

The Gage



American Measuring Tool Manufacturers Association

President's Message - George J. Schuetz

Look at Some of the Ways AMTMA Can Help You on the Job:

- Network Among Your Peers & Keep Abreast of Industry Trends
AMTMA Semiannual Meetings
- Technical Services, Including
Round Robin Programs and Educational Workshops.
- Business Surveys
- Regulatory Support
- Human Resources Support



Much has happened since our last newsletter.

The Measuring Tool market continues to hold its own and 2005 is on track to produce solid growth for our members. This was seen in the two key events held in the second quarter of the year.

The Phoenix meeting by all reports was a resounding success. For the second meeting in a row, the group as a whole was upbeat about the economic conditions. Sales were up and backlogs were growing. Confirmation that the industry is seeing a modest and sustained upswing.

For those attending, they were the recipients of two informative technical sessions. "Introduction to Surface Finish" presented by Marty Morgan & Scott Ledger of Mitutoyo America Corp. and "Climate Control Practices" presented by Bob Larzelere of Deltronic Corp. Both sessions

were well presented and proved to be valuable to the group. The AMTMA thanks them for their contribution.

Other business topics included "The Fundamentals of Customer Feedback" and "Effective Sales Planning & Its Impact on Contact Management". These are timely topics and from the feedback the group received will be the basis for more in depth discussions in the future.

During the social event on Friday evening, the AMTMA presented the Taylor Family with a plaque commemorating Roger Taylor and the many contributions that he made to the Association.

The Board of Directors and member body received a number of new proposals as to what steps should be taken to strengthen and grow the AMTMA. The AMTMA has much to offer the manufacturers of measuring tools but we also have a lot to share with those that use the tools. Therefore, there is the thought that in opening up the membership to not only manufacturers of measuring tools but also the users, we could serve a broader base that would benefit from the technical capabilities of the group. There were also discussions concerning meeting formats and frequency. One thought is to go to a larger general meeting being held once a year. Watch for these issues to

develop, be discussed and presented to the group over the coming months, starting with the Fall meeting in Las Vegas, November 2-4, 2005.

In April the Quality Expo in Chicago was held with 11% higher attendance than previous years, despite having fewer exhibitors. Quality Expo continues to be a valuable show for the industry and keeping it viable and growing is a major concern to the show organizers. There has been talk about moving the Chicago Quality Expo dates to be yearly opposite from the IMTS show in Chicago. The idea is to space out these two important shows to prevent similar shows from being too close time wise. Look for this to take place as early as 2007.

The Board of Directors and myself want to thank those members who helped man the AMTMA booth during the show. A number of important leads were generated for future membership.

We are anticipating a great Fall meeting in Las Vegas on November 2-4, 2005. Based on the program we have, I am confident it will prove to be productive. Check out the dates and topics on page 2 of this newsletter.

See You In Las Vegas!

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What's New Under the Sun?

November 2 - 4, 2005
The Orleans Hotel and Casino
Las Vegas, Nevada

Join us in Las Vegas for the AMTMA Fall Association Meeting and make your investment in our association, our industry, and our companies. In the festive surroundings of the Orleans Hotel and Casino, you'll enjoy spectacular views of the glittering Las Vegas Strip and the sweeping mountain panoramas ringing the Las Vegas valley. You'll find a wealth of opportunities to brighten the future of your company. You'll take away technical ideas, business solutions, and mutual support. Your participation is important!

The AMTMA Fall Association Meeting is the place to:

- Share in the vast amount of information and knowledge that our members possess
- Make new contacts and find inspiration to keep your business healthy
- Hear and see examples of companies who know how to please customers – and learn their secrets for success
- Gain valuable technical information
- Discuss the state of our industry—its challenges and changes—with your peers
- Strengthen your bonds with fellow AMTMA members! We are the voice of our industry!

Here's what's happening at the AMTMA Fall Meeting:

- Golf (Optional Event) – Wednesday, November 2 (8:00 a.m. start time)
- Board of Directors Meeting – Wednesday, November 2 (5:00 to 7:30 p.m.) Directors and Past Presidents only
- Association Meetings – Thursday, November 3 and Friday, November 4
- Technical Workshop on Nanotechnology
- Technical Workshop on Calibration Management Software and the New Automotive Standard
- Presentation on Internet Sales
- Presentation on Customer Relations Management
- Association Evening Event – Thursday, November 3



Save the dates! We need your participation to make the AMTMA Fall Association Meeting productive and fun in the sun! Registration information will follow soon.

AMTMA
1300 Sumner Avenue
Cleveland, OH 44115-2851
216-241-7333
fax 216-241-0105
www.amtma.org



Go to the Source for Technical Support

By: Hilliard J. Cox, Frank J. Cox Sales LTD.

The American Measuring Tool Manufacturers Association based in Cleveland, Ohio is an organization recognized for its expertise in the area of dimensional measuring instruments, precision gages and calibration. For over thirty years the movers and shakers in this industry have been members. Their members manufacture, calibrate and/or distribute the vast majority of such products used in North America - if not around the world.

The association meets twice yearly at different locations primarily in the USA. Meetings feature guest speakers on a wide range of subjects related to dimensional metrology and calibration. Topics at recent meetings included:

- Plain ring gage calibration techniques and equipment
- Measurement uncertainty
- Temperature considerations for a calibration laboratory
- The process for accreditation to ISO 17025 and ANSI Z-540

In addition, the association publishes a document titled "Searching For Zero" which is a guide to measurement uncertainty in the calibration of such equipment. If you don't have a copy of the second edition that came out this year, contact AMTMA. It is a practical document that can help to ensure your calibration procedures are appropriate and that your uncertainty budgets include all the elements needed to make them realistic.

At the Spring meeting in Phoenix this year, President George Scheutz suggested that the association should consider providing more support to users of metrology equipment by expanding the Association's membership to

include them. This would benefit users and independent calibration laboratories who could attend regular meetings and hear what the experts have to say on a wide range of issues.

The AMTMA is the only association of its kind in North America due to it being primarily devoted to dimensional metrology. As a result of this, measuring problems, disputes over technology and standards are openly discussed with some of the best people in the industry available to offer comment.

Seminars and workshops are often provided by AMTMA. In some cases, they may occur the day before the general meeting to ensure enough time is available to cover any given topic. Most seminar topics are selected by association members so they are relevant to their day-to-day measurement situations and needs.

Keeping up to date on specifications and standards can be a daunting task at times but since the AMTMA has a committee to do just that, the members know what's going to happen ahead of time. As would be expected, AMTMA member companies have representatives on most standards writing committees as well to ensure they reflect the working world reality.

I am frequently asked for training and technical support information regarding gages, and calibration and have written columns on this subject in the past. My personal experience and that of my AMTMA colleagues indicates that a lot of people want accurate information on many dimensional metrology topics. This proposed change by the AMTMA would provide great potential for obtaining such information, training and a whole lot more on a regular basis.

If you use dimensional gages and measuring instruments, calibrate them or perhaps run an independent calibration laboratory, you should consider being a part of the AMTMA.

GETTING THERE:

The AMTMA is testing the waters, so to speak. The question is: Are there enough folks at the user level in this field that would be interested in joining the association? If there are, the AMTMA will advise their members accordingly and put forward suggestions that would enable you to join the organization at a reasonable cost.

Are you interested? Let the folks at the AMTMA know as soon as possible.

Contact:

The American Measuring Tool Manufacturers Association
1300 Summer Ave
Cleveland, Ohio 44115
Phone: (216) 241-7333
Fax: (216) 241-0105
www.amtma.com

You are not obligated in any way by letting them know of your interest. If enough people are interested the Association will work out the details. You will be advised of those details later and can make up your mind at that time.

Now, I have to confess that I am a member of the AMTMA but this should not be a cause of concern for you. They keep me restrained at all meetings and under control at all times - except when I escape of course.

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United States Cutting Tool Institute Billings Index

MONTH	TOTAL BILLINGS	INDEX RATIO (2002 = 100)
January 2005	\$140,216,166	128.6%
February 2005	\$140,534,359	127.1%
March 2005	\$158,139,331	144.1%
April 2005	\$146,180,337	133.3%
May 2005	\$144,986,017	130.7%
June 2005	\$155,767,363	140.6%
July 2005	\$131,095,766	118.1%
2005 Year-To-Date	\$1,016,919,339	131.8%





*AMTMA Legal Counsel, J.
Stephen Van Heyde, Baker &
Hostetler LLP*

In February of this year, the national media broke the story that Choice Point, a data collection company, had compromised the personal data of over 30,000 California consumers. Choice Point is a publicly traded company with over 5000 employees and 60 locations. Choice Point claims to be the "most trusted source and leading provider of decision-making information that helps reduce fraud and mitigate risk." In reality, Choice Point maintains a dossier on virtually every American consumer.

Choice Point's computers were not hacked. Over a period of many months, Choice Point routinely sold personal data concerning consumers to approximately 50 dummy companies set up by scam artists. Then Choice Point chose not to inform those affected until the State of California forced Choice Point to do so. Choice Point notified 30,000 to 35,000 Californians whose data had been sold. California is the only state that requires disclosure. But Choice Point did not advise non-California residents that their personal data has been compromised.

The Choice Point fiasco has been followed by a perpetual string of stories involving financial institutions, data collection companies and retailers. Who regulates the activities of these companies?

How big is the problem of identity theft?
Statistics available on the Federal Trade

Commission website show that it is big and growing bigger. The website shows that in calendar year 2004 there had been 635,000 reported cases of consumer fraud involving in excess of \$500,000,000 in claims. Of these 635,000 cases of consumer fraud,

247,000 involved identity theft. Other statistics claim that personal data involving over 11 million have been compromised.

The lack of regulation of entities like Choice Point is being fiercely debated in Washington. At present, there is no single federal law that governs all uses or disclosures of consumer information. The FTC is patching together some rules based on its authority under the Fair Credit Reporting Act, the Gramm-Leach-Bliley Act imposing privacy requirements on financial institutions and the FTC Act itself.

At present, there is no single federal law that governs all uses or disclosures of consumer information.

The 1998 Identity Theft Assumption and Deterrence Act directed the FTC to investigate and monitor the problem. The growing numbers of identity thefts and the cavalier attitude displayed by Choice Point and others have caused several members of Congress to jump on the consumer protection bandwagon. Expect to see multiple bills that will regulate data brokers, requiring notice to affected consumers and curtailing disclosure of social security numbers. The first comprehensive data privacy bill imposing regulation on data brokers was introduced in late June by Senators Arlan Specter and Patrick Leahy. Expect much debate on identity theft and regulating data collection companies when Congress returns to Washington.

In the meantime, what can you and I do to protect ourselves if we suspect that we are victims of identity theft?

I encourage each of you to visit the FTC website (www.ftc.gov). On the Home Page, click on "Identity Theft." There are specific instructions on what to do if you think your identity has been stolen.

First, report your suspicion at once to one of three nationwide consumer reporting agencies. Phone numbers and web addresses are available at the FTC website. Notification to one of those three agencies

requires the agency to notify the other two.

What are your rights? –

1. You have the right to ask that nationwide consumer reporting agencies place "fraud alerts" in your file.
2. You have the right to free copies of the information in your file.
3. You have the right to obtain documents from creditors and other business relating to fraudulent transactions made or accounts opened using your personal information.
4. You have the right to obtain information from any debt collector that contacts you.
5. If you believe information in your file results from identity theft, you have the right to ask that a consumer reporting agency block that information from your file.
6. You may also prevent businesses from reporting information about you to consumer reporting agencies if you believe the information is a result of identity theft.

While there are important legal rights, you can see that resolving theft of your identity requires vigilance, perseverance and knowledge of your rights. According to victims, restoring your identity and credit rating is a time consuming and frustrating experience that can affect you and your credit rating for years.

There is other valuable information on the FTC website. Perhaps the most useful is a pamphlet entitled "Take Charge: Fighting Back against Identity Theft."

Review your bank statements and credit card statements carefully each month. Do not divulge personal information over the phone. Be careful giving your credit card number to pay for an internet transaction. Purchase the software needed to cleanse your computer of spiders and cookies. Lastly, remember the same advice given to each of us by George W. Bush – "Be vigilant!"

How China Will Change Your Business - Adapted from Ted C. Fishman's Book, *CHINA, INC.*

Fourteen things every entrepreneur should know about the capitalist explosion heading our way. But don't assume that conceding China's rise means conceding to China.

China's miracle economy can come at you in a lot of ways, from all directions.

- Mention an interest in China to your old friend who owns an industrial toolmaking shop and he confides that his factory, which was started by his father and has bought a comfortable suburban life for three generations of his family as well as good wages to hundreds of workers, "is getting killed by the people over there."

- Stop at the auto supply store for windshield-wiper fluid. Half the store is now a showroom for small Chinese motor scooters, some of which look like half-Harleys, others like Ducatis. Most cost less than \$300.

- Decide at last to plunge into digital photography. Photo magazines all rave about a small new camera from Nikon, an engineering wonder that can shoot fast, captures dimly lit scenes, and costs half the price of similar machines a year ago. Nikon is one of Japan's marquee brands, but when you bring the camera home from the store you spot the words in small print on the product itself: "Made in China."

- Wake up in Santa Barbara, Calif., one morning to a sky that looks as though it is painted a shiny white. The morning's newspaper reports that the sunlight is playing tricks on something known as the Asian Brown Cloud, a mass of dust that has drifted over the Pacific from China. The cloud contains particles of loose earth from deforested land mixed with arsenic and other industrial pollutants from the country's factories. Powered by the world's most

rapidly changing large economy, China is an ever increasing presence and influence in our lives, connected to us by the world's shipping lanes, financial markets, telecommunications, and above all, by the globalization of appetites. China sews more clothes and stitches more shoes and assembles more toys than any other nation. It has become the world's largest maker of consumer electronics, pumping out more TVs, DVD players, and cell phones than any other country. And more recently, it has ascended the economic development ladder higher still, moving quickly and expertly into biotech and computer manufacturing. It is building cars (there are more than 120 auto-makers in China), making parts for Boeing 757s, and exploring space with its own domestically built rockets.

Americans tend to focus on the huge inequality in trade between the two countries. It is a worry Americans help to create by buying ever more from China's humming factories. In 2004, the Chinese sold the United States \$160 billion more in goods than they bought. Contrary to common wisdom, however, the trade deficit with China does not mean that Americans are spending down the national wealth at a faster pace than ever before. So far, most of China's gains with American buyers have come at the expense of the other countries that once lured American dollars, especially other Asian economies. Americans -- and the world -- get more stuff in the bargain. Ever since China started on the capitalist road, opinions about its prospects have figuratively, and literally, been all over the map. The present mood is a combustible mix of euphoria, fear, admiration, and cynicism. On those emotions ride great tides of capital, the strategic plans of businesses great and small, and the gravest political calculations in the world's capitals and city halls. Yet few working Americans have a full awareness of China's rise. How could they? Nothing like

this has ever happened before, and it's occurring on the other side of the globe. Yet Americans -- particularly anyone involved in running a business -- need to know what is happening today in China and to understand how China's fate has become inextricably bound with our own. Conceding China's rise does not mean conceding to China. But it does require acknowledging some important truths:

1. China's economy is much larger than the official numbers show.

2. The growth of China's economy has no equal in modern history.

3. China is winning the global competition for investment capital.

4. China can be a bully.

5. China's economy is an entrepreneurial economy.

6. The most daunting thing about China is not its ability to make cheap consumer goods.

7. China is closing the research and development gap - fast.

8. China now sets the global benchmark for prices.

9. China's growth is making raw materials more expensive.

10. No company has embraced China's potential more vigorously than Wal-Mart.

11. There are hidden costs associated with doing business in China.

12. Piracy is a problem.

13. China's heavy buying of U.S. debt has lowered the cost of money in the U.S.

14. Americans and Chinese have become reliant on each other's most controversial habits.

1. China's economy is much

larger than the official numbers show.

In 2003, China's official GDP was \$1.4 trillion. By that measure, it was the seventh-largest economy in the world. As with nearly all economic statistics from China, however, that measure is suspect. One reason the real number may be much higher is that, in competition for development funds, local Chinese authorities have considerable incentive to underreport their growth rates to the nation's central planners. Another reason is that the government measures only China's legal economy. Its underground economy, made up of both unsavory businesses and more mundane ones that lack a government stamp (and tax bill), is enormous but uncountable.

Economists also note that China's official GDP underplays the true size of its economy because China uses the massive power of its foreign currency reserves to keep the world price of the yuan marching in lockstep with the dollar. If the dollar had not dropped against the euro and other world currencies over the past few years, China's ranking would be a notch or two higher. Critics of China's currency policies, including American domestic manufacturers such as steel mills, casters, plastics molders, and machine-tool makers, argue that China artificially depresses the value of its currency against the dollar by as much as 40%.

A dollar spent in China buys almost five times more goods and services than a dollar spent in a typical American city like Indianapolis. Taking purchasing-power parity into account, the U.S. Central Intelligence Agency estimates that China's economy looks more like one with a GDP of \$6.6 trillion. Put another way, it makes more sense to think of China's economy as closer to two-thirds the size of the U.S. economy than to one-seventh.

2. The growth of China's economy has no equal in modern history. China's economy has grown so fast that it has taken on the

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showcase farms. Since China set about reforming its economy a generation ago, its GDP has expanded at an annual rate of 9.5%. Countries in the early stages of economic reform often come up fast, but not like China. The country is closing in on a 30-year run during which its economy has doubled nearly three times. Neither Japan's nor South Korea's postwar boom comes anywhere close. Nicholas Lardy, an economist at the Institute for International Economics, notes that China grew mightily even during the worldwide economic doldrums of 2001-2002.

China is so committed to economic growth that the Chinese often talk as though they can will it to happen. It is a necessary optimism that pervades official Chinese communication. Orville Schell, the author of *Virtual Tibet* and the dean of the school of journalism at the University of California, Berkeley, draws a parallel between the unity of focus the Chinese demonstrated for anticapitalism and their focus now on capitalism. Schell argues that in both instances there is a willingness to suspend logic and see only bright tomorrows. Both lead to excess. In its capitalist present, China has been willing to overlook the dark side of modernization, seeing economic progress as the solution to all the country's challenges. Even so, every time the worst is predicted for China's economy, it seems to grow faster, create stronger industries, import more, and export more.

3. China is winning the global competition for investment capital. One reason China's economy is growing so fast is that the world keeps feeding it capital. According to Japan's Research Institute of Economy, Trade and Industry, one-third of China's industrial production was put in place by the half-trillion dollars of foreign money that has flowed into the country since 1978. In 2003, foreigners invested more in building businesses in China than they spent anywhere else in the world. The

U.S. used to attract the most foreign money, but in 2003 China took a strong lead, pulling in \$53 billion to the U.S.'s \$40 billion.

With money comes knowledge. The catalytic role of foreigners in the country is still growing quickly; every day China receives a river of European, Asian, and American experts in manufacturing, banking, computing, advertising, and engineering. In 2003, the exports and imports by foreign companies operating in China rose by over 40%. More than half of China's trade is now controlled by foreign firms. Many of these import goods into the country that they then manufacture into exports. Foreign companies have pumped up China's trade volume enough to make it the third-largest trading country in the world, behind the U.S. and Germany and now ahead of Japan.

4. China can be a bully. China can spend, it can hire and dictate wages, it can throw old-line competitors out of work. In just a three-year period from 2000 to late 2003, for example, China's exports to the U.S. of wooden bedroom furniture climbed from \$360 million to nearly \$1.2 billion. During that time, the work force at America's wooden-furniture factories dropped by 35,000, or one of every three workers in the trade. China now makes 40% of all furniture sold in the U.S., and that number is sure to climb.

5. China's economy is an entrepreneurial economy. China's industrial competitors, including the U.S., often misapprehend the source of China's productive strength. They fear that another centrally governed, well-planned assault on strategic industries is being plotted in Beijing. The world has already seen how effective the Japanese, Koreans, and Taiwanese can be when they focus on sectors they mean to conquer. Even Chinese government planners like to talk as though they are aping the centrally coordinated, government-financed assaults on strategic global industries that their Asian

neighbors have pulled off over the past 40 years. However, in looking at how Chinese businesses really take shape -- locally and opportunistically -- Kellee Tsai, a political scientist at Johns Hopkins University and a former analyst at Morgan Stanley, argues that nothing could be further from the truth. For a world fretting over Chinese economic competition, the entities to fear are not government planners but enterprises that spring on the scene lean and mean, planned and financed by investors who want to make money quickly.

An emblem of the Zhejiang province in China is Hong Dongyang, an entrepreneur whose story is now well-known throughout the country. Hong was once a school-teacher. She began making socks in the 1970s on a home sewing machine. At first Hong sold them along the roads near her home. She opened a stand and christened her embryonic enterprise Zhejiang Stocking Company. Hong's sock company was predictably copied en masse by others. Today, the province is the Chinese sock capital, with more than 8,000 companies spinning out eight billion pairs a year, one-third of the world's supply. In 2001, the Chinese makers produced 1% of the socks on U.S. feet. In just two years, sock imports from China to the U.S. jumped two-hundred-fold and now make up 7% of the U.S. market. James J. Jochum, assistant secretary for export administration at the U.S. Department of Commerce, has noted that the Chinese manufacturers cut their prices by more than half in 2003 and helped drive one in four U.S. sock makers out of business.

6. The most daunting thing about China is not its ability to make cheap consumer goods. The American economy won't crater just because the Chinese can produce sofas and socks for less than we can. The Japanese, for their part, have lost the television business. The Italians are losing the fine-silk business. Consumer goods trade on the surface of the world's

economy and their movement is easy for the public to watch. The far bigger shift, just now picking up steam, is occurring among the products that manufacturers and marketers trade with each other: the infinite number and variety of components that make up everything else that is made, whether it is the hundreds of parts in a washing machine or computer or the hundreds of thousands of parts in an airplane. The next question is whether any commercial technology is beyond an imminent challenge from China.

Given how quickly China is climbing the industrial ladder, perhaps the next question is whether any commercial technology is beyond an imminent challenge from China. Gal Dymant, an American Israeli venture capitalist in Beijing, believes the answer is that few will be. One of the companies Dymant works with, a database publisher named Asia Direct, produces an annual China Hi-Tech Directory. Tracking the directory's updates year to year gives Dymant an informal measure of the shifts in Chinese industry.

The first thing one notices about the directories, he says, is how much thicker they grow every year, particularly in industries where there have been large foreign investments. In 2003, Asia Direct's volume grew considerably fatter in the sections devoted to China's domestic mobile-phone manufacturers and suppliers, broadband communications, and in companies establishing themselves in cities outside of China's eastern powerhouses. The manufacture and sale of integrated chips is also soaring, along with healthy gains in China's software and information-services markets. Then again, every section in the directory has grown, including biotechnology, semiconductors, and Internet development, areas in which Chinese firms have newly established themselves, many now in partnership with the world's leading technology-driven companies.

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For his part, Dymant is putting together an investor group to build a Chinese version of one of the world's most advanced and costly medical devices, the magnetic resonance imaging (MRI) machine. "The talent is here to build anything," Dymant says. "We think we can develop MRIs for about 60% of the price they are built for in the U.S."

7. China is closing the research and development gap -- fast. The ability of American industry to stay ahead of its international competition rests on the national gifts and resources that the U.S. devotes to innovation. The research gap between the U.S. and China remains vast. In December, Washington authorized \$3.7 billion to finance nanotechnology research, a sum the Chinese government cannot easily match within a scientific infrastructure that would itself take many more billions (and years) to build.

Yet when it comes to more mainstream applied industrial development and innovation, the separation among Chinese, American, and other multinational firms is beginning to narrow. Last year, China spent \$60 billion on research and development. The only countries that spent more were the U.S. and Japan, which spent \$282 billion and \$104 billion, respectively. But again, China forces you to do the math: China's engineers and scientists usually make between one-sixth and one-tenth what Americans do, which means that the wide gaps in financing do not necessarily result in equally wide gaps in manpower or results. The U.S. spent nearly five times what China did but had less than two times as many researchers (1.3 million to 743,000). China's universities and vocational schools will produce 325,000 engineers this year -- five times as many as the U.S.

For now, the emphasis in Chinese labs is weighted overwhelmingly toward the "D" side -- meaning training for technical employees and managers. Nevertheless, foreign companies are moving quickly

to integrate their China-based labs into their global research operations. Motorola alone has 19 research labs in China that develop technology for both the local and global markets. Several of the company's most innovative recent phones were developed there for the Chinese market.

8. China now sets the global benchmark for prices. Big news can be found in little places. In its November 2003 circular, a dryly written four-page publication, the Chicago Federal Reserve Bank noted complaints from American makers of automotive parts that "automakers had been asking suppliers for the 'China price' on their purchases." The bank's analysts observed that U.S. suppliers had also been asked by their big customers to move their factories to China or to find subcontractors there.

Over much of the business world, the term China price has since become interchangeable with lowest price possible. The China price is part of the new conventional wisdom that companies can move nearly any kind of work to China and find huge savings. It holds that any job transferred there will be done cheaper, and possibly better.

It is plainly understood that asking suppliers to lower prices is merely another way of telling them they ought to be prepared to meet the best price out of China, even if they are making their products in Japan or Germany. General Motors, which buys more than \$80 billion worth of parts a year, now has a clause in its supply contracts that gives its supplier 30 days to meet the best price the company can find worldwide or risk immediate termination.

In fact, in the U.S. between 1998 and 2004, prices fell in nearly every product category in which China was the top exporter. "The manufactured goods that have dropped in price the most are those made by China," says W. Michael

Cox, chief economist for the Federal Reserve Bank of Dallas, citing figures assembled by the bank for its 2003 annual report, published in 2004. Personal computers, the most outstanding example, fell by 28%, televisions by nearly 12%, cameras and toys by around 8%, while other electronics, clothing of all sorts, shoes, and tableware also dropped in price.

9. China's growth is making raw materials more expensive. Even as China puts pressure on U.S. manufacturers to lower prices, it's squeezing them from a different direction. Its voracious demand for raw materials has caused prices to spike. Copper prices jumped 37% last year, aluminum and zinc both rose about 25%, and oil was up 33%. In 2003, according to the calculations of Stephen Roach, chief economist at Morgan Stanley, the Chinese bought 7% of the world's oil, a quarter of all aluminum and steel, nearly a third of the world's iron ore and coal, and 40% of the world's cement. The trend is for bigger amounts yet to come.

The squeeze is leaving U.S. manufacturers with no alternative but to become more productive. Better machines, software, and advanced management techniques, for instance, now mean that U.S. companies on average produce far more per worker than they did a quarter of a century ago when manufacturing employment was high. From 1977 to 2002, productivity throughout the U.S. economy grew by half, but in manufacturing it more than doubled. Surprisingly, despite losing huge numbers of workers, U.S. manufacturers actually finished 2003 making more stuff than they did in 2001. Output was up, if only by half a percent.

10. No company has embraced China's potential more vigorously than Wal-Mart. And no company has been a bigger catalyst in pushing manufacturers to China. Estimates of how much of Wal-Mart's merchandise comes from abroad today range from 50% to

85%. Chinese factories are, by far, the most important and fastest-growing sources for the company. In 2003, Wal-Mart purchased \$15 billion worth of goods from Chinese suppliers. A whopping portion of between 10% and 13% of everything China has sent to the U.S. winds up on Wal-Mart's shelves. Writing in *The Washington Post*, Peter Goodman and Phillip Pan reported in February 2004 that "more than 80% of the 6,000 factories in Wal-Mart's worldwide database of suppliers are in China." The company has 560 people on the ground in the country to negotiate and make purchases.

Wal-Mart is often demonized for its part in shipping U.S. manufacturing jobs overseas. It is difficult, however, to separate the role of Wal-Mart's thousands of suppliers in the migration of manufacturing out of the U.S. from the larger global trends realigning how and where the world makes things. If Wal-Mart has a unique part in the trend, it is in how expertly the company has managed that trend and, in so doing, accelerated it. China's low-cost manufacturing machine feeds Wal-Mart's critical mass by allowing companies to build assembly lines that are so huge that they achieve ever-greater economies of scale and drive prices downward all the more.

Wal-Mart's Chinese suppliers can achieve startling, market-shaking price cuts. By selling portable DVD players with seven-inch LCD screens from China for less than \$160, for instance, Wal-Mart recently helped cut the price of these trendy devices in half. Even with superlow prices, Chinese factories can sell in such giant quantities that they willingly oblige. To get ready for its big Thanksgiving sale in 2002, Wal-Mart picked Sichuan Changhong Electric, one of the world's largest makers of televisions, to supply sets under the Apex Digital brand. Changhong makes 15 million TVs a year, most of them for export. Eight of 10 shipped overseas go to the U.S. In 2002, its sets at Wal-Mart sold for

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far less than comparable models from other makers, sometimes undercutting the competition by \$100 or more. The models the company delivered for the sale helped the event net \$1.4 billion.

In late December, state-owned Changhong reported nearly half a billion dollars in losses, purportedly linked to unpaid bills owed by Apex. The scandal, though mired in murky details, nevertheless highlights both the ability of China's big firms to sustain losses and keep running and their willingness to satisfy American retailers' demands for ever-lower prices.

11. There are hidden costs associated with doing business in China.

Companies that engage with China must expect pressure to transfer their technology and thus create their own competition in the country. The Chinese use the carrot of their vast market to extract concessions from foreign firms that will help build China's industrial might. It is a policy worthy of grudging admiration. When viewed from the Chinese side, it has a long record of success.

Motorola virtually invented China's mobile-phone market. Its corporate archives show that the company knew that eventually the transfer of technology to China would sow formidable rivals. Nevertheless, Motorola decided its best strategy was to get into China early and to bring its best technology. The proof today is in the size and efficacy of the country's mobile communications network: Calls get through to phones in high-rises, subway cars, and distant hamlets -- connections that would stymie mobile phones in the U.S.

What no one at Motorola anticipated was how crowded the Chinese market would become. Nokia and Motorola now battle for market share in the Chinese handset business. German, Korean, and Taiwanese makers figure strongly. And all these foreign brands are now facing intense competition from indigenous Chinese phone

makers. More than 40% of the Chinese domestic handset market now belongs to local companies such as Ningbo Bird, Nanjing Panda Electronics, Haier, and TCL Mobile. The domestic makers have become so strong that when Siemens found its mobile handset business in China wanting, it joined with Ningbo Bird to gain both low-cost manufacturing and a developed distribution channel. Yet Motorola can't exit the Chinese market. If it did, says Jim Gradowille, Motorola's vice president of Asia Pacific government relations, the Chinese companies that emerged would be the leanest and most aggressive in the world, and a company like his would have no idea what hit it. So Motorola stays. Already the largest foreign investor in China's electronics industry, Motorola plans to triple its stake there to more than \$10 billion by 2006.

12. Piracy is a problem. Foreign companies have little defense against even outright theft of their technology in China. China's failure to police intellectual property, in effect, creates a massive global subsidy worth hundreds of billions of dollars to its businesses and people. By investing in the country's manufacturing infrastructure, by providing the expertise, machines, and software China needs to produce world-class products, the world is also helping assemble the biggest, most sophisticated, and most successful "illegal" manufacturing complex in the world.

Seen another way, China's loose intellectual property rules turn the tables on the Western colonial powers and the Japanese who throughout the nineteenth and early twentieth centuries violated China's land and people. As China grows into a great power, the wealth transferred into the country by expropriating intellectual property will propel it forward.

13. China's heavy buying of U.S. debt has lowered the cost of money in the U.S. In the first half of 2004, China's total foreign ex-

change reserves topped \$460 billion. In size, that puts China's cumulative dollar account at roughly equal to a third of its gross domestic product. If China simply spent its dollars, it would flood the world market with American currency and drive the dollar down. But China, no fool, is not interested in pushing the dollar down. So instead of selling its dollars, it lends them back to the U.S.

China keeps tight wraps on the value, composition, and trading of its portfolio, but Wall Street commonly assumes that the country owns a large amount of high-grade U.S. corporate bonds, intertwining its national fortunes with America's blue chips (many of them the same corporations reaping fortunes in China itself).

China also has almost certainly built a large stake in the market for bonds issued by Fannie Mae and Freddie Mac, the companies that buy home mortgages from banks and thrift institutions and resell them as bundled securities. This means that billions of dollars' worth of investments belonging to the Chinese are plowed indirectly into the American real estate market, and that an ever-increasing share of Americans' mortgage payments pour into the coffers of the government of China.

As long as China is an aggressive lender, Americans -- whether borrowing for their own private purchases or acting in the roles of taxpayers -- can borrow money at lower rates than they would otherwise have to pay. Much of the recent boom in real estate prices in America, especially in the East and West Coast markets, is attributable to these low rates.

14. Americans and Chinese have become reliant on each other's most controversial habits. The Chinese need a low-priced currency to keep their export machine going and create jobs. But maintaining the yuan's low price also means that Chinese consumers are stuck with a currency that would

otherwise buy more for them on the world market. China's diligent savers suffer too since their bank deposits are tied up in accounts that earn low government-mandated rates of return, as the government, in effect, siphons off money from savers to maintain its currency peg.

The people of China are indirectly subsidizing the insatiable shopping of Americans.

Relatedly, China's vast export earnings earn less than they ought to when they are invested in U.S. debt securities that offer modest yields, when investments in the Chinese economy can return 10 times as much (albeit on riskier terms). Seen from that view, the people of China, who earn on average just one-fortieth what Americans do, are indirectly subsidizing the insatiable shopping of Americans, who acquire ever more goods at the same time that Chinese consumers are hampered from buying goods from abroad.

The obverse of this peculiar relationship is that China lends America all the money it needs to spend itself silly. The cycle of codependency, which former U.S. Treasury Secretary Lawrence Summers labels a "balance of financial terror," isn't sustainable. The U.S. cannot take on ever-bigger debt and amass huge trade deficits indefinitely. In the worst scenario, the U.S.'s willingness to fritter away its national wealth to finance private consumption and unproductive government spending would extract a permanent price on the economy, sending the U.S. in a downward spiral that would be hard to escape.

Thus do the routes to prosperity chosen by China and the U.S. put both countries at risk. Without the U.S. to buy Chinese goods, China cannot sustain its growth; without China to lend money to the U.S., Americans cannot spend. Without the twin engines of the U.S. and China stoking the fortunes of other nations, the rest of the world might also sputter.

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How can the U.S., perhaps with its traditional allies, adjust to a competitive challenger that has strengths unlike any other that America has faced? Are the transfers of talent, technology, and capital part of an inevitable dynamic? Or does the U.S., or any other country, have the power to shape a future in which everyone prospers?

Americans looking for answers and action must also find a way to move America's leadership to see China's rise as every bit as worthy of national attention as the rumblings in more obvious political hot spots. While all eyes turn to the so-called clash of civilizations between Islam and the West, China will have the more profound impact on the world in the long run. And yet, despite occasional misgivings offered in factory towns and tariffs slapped on imports at the height of campaign season,

American leaders tend to view China's rise as the fulfillment of a free marketer's dream, where global investors will shepherd the country into wealth, democracy, and peaceful interdependence with the rest of the free world.

It is a lovely theory, and it may ultimately be true. There is, however, no evidence upon which to base such a prediction. Which exactly of the world's large, highly nationalistic, dictatorial, Communist-capitalist countries offers a historical analogue? Answer: There is no such country.

This article was adapted from Ted C. Fishman's book, *CHINA, INC.*, published by Scribner, an imprint of Simon & Schuster.

AMTMA Statistics Update - Ken Swanson, Jr., AMTMA Statistics Committee Chair

**Don't miss your
opportunity to
participate in valuable
AMTMA statistics
reports.**

Business Conditions Report

(Quarterly)

Member participation in this report averages about 30 companies every quarter. This is an excellent way to keep abreast of the industry business conditions as your peers see it. However, you have to participate to get the information.

Wage & Fringe Benefit Survey

(Annual)

Member participation in this report averages about 25 companies every year. This is an excellent way to keep abreast of the industry wage & Benefit trends from year to year. However, you also have to participate to get the information.

AMTMA Membership Update - John Mead, AMTMA Membership Committee Chair

June 2005

FRANK J. COX SALES LTD.

Hilliard J. Cox announced the retirement of Murray Cox and Hill's new role as sole owner of Frank J. Cox Sales Ltd., Hilco Gauge Manufacturing Company, Ltd., and The Canadian Central Gauge Laboratory.

The Association congratulates both Hill and Murray!

September 2005

H.E. MORSE CO. (HEMCO)

The H.E. Morse Co. announced the following appointments to its Board of Directors:

Laurence A. Wysong - Chairman of the Board
 Claire A. Wysong - Vice Chairman of the Board
 Christopher Wysong - President
 Michael Hop - Vice President and General Manager



*American Measuring Tool
Manufacturers Association*

Mark Stockinger
1300 Sumner Avenue
Cleveland, Ohio 44115

216-241-7333—Phone
216-241-0105—Fax
amtma@amtma.com—E-Mail

The measuring tool & gage industry is only as strong as its weakest link!

As the precision measuring tool industry continues to mature, it faces challenges from many sources. As each and every measuring toolmaker improves, so does the strength and vitality of the industry.

The American Measuring Tool Manufacturers Association (AMTMA) stands for serving, supporting, and educating American precision tool manufacturers and their pursuit of competitiveness in world markets.

Join your peers and you'll save time when you take advantage of benefits and services designed for the busy measuring tool executive and manager. No matter what information you need, AMTMA is just a phone call or e-mail away.

The Association wishes to congratulate the following companies on their continuous years of membership in the American Measuring Tool Manufacturers Association. These companies will be acknowledged at the 2005 Fall Association Meeting.

20 YEARS

Frank J. Cox Sales LTD.

15 YEARS

A.A. Jansson, Inc.

Acu-Gage Systems, A Division of Ocean Industries, LLC.

Ledford Gage Lab, Inc.

R.L. Schmitt Company, Inc.

Size Control, a Division of Kennametal IPG

10 YEARS

Deltronic Corp.

Perfekt Precision Manufacturing Company

Yorkshire Precision Gauges LTD.