Business Culture." http://www1.chinaculture.org/created/2006-02/20/content_79482.htm.

Murthy, N. R. V., and Victor Ukpolo. 1999. "A Test of the Conditional Convergence Hypothesis: Econometric Evidence from African Countries." *Economics Letters* 65 (2, November).

Opper, Sonja, and Sylvia Schwaag-Serger. 2008. "Institutional Analysis of Legal Change: The Case of Corporate Governance in China." *Journal of Law & Policy*, 26.

Pettis, Michael. 2008 "China's Relative Economic Growth During the Past 80 Year [*sic*]." *RGE Monitor* (June 10,). Using statistics compiled by Angus Maddison.

Qi, Daqing, Woody Wu and Hua Zhang. *Pacific Basin Finance Journal* 8 (5, October): 587–610.

Ralston, David A., et al. 1999. "Doing Business in 21st Century with the New Generation of Chinese Manager: a Study of Generational Shifts in Work Values in China." *Journal of International Business Studies* 30 (2, June).

Sebenius, James K., and Cheng (Jason) Qian. 2008. "Cultural Notes on Chinese Negotiating Behavior." *Harvard Business School Working Paper Series* 09–076 December 24.

Wilson, Dominic, and Roopa Purushothaman. 2003. "Dreaming With BRICs: The Path to 2050." *Goldman Sachs Global Economics Papers* 99, October 1.

Deep factors ranging from climate to legal institutions create the backdrop for all economic activity. Countries that share several of these deep factors can be put in the same "convergence club", meaning that the poorer will catch up to the richer in a race toward the same potential level of living standards. Only by changing one or more of the deep factors can a country jump from one club to another, thereby changing its target for living standards and its long-term path of economic growth. This theory, called conditional convergence, has clear implications for today's economic powers in the next several decades. For example, though China may soon become the world's biggest economy, its growth may later slow to the point that the United States catches it again. Without changes to its deep factors, it may follow the path of Japan, whose growth slowed markedly at the close of the twentieth century.

BIOGRAPHY

Daniel Altman

New York University

Daniel Altman is an economist and internationally best-selling author. He teaches economics at New York University's Stern School of Business and serves as chief economist of Big Think. He is also a columnist for *Foreign Policy*. In addition, Altman is the founder and president of North Yard Economics, a nonprofit consulting firm serving developing countries, and Emerging Design Centers, a new venture that will found product-design workshops in poor communities around the world.

Altman has written economic commentary as a staff writer at *The Economist*, *The International Herald Tribune*, and *The New York Times*, where he was also one of the youngest-ever members of the editorial board. In between stints as a journalist, he was an economic advisor in the British government. He is a member of the Council on Foreign Relations and the expert advisory board at Dalberg Global Development Advisors, where he previously served as director of thought leadership.

Altman was born in Connecticut and received his undergraduate and doctoral degrees in Economics from Harvard University. He has lived and worked on four continents and is a citizen of the United States, Canada, and the United Kingdom. His most recent book is *Outrageous Fortunes: The Twelve Surprising Trends That Will Reshape the Global Economy* (Times Books, 2011), which has been published in eight foreign editions.