Harvard Business School

9-398-095
Rev. April 22, 1998

Lincoln Electric: Venturing Abroad

Returning late to his half-finished lunch of rice and stir-fried vegetables, Michael Gillespie, president for the Asia region of The Lincoln Electric Company, reviewed his plans to expand the company's production base in his area. Although this venerable U.S.-based manufacturer of welding machinery and consumables had sold products throughout Asia for decades, these had been produced at plants in Australia, the United States, and Europe. Anthony Massaro, Lincoln's new CEO and—like Gillespie—a newcomer to the company, had encouraged the Asia president to develop plans to open welding consumables factories in several Asian countries. Such facilities would enable Lincoln to take advantage of low labor costs and avoid trade barriers.

Specifically, Gillespie now turned his attention to plans for Indonesia. He faced several sets of choices. The first concerned whether to build a factory in Indonesia at all, given the particular political and economic conditions in that country, the nature of the market for welding products, and the competitive situation. If he decided this in the affirmative, he would need to choose whether to enter the market through a wholly-owned factory or a joint venture. Finally, Gillespie wondered whether the planned operation should adopt Lincoln Electric's famous incentive system, credited with rapid, steady increases in productivity in the company's flagship plant in Cleveland, Ohio. Although no immediate deadline loomed for these decisions, he would be asked to discuss his plans at the September 1996 meeting between Massaro and the presidents of Lincoln's five worldwide regions, scheduled for the following Monday in Cleveland.

Lincoln in the United States [1]

Founded by John C. Lincoln in 1895 in Cleveland to manufacture electric motors and generators, Lincoln Electric introduced its first machine for arc welding in 1911. The company eventually became the world leader in sales of welding equipment and supplies (such as welding electrodes). (**Exhibit 1** gives more detail on welding technology and Lincoln's products.) James F. Lincoln, John's younger brother, joined in 1907 and complemented his older brother's flair for technical innovation with a proficiency in management and administration. The company remained closely held by the family and employees until 1995, when a new share issue put 40% of its equity into the hands of the general public. These new shares acquired voting rights in the year 2005.

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[1] This section draws on The Lincoln Electric Company (HBS No. 376-028) by Professor Norman Berg.

Research Associate Jamie O'Connell prepared this case under the supervision of Professor Christopher A. Bartlett as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

Founding philosophy

James F. Lincoln's independent ideas about human motivation formed the basis of Lincoln Electric's management methods and incentive compensation system. At the foundation of his philosophy was an unbounded faith in the individual and a belief in the equality of management and workers. He also believed that everyone could develop to his or her fullest potential through a system of proper incentives designed to encourage both competition and teamwork. In 1951 he wrote in his company-published monograph, *Incentive Management*:

> There will always be greater growth of man under continued proper incentive. The profit that will result from such efficiency will be enormous… How, then, should the enormous extra profit resulting from incentive management be split? … If the worker does not get a proper share, he does not desire to develop himself or his skill… If the customer does not have part of the savings in lower prices, he will not buy the increased output… Management and ownership must get a part of the savings in larger savings and perhaps larger dividends… All those involved must be satisfied that they are properly recognized or they will not cooperate—and cooperation is essential to any and all successful application of incentives.

Incentive system

James F. Lincoln implemented his philosophy of "incentive management" through an unusual structure of compensation and benefits. He wrote, "There never will be enthusiasm for greater efficiency if the resulting profits are not properly distributed. If we continue to give it to the average stockholder, the worker will not cooperate." The system had four key components: wages for most factory jobs based solely on piecework output; a year-end bonus that could equal or exceed an individual's regular pay; guaranteed employment; and limited benefits.

Piecework Nearly all production workers—about half of Lincoln's total U.S. workforce—received no base salary but were paid on the basis of the number of pieces they produced. A Time Study Department established piecework prices that stayed constant until production methods were changed. The prices enabled an employee working at what was judged to be a "normal" rate to earn, each hour, the average wage for manufacturing workers in the Cleveland area. (Rates were adjusted annually for local wage inflation.) Each worker also had to ensure his or her own quality, however, repairing any defects identified by quality control inspectors before being paid for the piece in question. But there was no limit on how much could be earned by those who worked faster or harder than the normal rate.

Annual bonus Since 1934 Lincoln had paid each worker a bonus at the end of each year based on his or her contribution to the company's total performance. The U.S. *Employee's Handbook* explained, "The bonus is not a gift and it does not happen automatically. The bonus is paid at the discretion of the Board of Directors of the Company. It is a sharing of the results of efficient operation and is based upon the contribution of each person to the overall success of the Company for that year." Until the 1980s, the annual bonus averaged nearly as much as the total wages of those eligible: the average worker in an average year received a bonus that almost doubled his or her base pay. In the 1980s and 1990s higher base wages and competitive pressures reduced bonuses to 50% to 60% of base pay.

Nearly all Lincoln employees were eligible for a bonus, including office workers and managers whose regular compensation was not based on piecework. Each individual's share of the bonus pool was determined by a semiannual "merit rating" that measured his or her performance compared to those of others in the same department or work group. The rating depended on four factors: output, ideas and cooperation, dependability, and quality. (**Exhibit 2** explains these factors in further detail.) Each department received a pool of points for each factor that would allow employees

in each department to average 25 points on each factor. Supervisors then allocated the points among individuals according to their relative performance. Merit ratings varied widely, with some workers receiving total ratings as low as 50 and some as high as 150. Each individual's share of the bonus pool was determined entirely by the ratio of his or her points to the total awarded.

The combination of piecework and the annual bonus enabled Lincoln's best employees to earn much more than their counterparts at other manufacturing companies. In 1995 the highest paid production worker at Lincoln's U.S. operations received $131,000 in base pay and bonus, while the average employee received $51,911 in pay and bonus—82.8% above the Cleveland average for manufacturing workers.

Guaranteed employment James F. Lincoln saw guaranteed employment as an essential part of his system, writing: "Higher efficiency means fewer man-hours to do a job. If the worker loses his job more quickly, he will oppose higher efficiency." He also believed that the costs of recruiting and training the highly motivated, creative workers who thrived in his system would outweigh any savings achieved by cutting the payroll during downturns. In 1958 he introduced the Guaranteed Continuous Employment Plan, which assured employment for at least 75% of the standard 40-hour week to every full-time employee who had been with the company at least three years. [2]

James F. Lincoln's successors agreed broadly with these views. When orders dropped, the company took advantage of falling materials prices to produce for inventory. If demand still did not pick up, management could cut hours to 30 per week and redeploy workers to maintenance and other tasks. During the deep recession of 1982, for example, production workers were retrained and sent out as salespeople, selling $10 million-worth of a new product in their first year alone. Such techniques had enabled Lincoln to avoid laying off a single employee in the United States, even one with less than three years' experience, since 1948.

Limited benefits James F. Lincoln's radical individualism also led him to minimize company-paid benefits under the rationale that fewer benefits enhanced profits and, thereby bonuses and worker compensation. While Lincoln employees received paid vacation, they had no paid holidays off, even Christmas. (They could, however, stay home on recognized holidays without their merit rating suffering.) Taking a day off for sickness also meant giving up a day's pay. The company did not oppose benefits as such—it provided employees with access to a group health insurance policy if they paid the full premium—but it preferred to pay employees with higher cash wages and bonuses, rather than fixed benefits, to give them maximum choice.

Management style and culture

James Lincoln strove to erase hierarchical distinctions, and management's approachable style combined with the system of rational incentives to build a spirit of cooperation between management and employees. The mutual respect was reinforced by the workers' recognition that management worked as hard as they did, often putting in 60- to 70-hour weeks. Through its constant monitoring of the incentives and other work systems, Lincoln managers strove to build a sense of trust with the workforce. There were no reserved parking places in the company parking lot and executives ate in the same institutional cafeteria as janitors.

Open communication was regarded as essential, and management from the CEO down historically had spent hours of each work day on the shop floor. Furthermore, executives followed James Lincoln's "open-door" policy toward all employees, encouraging them to bring suggestions for

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[2] Although there was very high turnover in the first three years of employment—and particularly in the first 12 months—overall, Lincoln's turnover rate had historically been less than 1% compared to 4—5% for all manufacturing companies.

improvement and complaints straight to the executive offices, which were located adjacent to the Cleveland plant. Since 1914, an Advisory Board of elected employee representatives had met twice a month with Lincoln's top executives. It provided a forum in which employees could bring issues to top management's attention, question company policies, and make suggestions for their improvement. Advisory Board representatives also communicated management's perspectives to their fellow employees, and minutes of all meetings were posted on bulletin boards throughout the plant and discussed among employees.

The culture that resulted from Lincoln's incentive program and unusual management style seemed to encourage individual employees to produce and innovate. For example, over the years, Lincoln's engineers and operators had collaborated to modify most equipment to run at two to three times its original rate, and had even developed some proprietary machinery. Lester Hillier, a welder with 17 years' experience at Lincoln, was a good example. In 1994 he told *The New York Times*, "I don't work for Lincoln Electric—I work for myself. I'm an entrepreneur." Hillier had put forward some 50 suggestions for cost reductions during the first half of 1994, about 30 of which management had accepted. Chief Financial Officer H. Jay Elliott gave his view of the atmosphere:

> If I go down to the cafeteria, the guy in grubby clothes sitting next to me is just as proud of his job as the chairman in a suit—who's sitting next to him! I think this is the best thing that piecework, the bonus system, guaranteed employment, and many employees' participation in our stock purchase plan have created: a sense of ownership of the company from top to bottom.

Performance

Since 1911 Lincoln Electric executives and employees had attributed much of the company's financial health to its innovative management style and, particularly, its incentive system. The company grew quickly, even as giants such as Westinghouse and General Electric entered the U.S. welding market. Although Lincoln maintained a significant cost advantage over its competitors, during World War II, a patriotic James Lincoln offered to share the company's proprietary methods and equipment designs in order to boost industry productivity. Although its competitors' costs were close to Lincoln's in the immediate post-war period, company data showed Lincoln's productivity per worker was increasing at twice the rate of benchmark manufacturing companies.

Eventually, Lincoln's competitors began to wither in the face of the company's high productivity growth, and by the 1980s the large companies had withdrawn from the market entirely. When Lincoln acquired British Oxygen's US welding company, Airco, management was able to confirm that they had again outdistanced the competitors. In a similar facility, Lincoln was achieving three times the output with half the people. George Willis, Lincoln's CEO in the late 1980s and early 1990s, summarized the company's competitiveness this way: "We're not a marketing company, we're not an R&D company, and we're not a service company. We're a manufacturing company, and I believe that we are the best manufacturing company in the world."

By 1995, Lincoln Electric estimated that it held 36% of the $1.5 billion U.S. market for welding equipment and supplies, making it the leading competitor in an otherwise fragmented industry. "It's a simple strategy," explained one manufacturing manager. "We strive for high productivity based on employee effort, continuous improvement in production processes, and seven-day-a-week utilization of equipment. By passing on cost savings to our customers, we generate very high demand that allows you to send everything you make straight out the door."

Early Ventures Abroad

Canada

Lincoln started exporting from Cleveland early on, and in 1916 established a sales organization for electric motors in Toronto, Canada. In 1925, it opened a manufacturing plant there and produced the full line of Lincoln products, almost solely for the Canadian market, until the early 1990s. At that time, the advent of the North American Free Trade Agreement (NAFTA) led the U.S. and Toronto plants to specialize in different product lines.

The operation quickly adopted most of the U.S. incentive system, including an annual bonus starting in 1940 and piecework beginning in 1946. Like the U.S. company, Lincoln Canada did not pay piecework employees for sick leave. Holidays were paid, however, as required by Canadian law, and a guarantee of employment was never introduced. A senior executive who had spent most of his career with the subsidiary believed that piecework and the bonus had played a key role in motivating employees to high productivity. Executives' open-door policy and the worker Advisory Council ensured communication among the subsidiary's 200 employees. These workers, like the U.S. ones, resisted unionization, turning it down in a vote in the 1970s.

Australia

Lincoln continued gradually to expand its international manufacturing presence. In 1940, William Miskoe, a disciple of James Lincoln, moved from the United States to Australia to manage a plant Lincoln had opened in 1938. He introduced piecework for most production jobs and an annual bonus that usually amounted to between 25% and 35% of pre-bonus compensation. Although a commitment was never formalized, employees considered their jobs to be secure, and management cut employees' hours during several recessions to avoid layoffs. Australia was one of the most highly unionized societies in the world, but Lincoln workers rebuffed organizing attempts on several occasions. A senior Lincoln Australia executive believed that Miskoe's introduction of the incentive system when the operation had fewer than 100 employees had facilitated its initial acceptance; later hires embraced the system because their factory-floor colleagues liked it.

High Australian tariffs led Lincoln Australia to diversify into a nearly complete range of welding equipment and consumables. The company eventually began exporting to Asian countries, developing relationships with distributors and building the Lincoln brand-name.

France

In 1955, Lincoln responded to a request from the French government for U.S. manufacturing investment under the Marshall Plan and opened a factory that made welding consumables, and later, equipment. It sold its products throughout western Europe, along with ones made by Lincoln in the United States, through one of Lincoln's U.S. distributors that also had rights to sell into Europe.

Expatriates from Cleveland helped implement the incentive system—including piecework, merit ratings, and a bonus that averaged 10% to 15% of pre-bonus compensation—in the late 1950s. A formal guaranteed employment policy was in effect from then until its repeal in the early 1970s. (Vacation, holiday, and sick pay were either mandated by law or by industry norms to which Lincoln adhered, varying the U.S. model.) Although Lincoln France had not studied its workers' productivity, its executives believed that it had created a much greater enthusiasm for the work and commitment to the company than existed at other French companies. "There is no question in my mind that the incentive system is a major source of Lincoln France's success. I am deeply convinced that it is essential to our competitiveness," one remarked. From its founding through the late 1980s,

the subsidiary had just one unprofitable year, after the oil crisis of the early 1970s, and paid a bonus every year except that one.

Despite this international growth, the Cleveland factory accounted for approximately 85% of worldwide production and monopolized new product development through the late 1980s. The three foreign factories manufactured on a small scale for local and regional markets and relied on U.S. plants for a number of key parts. Corporate executives, based in Cleveland, paid them little attention, content with their healthy, if modest, financial contribution.

International Expansion, 1988-1994

Upon James Lincoln's death in 1965, William Irrgang became the first non-family member to lead the company. Under Chairman Irrgang, however, Lincoln launched no new international ventures. Having fled Nazi Germany in the 1930s for the United States, Irrgang had a deep mistrust of all governments but that of his adopted country. This led him to turn down several oversees expansion proposals over the years, many from his President, George Willis.

Following Irrgang's death in 1986, Willis became CEO and finally had the freedom to expand the company's international manufacturing presence aggressively. He believed that a slowdown in U.S. market growth, as manufacturing's share of the country's economy continued to decline, would force Lincoln to find most future growth abroad. In the mid-1980s the importance of regional trade blocs, such as the European Community and the Andean Pact appeared to be increasing. The new chairman felt that his company needed manufacturing facilities inside each major bloc to ensure that external trade barriers did not render it uncompetitive with local producers. The European Community's (EC's) planned elimination of internal tariffs in 1992 was a source of particular interest.

Believing that the opportunity for immediate market presence made acquisitions more attractive than new "greenfield" factories, between 1988 and 1992 Willis acquired plants in nine countries. Finding no appropriate acquisition candidates, he also built new ones in Japan and Venezuela. In anticipation of European market integration in 1992, prices of many target acquisitions had been bid up to record level. As a result, Lincoln incurred long-term debt for the first time in its history. (**Exhibit 3** lists the locations of Lincoln factories as of 1986 and 1992.)

Managing the new subsidiaries

After years of domestic focus under Irrgang's leadership, Lincoln's corporate headquarters contained no managers with substantial international experience. As a result, Willis retained the existing managers of most of the acquired companies to take advantage of their local knowledge, but directed them to implement Lincoln's incentive and manufacturing systems. To help them, he sent out U.S. managers who knew the system in Cleveland, and also linked overseas supervisors and foremen with mentors among their U.S. counterparts. Beyond this, however, corporate headquarters largely left the new subsidiaries to manage on their own.

Most of Lincoln's acquisitions were unionized, and at each relations between management and labor historically had been less cordial than at Lincoln. Corporate executives felt that this would change with time. William Miskoe, the former Lincoln Australia chief, who had become corporate senior vice president for international sales, told a reporter for *Cleveland Enterprise*:

> [Workers in the acquisitions] have to learn to trust management, which is not something they are accustomed to doing. That means we have to be completely honest and not pull any punches. We give them the facts, and let them make their own decisions.

Resistance from many quarters hindered the implementation of key elements of the incentive system, however. Many of the European managers and workers were philosophically opposed to piecework and seemed to value vacation time more highly than extra income from bonuses. Regulations presented additional obstacles: in Brazil any bonus paid for two consecutive years became a legal entitlement and in Germany piecework was illegal.

Financial trouble

In 1991, while internal reworking was still in progress, the new subsidiaries' sales were hit hard by a severe recession in Europe and Japan. By 1992, nearly all of the newly acquired plants, plus France, were operating in the red. Nevertheless, corporate executives, still focused primarily on Cleveland, paid little attention. They remained optimistic that modified versions of the incentive system would eventually help most plants abroad achieve rapid productivity growth similar to Cleveland's. Mexico had successfully implemented the system already and Willis told an interviewer that he expected the European operations to have some form of it in place within two years. Fred Stueber, the firm's outside counsel and later its senior vice president and general counsel, recalled, "In 1992, Lincoln was in denial about the severity of the financial problems. They didn't realize their full scale until 1993."

When the 1992 results were reported in early 1993, the situation was plain: the new plants, especially those in Europe, were dragging the whole corporation down, and Lincoln Electric had lost money for the first time in its history. Despite strong performance in the United States, 1993 saw another loss. (**Exhibit 4** shows net sales and profits for Lincoln's operations by geography.) Recalled Stueber, "The company was almost in a death spiral: it had shareholders' equity approaching $300 million, and had lost over $80 million in two years. It was hemorrhaging so severely in Europe that prospects were scary." $217 million in long-term debt made the 1993 financial statements terrifying reading for Lincoln's historically cautious board of directors. (**Exhibit 5** shows Lincoln's income statements and **Exhibit 6** its balance sheets from 1987 through 1995.)

A new broom…

In 1992, company president Don Hastings was named CEO, in the middle of what he later called "the nightmare years." His first move was to assemble an International Strategic Liaison Team to analyze the foreign operations and set attainable goals and performance guidelines for which local management would be held accountable. Despite its efforts, the team, comprised entirely of Cleveland-based managers, was unable to stanch the losses.

Recognizing that Lincoln lacked the expertise needed to handle the crisis, Hastings decided to look outside for executives with international experience. In April 1993, he hired Tony Massaro, former worldwide group president at Westinghouse Electric, as a consultant and brought him on permanently in August as director of international operations. Jay Elliott, former international vice president for finance at Goodyear Tire and Rubber Corporation, joined Lincoln in August as international chief financial officer to work closely with Massaro. The two were the first senior executives Lincoln had ever hired from outside the company. Hastings also added four heavyweight outsiders to the board of directors, including Edward E. Hood, Jr., former vice chairman of General Electric and Paul E. Lego, former chairman of Westinghouse.

Massaro's first priority was to conduct an intensive examination of Lincoln's new overseas subsidiaries. With Elliott's help, he quickly identified several causes of the subsidiaries' poor financial performance. First, they recognized that because most attention had been focused on the quality of the acquisition target's manufacturing facilities, several of the newly acquired European companies had small market shares and weak sales organizations.

Another problem was that fragmented production had kept costs high. Instead of concentrating manufacturing of each product in one factory to take advantage of the EC's elimination of intra-European tariffs in 1992, each European factory had continued to manufacture a nearly full line of welding products. In the resulting Balkanized organization, many plants suffered from overcapacity and competed with each other. Ray Bender, a Cleveland veteran, appointed director of manufacturing for Europe, had realized upon arrival that rather than increase production—the classic Cleveland approach—he had to squeeze costs. "Managers ran operations like national fiefdoms," Elliott noted, "and Lincoln lacked the confidence to bring them to heel. Headquarters let the subsidiaries do their own thing and never said 'no.'"

In Venezuela and Brazil, Massaro and Elliott found different problems. There, the company had replaced inherited managers with former Lincoln distributors who were enthusiastic about Lincoln's manufacturing and incentive systems but who had no manufacturing experience. Cleveland had given them little assistance, leaving them to succeed or fail on their own. "The Lincoln culture was so focused on individualism that corporate took a 'sink or swim' attitude with the subsidiaries," commented Elliott.

The new executives' analysis concluded that Lincoln's lack of international experience had led management to believe that the new acquisitions and the greenfield in Japan would accept its unusual incentive systems and management style easily. Massaro remarked, "Part of the problem was that they tried to do things the Lincoln way everywhere, rather than adjust to local conditions." With the benefit of hindsight, Hastings agreed:

> We found that operating an international business calls for a lot more than just technological skill. And to be candid, in many cases we didn't truly understand the cultures of those countries where we expanded. For example, we had an incentive program that was based on the belief that everybody in the world would be willing to work a little harder to enhance their lives and their families and their incomes. It was an erroneous assumption. [3]

… Sweeps clean

With firm support from Hastings and the board of directors, Massaro and Elliott set about restructuring international operations to achieve profitability. Massaro explained,

> The cleanup had two main stages. Some subsidiaries could not be saved and we had to shut these down. After that, we rationalized the product lines of the remaining plants in Europe and improved the sales force to increase volume.

The plants in Germany, Japan, Venezuela, and Brazil were judged too troubled to keep. In Germany, for example, sales costs were out of control, yet labor laws limited Lincoln's flexibility to respond. Massaro noted that the plant's militant union, IG Metall, was especially resistant to proposed changes, and the company ended up closing the subsidiary in 1994 at the cost of 464 jobs. Elsewhere in Europe, approximately 200 administrative and other non-production workers lost their jobs, leaving European operations' overhead costs 20% below their 1993 level. Plant closings in Brazil, Venezuela, and Japan the same year eliminated another 120 positions.

The process of rationalizing production within Europe proved contentious. In the hope of preventing their production being moved elsewhere, subsidiary managers argued incessantly about

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[3] Quoted in Richard M. Hodgetts, "A conversation with Donald F. Hastings of The Lincoln Electric Company, " *Organizational Dynamics*, January 1997.

whose costs were lower. When incompatible accounting systems made comparison impossible at first, Massaro developed an approach to solving the problem, as Elliott explained:

> Tony did not follow the historical Lincoln practice of imposing a solution from on-high. Instead, he created a European management team, comprised of the general manager of each European subsidiary, plus himself, me, Ray Bender, and Cleveland's former head of internal audit. We were collectively responsible for gathering comparable data, then analyzing them to determine which plants would close and how production would be shifted around.

A variety of other efforts boosted volume and, through it, profitability. For example, Massaro replaced several managers deemed unable to handle the changes, and hired new European sales and marketing staff who had experience in international business. He negotiated long-term supply agreements with key customers and arranged for some products being manufactured in the United States for export to Europe to be transferred to the European plants. These moves increased volume and utilization and cut tariff costs. Increasing reliance on local materials also reduced tariff bills. Finally, at Massaro's behest, Lincoln's engineering department developed new products that met European customers' needs better than the U.S. designs the company had been offering.

Significantly, Massaro and Elliott also gave up trying to implement the full Lincoln incentive system in the acquired plants. After the restructuring, most plants stopped focusing on incentive-based compensation systems. Employees in most locations received bonuses based on their factory's results, but these comprised relatively small percentages of total compensation. However, a new bonus program was created for approximately 40 top European managers. Based on pan-European results, it was designed to encourage their cooperation in the service of the corporation as a whole. "Previously, they had no incentive to do anything but maximize their local profitability. The new system ensures that they aren't penalized for contributing to other Lincoln subsidiaries' production and efficiency," Massaro explained.

Following the restructuring, the overseas subsidiaries rebounded. In 1994 European operations made a profit as the continent emerged from recession and their profits grew through 1995 and 1996. The plant in Mexico followed a similar trajectory, while Canada boomed following the NAFTA-related rationalization.

A New Approach, 1996

In March 1996, Massaro was named President and Chief Operating Officer of The Lincoln Electric Company, and in November succeeded Hastings as CEO. The first outsider among the company's six CEOs and the only one with substantial international experience, Massaro looked to expand Lincoln's presence abroad. Two years earlier, foreign customers had accounted for 36% of the company's sales, but with the international operations in crisis, the newcomer had questioned whether the figure could reach 50% by the turn of the millennium.

Massaro's approach differed dramatically from that of George Willis, the CEO who had overseen the rapid international expansion of the late 1980s and early 1990s. The new CEO judged that the mature North American and European markets would grow only half as fast as those in less-developed countries. Therefore, in 1995, Lincoln had begun extending its sales and distribution networks in Latin America and Asia, and Massaro's next priority was to build manufacturing capacity in the developing markets.

As part of the new strategy, the new CEO also planned to oversee the international ventures more actively. In preparation for further expansion, he created a new structure for the company's

international operations, naming a president for each of five regions: North America (including the United States and Canada), Europe, Russia / Africa / Middle East, Latin America, and Asia (including Australia). With vice-presidential rank in the corporate structure, these presidents supervised sales staff in their territories, advised Massaro on whether Lincoln needed to create manufacturing capacity in their regions, and developed plans for new factories. The five met as a group with the CEO every two months to discuss global strategy. Their compensation reflected Massaro's desire for interregional cooperation. A sophisticated bonus system motivated each to develop profitable production operations and maximize sales within his or her territory, but made it most personally rewarding to source goods from the Lincoln factory that could provide them most profitably, even if it was located in another territory.

Finally, Massaro was more flexible than his predecessors about how Lincoln workers abroad would be compensated. He believed that Lincoln's incentive system was an important source of competitive advantage in the United States, but was not convinced that it made sense everywhere. He gave his international managers full freedom to employ only the elements of the system that they judged appropriate for their countries' particular cultural and economic contexts, saying, "If the incentive system makes sense in a particular plant, we'll use it, but we'll also feel free to operate more traditionally or to pick and choose to create an appropriate mixture."

Lincoln Electric—Asia

As of mid-1996, plans to expand Lincoln's international presence in manufacturing had proceeded farthest in the Asia region. Gillespie, a 13-year veteran of ESAB, a Swedish manufacturer of welding products, had already spent six years in Asia when he was recruited in 1995 by Massaro, then Lincoln's director of international operations.

Strategy

As president of Lincoln Asia, Gillespie had developed an integrated sales and manufacturing strategy that would build on the company's existing relationships with distributors and customers. While continuing to source equipment from Australia and elsewhere, Gillespie planned to build factories in Asian countries to manufacture consumables for their local markets. (Trade barriers and the cost of transport made consumables more difficult to import profitably than equipment.) He estimated that each factory would take two to three years to break even.

The strategy was that Lincoln consumables would build brand awareness and loyalty, generating new sales of imported Lincoln equipment. It targeted the construction and manufacturing industries, which were large consumers of welding products and accounted for much of Asian economies' rapid growth. Ray Bender—former head of manufacturing for Europe who now had been appointed to the same post for Asia—summarized the situation:

> Local production of basic consumables will build our market share and thereby enable us to pull higher-end consumables and equipment from other Lincoln factories. In this way, the local production, on which we will earn a modest but reasonable return, will boost higher-margin activities outside Indonesia and increase Lincoln's global return on equity.

Indonesia

Country and market Indonesia was one of Gillespie's first targets for a new factory. The country's market for welding products was large, but unsophisticated. Most customers used hand-

held stick welders rather than the semiautomatic or fully automatic machines more common in developed countries. About 50,000 tons (50 million kilos) per year of stick welding consumables were sold each year in Indonesia, representing a market about one-fourth the size of those of more developed countries, such as South Korea. To date, Lincoln had been confined to the equipment and automatic consumables segments, while its participation in the stick consumables market was negligible. (**Exhibit 7** shows approximate market shares in each segment for Lincoln and key competitors.)

The bulk of the stick consumables market was served by two multinationals that had local factories and well-developed distribution networks—although some reports of distributor problems had been circulating. Several local firms had significant market shares, but their products were of lower quality. Tariffs of approximately 30% and shipping costs of approximately 7% of factory cost made it impossible for Lincoln to compete in the low-margin stick consumables segment without a local manufacturing base.

Lincoln's reputation as a high-quality producer was well established, and Gillespie believed that customers would switch to Lincoln stick consumables if these were offered at a competitive price. He envisioned a factory that could produce about 7,500 tons of electrodes per year at full capacity. Although only one shift's worth of production workers would be hired initially, others would be added as sales grew, and the plan anticipated using a full three shifts within about three years.

In addition to welding market, Gillespie had to consider broader political and economic risks in deciding whether to enter Indonesia. Political power in the country was concentrated in the hands of President Suharto, a former general who had seized power in a 1965 coup. In the months of civil strife and violence after the coup, up to one million Indonesians had been killed. By 1996, the 76-year-old Suharto's health was deteriorating, but he had designated no successor and continued to repress political opposition. During riots in July, government opponents had burned 10 buildings, including two state-run banks, and some analysts feared that a bloody succession struggle might follow the president's eventual death.

Indonesia's economy was growing rapidly but presented significant challenges to foreign investors. Suharto's relatives controlled large portions of it through personal conglomerates. *Business International* consistently cited the government as one of the world's most corrupt, and officials at all levels routinely demanded "gratuities" to process imported goods, grant licenses, and perform other functions. Local companies dominated the import, export, and distribution businesses, partly for these reasons but also because local customers seemed to prefer dealing with their own countrymen. Another major concern was the economy's stability. Some observers had expressed concern that financial troubles or economic bottlenecks—mismatches in capacity between interlocking sectors of the economy—could cause the overheated economy to stumble. A slump could cause the currency to drop, reducing demand for Lincoln's imports and the dollar value of profits from the local factory.

Economic and political risks were serious, but Indonesia's regulatory environment had been improving. While distribution companies had to be joint ventures with local partners, 100% foreign ownership of manufacturing ventures was now permitted. Furthermore, the government imposed no restrictions on repatriation of profits and the rupiah was freely convertible. As a result, foreign direct investment in the country was booming, having risen 13.3% in the first quarter of 1996. (**Exhibit 8** provides economic and social data on Indonesia.)

Entry strategies If Gillespie decided to enter Indonesia, he could choose from a variety of methods. While 100% ownership of a manufacturing venture would give Lincoln full control and the right to all its profits, a joint venture would provide access to a partner's local expertise and relationships with key people in business and government. Gillespie knew that such contacts could be important during the process of constructing the factory as well as for operations and distribution. His marketing manager described a good local partner as "essential" to provide the company with local knowledge and contacts.

The most obvious possible joint venture partners were Lincoln's two local distributors: Tira Austenite (Tira) and Suryiasurana Hidupjaya (SSHJ). The two were very different. The Indonesian-owned Tira had a network of 14 offices throughout the country and sold a full range of hardware products, including welding equipment and supplies. It had been distributing Lincoln products in Indonesia since 1991, and while it had good access to medium-sized and large customers in a variety of industries, its sales force tended to sell from Tira's vast catalog of products it had sold for decades, servicing their existing clients' established needs. The company's high-level relationships with government officials enabled it to circumvent the bureaucratic obstacles that routinely presented themselves to businesses in Indonesia. However, having to hold inventories of many different products, Tira seemed to be spread thin financially, and management felt it probably would not be able to invest much equity in a joint venture.

SSHJ was a subsidiary of Sin Soon Huat, a Singaporean-Chinese family firm that had distributed Lincoln products in Singapore for nearly 20 years. Its operations in Vietnam, Burma, and China also sold Lincoln products. Founded in 1994 after Lincoln gave Sin Soon Huat permission to distribute its products in Indonesia, SSHJ had only two offices in the country. However, the Lincoln sales staff found the new distributor had adopted a more professional sales style than Tira. SSHJ salespeople visited potential customers and demonstrated the technical advantages and cost savings that Lincoln products could bring them, persuading them to switch from their current brands. SSHJ sold few products other than Lincoln welding equipment and supplies, and its managers from Singapore had years of experience with these. Finally, although it lacked Tira's extensive government contacts, SSHJ's financial strength made it attractive as a joint venture partner. On previous occasions, the parent, Sin Soon Huat, had taken a loss to help Lincoln enter new markets. Because the Lincoln franchise brought the distributor prestige, Gillespie believed that SSHJ would be willing to put up some of the cost of building the new factory and help cover early operating losses.

Gillespie recognized that he could invite one, or both companies to become joint venture partners. Or he could set up a wholly owned manufacturing company and continue to employ them as distributors, although such a move might reduce their commitment to Lincoln. The decision was a difficult one since Gillespie already found it challenging to modulate relationships between two distributors and keep their competition energizing rather than destructive.

Compensation Beyond these strategic questions, Gillespie also pondered the issue of compensation and incentives, ever-important at Lincoln. If he did build a factory, should he pay production workers prevailing wages or introduce some form of incentive system? The only legal requirement was that the company pay the legal minimum wage of 170,000 rupiah per month. At an exchange rate of 2,342 rupiah per U.S. dollar, this represented the lowest wage rate in the Lincoln factory system. However, the prevailing rate at large manufacturing companies was 250,000 rupiah per month, plus an annual bonus equal to two months' salary. At a minimum, Gillespie felt he would have to match this rate, but his inclination was to go further.

Echoing James Lincoln's individualist philosophy, he stated, "I believe strongly in rewarding people for the quality and quantity of their work." Reflecting this belief, Gillespie felt that another option was to make the annual bonus merit-based and link it directly to factory performance, an approach that would require workers to put part of their compensation at risk. He envisioned a scheme based on the Cleveland model, but simplified for the less-educated Indonesian workforce. His thought was to offer a merit-based bonus that could reach 30% of the worker's base pay in good years, but which could disappear if the plant were not profitable.

In discussions with Ray Bender, who had joined Lincoln Asia as head of manufacturing, a third option emerged. On the basis of his experience in Cleveland and in Europe, Bender felt that most factory workers did not connect bonuses to their daily work practices. "People think about bonuses twice a year when they get their merit rating," he said. In his view, the real power of the Lincoln incentive system came from piecework. He was convinced that if selected and trained properly, workers in most countries would embrace such a compensation system, because it would

provide them the opportunity to earn substantially more money through individual effort. From the company's perspective, he argued that once the workers became familiar with the system, their higher productivity would yield 20% to 40% more output from the same equipment. (**Exhibit 9** summarizes the impact of such an increase on gross margins.)

Although his experience with Indonesian labor practice was limited, Gillespie knew of no factory in that country that was using piecework. However, he believed it would not be illegal as long as workers earned the prescribed minimum monthly wage. As a relative newcomer to Lincoln, he was less committed to the approach than veterans like Bender were, and his initial reaction was skeptical. "My experience with Indonesian workers is that they are more effectively managed with traditional management methods," he said. "I'm not sure that the systems that work in Cleveland would be effective there."

Finally, in considering the options, Gillespie realized that ethical and public relations considerations added another wrinkle to these calculations. A number of western multinationals had come under fire for paying employees in developing countries prevailing wages that seemed low to observers in their home countries. Indonesian manufacturing workers generally lived in poor conditions and some supported large families. Gillespie expected that most Lincoln workers in Indonesia would earn more through piecework than under a wage system, but some could earn less. Even a merit-based bonus scheme could put the earnings of the lowest-ranked workers below what they might have earned with a traditional two-month guaranteed bonus. Should these factors affect the compensation system he designed?

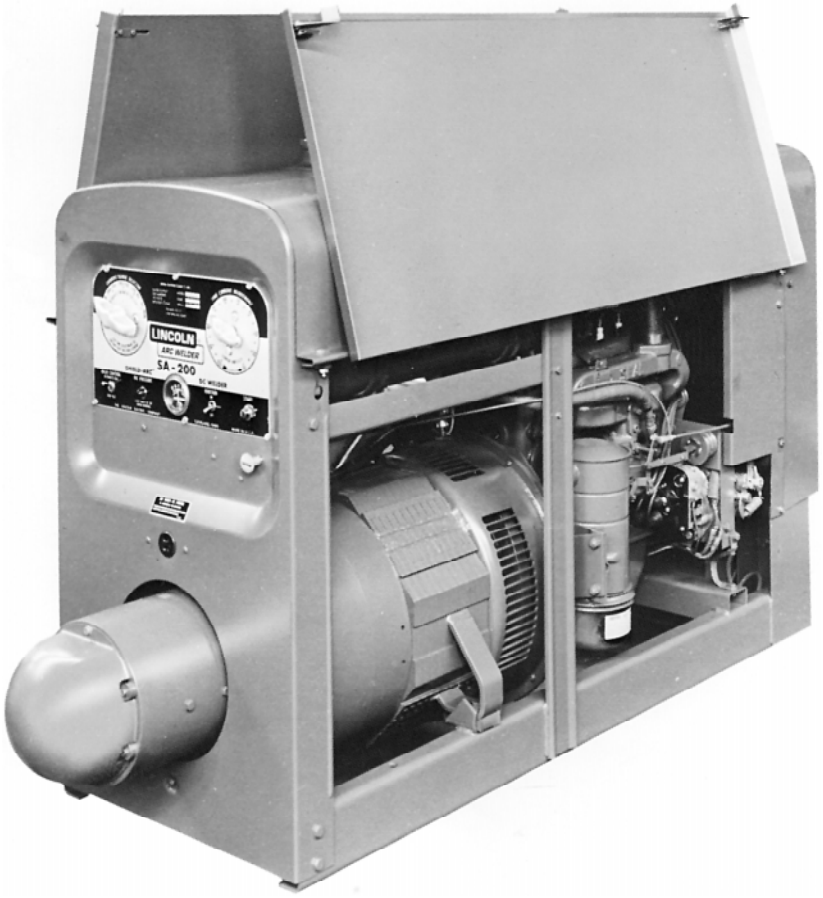
As Gillespie discarded his empty styrofoam plate and returned to a stack of reports, he wondered what plans he would report the next week to his colleagues and Tony Massaro.

Exhibit 1 Arc Welding

Arc welding is a group of joining processes that utilize an electric current produced by a transformer or motor generator (electric or engine powered) to fuse various metals. The temperature at the arc is approximately 10,000 Fahrenheit.

The welding circuit consists of a welding machine, ground clamp, and electrode holder. The electrode carries electricity to the metal being welded and the heat from the arc causes the base metals to join together. The electrode may or may not act as a filler metal during the process; however, nearly 60% of all arc welding that is done in the United States utilizes a covered electrode that acts as a very high quality filler metal.

The Lincoln Electric Company manufactured a wide variety of covered electrodes, submerged arc welding wires and fluxes, and a unique self-shielded, flux-cored electrode called Innershield. The company also manufactured welding machines, wire feeders, and other supplies that were needed for arc welding.



Lincoln arc welding machine

Exhibit 2 Criteria for Merit Rating for Annual Bonus (U.S. plants)

The section of Lincoln Electric's *Employee Handbook* concerning the annual bonus described the four criteria on which supervisors rated employees. (Employees received a rating card for each criterion.)

1. Dependability

This card rates how well your supervisors have been able to depend upon you to do those things that have been expected of you without supervision. It also rates your ability to supervise yourself, including your work safety, performance, orderliness and care of equipment, and effective use of your skills.

2. Quality

This card rates the quality of the work you do. It also reflects your success in eliminating errors and in reducing scrap and waste.

3. Output

This card rates how much productive work which conforms to Lincoln standards you actually complete. It reflects your willingness to maintain high standards of effort and efficiency. It also takes into account your attendance record. Your rating score on "Output" is affected by absence from your job. A deduction of four-tenths of one point from your "Output" rating will be made for each day of absence other than [jury duty, military service, injury on the job, bereavement, vacation, and attendance at company events, but not sickness]. For any one incident of absence a deduction will be made for no more than four days, or a maximum of 1.6 points. If absences are habitual or excessive, regardless of the reasons, other action, including further reduction in merit rating and/or termination, will be considered. The output card will show the number of incidences of absence, total countable days missed in the rating period and the total point deduction.

4. Ideas and cooperation

This card rates your cooperation, ideas and initiative. New ideas and methods are important to the Company in its continuing effort to reduce costs, increase output, improve quality, improve safety and enhance our relationship with our customers. This card credits you for your ideas and initiative as well as your acceptance of change. It also rates your cooperation including how well you work with others as a team. Factors considered include your attitude toward supervision, co-workers and the Company; your efforts to share your expert knowledge with others; and your cooperation in installing new methods smoothly.

Exhibit 3 Locations of Lincoln Electric manufacturing facilities, 1986 and 1992

	1986	1992
North America	United States	United States
	Canada	Canada
Asia and Australia	Australia	Australia
		Japan[a]
Europe	France	France
		Germany[a]
		Ireland
		Italy
		Netherlands
		Norway
		Spain
		United Kingdom
Latin America		Brazil[a]
		Mexico
		Venezuela[a]

[a] Plants in these countries were closed in 1993 and 1994.

Exhibit 4 Lincoln Electric Financial Growth by Geography (figures in US$000s)

	1987	1988	1989	1990	1991	1992	1993	1994	1995
Net sales to unaffiliated customers[a]									
U.S.	$363,857	$442,605	$474,060	$500,992	$461,876	$487,145	$543,458	$641,607	$711,940
Europe	29,454	52,401	135,923	215,378	288,251	275,520	211,268	156,803	201,672
Other	57,029	89,639	98,576	94,788	93,560	90,342	91,273	108,194	118,786
Corporate total	450,340	584,645	708,559	811,158	843,687	853,007	845,999	906,604	1,032,398
Income before taxes and extraordinary items [b]									
U.S.	49,874	55,910	53,039	28,205	30,806	24,860	42,570	71,650	87,044
Europe	1,480	3,099	4,423	2,057	(14,377)	(52,828)	(68,865)	3,945	11,350
Other	1,321	1,960	(555)	(6,780)	(2,949)	(7,183)	(22,903)	5,520	10,246
Eliminations	(2,781)	(5,102)	(8,369)	6,878	20,931	721	2,248	(947)	(605)
Corporate total	49,894	55,867	48,538	30,360	34,411	(34,430)	(46,950)	80,168	108,035

Source: Lincoln Electric SEC filings

[a] For 1987-1991 net sales includes interest and other income of between 1.2% and 2.5% of corporate total.

[b] For 1987-1991 includes income from interest and other income. For 1992-1994 does not include income form interest and other income. 1995 income figures are for operating profit equal to net sale minus cost of goods sold; sales, general and administrative expenses; and foreign exchange loss.

Exhibit 5 Lincoln Electric Company Consolidated Income Statements, 1987-1995 (US$ millions)

	1987	1988	1989	1990	1991	1992	1993	1994	1995
Net sales	443.2	570.2	692.8	796.7	833.9	853.0	846.0	906.6	1,032.4
Interest income	5.9	12.3	12.7	11.4	6.0	3.1	1.6	1.4	1.7
Other income	1.2	2.2	3.1	3.1	3.8	4.4	2.9	3.1	2.2
	450.3	584.6	708.6	811.2	843.7	860.5	850.5	811.1	1,036.3
Costs and expenses									
Cost of goods sold	279.4	361.0	441.3	510.5	521.8	553.1	532.8	556.3	634.6
Selling, general & administrative expenses and freight out	72.6	100.7	149.1	190.6	214.1	298.3	276.8	258.0	287.9
Restructuring charges (income)	0	0	0	0	0	23.9	70.1	(2.7)	0
Year-end incentive cash bonus	41.1	50.4	51.8	53.7	45.0	[a]	[a]	[a]	[a]
Payroll taxes paid by company on bonus	2.1	2.4	3.1	3.5	3.1	[a]	[a]	[a]	[a]
Hospital and medical expense	5.2	6.7	7.0	7.6	8.3	[a]	[a]	[a]	[a]
Foreign exchange loss	0	7.7	7.6	3.8	1.2	0.9	0.2	3.7	1.9
Interest expense				11.1	15.7	18.7	17.6	15.7	12.3
	400.4	528.8	660.0	780.8	809.3	894.9	897.5	831.0	936.7
Income before income taxes and extraordinary items	49.9	55.9	48.5	30.4	34.4	(34.4)	(47.0)	80.2	99.6
Provision for income taxes	22.3	21.5	21.0	19.3	20.0	11.4	(6.4)	32.2	38.1
Extraordinary items	0	0	0	0	0	0	2.5[b]	0	0
Net income	27.6	34.4	27.6	11.1	14.4	(45.8)	(38.1)	48.0	61.5

Source: Lincoln Electric Company Annual Reports and 10-K filings.

[a] Incentive bonus, all payroll taxes, and medical expenses included in selling, general and administrative expenses after 1992.

[b] Effect of change in method of accounting for income taxes.

Exhibit 6 Lincoln Electric Company Consolidated Balance Sheets, 1987-1995 (US$ millions)

	1987	1988	1989	1990	1991	1992	1993	1994	1995
ASSETS									
Cash and equivalents	61.0	23.9	19.5	15.5	20.3	20.6	20.4	10.4	10.1
Net receivables	61.7	90.9	100.8	127.3	118.0	111.3	110.5	126.0	140.8
Inventories	74.7	116.3	120.5	164.4	206.3	171.3	143.7	155.3	182.9
Other current assets	9.1	12.0	14.4	14.5	17.5	18.0	51.1	21.7	23.3
Total current assets	206.4	243.1	255.1	321.7	362.1	321.2	325.7	313.4	357.1
Gross property, plant and equipment	195.7	274.8	328.2	387.7	422.9	435.2	406.7	444.5	490.6
Accumulated depreciation	121.2	148.6	170.2	193.1	213.3	226.8	237.0	260.3	285.0
Net property, plant, and equipment	74.5	126.3	158.0	194.7	209.6	208.4	169.7	184.2	205.6
Investments at equity	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intangibles, including goodwill	0.0	10.6	26.8	38.0	41.2	50.3	40.1	41.9	40.7
Other assets	13.4	23.2	15.8	17.9	27.4	23.4	24.1	17.3	14.4
TOTAL ASSETS	294.7	403.2	455.8	572.2	640.3	603.3	559.5	556.9	617.8
LIABILITIES									
Current debt, including notes payable and long-term debt due within one year	6.6	39.2	41.6	40.6	50.7	27.1	33.4	18.1	29.8
Accounts payable	23.4	36.8	40.0	44.3	46.6	44.2	43.5	54.8	53.9
Other current liabilities	32.7	38.1	41.0	52.5	61.4	77.2	99.0	71.2	85.0
Total current liabilities	62.7	114.2	122.6	137.3	158.6	148.5	175.9	144.1	168.6
Long-term debt	0.0	17.5	30.2	109.2	155.5	221.5	216.9	194.8	93.6
Deferred taxes	7.0	10.1	9.8	7.4	7.9	8.5	6.1	6.6	7.1
Minority interest	11.9	31.4	42.6	47.4	41.7	16.8	7.9	6.8	5.5
Other liabilities	8.4	5.1	6.8	16.7	12.4	9.2	9.2	10.3	13.0
Total liabilities	90.0	178.4	211.9	317.9	376.1	404.6	416.0	362.7	287.8
Total stockholders' equity	204.7	224.8	243.8	254.3	264.1	198.7	143.5	194.1	329.9
TOTAL LIABILITIES AND EQUITY	294.7	403.2	455.8	572.2	640.3	603.3	559.5	556.9	617.8

Source: Standard & Poor's Compustat PC Plus

Exhibit 7 Indonesian Welding Market Segments, 1996

	Automatic welding process		Semi-automatic welding process		Stick welding process	
	Equipment	**Consumables**	**Equipment**	**Consumables**	**Equipment**	**Consumables**
Size (per year, in metric tons)	n.a.	1,500	n.a.	5,000	n.a.	50,000
Annual growth rate	n.a.	12%	n.a.	12%	n.a.	9%
Market shares (%)						
Lincoln Electric[a]	55%	50%	15%	0%	30%	1%
International company #1	0	5	0	40	0	45
International company #2	30	25	30	20	35	15
Indonesian companies	0	0	0	0	0	35
Imports by other companies	15	20	55	40	35	4

Source: Lincoln Electric estimates

n.a. Not available

[a] Imported from plants outside Indonesia.

Notes: All Lincoln products were imported. The two major international and the local competitors manufactured stick consumables locally, but imported nearly all of their semi-automatic and automatic consumables and stick equipment, and all of their semi-automatic and automatic equipment.

Exhibit 8 Indonesia: Economic and Social Characteristics

GDP, 1995	US$ 186 billion[a]
Population, 1995	196,600,000
GDP per capita, 1995	US$ 945[a]
Real GDP growth, average per year, 1991-1995	7.3%
Consumer price inflation, average per year, 1991-1995	9.0%
Exchange rate, September 1, 1996	US$1=2,342 rupiah
Rupiah, average annual depreciation, 1991-1995	3.5%
Construction industry growth, 1996	12.4%
Manufacturing industry growth, 1996	11.0%
Prevailing monthly pay for full-time production workers in manufacturing as of September 1996 (Lincoln estimate)	250,000 rupiah
Legal minimum monthly pay for full-time workers (September 1996)	170,000 rupiah
Adult literacy (est.)	84%
Unemployment, official figures, 1994	3%
Underemployment, unofficial estimates, 1994	40%

[a] Converted at market exchange rate.

Sources: The Economist Intelligence Unit, *EIU Country Profile;* The Economist Intelligence Unit, *EIU Country Report;* The Economist Intelligence Unit, *Business Asia*; Central Intelligence Agency *The World Factbook 1996.*

Exhibit 9 Cost structure for one kilogram of stick welding electrodes manufactured and sold in Indonesia

Scenario:	Plant running three shifts, normal labor productivity	Piecework boosts labor productivity by 20%	Piecework boosts labor productivity by 40%
Price	$1.35	$1.35	$1.35
Costs			
Materials	0.70	0.70	0.70
Share of fixed costs (including SG&A, depreciation)	0.20	0.17	0.14
Variable cost (including energy, lubricants)	0.08	0.08	0.08
Direct labor	0.02	0.02	0.02
Profit	0.35	0.38	0.41
Gross margin	**25.9%**	**28.1%**	**30.4%**

Source: Lincoln Electric estimates (disguised).

Notes: Figures are U.S. dollars. Figures do not represent a single kind of stick welding electrode, but rather a composite of high- and low-margin electrodes, weighted according to their approximate share of the Indonesian market.