

# China Destroys The IP Paradigm

*by Anne Stevenson-Yang and Ken DeWoskin*



**I**MPROVING THE PROTECTION of intellectual property in China has become not only the foremost goal of the international trade-policy community but also a quasi-spiritual mission. Meanwhile, the Beijing political leadership cannot quite decide what to think and tends to mix legal commitments and prosecutorial energy with resentment of foreign IP and royalty claims. But both are missing the point. Stopping the rampant piracy of IP in China requires a much more fundamental shift than just getting police and prosecutors to punish the worst offenders.

Along with China's roaring economic growth has come an equally impressive deluge of copies. And not only the branded clothing, watches, and jewelry sold in the street markets, but also everything from the most precisely articulated business processes to the software code buried deep within industrial machinery, to the trade

---

*∞ Ms. Stevenson-Yang is managing director of the U.S. Information Technology Office in Beijing. Mr. DeWoskin is professor emeritus of the University of Michigan and a former China-based partner at PricewaterhouseCoopers*

dress of donut stores.

Even the inventions, content, and trademarks stolen or imitated by a first tier of Chinese pirates are then appropriated by other companies in ever-widening circles of opportunism and criminality. This can be seen in the phenomenon of store clerks who sell pirated discs of the new movie *Meet the Fockers* for 10 yuan and complain volubly about street sales at 7 yuan, while the street vendors fret that competitors have a better format that can offer two movies for the price of one.

Accelerated transfer of skills and technology, a hungry but frugal and naive domestic market, and furious entrepreneurship have combined in China into a particularly fascinating and volatile mix. Using inputs provided by eager multinational corporations, China has married the latest high-technology imaging, manufacturing, and engineering tools to its own boisterous, boot-strapping commercial culture so as to propel an unprecedented number of copies into world markets.

Only in China, it seems, can you equip a shop full of girls with sewing machines, a scanner and a pirated copy of *Photo-shop* and end up cloning a Chicago Bulls sweatshirt in a matter of an hour's semi-skilled work. With a bit more time and investment, Chinese firms bring to market pharmaceutical knock-offs, the latest Hollywood films, or the most sought-after luxury watches.

Recent experience should dispel any doubts about the ability of China's people and hard infrastructure to create invention and innovation. By way of explanation for the copying, many seem to have

embraced a new form of historical determinism whose argument is essentially this: "Awareness" of the value of intellectual property emerges from a certain level of industrial development, just as early capitalism supposedly emerges from feudalism. The United States established IP rights, the argument goes, only after its own scientists had created inventions worth protecting. Developing countries mount a deterministic development ladder, from light assembly to heavy manufacturing and on to high-tech products, and, having achieved this degree of industrialization, they begin to create and protect IP.

In fact, China's failure to protect has little to do with stages of development or cultural attitudes. It has everything to do with the government's ownership and control over the economy, which undermines private property rights—especially the intangible kind. This creates economic instability that makes it difficult for innovation by domestic companies to be rewarded, and thus be sustained.

In its efforts to create "Chinese IP," the government actually obstructs the path to market of inventions that are blooming in laboratories and start-up companies all over the country. That's because these conflict with the commercial interests of politically supported state companies that innovate far less than private, entrepreneurial ones. U.S. companies are sometimes accused of fearing China's technological rise. If this were the case, they should actively encourage the epidemic of counterfeiting. What they really fear is not a technological competitor but

## *China's failure to protect IP is a result of state ownership of firms and control over the economy.*

a copy center which tears down the value of innovation across the entire world.

### **The Counterfeit Explosion**

THE CHINESE MANUFACTURING phenomenon began to impact international markets at roughly the same time that the rapid promulgation of information technologies was redefining the conduct of business. Bombarded from one side by ever-cheaper manufactured goods and from the other by new, niche technology offerings, traditional multinational companies have been thrown off balance. Some are relying on invigorated litigation strategies, some on the strategic sharing of IP, and some are simply flailing angrily as they watch their brands and technologies lose more market value by the week.

The statistics hardly need more than a brief mention, since the trend is obvious. Three-quarters of the fakes confiscated by U.S. Customs every year come from mainland China and Hong Kong. Within China, over 90% of software is pirated, and the same for films. Chinese-made pharmaceutical knock-offs are on the market in over 50 countries, sometimes penetrating highly regulated distribution channels. Rare European watches are forged in China in quantities one thousand times the originals.

The path by which international technology, brands, and business processes have entered China was explicitly designed by China's government from the start of the policy of "reform and opening."

Market access and cheap labor were exchanged for foreign cash and technology.

The formation of equity joint ventures, the original mechanism for this swap, was carefully regulated from start to finish, with a keen eye to assess the technology and intangible asset value. The government ensured that Chinese parties to joint ventures were qualified to recognize, and often replicate, the skills and technologies being transferred. In some cases, the supervising departments, technology valuation committees, and government research and design institutes have been directly involved in porting technology to competitors outside the joint venture.

Through these channels, the shifting about of key technical employees, and other mechanisms, IP has poured onto astoundingly fertile land. The goal of China's joint-venture policies was never a secret. But the efficiency and effectiveness of the transfer was a startling revelation.

The prodigious technology uptake could not have occurred absent China's ambivalent IP regimen, which tightens only periodically, and then primarily to advance a shift up the value chain of government-blessed Chinese companies. Emerging from a history of highly defined usage rights and poorly defined ownership rights, China has also embraced an ethic of neo-Third World solidarity whose narrative goes something like this:

In the process of building prosperity, the more-developed nations exploited working people, polluted the natural envi-

ronment, and freely appropriated others' IP. Now mounting the same development ladder, China must tolerate some of the same practices. Hypocritically, the First World sends lawyers and government negotiators into China to demand what constitutes a global "technology tax," paid to rich countries by the poor. This, among other harms, contains China as a supplier of labor to the MNCs, who control the far more value-intangible assets in the value chain.

The current shift of economic power underway is fueled by China's aggressive stance on IP and technology costs. A massive cheap labor pool wedded to technology, frugally acquired, provides two strong legs in China's race forward.

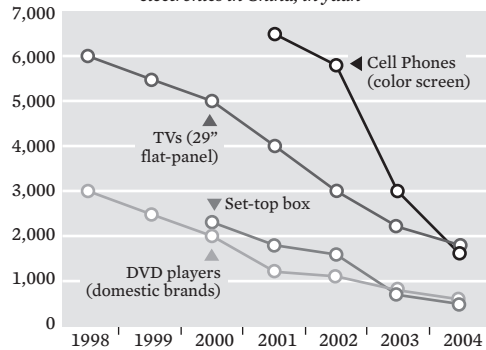
## What Makes China Copy

THE IP PROBLEM has structural causes emanating both from the peculiarities of Chinese economic policy and from the information technologies revolution internationally.

First among these is China's need to find real growth in an economy where 20% annual export increases have become politically and economically *de rigueur*. It must sustain this growth even as the mechanisms that made it possible in the first 25 years of reform become less sustainable themselves. These include the deployment of the vast captured savings of the Chinese people into unrecoverable investments; the ramping up of state assets in real estate, manufacturing, IT infrastructure, and the like, from no book value to huge book values, driven by the frenzy of initial public offerings; and benefiting from high levels

## PRICE DESTRUCTION AT WORK

Average retail prices of selected electronics in China, in yuan



SOURCE: MFC INSIGHT, CCID, SINA TECH, SOHU TECH, COMPANY REPORTS

of foreign direct investment in areas like mining, power and transport infrastructure that pay very little return in the end.

Faced with deep pools of idle labor, few skills, and weak infrastructure, China initially attracted foreign investment and growth by offering itself as a base for cheap export manufacturing. The numbers mounted impressively, FDI flowed in, massive infrastructure investments were made, and the government built the cash reserves that now enable it to keep a stable currency and, incidentally, make sure most of those Chinese bank deposits remain at home.

But over time, Chinese policy makers grew dissatisfied with the nation's position in the shrinking center of the value chain. Upstream, commodity values surged. Downstream, those who controlled IP—whether technology, brand value, or business process—were successfully wielding pricing leverage to keep profit margins high. The role China had assumed, the world's lean manufacturer, was in danger of growing leaner.

Back in the 1990s, pressured by trading partners to close the trade gap, Chinese

## *Funding is allocated to produce short-term results, so research focuses on localizing existing technology.*

leaders like then Vice Premier Li Lanqing and Trade Minister Wu Yi began looking at the structure of China's processing trade. Analysis showed that for every \$100 of exports, only about \$10 of value was being added in China, which translates to something like 2% of the retail value.

That realization led to a lot of policy gestation, resulting in a new national strategy in science and technology: increased funding for research; a focus on technical standards; a strengthened IP regime (at least for the larger Chinese companies); scope for universities and research institutions to establish commercial enterprises; and a separation of military research and development from military ownership to enable the military to obtain the best commercial technologies. Also in the new playbook were efforts to develop global Chinese brands, and related efforts to gain more control of channels to market.

However, these policies have run into limitations built into the structure of the Chinese economy. The most salient characteristics preventing the full development of IP by Chinese companies include:

- *Funding replication* The stubborn intervention of the state-directed economy players has redirected activity away from innovation and toward capturing existing technologies. This is particularly true in the R&D system, which has the same hybrid state-market characteristics as the rest of the economy.

For one thing, the liberal new funding

for technological research is handed out to fund projects that can produce measurable results within the time-in-class of the relevant bureaucrats—three to five years. The only reasonably sure targets in the world of R&D are existing technologies, and so Chinese funding programs allocate resources for technologies whose prices on the international market have been identified as attractive. Grants are given in order to have the technologies localized.

Under the rules of several funding programs, the technologies so developed may be patented to the developer, but they must be transferred on royalty-free or else reasonable terms to Chinese (but not foreign-owned) companies. Thus, China's R&D base has been set in motion trying to reverse-engineer things like the Pentium 1 processor and the CDMA mobile chipset, not so that companies can avail themselves of better technologies, but so that Chinese companies can curtail sending money abroad to foreign owners of technology.

Once the technologies have been successfully reproduced, localities get on board with the national export drive by providing free land as well as construction and tax benefits to the politically favored enterprises. So, whether in consumer durables or network equipment, the enterprises can mass produce and export the technologies they were asked to discover, or uncover, by policy makers at institutions like the Ministry of Science and Technology and Ministry of Information Industry.

If the technology is not quite up to ex-

port standard, the tech companies find a local Chinese market with radically low prices and attractive service packages, which they can do, having been spared the market cost of capital or of R&D. The net result tends to be a lowering of the technology's price without a material improvement in its basic efficiency, which is a pure value deterioration. The consumer wins in the short run, but scientists and industry find themselves playing in a negative-sum market.

✿ *Putting scientists into business* At the same time, the spin-off of companies from state labs and universities has in some cases made high-profile millionaires. That in turn makes professors and scientists chafe at their bad luck being stuck in dim and unimpressive labs. Universities are not just permitted but encouraged to form companies based on IP resources, often in partnership with national organs, like the Chinese Academy of Sciences or MOST, and individuals from the universities may often hold about 40% of the equity. This is a marked contrast to many other countries, where universities put potentially valuable IP into the marketplace for third-party developers.

The problem is that academic institutions tend to be very bad at making commercial products, because resources are allocated by a bureaucratic process. So labs and universities tend to set up companies around offerings that are not commercially viable and then promote them energetically within the political system.

✿ *Environmental instability* The economic environment itself in China discourages innovation. State-bank capital

remains highly policy-directed to government-owned and politically well-connected companies, and venture capital is often akin to loan sharking. Rapid regulatory change creates an unstable business environment, so potential customers are highly skeptical of the stability of new market entrants, especially those without a government *houtai*, or backer.

Companies that bring out innovative products have difficulty surviving to support them six months later. The innovative products seldom get developed anyway, since the very capable Chinese engineers, many going without salary to work on commercializing their inventions, cannot command the financing to support two years of marketing to a skeptical and price-sensitive clientele. Meanwhile, whatever innovation they have produced is exposed to opportunistic players, bringing even greater price pressure.

With a need for cash flow, the development teams begin to make what the market rewards: cheap, custom technologies that work almost as well as the expensive existing solution at a lower price, less than half in many cases. Misallocation of capital combined with poor protection for commercial technologies derail what should be the most powerful structures for generating profitable innovation.

✿ *Provisional ownership rights* A remarkably inventive patchwork of regulatory innovation to begin with, ownership is constantly challenged by arbitrary intervention by officialdom. The foreign provider of an innovative telecommunications technology may have its contract abruptly terminated when a Chinese com-

## *Chinese companies are motivated to identify technologies with proven value and appropriate them.*

petitor emerges, with the excuse that the sales contract was actually an illegal service arrangement. The providers of radio programming or television content regularly see their contracts abrogated when the license holder has a more attractive offer. Only a slim excuse having to do with China's unpublished information regime need be provided.

There is an increasing tendency for a sale of something like software, with residual and contractual IP licensing costs, to be treated as value-added service provision, bringing it into a much more complex regulatory arena. Very often, the technology or service providers are told that renewed market access is contingent upon technology transfer to the domestic competitor.

Within this ecosystem of copying, companies and individuals are motivated to identify existing technologies with proven market value, uncover vulnerabilities in their legal protection, and appropriate them through whatever means necessary. The fortune makers and their companies, promoted to mythic heights by a zealous business press, are set too high a performance benchmark for any other path.

✱ *The Internet economy* The other half of the Chinese IP impact story starts in the United States. Just as railroads and telegraphs in the mid-19th century made copyrights and patents commercially important, so the Internet and associated information technologies enabled two enormous changes in how IP began to be traded in the 20th.

First, information technologies have made it possible for small companies to reach across the world and offer niche technologies directly to manufacturers, who are far less likely than in 1980 to own their own software and systems integration units or their own R&D facilities. Two decades ago, it would have been impossible to form a company based on innovations to a piece of software that runs elevators, because there were only a few elevator companies, and they made their own software. Now this kind of enterprise is routine. This has nurtured development and commercialization of innovation, but it makes IP hard to control, because the small tech companies do not have the resources to follow their technology around the world and see whether their rights are being respected.

Second, information technologies have made the promulgation of technology an instantaneous and cost-free event. Software can be copied onto millions of machines anywhere in the world in minutes. Films can be secretly recorded in a theater in New York, uploaded to the Internet an hour later, and pressed into a CD within hours in China. All sorts of digital content can be dispatched through networks.

### **Trade Battles**

SO CHINA AND its technological ambitions emerged into the international economy at the same time that the promulgation of information technologies was creat-

ing highways on which obscure technical tools would cross the world.

Policy reactions in both Beijing and Washington—which, despite its freelancing in geopolitics, remains the global leader in trade policy—have been predictable. The Washington policy community has taken up IP rights as the shibboleth of the new century and has prepared a varied kit of policy tools for China, from knowledge exchange on IP law and enforcement all the way to threats of massive trade sanctions. Trade associations have allocated, in some cases, hundreds of thousands of dollars for the China antipiracy campaign. Foreign businesspeople wobble between a sort of gloomy *realpolitik* that says China will never change and a can-do optimism focused on bringing China's legal environment step by step into a Western IP model.

The optimists claim that China is tuning up its system and will emerge from this period as a full member of the international community of IP respecters. They promote IP not only because it's good for business but also because they see it as a necessary step toward China's ultimate graduation into the world of development and democratization.

China, meanwhile, wavers between accepting the Western model and claiming special, developing-country exemptions. Some Chinese believe the Western model of strong patent protection and vigilant litigation can actually work to China's benefit, but many are interested in using IP law as one more tool for strategically advancing the interests of chosen companies. Special consideration for developing

countries would include promoting the use of China-specific technical standards, using antitrust provisions to litigate with foreign IP owners, and filing antidumping actions against foreign rights-holders.

Coordinated with strong political and financial support for the domestic tech companies that are carrying "Chinese" technologies out into the world, leaders are hoping to engender a new and more sustainable form of mercantilism. Despite the cynical deployment of these tools, it's hardly surprising Beijing's policy makers want to engage in the same kinds of trade promotion the West used in the past.

Entry into the World Trade Organization has made obsolete many of the old tools of industrial promotion, including industrial plans, forced tech transfer, mandatory local content and export requirements. But the state's ownership interest in major enterprises remains, and so does its fundamental mission of promoting Chinese-owned companies. So Beijing will inevitably reach for newly available tools. The instinct to protect what you own is basic.

## What's an MNC to Do?

BEFORE THE MID-1990S, China's copying did not matter very much internationally. The volumes were small, the quality sub-par and the distances traveled were short. Foreign investors were aware of the treacherous IP environment in China, but they did not need to adjust their corporate strategies much, other than to protect themselves in Chinese ventures by withholding technology.



## *China wavers between accepting the Western IP model and claiming developing-country exemptions.*

But today volumes and competency are both increasing at a pace beyond anyone's expectations. Thus far, all have reacted to the pressure from China, but not all have reacted strategically.

Because of the copying, and because of China's ability to discount other values, such as environmental sustainability and labor rights, products flowing from China are being offered at radically low prices, a phenomenon that has been dubbed "the China price." Even after moving their manufacturing operations to China, MNCs still find themselves uncompetitive on price because of the stripping away of intangible costs in their products and other advantages owned by domestic competitors.

To remain in the game, then, they must shift their business models. First, they tend to shorten product cycles, in order to sell into the lower prices coming sooner than ever. They focus the company's value management in its innovation process rather than in the products themselves. They tend to concentrate on high- and low-end products and to thin out the middle tier of their product suite. And they may offer high-value service packages in place of a high-priced retail product.

But for the longer run, multinational corporations must reassess their IP strategies more fundamentally. Here are some of the responses that work in the real world:

- *Open source and open standards* One of the more interesting strategies adopted by tech companies is what you might call "killing them with kindness." Believ-

ing they can no longer protect IP as they would tangible assets, these companies instead open the IP to multiple distribution, training, and production partners in an effort to develop a virtuous ecosystem of suppliers and partners who all use the same technological standards. By providing free access to substrate technologies, companies may be able to establish the language that all new technology in that area will use. That could create a much bigger market to profit from.

- *Targeted litigation* Companies with strong IP assets and enough volume to justify a big legal staff may choose a strategy of aggressive defense of their interests, putting the market on warning that the smallest violation of registered rights will be discovered and prosecuted, so that the pirates will choose easier targets. Several Chinese electronics companies say that they pursue such a strategy of scaring the monkeys by killing the chickens, and that as a result pirates do not steal their IP. This seems particularly effective in defending trademarks. Some large corporations even take over the IP portfolios of smaller companies and lease back the patents, because the market knows that the big MNCs will defend their rights.

- *Close control* Some companies concentrate their efforts on physical controls that make piracy more difficult and less lucrative. One typical strategy is the high-level encryption in set-top boxes, used as a physical obstruction to those who would steal satellite or cable signals. In some in-

dustries, the IP consists of real secrets, such as encryption algorithms or chemical formulas, and physical controls are the only practical answer, so the companies tend not to transfer their technology to China, and at home they have access controls to the premises and noncompete and nondisclosure agreements with employees.

• *The “local price”* There is at least some truth to the Chinese contention that people with an average annual income of \$1,000 can’t be expected to pay \$250 for a piece of software to run on a personal computer. Some companies respond by stripping down the feature set in products destined for sale in China and offering a lower-than-international price.

For instance, Microsoft offers a software suite called Office Starter that sells inexpensively in Thailand. The challenge is to keep the products sufficiently distinct that customers in other parts of the globe do not feel cheated, and vendors do not arbitrage the product across regions.

• *Universal licensing* Content owners find it extremely difficult to control the copying of music, films, games and software distributed through stores on physical media. Some choose not to offer individual product licenses for sale but instead an all-you-can-consume scheme for periodic subscription fees.

• *Service/support model* Perhaps more than any other strategy, IP owners are shifting toward a business model that brings in revenues around services rather than their associated products. This is true of many open-source software installations. It also can be effective for games, in which players pay to play with others

on the network, and for antiviral software, which requires upgrades.

**F**OREIGN BUSINESSES AND governments need to wake up to the fact that a fundamental shift has occurred in the way in which products are traded, and the transubstantiation of intangible value that has been possible since the 19th century no longer holds. Piracy is not just the result of lax enforcement, but also incentives built into the structure of China’s economy. The state has maintained its historical control of economic value; in that economy IP protections are not in its interest and therefore not in the interest of the companies the government owns, nurtures or favors. Only the smallest companies in China want IP rights, but as soon as they grow large, the rights are arrogated to the state.

IP regimes, despite the romantic notion of fostering individual creation, actually enable corporations to form and grow based on the development and commercialization of a particular kind of innovation. The Chinese system is not interested in enabling unfettered growth by corporate entities. Rather it charges corporations with a portion of the state’s growth agenda and gives them a limited franchise but not definite property rights.

Given that China is a long way from resolving the more fundamental questions of property rights and the state’s role in the economy, foreign companies worried about protecting their intellectual property must develop their own strategies for surviving a protracted struggle. ■