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Introduction: Fingerprints of the Invisible Hand

After a long season of back-breaking labor seeding, feeding, and growing a crop, a farmer would never say, "Time to harvest—let's take it easy." If anything, the farmer would get up even earlier and go to bed even later to make sure that every last grain was harvested. Yet supposedly sophisticated companies, run by some of the best-educated people in the world, neglect what peasants have known by instinct for thousands of years. They work hard thinking about, growing, and finding markets for their product but then pay scant attention to the decision that determines what all that hard work yields the company: setting the price.

Despite the critical function prices play in corporate profitability, we find that managers with pricing responsibilities do not usually think systematically about their pricing strategies. Most pricing decision makers never look for a strategy that could yield their product's maximum value. According to one study, only a tiny number of firms have "both a pricing strategy and research to support it." When it comes to pricing, some estimated that only about 8% of American businesses can be considered "sophisticated players."[1]

Oddly, nobody seems bothered by this state of affairs. Many executives we talk to about prices say, "We don't set prices. The market does!" As economists, we are not sure what this statement means. "Who is the market, then?" we press them.

To our mind, this is a reasonable question. Price setting is a tangible process with a tangible outcome—a dollar figure. The process of arriving at that number might not be tidy, but it cannot be so mysterious that it does not involve any human intervention. Someone, somewhere must make a concrete, numerical decision about the price of a product or service. Yet managers often give us a bewildered or indignant look when we ask this question and act as if the question itself were frivolous or rude. The way the managers talk about it, setting the price for a product or service is an almost automatic process, outside anyone's control. Occasionally, we get the more profound-sounding answer that "the invisible hand" sets the price—a misapplication of the famous macroeconomic observation of Adam Smith, the great Eighteenth Century Scottish economist and philosopher, on microeconomic circumstance.

Thinking of price-setting as being similar to time or the tide is a comforting idea, given how many company activities require conscious thought. But it's not actually true. When you take a closer look, the hands that set the price are almost always visible. They might not be very nimble, but they can clearly be seen in each of the four most common methods of price setting. Among the least sophisticated companies we have encountered over the years, setting a price sometimes involves not much more work than selecting a lottery number: Pick what comes to mind, say a prayer, and hope for the best. More sophisticated companies don't always do much better. They often take simplistic, ad hoc approaches, such as cost-plus pricing, competition-based pricing, or consumer-based pricing. Each of these approaches requires human intervention, and each is overly simplistic.

Cost-Plus Pricing

An overwhelming majority of U.S. companies use the cost-plus approach to set their prices. This practice also appears to be popular

in other markets, even in fast-growing countries such as China and India. To use cost-plus pricing, a firm first determines its sales target and then figures out the average cost it will incur based on the sales target. The price for the product is set by taking the average cost plus a markup. For example, if the sales of Apple's iPod are 2 million units, the average cost at that output level might be $100 per iPod. Assuming that the normal markup at the company is 70%, Apple's selling price for an iPod would be $170. The size of the markup is determined either by the company's targeted internal rate of return on investment or by some vaguely defined "industry convention."

The enduring appeal of the cost-plus approach is threefold. First, it is simple. The manager does not need to look outside the company's own ledger to determine the price for a product. A casual familiarity with arithmetic is sufficient for anyone to come up with a price. Second, it is fair, or appears so. Indeed, cost-plus pricing is said to date back to medieval times when churches were involved in regulating commerce and allowed merchants to make only a fair living, not a killing. Third, many practitioners will tell you that cost-plus pricing is financially prudent because it ensures profitable sales. This guarantee of prudence is a reassuring way to dodge the high pressure involved in making a pricing decision. Such pressure can be nerve-racking at times because the effects of a pricing decision, unlike many other decisions in a corporation, are typically immediate and conspicuous.

However, none of these three reasons is sufficient justification for adopting a conventional cost-plus strategy. First, why is simple better? A quick counterexample suggests otherwise. When a consumer in China purchases a beautiful silk scarf, does she know or care about the cost of making the scarf? Most likely, she does not. In fact, manufacturers themselves might not even know the costs of their products with any degree of precision. In that case, why should a silk manufacturer set its price solely based on its costs?

A Chinese silk manufacturer we know tried this simple approach. The company set a low price of 200–300 yuan for its scarves. Its cost

of production was so low that even 200 yuan would still yield a decent margin. This low price was also extremely competitive, compared to the high price of 2,000–3,000 yuan set by a French company in China selling similar scarves sourced—you guessed it—from this very manufacturer. On paper, the Chinese company looked as if it should be very competitive in the marketplace, given its huge price advantage. Yet somehow the French company still outsold the Chinese manufacturer by a big margin, even with an identical product that cost ten times as much.

The difference was so great that branding alone could not explain the outcome, a fact that baffled company strategists. Later, it dawned on the executives that the low price itself might be the problem. Most of the manufacturer's customers purchased a silk scarf not for their own use, but as an elegant gift to the wives of their bosses or *guanxi* (connections). Potential customers looked at the 200–300 yuan price tag and decided it was simply not substantial enough to be the kind of door-opening gift they had in mind. Many forgone sales later, the manufacturer learned to look beyond its cost and set its prices based on a better understanding of its customers and the market.

The second advantage touted for cost-plus pricing is its supposed fairness. But we think this often is not true, either. For example, if a utility company is regulated such that it can charge a rate based only on its average cost plus a fair return on investment, many economic studies have shown that the utility company will have little incentive to minimize its costs, and the rate will drift up unnecessarily in the long run. For the same reason, if other kinds of firms always succeed in passing their costs on to consumers in this way, they have no incentive to minimize their costs. Finally, if the cost of serving customers is the same, is it fair to charge all customers the same price, even if they have varying incomes and need for the product? Perhaps the answer will vary, depending on your political convictions and economic circumstances, but a little thinking makes it clear that in many situations "fair" cost-plus accounting could lead to an unfair result.

Consider an example from the pharmaceutical industry. If a drug is cheap to develop and manufacture, should it always be sold cheaply? Is a 10% markup on some cheap ingredients really a fair return on intellectual property that reduced doctor visits, hospital stays, and employee absenteeism for thousands of people?

Perhaps it would be more fair for society to reward the innovator. It might even be socially beneficial in the long run to allow a higher price as an incentive to encourage others to try to solve similar problems.

Consumers, interestingly, have a surprisingly nuanced view of fairness in cost-plus pricing. If cost-plus pricing is a fair way to set the price, then if a firm's unit cost decreases by $10, the absolutely fair thing to do would be to lower the product's price by $10 plus the markup on the cost. However, studies have shown that the fairness standard people apply to price changes is far more favorable to a firm than the cost-plus pricing rule would suggest, even when they know the precise magnitude of the cost change. In one survey, half of the respondents agreed with the statement that "fairness does not require the firm to pass on any part of its savings."[2] However, in that same survey, consumers also believed that more cost savings should be passed on to consumers if the cost savings are the result of a reduction of input costs instead of an efficiency gain: If the price of jet fuel goes down, I want a discount on my ticket, but if you build a better airplane, you can keep the difference. By applying this fixed cost-plus rule, a firm forgoes its chance of achieving any gains from efficiency improvements, although its customers would not have minded.

Nor does cost plus-pricing mean that every sale is automatically profitable. Cost is often partly a function of the sales target. If sales fall short of the target, the actual cost might be higher than projected. In that case, the price could turn out to be too low. Such a shortfall is always possible because the people responsible for sales normally make the sales projection, and they have an intrinsic interest in engineering a lower price to boost sales or to make their selling job easier.

Even if the sales target is met or exceeded, we don't know whether the initial price is a good price or one that a company can improve for its own financial benefit. Regardless of actual sales, cost-plus pricing does not ensure or even encourage financial prudence.

Finally, as the Chinese scarf example suggests, the biggest problem with cost-plus pricing is that it is an inward-looking approach that tends to distract a company from its customer orientation and obscure the importance of detailed market research. A corporation that develops an entrenched culture in price setting based on cost-plus pricing encourages *ad hoc* pricing decisions and overlooks many opportunities for price improvements. Indeed, cost-plus pricing sometimes leads companies to set consistently sub-par prices. When sales are brisk, a company will lower its price as its average costs go down, but when sales are sluggish, it raises its price to "cover" its higher average cost.

Competition-Based Pricing

Competition-based pricing is the second-most-popular price-setting approach. Managers sometimes refer to this approach as strategic pricing, although it's not particularly strategic. When taking this approach, a firm simply checks out its competition's price and then sets the price of its own product at about the same level, plus or minus a few percent. Once again, this approach has the virtue of being simple: It's an easy way to make a pricing decision without having to conduct any thorough market research. It also seems relatively safe: By setting a price close to the rival's and adjusting with it, a firm does not risk losing its market share to the competition.

However, setting one's own price solely on the basis of competition's price can cause two problems, either of which can cost a company dearly.

The worst risk is that competition-based pricing lulls the price setter into passivity. Managers can be so taken by this pricing

approach that they lose sight of their own pricing responsibilities. To them, pricing involves nothing more than monitoring competitors' prices and making some timely adjustments on their own price based on the competition's price. Maybe this is what managers mean when they say the invisible hand sets their prices. This might seem like a low-risk strategy, but unfortunately sometimes the competition decides to set its prices the same way. When this kind of double-mirroring occurs, prices not just for the company but for the entire industry can easily fall out of sync with current demand.

Other times, price-matching can lead to a game of chicken. Everyone knows that setting a low price is the easiest, fastest way to gain market share. The trouble is that one rarely encounters a company that does not want a larger market share: In any given industry, if you added up all the market share targets of each company, the sum would most likely far exceed 100%. Obviously, something has to give. If all the firms in an industry become overzealous about meeting their market share targets, prices can easily slip into a downward spiral that can hurt not just the company but the industry as a whole. The competition for market share between the two aerospace giants Boeing and Airbus in the mid- and late 1990s offers an example of this risk. At the time, Airbus was consistently gaining market share and had surpassed its self-determined "survival threshold" of 30% of new global commercial airplane orders. Boeing decided to respond. It would "beat back Airbus and retain supremacy in the commercial-jetliner industry,"[3] and fearlessly guard its 60% market share. Boeing and Airbus began competing vigorously, "making every bid a battleground." Each would slash its price by at least 20% off the list price to grab an order. For example, to bid for ValueJet's order of 50 100-passenger airplanes in 1995, Boeing reportedly brought its price for Boeing 737s down from the list of $35 million, below its rock-bottom price of $22 million, all the way to $19 million.[4]

The outcome was quite predictable: huge losses all around. Boeing temporarily won the share battle for new airplane orders.

However, the victory came at a horrendous cost. Boeing suffered its first annual loss in 50 years in 1997, and by the following year, the company was forced to take more than $3 billion of pretax charges for the foul-up. Between 1996 and 1998, the profit margin of Boeing's commercial jetliners fell from 10% to less than 1%—a lower margin than a corner grocery store.

We are not suggesting that firms should never compete on price to gain market share. As we show in Chapter 3, "The Art of Price Wars," price wars are a legitimate strategy. However, we are suggesting—and advocating throughout this book—that firms should learn how to compete as intelligently on price as they do on every other aspect of their business. Adam Smith's invisible hand works only if the economic agents in the market are driven by their own enlightened self-interest to pursue their own maximum economic gain. Boeing's decision to build extraordinarily complex aerospace vehicles at a lower margin than a corner grocer was not enlightened self-interest.

Consumer-Based Pricing

Consumer-based pricing is the third common approach firms use to set their prices. In this case, the firm first sizes up its customers to determine how much each customer is willing to pay for its product or service and then charges the price each customer is willing to bear. Car dealers often take this approach.[5] A dealer typically displays a high sticker price for a car, which is nothing more than a wished-for price intended to frame the value of the car for the customer. Then a salesperson takes the prospective buyer out for a test drive. In the process, the salesperson gathers information about the customer's job, hobbies, family, and so on to help size up how serious the shopper is about the car and how price-sensitive he might be. When the salesperson senses that price is not a primary concern or that the customer is not a deft haggler, he will typically give all kinds of reasons for not being able to bring down the list price much. However, if the

salesperson senses that the price is the obstacle to closing the deal, the salesperson will offer a better discount—but only after securing the "reluctant" approval of a mysterious boss behind a closed door and shaded windows.

Customer-based pricing gives the company the flexibility to charge different prices to different customers, rising or falling to match the size of the customer's wallet. Theoretically, the firm can achieve a high volume of sales at the best possible margins. However, an obvious problem with this pricing approach is that it inevitably alienates those customers who end up paying more than the successful hagglers. In the case of car purchases, many economic studies have shown that minority men and women have to pay up to $1,060 more than white males for the same car.[6] The backlash against this discriminatory practice contributed to the enormous success of GM's no-hassle, no-haggle sales policy on its Saturn line in the 1990s.

In business-to-business markets, discriminatory pricing can also easily alienate a firm's best customers, with detrimental long-term consequences. The worst is that over time, discriminatory pricing can train the customers to become aggressive bargainers. In the industrial markets, a professional buyer fears a high relative price more than a high price. A high price is a problem for the industry. A high relative price is a problem for the buyer personally. No one wants to think of himself as a sucker, but for a professional buyer, the damage wrought by overpaying isn't only to his pride; it can also hurt his career. He may suffer professionally if he is exposed as less skillful than his peers. Consequently, if the buyer suspects price discrimination, he will do everything possible to exploit a seller's pricing flexibility to secure the lowest price.

Ultimately, this kind of strategy can train good customers to behave badly. If a buyer knows the price she will pay depends on her perceived willingness to pay, she certainly does not have any incentive to dwell on how good and how valuable the seller's products and services are. Nor can she afford to appear interested in the seller's value

propositions. The potential buyer might also try to withhold useful information from the seller, just to conceal her hand. She might even take pains to act as if the seller's products and services are no better, if not worse, than anyone else's—a hint that the buyer is perfectly willing to walk away if the seller's price is not competitive. Frequently, the concealment comes at the cost of depriving the seller of the kind of information that would help the seller serve the buyer better, both now and in the future.

This behavior also encourages more comparison shopping. To ensure a rock-bottom deal, the buyer will look to gain an upper hand in sales negotiations by entertaining competitive offers, even if the buyer does not intend to switch suppliers. Collecting competitive bids gives the buyer a decisive advantage. A seller risks legal perils if he talks to other suppliers about pricing, but a buyer is free to solicit competing price quotes. The buyer can then use the quotes as a lever to gain concessions from the seller. Knowing that the seller's salespeople have some pricing discretion, the buyer will try every means, both carrots and sticks, to make sure that the seller doesn't hold anything back.

For example, it is not uncommon for the buyer to embellish price quotes a little to gain a larger price concession. Sometimes those quotes don't even need to be explicit. A former Merrill Lynch chief information officer is famed for having a million-dollar coffee mug: "When an IBM salesman came calling, the CIO would put a coffee mug from a competitor on his desk. The salesman would immediately cut $1 million off the price of each mainframe, for fear of having Merrill take its huge business elsewhere."[7]

This kind of aggressive negotiation leads both buyer and seller to focus on transactions instead of building a relationship and to channel creative energy into devising ways to win more or less money instead of forging a long-term, win-win partnership. Facing such a buyer, the seller's choice is limited, especially in a buyer's market. You can refuse to budge on the buyer's price demand and try to sell based on a value proposition. In that case, you risk losing a big customer. Or you can

compromise, bring the price down promptly, and close the deal. For most commissioned salespeople, such as the IBM salesman facing Merrill's mug of doom, a lower margin is always more appealing than no deal.

The game leaves both sides less happy than they might be. The buyer won't be happy, even if she receives the full discount for which she asked, simply because she can never be certain about whether she could have won an even lower price—so the next time, she will ask for a little more. For the seller, every order costs a little more price integrity. Sometimes this reluctant price discounting can even evolve into an arms race between competitors. Buyers become more demanding, and salespeople ask for more pricing discretion. The salespeople have a good chance of getting such price cuts because they supposedly know customers and competitive situations in the marketplace firsthand. And when they have the price cuts, they will use them more freely, forcing the producer to cut costs.

In this kind of pricing environment, the seller has little incentive to invest in the customer relationship or additional services, and cost cutting becomes the paramount imperative. What typically follows can be best described as a kind of service version of Gresham's law: Bad service companies drive out good. If no buyer seems to care about or wants to pay for customer services, then no seller wants to spend money to provide them. As customer service deteriorates in an industry, product differentiation declines, a new round of downward pricing pressure gains momentum, and the product moves another step closer toward being a commodity. Put it all together, and the industry enters a downward spiral, with the buyers paying less and getting less, and the sellers getting less and giving less. It's a good topic to reflect on during your next long-distance flight—over your lunch of peanuts and soda pop.

From this brief tour of how firms set their prices, we can come to two conclusions. First, the market does not set prices. Marketers do. All the prices we observe in the marketplace do not just spring out of

an autonomous, impersonal market. The managers' hands in setting those prices are entirely "visible," regardless of whether such interventions are acts of expediency or strategy. Second, cost-plus pricing, competition-based pricing, consumer-based pricing, and even "lottery" pricing are not necessarily the best ways to price a product or service. In many cases, they are nothing but shortcuts managers use to cope with the weight of their decision-making responsibility.

Unfortunately, ignorance of the power of pricing can have huge consequences. Your company's survival may even depend on your pricing strategies. If you are a retailer, you must pay attention to Wal-Mart's price-dominance strategy. Either find a way to cope with it or be steamrolled, as many have been. If you are a manufacturer in the United States, whether you are in textiles, steel, or consumer electronics, you must heed "the China price"—the price quotes from China that are typically 30–50% lower than state-side manufacturing.[8] If you are a financial service company, you must navigate the new reality of deregulations and discount brokerage, both online and offline. Even if you are a high-tech company, you might find yourself in a situation where you no longer enjoy a comfortable lead in technology and you must compete directly or indirectly with companies from South Korea, Taiwan, India, and China—almost always on price and always against a player with a lower cost structure.

Competitors are not the only risk for sellers. Buyers are not as docile as they once were, either. In the consumer market, the Internet has changed the way in which price information is disseminated in the marketplace. A consumer shopping for a car is no longer in the dark about prices. She can easily find information online about the prices different dealers charge for the same car. If she is diligent, she can even find a dealer's invoice price for a car and the amount of the manufacturer's ongoing coupon or rebate promotions on the car. Armed with the price information, the customer might travel hundreds of miles for a lower price and save hundreds or even thousands of dollars

on a car purchase. In the industrial market, the Internet plays a similar role in increasing price transparency and expanding the geographical range in which a firm can source its suppliers. As a buyer, when you have extensive price information and a larger set of choices, you become more sophisticated in using that information and choosier in your buying decisions. When you have those savvy buyers in a market, the overall price becomes even more critical for the company.

Price is also becoming more important because product differentiation is harder to achieve in many industries. For example, most desktop or laptop computers have "Intel Inside" and run Microsoft Windows. In the service industries, which now account for more than two-thirds of U.S. gross domestic product (GDP), companies cannot patent their service designs in the same way manufacturers patent their product designs. The resulting lack of product differentiation, either real or perceived, and the new ease of comparison shopping inevitably make price a bigger factor in customer buying decisions.

But at the same time technology is changing cost structures and pricing pressures, it is also giving many companies a whole new set of pricing opportunities. Many industries now have a high fixed cost, typically in development, and a low variable cost in production. In the software industry, for example, a huge cost must be incurred up front to develop the first copy of a program, but the cost of replicating the software is nearly zero. The same is true for many other digital technology–based industries such as music, movies, and information, and, to a lesser extent, for service industries such as airlines and hotels.

In these kinds of industries, pricing can play a considerable role because of a low variable cost and a wide dispersion in the consumer's willingness to pay. Companies with this kind of cost structure can set prices in ways that either harm profitability or enhance it. An undisciplined manager might seek a quick "high" in volume through an unsustainably low price. On the other hand, a more sophisticated manager might take advantage of the situation by designing a

creative pricing structure to attract a certain kind of profitable customer. In either case, the price is now becoming an increasingly important differentiator.

The Four Levers

A manager can pull only four levers to increase a firm's profitability: sales, variable costs, fixed costs, and price. When a manager bumps up his firm's advertising budget to gain a larger market share, he's pulling the sales lever. If he has found a cheaper way to source raw materials, he is pulling a variable cost lever. If he tries to reduce his firm's overhead, he is pulling the fixed cost lever. Yet for some reason, not all these levers are treated equally. Price, in particular, is neglected. This is peculiar because a number of studies have found that although rarely pulled, the price lever is the most efficient way to increase a firm's profitability.[9] We updated these studies by applying the same methodology to the most recent company data available through Wharton Research Data Services (WRDS), as shown in Figure I.1.

As Figure I.1 shows, our analysis essentially reconfirms previous studies. We find that if a firm can cut its fixed costs by 1% without affecting its operations, its profitability can increase, on average, by 2.45%. Similarly, if a firm can increase its sales by 1% without changing its cost structure or price, the firm's profitability can rise by 3.28%. The effect of lowering the variable cost by 1% is larger: Profitability can increase 6.52%. However, the effect of improving a firm's price by 1% is the largest of all: 10.29%. Remarkably, as Figure I.2 shows, this effectiveness ranking order holds for each of the eight industry groups using the standard industry classification (SIC) scheme.

A pessimist might conclude from these numbers that price isn't a lever that one should pull lightly: If the upside benefit of pulling that lever is high, the downside risk or the difficulty involved in pulling that

lever must be substantial, too. Otherwise, why wouldn't firms pull that lever more often? Indeed, some managers would quickly add that it's not practical. "It is one thing to cut costs by 1% without affecting everything else, but it is entirely something else to improve your pricing by 1% without changing anything else. For one thing, sales will drop!" For that reason, the pessimist might see the promised double-digit increase in profits as a dangerous illusion. It might seem far more prudent to pull the other three levers instead of risking everything on a single number.

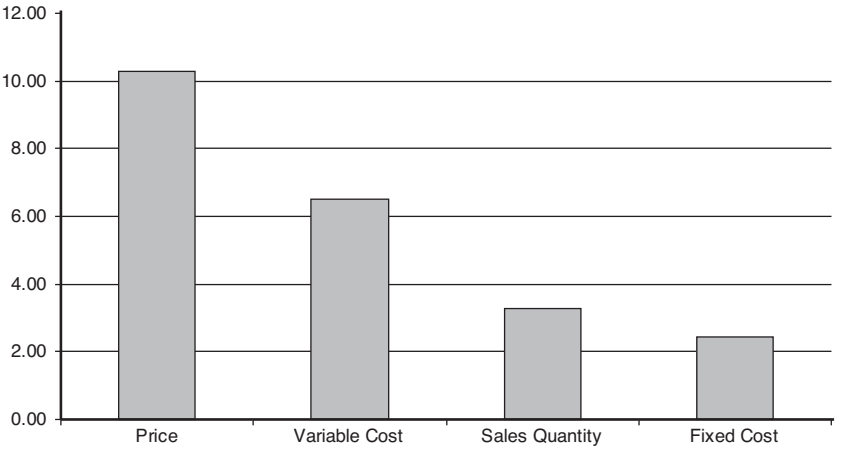

Figure I.1 Impact of profit levers in U.S. in 2004

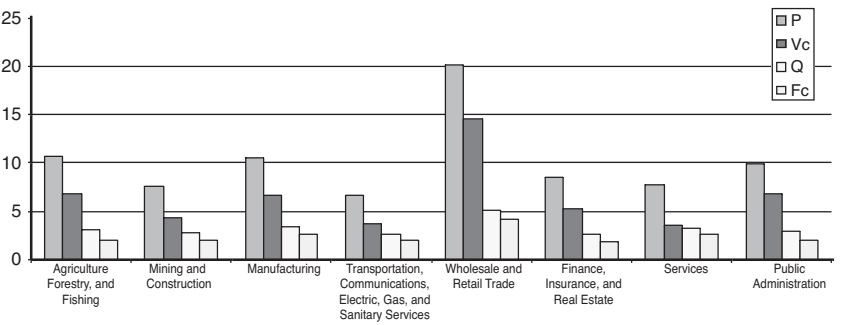

Figure I.2 Impact of profit levers in U S. by industry (2004)

However, an optimist would see from these tantalizing numbers a holy grail for profitability. How often could one identify and work with something that can lead to a double-digit increase in a firm's profitability by just changing a few numbers? The fact that a firm is not pulling the price lever only means that it is missing a big opportunity. After years of diminishing returns with the other three levers, the price lever might just be the best bet. In any case, it's certainly the easiest: Companies can make price changes quickly—hashed out over a bottle of Bud, then approved at the stroke of a pen.

When it comes to the potential of pricing, both the optimist and the pessimist have valid points. However, we believe the optimists have the edge. No strategy is risk-free, but after years of teaching pricing to our MBA students and executives and consulting to pricing managers all over the world, we believe companies willing to pull the price lever face more promise than risk.

Conclusion

Farmers do not take it easy at harvest time. Nor should firms. In our mind, it is simply an untenable management strategy to focus on value creation without thinking about how that value will be captured. The sooner firms recognize this, the sooner they will be on their way to bringing in a bumper crop.

We're not saying that pulling the price lever is a cinch. You must know what you are doing before you even think about pulling that lever. Once pulled, everything can change. Profits either rise spectacularly or fall in a traumatic, humiliating way. Whether you succeed or fail, the effect of your "hand" will be very "visible." Clearly, pricing is not a game for the fainthearted or someone with a trembling hand. But that doesn't mean you should not try. Risks and difficulty are inherent in any important corporate decision. They have not stopped managers from making those decisions and pulling the costs and sales

levers in the past. They should not stop managers from facing up to their responsibility to examine the price lever now.

However, pricing is an unfamiliar subject for most managers. Until recently, pricing was scarcely taught except as a unit of microeconomics and a subtopic of marketing. For the longest time, business education everywhere focused primarily on the other three profit levers. Business students learned that in a competitive market, prices should be set so that marginal revenue matches marginal costs. They also learned that competing on price is generally a last resort and probably a bad idea. Unfortunately, neither precept offers much guidance to pricing managers. For these managers, they need more actionable pricing knowledge.

Over the past decade, nearly a dozen books have been published on pricing to help disseminate that knowledge, but most are quite specific, lacking general interests. In this book, we aim to make pricing knowledge more tangible, concrete, and fun by showing how innovative pricing strategies have helped leading companies create and capture value as well as new customers. We visit restaurants where the customer sets the price and see a famous rock band that made money by giving away its album for free. We look at how Google and other high-tech companies have used pricing to remake whole industries, and at China, where executives have made an art out of initiating and fighting price wars—in spite of the conventional Western wisdom that price wars are risky, stupid, and sometimes even fatal.

From these stories and many others, you will see that companies price their products in many different ways—through high prices, low prices, even no price—and you will learn how, why, and when each method works. We hope that as you read these stories, you will learn something not just about how to set prices, but about the importance of thinking about prices. We believe you will agree with us that the possibilities of pricing are endless, limited only by the need to retain some value for future harvest and the bounds of creativity.

Our experience has taught us that pulling the price lever demands courage and confidence, the kind best built on your knowledge about what pricing can do, how you can price your goods or services, and how consumers and your competition might react to your pricing decisions. If this book helps you gain more confidence in pulling the price lever and perhaps sparks an idea about an innovative way to price your own product or service, we will have achieved our main objective.

Endnotes

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3

The Art of Price Wars

"To fight and conquer all your battles is not supreme excellence; supreme excellence consists in breaking the enemy's resistance without fighting."

Sun Tzu, *The Art of War*

American marketing experts usually see price wars as a strategy of last resort—a choice for the truly desperate or the deeply crazed.[1] The price war is regarded as a kind of nuclear option, a quick way to not only destroy the competition, but also blow yourself up—and maybe even ruin the profitability of your industry forever. From the PeopleExpress airfare wars of the 1980s to various price-slashing schemes by mindless dotcoms in the late 1990s, plenty of evidence seems to support the conventional wisdom. As an old *Fortune* magazine article put it, "What are price wars good for? Absolutely nothing."[2] Faced with the possibility of a price war, most experts have long agreed that the best response is to just say *No:* "The best way to escape a damaging price war is *not* to jump into the fray at all."[3]

But somebody forgot to send the manual to the world's fastest-growing industrial power. During the past 15 years, hundreds of firms in China have fought large-scale price wars in a wide range of industries, including consumer electronics, home appliances, personal computers, mobile phones, telecommunications equipment, airlines, and, most recently, automobiles. Certainly, some campaigns have gone badly, as a Western observer would have predicted. However, a

surprising number of companies have thrived despite aggressive plays in which they dropped their prices by as much as 50%. In some cases, companies have even advanced all the way from being one of a number of players in their own province to the world leader in a particular category, largely on the strength of a sustained campaign of price wars.

It's easy to dismiss their successes as the outcome of a kind of blind, Darwinian scramble in which a few lucky companies survived: It is possible to win at Russian roulette, too—at least for a few rounds. But that isn't what's happened. A closer look reveals that these companies knew exactly what they were doing. In fact, over the past 15 years, Chinese companies have reinvented the price war, transforming what had been a tactic of last resort into an art.

Why Chinese Businesses Like Price Wars

Despite the fact that Chinese-led price wars have become a familiar terror to Western marketers, many practitioners and pricing experts are still genuinely puzzled as to why Chinese businesses like to play such a dangerous game. "Why can't they just lower the price by 10% or even 20%?" many Western marketers moan. "That way, they could keep their damned price advantage and do much better for themselves, too."

It's a good question, but few marketing scholars have looked seriously for an answer. Western academics, journalists, and executives have all tended to see the Chinese-led price wars not as the outcome of a deliberate strategy, but as the invisible hand of the market at work—the inevitable result of low-cost goods flooding a high-priced market, a phenomenon *BusinessWeek* once called "the three scariest words in U.S. industry: the China price."[4] Although it's easy for a Westerner to look at shelf after shelf of low-priced Chinese goods and see value mindlessly destroyed, the truth is very different.

First, simply for cultural reasons, the Chinese may be more open to price wars than Western businesses. The Chinese tend to think of business competition in military terms. No one should be surprised that firms in a country where executives routinely draw strategic inspirations from Sun Tzu's ancient classic *The Art of War* might have a different perspective on price wars. Executives in China commonly talk about the business arena as the "battleground," and they aren't speaking metaphorically: The very word for strategy in Chinese, *zhanlue,* means "battle plans" or "combat strategies."

This mental link between business and war is not just a habit of the executive suite. The popular press has made heroes of some of the "generals" who have won price wars and given extensive coverage to some of their more celebrated battles. Make a keyword search of "price war" in one Chinese newspaper database, and you'll find more than 13,000 articles on the subject in the past decade, many of which characterize the executives who initiated the price war as courageous, decisive "generals."

However, the main reason Chinese marketing strategists wage price wars doesn't have anything to do with Sun Tzu or glory on the marketing "battlefield." It's because so many Chinese companies have learned that, when faced with either a broad field of young, hungry competitors in their home province or well-entrenched, better-financed competitors abroad, a price war can be a great way to shake out competition and build a commanding market share in a short period of time:

- In 1995, IBM, Compaq, and HP were the three best-selling PC brands in China, and they all looked invincible. Three years later, the top five PC brands in China were all locals who had fought their way up through price wars.
- In 1999, something similar began to happen to the mobile phone business. Motorola, Nokia, and other foreign brands dominated China's mobile phone market whereas local brands held less than 5% of the market. Four years later, after a series of intense price wars, the local brands held more than 50% of the market.

- In 2005, Chery, a local automobile company with only 10 years of history, launched several rounds of price wars and beat many global players to take the fourth-biggest market share in China. Now Chery might be preparing for a similar assault on the U.S. market.

How much of this success should we ascribe to strategy and how much to luck and pluck? A close look at two early price wars that took place in China in the 1990s—first among color television builders and second among microwave oven manufacturers—suggests that luck has had little to do with the price warriors' success. If Chinese companies are crazy when it comes to pricing, they're crazy like a fox.

Color TVs

In early 1996, China's color TV industry was highly fragmented. The country had 130 manufacturers. Most sold fewer than 120,000 units a year. Only 12 had annual sales of more than half a million units, and 4 of the 12 had annual sales of more than 1 million units. As a result, most manufacturers operated inefficiently and few could take advantage of economies of scale. However, the competitors all slogged along because local governments owned a vast majority of these companies and protected them within their local markets.

For ambitious TV company CEOs, this local support made the game both harder to lose and harder to win—harder to lose because of protection at home, but harder to win because the competition was also protected. Boxed in, TV manufacturers couldn't create greater scale economies either by entering other regional markets or by seeking mergers and acquisitions.

The potential for upward mobility to higher-end sales was also blocked. At the time, China's color TV market had two tiers. Foreign brands served the upper segment of the market and enjoyed a 20% price premium over local brands. Despite that premium, foreign brands—Japanese brands, in particular—still held a dominant position in China, especially in urban markets. Although the quality of

domestic products was comparable to that of foreign brands, local brands generally competed with one another in the low-end market. People who owned an import seldom considered local brands.

Local TV manufacturers were also beginning to feel squeezed. In late 1995, despite provincial support and protection, large-scale smuggling of color TVs from abroad had begun to drag down prices. To make matters worse, import tariffs were slated to go down in 1996 from 60% to 50% for small-screen color TVs and from 65% to 50% for large-screen color TVs. Foreign manufacturers, lured by the sheer size of the market, were making huge investments inside China: All 10 of the world's largest TV manufacturers were rapidly expanding their local production. Analysts estimated that in two years' time, if the global manufacturers attained their announcements, capacity would grow to 10 million units. Experienced and well financed, these newcomers were expected to flood the market with high-quality goods produced by cheap domestic labor and drive out the local brands. One large global color TV manufacturer predicted that in three years' time, it would destroy Changhong, the largest local competitor.

But Changhong had other plans.

With 17 production lines concentrated in one place, Changhong ran the largest and most efficient color TV factory in China. Its capacity at that time was at least double that of the second-largest Chinese manufacturer. Changhong was also the largest manufacturer of many key TV components, such as plastic injections, electronic parts, and remote controls. As a highly vertically integrated company located in Sichuan, one of China's less developed regions, Changhong also enjoyed huge cost advantages and earned the highest profit margin of all domestic color TVs. The net profit margins for Changhong stood at nearly 20%, far ahead of most domestic rivals.

Despite being the strongest domestic TV manufacturer, Changhong was far from complacent. Changhong's CEO, Ni Runfeng, spent several months in late 1995 and early 1996 weighing alternative strategies to increase the company's market share. The top executives

at the company, including Ni, talked with a number of pricing experts, carried out marketing surveys in various regions, and closely examined the survey data. Through these interviews, surveys, and analyses, they collectively came to a conclusion that would startle most Western marketers: They needed to launch a price war.

As risky as it sounds to Western ears, the logic was compelling. Domestically, a price war would put the small, inefficient domestic TV manufacturers between a rock and a hard place: They could either cut their price and suffer a significant loss of margin or maintain their price and suffer a significant loss of volume. In either case, they would have to struggle mightily to survive. Changhong's timing was also good because the rules of the game just changed. Beijing now was pushing the local governments that had previously backed these small players to tighten their fiscal policies. Provincial enthusiasm for propping up their local heroes would become even weaker if Changhong could inflict quick and costly damage.

A significant price cut would also put premium-price foreign competitors in a bind. If they stayed out of the fray, Changhong would gain market share. If they fought back, they would leave a lot of money on the table from their loyal high-end customers without enough increase in sales to offset their lost profit, ceding Changhong a cost advantage. Third, they would risk eroding their brand equity and undermining their brand image as a premium product. This was assuming the foreign giants even had time to decide whether to parry the blow. Changhong believed that, given their pricing structure and the need to get their home offices to approve such a major strategic decision—likely a lengthy process—many of the foreign companies would never even have the chance to respond.

Changhong had other reasons for confidence. It was the first color TV manufacturer to be listed on China's stock market. It enjoyed a high level of brand awareness and a high-quality image among domestic brands. It also had a lower cost structure compared to the local competition. Changhong had other advantages, too, of a

more temporary nature. In early 1996, Changhong had an inventory of around one million units, with a total estimated value exceeding 2 billion RMB. Changhong's efficiency suffered because of the huge inventory. However, this ready supply of a large quantity of color TVs provided the ammunition Changhong would need to initiate a price war to boost sales volume.

At that moment, Changhong was also better prepared than any other domestic competitor to ramp up its production if demand surged as expected. As the largest domestic color TV manufacturer, Changhong had built a very close relationship with key component suppliers in the color TV industry. After it launched the war, Changhong could still count on reliable supplies of key components for its production. This was especially true for color TV kinescopes, a key component for color TVs, which were flooding the market at that moment. Eight local kinescope manufacturers in early 1996 had a combined 1.25 million units of inventory according to one estimate, and Changhong could tap a significant number of those units as it ramped up production.

Finally, in early 1996, China's color TV sales were on the verge of taking off. With a significant drop in the price of color TVs, the industry demand could expand significantly, and Changhong would be well-positioned to capture a major chunk of that new demand.

After careful analysis, Changhong executives concluded that it didn't need a huge price cut for a price war to be effective. A 10% cut would enlarge its price advantage against foreign brands to about 30% (before the price war, the price gap between local and foreign brands was around 20%) and put many domestic rivals in the red. The price cut was also affordable for Changhong, given its prewar 20% profit margin.

On March 26, 1996, Changhong fired the first shot, announcing a price reduction of 8%–18% for all its 17- to 29-inch color TVs, leading to price reductions ranging from 1,000 to 850 RMB.

The price war evolved mostly as Changhong had expected. All domestic TV manufacturers, especially the small ones, were shocked

and angered by Changhong's price reduction. However, they reacted with hesitation. Initially, most local players decided to stay out of the fray. Most had been caught by surprise, as intended. They were not prepared for the price cut and were unsure how to respond. Many also underestimated the possible impact of a price war because different brands dominated different regions. Others, mostly state-owned enterprises (SOEs) such as Panda and SVA, had high costs per unit and a thin profit margin. They could not match an 8%–18% price cut. None of the four biggest domestic players (Konka, Panda, SVA, and Peony) followed suit until June 6, 1996, when Konka announced a price cut of up to 20%. Panda and Peony pinned their hope on government intervention instead, to stop Changhong's "reckless" pricing behavior. Panda's executives were also distracted with preparations for the company's initial public offering in Hong Kong in May 1996.

Foreign brands also responded to Changhong's price reduction as Changhong had predicted. Two of the leaders, Sony and Panasonic, decided to take the high road: They would focus on quality and functionality, not on price. Maybe this would have worked in a mature market where their brand names were established, but in fast-changing China, it turned out to be the wrong call.

Some domestic manufacturers reacted more thoughtfully to Changhong's price cut. TCL, a medium-size TV manufacturer at that time, was the first. On April 1, it announced a price cut of 120–300RMB. Xiahua, another medium-size player, announced a price cut of 10%. However, because of the capacity constraint and the shortage of key components, most of Changhong's rivals could cut prices for small TVs only.

Finally, as an added bonus, Changhong's decision to initiate the price war generated a barrage of publicity throughout the country, which had a very positive impact on its sales.

A few months into the price war, Changhong's overall market share increased from 16.68% to 31.64%, with its share in the 25-inch market

jumping from 20.76% to 45.25%, and its share in the 29-inch market increasing from 14.37% to 17.15%. Big domestic manufacturers that did not try to match Changhong saw their market shares dwindle. Panda's market share dropped from 7.6% to 5.8%, and SVA's market share dropped from 5.5% to 2.6%. The more nimble benefited. Some medium-size local players, particularly TCL and Xiahua, that followed suit quickly with their own price cuts increased their market share by more than 2%. At the same time, the scores of all small domestic players (those with annual sales of less than 200,000 units) suffered. In the first quarter of 1996, China's 100 largest department stores carried 59 local brands. By April, this number dropped to 42, while the small players' combined market share dropped more than 15%.

Foreign brands suffered as well. Before the price war, imports and joint venture products accounted for 64% of the market. By the end of 1996, the market share of domestic products had grown from 36% to almost 60%. By 1997, 8 of the top 10 best-selling TV brands in China were Chinese. The top three color TV brands belonged to three local players, Changhong, Konka, and TCL, with market shares of 35%, 15%, and 10% respectively. Only two foreign brands, Panasonic and Philips, remained in the top ten, each with only 5% of the market.

Not surprisingly, the media made CEO Ni a national hero, a sort of General Patton in a business suit.

The Microwave Oven Industry

The experience of Galanz, a microwave oven manufacturer, also suggests that Chinese price wars are won by the savvy, not the lucky.

Less than 2% of Chinese urban households owned microwave ovens in 1995. A microwave oven was a luxury item, and the total unit sales in that year were about one million. The profit margins were very high for manufacturers at the time (30%–40%) and attracted an incredible number of new entrants to the industry. Between 1995 and 1996 alone, the number of microwave oven producers grew from 28 to 116.

Galanz had entered the microwave oven business in 1992. By 1994, the company had built a market share of 10%, about 100,000 units at that time. By 1995, the Guangdong company had won a market share of 25%, as shown in Table 3.1. Galanz had become a formidable competitor through a recruitment strategy that drew talent from all over China. It had purchased an advanced production line from Japan and was now well equipped to respond quickly to market changes and other new opportunities.

TABLE 3.1 Galanz's Sales Information for 1995—2003

Year	Sales Volume (in '000)	Local Market Share	Int'l Market Share
1995	200	25.1%	
1996	650	34.5%	
1997	2,000	47.6%	
1998	4,000	61.4%	15%
1999	6,000	67.1%	20%
2000	10,000	76.0%	30%
2001	12,000	70.0%	35%
2002	13,000	70.0%	40%
2003	16,000	68.0%	44%

The company's major competitor in 1996 was Whirlpool-Xianhua (W-X), a joint venture formed in May 1995 between Whirlpool and Xinhua, a sizable Chinese manufacturer. Whirlpool held the majority interest. In early 1996, Galanz and W-X each owned about 25% of the market share in the microwave oven market, far more than the other small manufacturers. However, relative to W-X, Galanz had a clear advantage: It was a more focused company with a streamlined decision-making process. Whirlpool, by contrast, was new to the Chinese market (it entered in late 1994) and still learning the ropes. It had four joint ventures in four different cities with four different Chinese partners in four different product categories (microwave ovens, air conditioners, refrigerators, and washing machines). Understandably,

it encountered many problems in its varied China operations and could not pay sufficient attention to W-X. In addition, Whirlpool's head office in China, then its Asia-Pacific office, and finally its U.S. headquarters each had to ratify W-X's key decisions, a process that often took three months.

Despite the perceived advantages, executives at Galanz did not take the plunge until August 1996. Senior executives had long and heated debates on the risks and benefits of launching a price war. The majority of senior managers at the time opposed the price war strategy and preferred a safer strategy of maintaining the current high profit margins. In the end, the CEO made the call: He sided with the minority and ordered his team to prepare for war.

Although the company was certainly on a healthy growth trajectory, Galanz made the decision for a number of reasons. First, a significant number of Chinese households were ready to modernize their kitchens with the purchase of a microwave oven, along with other appliances. Strategists at Galenz realized that its focus on high-end households and high margins today could preclude the company's expansion into that vast new market tomorrow. They estimated that significant price reductions could increase sales by about 100%.

Second, as one of the largest manufacturers in China, Galanz saw an opportunity to reorganize the industry for sustainable future growth. Yu Yaochang, the vice president of Galanz, recalls that one of the purposes of the first price war was to consolidate the industry by marginalizing small, inefficient players before they had a chance to grow and also to discourage even more new entrants. Maintaining a high profit margin strategy, on the other hand, would encourage even more new entries and hide inefficiencies going forward.

Third, and perhaps most important, a well-planned and executed price war could help Galanz establish its cost advantages in the marketplace. Besides winning Galanz a greater market share, a substantial increase in the company's sales could reduce its unit cost through

scale economies in production, distribution, and components sourcing, which would make the price cut profitable. But the company needed to make sure that the increased efficiencies would outpace the price cut and increase its total profitability. Galanz believed that it had a chance to do this if it was deliberate and meticulous in planning and executing the price war.

Two months before launching the campaign, Galanz began to run its production lines on a three-shift, 24-hour-a-day schedule so that it had ample inventory to meet the expected surge in demand. Galanz picked August to start the price war because it was the off-peak selling season. Manufacturers generally cut back their production and distribution about that time. Starting a price war at that sleepy time of year would catch their competitors off guard.

In August 1996, Galanz announced a steep price reduction of 40% on some of its key models and an average price reduction of 20.1%. All major Chinese media reported the news of Galanz's opening salvo. Retailers embraced the price war with open arms because it could help them build store traffic and sell more of their other products. In many cases, they were even willing to take lower profit margins, 8% instead of the usual 20%, on Galanz products during the price-war period, to boost traffic even further.

Competitors were caught unprepared and dazed.

In a number of cases, Galanz's price-reduction levels on some products were higher than their own gross profit margins. Most of the small manufacturers did not respond quickly because they believed that Galanz was simply dumping excess inventory in a low selling season. As expected, W–X was also slow on the draw.

The outcome of the first price war could not have been more positive for Galanz. Before the price war, Galanz's gross profit margins were close to 40%. After the price war, sales had increased by about 200%, and the average unit cost shrank approximately 50%. The combined gain in scale and share meant that Galanz's net profits actually

increased after the price cut. Even for products in which the magnitude of the price cut was bigger than the company's initial profit margin, Galanz still profited because of cost reductions. By the end of 1996, Galanz's market share had increased from 25% to 34.5%.

The huge success of the first price war convinced the executives at Galanz that a deliberate price war was a viable strategy, not only in the short term, but also for the long run. From October 1997 to October 2000, Galanz initiated four more price wars and executed them with increasing sophistication. In each round, Galanz cut its prices substantially—by double-digit percentages (still up to 40% in some cases). The sales increases were also substantial, at 100%–200%. As a result, the company became more and more dominant (see Table 3.1). In each round of price wars, Galanz achieved an average unit cost reduction of about 30%–40%, making the price war essentially "free," even in per-unit terms. Because of those victories, the Chinese media treated Galanz as an ever-victorious army and its executives as conquering generals.

The numbers might look random, but the generals were actually dropping their prices with surgical precision, to inflict the maximum damage on their competitors. Since the first price war, Galanz had adopted a simple and systematic way to set its price to drive volumes. Before the price war, it had always set its price at the break-even point of its nearest competitor. For example, if the second player's annual sales were 2 million units, Galanz would set its price at the break-even level for those 2 million units. During a price war, Galanz would lower its price below the opponent's break-even point, which was still above its own break-even price. Using this strategy, Galanz always kept its strongest rivals reluctant to cut prices, while picking up market share from the weakest fish. The strategy succeeded brilliantly. About 120 microwave oven manufacturers were in the market in 1996. By 2003, the three largest manufacturers dominated more than 90% of the market.

Breaking Out By Breaking Even

Price wars aren't always a winning strategy. Even in China, firms sometimes initiate price wars on impulse and bring ruin on themselves and their industry, just as American marketing textbooks warn. However, these cases demonstrate that price wars can be a potent, effective marketing strategy when deployed with forethought and skill and under the right circumstances.

What constitutes the right circumstances? The calculations that executives at Galanz and Changhong made fit into a simple framework Western executives are familiar with in a different context: incremental break-even analysis (IBEA)—a simple equation used to set prices that also contains almost everything an executive needs to know to plan, execute, and fight a price war.

A price war always starts with a firm initiating a deep price cut in an industry, as Changhong did with color TVs and Galanz did with microwaves. When a firm initiates such a price cut, it expects to benefit from higher volume, either right away or at some point in the future. In the short term, the firm can benefit only if its sales go up sufficiently to offset the lost profit per unit. That's where IBEA comes in handy—it identifies how much sales need to increase to make up for the contribution margin sacrificed by the price cut.

The Galanz case is a good illustration. While planning for the first price war, Galanz reduced its product price by as much as 40%. At the time, the company had a contribution margin (cm) of about 40%, or cm = 40%. The company forecast that the price cut could generate enough volume to achieve unit cost savings (Δc) of 30%–40%, or on average Δc = 35%. By plugging all these numbers into the formula, it's clear that if the sales of Galanz's products increased by more than 90.5% as a result of the 40% price cut, its profit would be higher after the price cut than before. Here, Δq = 90.5% is the threshold increase in sales required for Galanz to profit from the 40% price cut. Galanz expected its sales to increase by 100%. Therefore, initiating the price

war was the rational thing to do—and looked positively brilliant afterward, when sales actually rose by 200%.

The whole art of price war is implicit in the IBEA. The formula in Figure 3.1 illustrates that it is more tempting for a company to initiate a price war, a deep price cut, if it faces a small Δq, the threshold increase in sales required for a firm to profit from the price cut. With a small Δq, it does not take much sales increase for a company to jump over the hurdle and benefit from a price cut. Therefore, the company should have more incentive to use price as a weapon and to initiate a price war. This means that if we look for industries where Δq is small, we know where a price war is more likely to break out and which firms have the most incentive to initiate it.

$$\Delta q = \frac{\Delta p - (1 - cm)\Delta c}{cm - \Delta p + (1 - cm)\Delta c}$$

Definitions:

- Δq Breakeven sales increase in percentage
- Δp Magnitude of a price cut
- cm Contribution margin in percentage (before the price cut)
- Δc Reduction in marginal costs in percentage due to the price cut

Figure 3.1 Incremental break-even analysis

IBEA analysis exposes an important truth about who leads price wars. Although price wars are often thought of as an underdog strategy—the marketing equivalent of the Hail Mary pass—the strategy is actually most effective when the most efficient competitor in a high-margin industry executes it. If the initial profit margin is high, only a small increase in sales is needed for a firm to benefit from a price cut. This explains why the first price wars were color TVs and microwave ovens and why all subsequent price wars in China happened in what were initially high-margin industries such as consumer electronics, home appliances, personal computers, mobile phones, telecommunications equipment, cable TV, and automobiles. It also explains why Chinese companies tend to start price wars when they enter Western

markets. With their cost advantages and favorable exchange rate, every business in the West looks like a high-margin business!

The formula also clarifies the role scale plays in price wars. As the reduction in marginal costs (Δc in the formula) gets bigger, the percentage in added sales required to break even (Δq) declines. This means that price wars are more likely to break out in industries with significant scale economies. The industries in China that have been plagued by price wars all have significant scale economies. Even in the West, price wars flare up in industries with significant scale economies, such as PCs, electronics, and airlines.

A larger reduction in marginal costs (Δc) decreases the break-even point (Δq), suggesting that the firm that is more skillful in taking advantage of its scale is most likely to be the one that initiates a price war, all else being equal. Both Changhong and Galanz were firms that consciously and skillfully exploited scale economies to their own benefit. Price wars are also more likely in industries with little product differentiation. In a highly differentiated industry, customers would require a huge incentive to switch from one firm to another, resulting in a higher break-even hurdle in most cases. In China, price wars almost always break out when products in the industry become standardized, leaving little room for further technology innovations and quality improvements.

As a firm must generate enough sales increase to offset the per-unit loss to benefit from a deep price cut, we can further look into the art of price war by examining how a firm can generate the required sales increase. A firm can cross the threshold sales increase in three ways, either through a significant market share increase, a significant increase in the industry demand—or both. Thus, there are a number of things that a firm can do here in planning and executing a price war. First, to the extent that it is easier for a small market share firm to increase its market share, a firm with a small market share may be better positioned to use price as a weapon and to initiate a price war, while a big market share firm may want to think

twice. For that reason, we rarely see firms with a dominant market share start a price war.

The timing is also critical. A firm has a better chance to increase its market share if the competition is unable or unwilling to react swiftly. A clumsy, half-hearted response from the competition gives the war-initiating firm the time and space to fill distribution channels and to occupy new sales territories. As discussed earlier, both Changhong and Galanz carefully considered competitive reactions and the most opportune time to fire the first shot.

Third, even if competitors react swiftly by bringing down their own prices, an astute firm can increase its market share if it is prepared. As competing firms lower their prices, the firms that gain market share will be the ones that have products on hand to sell. A firm that has prepared for a price war—by increasing its inventories, ramping up its production, cornering strategic resources, securing distribution channels, or boosting its production capabilities—will be best positioned to increase its market share. Changhong and Galanz both made elaborate preparations in all those activities before they fired their first shot, while competitors were caught napping.

Fourth, a firm can gain a larger market share when less cost-effective firms in an industry are weeded out. A price war strains every firm in an industry. When less efficient firms buckle first, the survivors fatten their market shares. Clearly, this factor was crucial to Changhong and Galanz, who made explicit calculations to consolidate their respective industries and achieved that objective. Looking more broadly, this motivation has repeatedly surfaced as a cause of war. With the relative youth of the Chinese market, its many industries, and wide range in sophistication and operating efficiency, it is not surprising that China has more price wars than the West.

Through many price wars, Chinese executives have also learned that to weed out firms that are not cost-efficient, they do not necessarily need to fight a prolonged, bloody campaign. A "shock and awe"

strategy can quickly convince inefficient rivals to get out of the way if they perceive that resistance is either futile or fatal. Both Changhong and Galanz considered this in planning and executing their price wars. This explains why Chinese companies are gung ho about charging a price 30%–50% lower than competition, instead of a gentlemanly 10% or 20% lower, when they invade a market in the West.

However, companies might have a reason to wage a price war even if they can't use it to increase their market share. Another important factor in a firm's price war calculus is the change in aggregate product demand. When a price war breaks out, even if all competing firms in the market are equally efficient and all follow suit by cutting their prices so that no firm can gain any additional market share, firms can still benefit from price wars if the action sufficiently expands the industry demand. In the West, people tend to forget the days when the markets for mundane products such as microwave ovens, color TVs, and refrigerators were growing at a fast pace and the total demand for them was price elastic. In China, consumer goods production is still a high-growth business with high price elasticity: Lower the price for a popular consumer good and you can flood the market with new consumers.

For this reason, in the coming years, as growth levels off, we expect to observe fewer price wars and more focus on nonprice competition—at least in China.

Forward, March

As far as we can detect, there is nothing intrinsically Chinese in the calculus that Chinese executives use to plan and execute their price wars. The fact is, Chinese companies compete in an environment characterized by growing markets, heterogeneous firms with a wide distribution of cost efficiencies, and new technologies with significant scale economies—perfect weather for a price war. Similar

circumstances often occur in other emerging-market economies—not just China and, not even necessarily in another of the emerging market giants. A major technological innovation anywhere can lead to huge gaps in an industry's scale economies everywhere. For example, engineers in tiny Estonia built Skype, which began almost as a toy but is now undercutting the market share of regular telephone service and even video conference networks.

Price wars aren't for everyone. In Western markets, oligopolistic competition among equals in mature markets encourages more subtle marketing strategies. However, as with any other strategy, a price war can be useful in particular circumstances. A company can take a rational approach to plan and execute a price war when such opportunities arise.

Defenders should not be discouraged either. Just as winning a price war is not an exclusively Chinese talent, losing a price war is not intrinsically American. High-margin companies faced with the terror of the "China price" can anticipate what might follow and preempt it. Such moves can be quite successful. For example, Philip Morris, perhaps worried that cigarette prices would soon be cut by generic brands and knowing that RJR had low profit margins because of a heavy debt load from its recent leveraged buyout, cut its prices by 20% in April 1993, effectively neutralizing both its new and old competition for the near future.

IBEA suggests two broad principles for fighting a price war. First, as Sun-Tzu put it in his *Art of War*, "the highest realization of warfare is to attack the enemy's plans" so that one can subjugate "the enemy's army without fighting." Translating this to a price strategy, companies should do two things that discourage a competitor from starting and benefiting from a price war: increase the hurdle (Δq) competitors face to discourage them from thinking about price cutting in the first place, and differentiate the product enough to make substitution difficult.

Second, if a price war must be fought, don't just take a defensive posture. Once again, Sun-Tzu put it best: "One who cannot be victorious assumes a defensive posture; one who can be victorious attacks." In the parlance of IBEA, a company should always strive to position itself to profit from rising consumer demand (Δq) or any possible redistribution of market share.

Endnotes

[1]Much of this chapter is adapted from the paper "The Art of Price War: A Perspective from China," by Z. John Zhang and Dongsheng Zhou (2007).

[2]Henderson, David. "What are Price Wars Good For?," *Fortune* (May 1997), 135 (9): 156.

[3]Rao, Akshay R., Mark E. Bergen and Scott Davis (2000), "How to Fight a Price War," *Harvard Business Review* (March/April), 107–120.

[4]Engardio, Pete and Dexter Roberts. "The China Price," *BusinessWeek* (December 6, 2004).

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