Changes in the Upscale Job Market; Outsource

- Surviving a sea change (outsourcing)
  - Loss of IT credibility

- What happens when American jobs slip away?

- Outsourcing to India, etc.

- Upscale jobs: Engineering, software, financial analysis, chip design, etc.

- More to consider than cheaper labor.

- Ready for scan July 10, 2003, 45 pages, RJO292

Roy Jenne
July 10, 2003

NOTE: THESE ARE RESEARCH NOTES ABOUT OUTSOURCING.
Changes In the Upscale Job Market; Outsource

Roy Jenne
May 2003

The plans for outsourcing and contracts are starting to cause big changes. But what happens if too many of the in-house skills are gone? In the first years of outsourcing, the lower cost jobs were affected. Now it is also the higher paying jobs. These stories are mostly from Nov 2002 to May 2003.

1. Surviving a sea change (outsourcing)
   - Loss of IT credibility

2. Vermont as outsourcing alternative

3. What happens when American jobs slip away?

4. Too much globalism

5. Outsourcing to India

6. Outsourcing Angst (see this)

7. Companies expected to boost offshore outsourcing

8. Out of job pool and go to school

9. Your outsourced future

10. Exporting IT jobs

11. More to consider than cheaper labor
    - IT wages in ten countries

12. Is your job next? (BW, Feb 2003), 10 p


14. Toyota plans to build parts in low-cost areas (5 p)
    - "Do all we can to reduce costs further" (Apr 2003)

15. Law school grads balk at low pay (big school debts)
Information About Outsourcing

Roy Jenne
May 27, 2003

I have been gathering some information about outsourcing for several years to help us all figure out what it will mean to the USA. The first jobs to be outsourced were mostly in manufacturing. Now it is affecting engineering, programming, etc.

There are also questions about what kind of jobs people will have in the future. One document (RJ0229) has information about what sort of jobs the US has had during 1800 – 2000. The importance of more education is stressed (for jobs such as computer programming and engineering). But if a lot of those jobs are outsourced, then where will people work? Take businesses such as grocery stores: A lot of info tech work has to go on, but how many grocery store people will be needed to keep the computers running as well?

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Surviving a Sea Change

The IT community, from code jockeys all the way up to the executive suite, is undergoing a sea change. The existence of everything IT, from job categories to entire departments, is up for reassessment, reassignment — and maybe even headed toward redundancy.

The most obvious change involves the loss of IT jobs. Many have gone abroad, and they aren’t coming back. Off-shore outsourcing as a percentage of IT budgets went from 12% in 2000 to 28% in 2003, according to Forrester Research. The U.S. Bureau of Labor Statistics estimates that there are now 212,000 unemployed computer and mathematics professionals. No doubt the number would be even higher but for the IT workers who have given up and moved on to different careers.

It’s only going to get worse as more and more companies outsource more and more functions (see story, page 39). Meta Group is predicting that as many as 50% of all U.S. IT workers could shift to contract labor by 2007. Meanwhile, our seed corn is under siege: Fewer students are opting for computer science degrees as more corporate recruiters skip college campuses.

We have also suffered the loss of IT credibility. Massive sums of money have been spent on IT in the past five years, and many businesses remain unsure of the benefits. Large projects that failed, disasters that didn’t happen, revolutions that didn’t come, ROI that can’t be quantified — all have dimmed the aura that surrounded IT in the late ’90s.

And then there are command-and-control issues. Should the IT function be dispersed across business units? Has IT become a utility or perhaps so pervasive that having a specific department is no longer warranted? Should the whole she-bang be outsourced, or is IT still too critical to corporate strategy?

There’s no question that the industry is changing before our eyes. Our community needs to move past the stale debate over whether we are experiencing a wholesale sellout of IT workers or an inevitable, economically fueled evolution. The train has already left the station, and we need to figure out where it’s heading from here. We need to focus on how changes taking place today will shape the next phase of this industry. Some issues you might want to consider:

- What are your core competencies and core business needs?
- How will your company comply with new government privacy and accounting regulations — many of which will require system upgrades?
- How would an ever-changing group of contract workers affect your budget, project schedules, quality assurance, maintenance and upgrade processes and plans?
- If projects are built by contract workers, should their costs be borne by the affected business units? And taking this further, do business units need to go through IT to get projects done?
- If IT isn’t the builder of projects or the supplier of labor, into what will it evolve? What kind of value will it bring to the business?
- If key skills are outsourced abroad, who will fuel the next generation of technological innovation in this country?
- What new IT and management skills will be in demand?

Given that technology is the future in industry after industry, it’s clear that IT will have a key role to play. But whatever that role becomes, make sure your voice is heard. You can tell us what you think by visiting the discussion forum of Computerworld.com [QuickLink a3070]. Help plan the future now!
Group Touts Vermont as Outsourcing Alternative

Wages higher than India's, but lower than in U.S. cities

BY PATRICK THIBODEAU

Information technology consultant Seamus Walsh was working in lower Manhattan on Sept. 11, 2001. What happened on that day prompted him to move his family to the relative tranquility of Vermont.

Now based in South Burlington, Walsh is organizing a consortium of independent IT firms and consultants to try to convince the big-city firms he left behind that bucolic Vermont is a viable alternative to countries overseas for software development.

Vermont's IT labor rates, at $35 to $50 per hour, are two to two and half times the hourly rates in India. But they're lower than the rates in U.S. urban areas, where IT labor costs $80 or more per hour Walsh said.

The idea of attracting IT work to rural areas makes sense if labor rates are significantly lower than those in metropolitan areas and if there are enough workers with the right skills, said Rita Terdiman, an outsourcing analyst at Gartner Inc. in Stamford, Conn. Terdiman said she believes that initiatives like the one in Vermont will spring up in other parts of the country.

"I think you are going to absolutely see a trend toward that," she said.

The biggest problem facing Vermont may be just across the border: Canada's favorable currency exchange rate.

Richard Nolle, vice president of systems at Reinsurance Group of America Inc., said the idea of lower-cost areas in the U.S. developing into alternative development centers sounds "remotely possible." But he said it will be difficult for U.S. competitors to overcome the Canadian exchange rate.

Nolle's Chesterfield, Mo.-based company outsources application development work in Canada and intends to expand its use of workers in that country. The exchange rate saves the U.S. company approximately 30%, Nolle said.

CenterBeam Inc., a Santa Clara, Calif.-based company that manages computing resources for small and midsize companies, intends to open a major center in Saint John, New Brunswick, later this year. CEO Kevin Francis said he can hire three Microsoft certified engineers in Canada for roughly the cost of one in the U.S.

But one Vermont outfit is drawing development work from urban customers. A not-for-profit affiliated with a Burlington-based college, eSolutions@ChamplainCollege has eight employees who offer high quality at rates that are roughly 25% lower than in urban areas, said David Binch, the company's director.

Burlington is also trying to overcome telecommunications infrastructure disadvantages faced by many locations outside of large metropolitan areas. The city has installed more than 18 miles of fiber that can support 100Mbit/sec. connections to link about 40 sites, including schools and municipal buildings. "There is no question that first-class telecom is a significant factor in location decisions," said Timothy Nulty, head of Burlington's telecommunications project.

Meanwhile, in New Jersey...

Outsourcing's Price

I WORK WITH overseas programmers frequently. "Outsourcing Growth Predicted, but Impact on Workers May Be Uneven," Quick-Link 37450). Their knowledge, skill and work ethic are comparable to what you find in the U.S., but there are several barriers to working with them effectively—primarily, language differences, time zones and business/work process knowledge. The language barrier erodes over time. The time-zone problem can be addressed by altering work hours. But the business/work process knowledge gap isn't easily tackled. In the meantime, we must insulate our business professionals from the pain of these barriers.

I agree that the outsourcing trend will continue and that IT salaries will shrink. But when salaries approach those of assistant managers at Burger King, we won't see many grads with computer science degrees. As a result, the U.S. will become totally dependent on foreign sources.

Gene Burke
I5 planning specialist,
Lake Jackson, Texas,
ugunburke@yahoo.com

May 5, 2003

from Computerworld
You say we may retain jobs in "higher-value industries," and that "our competitive advantage may shift to other fields." Like what? If we lose engineering, finance, architecture, computers, management, business operations, sales, etc., what are we all going to do?

I personally don't know many people who provide cutting-edge biotech research and development. Do you?

James P. Wołowicz
Harrisburg, Pa.

What are the chances that shareholders will see even greater cost savings by having the next tier of jobs, i.e., senior managers and executives, also go overseas? No doubt millions upon millions of dollars can be saved by employing less expensive CEO substitutes abroad.

Yvette Tazeau
San Jose, Calif.

What has been overlooked in all the worries about global outsourcing is the powerful impact it will have on American entrepreneurship. Global outsourcing dramatically changes the economics of the startup. Entrepreneurs can now plug in call centers, IT centers, and a range of other services at very low cost and have a scalable platform within months—not the years it would normally take. When venture investment returns, we will see a flourishing of companies growing at a pace that will make the '90s startup look like a slow-motion video.

Jack D. Hidary
New York

A true measure of a country's leadership position and prosperity is its in-
GLOBALISM—ALSO KNOWN AS THE HUNT FOR LOWER wages—continues apace in the auto industry. Move the work to Canada, where the cheap currency and government-paid health care lower labor costs by a third. Move it to Mexico. Move it to China, where wages are really low. General Motors will build a new sport utility vehicle, the Equinox. The six-cylinder engine and some other parts will come from China and go to a Japanese-run assembly plant in Ontario. That will save money for sure.

In fact, all Chrysler’s PT Cruisers come from Mexico, while Chrysler’s new Pacifica wagon and many of its minivans come from Canada. Ford gets all its Crown Victorias from Canada. New York’s cab drivers and just about all our police use them.

Parts makers try even harder to ship work abroad to low-wage countries because they are under enormous price pressure from their automaking customers. Delphi, the giant parts maker spun off from General Motors, is the largest employer in Mexico.

It’s easy to understand the drive for lower costs. The auto world is terribly competitive. But are labor costs all that important? The most successful vehicle makers are foreign, and they are expanding here.

Nissan is building a new plant in Mississippi to build big pickup trucks. The plant isn’t in China or Bangladesh. Toyota is going to announce a new truck plant in a couple months for Texas, not Romania. Honda and Mercedes are expanding in Alabama, and Hyundai will build a new plant there. BMW is expanding in South Carolina.

Yes, the foreigners have advantages when they build here. They avoid protectionism. They get huge subsidies from those southern states for their plants. And while they pay Detroit wage scales, their nonunion workers are younger, don’t get the top rates and aren’t collecting pensions yet.

But the point is they wouldn’t be building here if it weren’t a good place for manufacturing—if, that is, they couldn’t get high quality and build at competitive costs. I’m not a fool. I understand Detroit’s global thinking: They want not only to lower labor costs but also to spread costs with similar design and engineering for products sold across the world. Building abroad also creates a presence in countries that will in time become good markets, like Korea. And the union and the environmentalists and the lawyers make it tough to do business in the U.S.

Detroit will never dominate the automobile world as it once did. It will never even dominate the U.S. market as it once did. But carmakers don’t have to go bankrupt like steel companies or move away like textile companies. The U.S. still is a fine place to manufacture vehicles. What counts is not where the vehicle is built or what the labor costs are. What counts is how good the car or truck is. Americans are proving every day that they will pay more for a vehicle if they think it’s better.

Nothing is written in stone in the auto industry, neither the success of the foreign manufacturers nor the decline of Detroit. There are no quitters in this business. At the Detroit Auto Show in January General Motors showed an array of production vehicles coming out over the next 30 months that could lead to a real resurgence. Naturally, the competition from the Japanese and Germans is fierce. And the enemies of the automobile are on the attack. They talk of how cars and trucks pollute (not really, not anymore), how they warm the Earth (maybe, maybe not), how they make us slaves to the oil terrorists (though most of our oil comes from home or Canada, Mexico and Venezuela) and how SUVs kill almost everybody in sight (not true).

With this kind of pressure it’s good to have lots of workers at home who vote. This type of thinking might be old-fashioned. Possibly in the future our jobs will consist of moving little electronic bits on computer screens, and manufacturing will be done only in the Third World.

But I can’t help recalling an exchange that took place a half-century ago. It was after World War II. A Ford manager was showing off a new Ohio plant to Walter Reuther, head of the United Auto Workers. The manager pointed at the row after row of robotic machines running without workers. He laughed and said something like, “Who’s going to join your union?” Walter came back with, “Who’s going to buy your cars?”

Jerry Flint, a former Forbes Senior Editor, has covered the automobile industry since 1959. Visit his home page at www.forbes.com/flint.
Outsourcing to India

Backroom deals

CHENNAI AND DELHI

India aims to become the back office for the world’s banks

POOR as it is, India is rich in well-educated, English-speaking, young people. It has become a prodigious exporter of their remote services: as skilled software coders and accentless call-centre voices; as long-distance sales-people and invisible insurance clerks; as diligent medical-record transcribers and patient number-crunchers. Multinational financial firms have been among their best customers. Now India wants to lay claim to the value chain, offering more sophisticated services. Finance, a business that runs the gamut of sophistication from bean-counting to quantum physics, seems as good an industry as any in which to try to lure more work from expensive homeyards to cheaper Indian pastures.

The bulk of that work—by value, at least—is still in information technology. Sunil Mehta, vice-president of Nasscom, the industry’s trade association, says that in 2002 global financial institutions spent $120 billion on IT, of which only $4 billion was outsourced to India. He sees a big opportunity for Indian software companies in banks’ drive towards more seamless processing of transactions, and in the closer scrutiny of back-office costs inspired by moves towards a new international capital-adequacy regime. Indian firms such as TCS, Wipro and Infosys already carry out a lot of some banks’ IT operations; another firm, T-Systems, sells its banking-software product, “flexcube”, in more than 50 countries.

Besides software engineers, India also has millions of other bright young professionals: accountants, lawyers and business-studies graduates. They have already attracted plenty of IT-enabled work from financial firms. To take but a few: Capital International Services, which describes itself as the “largest shared-services environment in India”, employs more than 13,000 people in activities ranging from finance and accounting to remote marketing; Citigroup’s outsourcing arm, e-Serve, has more than 3,000 people in Mumbai and Chennai; and American Express has 2,000 processing transactions from around Asia, and operating a 24-hour international call-centre in Delhi; HSBC a similar number in Hyderabad, Bangalore and Pune; and even the World Bank has 100 staff in Chennai.

Many firms are gradually transferring more complex processes to India. Scope, the outsourcing arm of Standard Chartered, the largest foreign bank in India, has the grand aim of becoming, in effect, the back office for many of the bank’s operations in 56 countries. It already undertakes at least some work for 34. Unusually, Standard Chartered in Chennai even handles the back end of foreign-exchange trading—everything except the deal itself, from confirmation through to settlement—and derivatives transactions as well. Some 2,000 people work in the Chennai “global processing centre”, with at least another 1,000 expected to join this year. Scope is still competing for business from within its own group. But it has begun exploring the idea of selling its services to outsiders—as has e-Serve.

Many big investment banks, accountants and consulting firms are farming work out to Indian-based subcontractors, even if they are shy about admitting it. Not only might clients worry about security and confidentiality, or feel short-changed when work is shipped abroad; the implicit threat of cuts in jobs (or pay) at head office might rattle morale. (This week, Britain’s Prudential was under fire over plans to outsource directory inquiries to India.) Yet increasingly, relatively humdrum, time-consuming tasks, which would once have been foisted on ambitious but inexperienced young recruits, working long hours to earn their spurs in Wall Street or the City of London, are, thanks to the miracle of fibre-optic cable, foisted on their lower-paid Indian counterparts. And, be-
Outsourcing Angst

VIVEK PAUL IS WORRIED, and he has reason to be. He figures the clock is ticking on the software engineers who work for him today. Paul told a reporter last week that in as little as two years, it may be possible for much of that programming to be done in another country for a lot less money. In other words, Paul is facing the same offshore outsourcing threat as many U.S. programmers.

But Vivek Paul runs Wipro, one of India's biggest software development outfits. And he's looking over his shoulder at offshore programmers in Vietnam, China and the Philippines.

Paul told the AFP news service that salary costs in India are going up and that the seriously undervalued rupee could gain 20% to 30% against the dollar. That would eat away at the cost advantages of offshoring programming work to India.

Meanwhile, programming companies in other lower-wage countries figure they can move into the vacuum as Indian costs rise. They're building their own armies of C++ and Java programmers and aiming to do to the Indian software business what India is doing to us.

All of which is good news for U.S. IT department budgets. And it's actually not such bad news for U.S. programmers, either.

It's good news for IT budgets because competition will drive down the price of offshore software development. Right now, a typical big project costs 30% less in India than it would using U.S. outsourcers. That's largely because a typical Indian software engineer makes 88% less than a U.S. programmer. (Long-distance development adds other costs that reduce the potential savings.)

If programming shops in the Far East can mimic the Indian approach -- which they're busy trying to do right now -- the number of alternatives for an IT shop that's offshoring a big project will go way up. Competitive bidding will cut offshoring prices to the bone. Lean-and-hungry newcomers will keep the old-guard offshorers honest and on their toes.

That means we'll spend less and get more for the money we do spend. And who knows, maybe we'll even get to plow the savings into interesting new technologies.

On the other hand, for U.S. programmers facing an uncertain future, this may sound like the worst possible news: one more nail in the coffin for code jockeys who see their jobs evaporating as projects are shipped overseas. But don't kid yourself. There wasn't that much left to lose.

Look, we can't compete for projects that can be shifted offshore -- not without some kind of programming fairy dust. Cutting an American programmer's salary by 30% to match offshoring prices isn't a viable option. Nor can U.S. companies simply decide not to send any projects offshore. No business can stay in the game while competitors get lower costs and greater flexibility on a key commodity, which is what big-project programming has become.

Offshoring is real, it's going on, and it's going to get bigger. There's a glut of generic programming talent worldwide, and the Internet makes it possible to tap that glut for big projects that need generic programmers. Within a few years, if a project can be offshored, it will be -- whether it's to India or Russia or China or the Philippines.

So if you're a programmer in a U.S. IT shop, the future isn't really uncertain at all. It's a dead certainty that generic, big-project coding no longer has a future for you. And it's certain that you'll need to shift away from a pure coding focus, and toward smaller projects that require faster turnaround, specialized skills or an intimate knowledge of your organization -- in short, the things offshore code shops can't compete with. That way, you'll be able to add more IT value than ever. And you won't have to look over your shoulder anymore.

You can let the offshorers do that.
Companies Expected to Boost Offshore Outsourcing

Pressure to cut costs drives trend, analyst firms say

BY JAIKUMAR VIJAYAN
Demand for offshore outsourcing services will continue to grow substantially over the next several years, as companies try to squeeze more value out of every IT dollar they spend, according to recent reports from three major analyst firms.

In a report released last week, Meta Group Inc. in Stamford, Conn., predicted that offshore outsourcing will grow more than 20% annually, pushing it from a $7 billion market today to about $10 billion by 2005. Almost all application outsourcing services will include an offshore component, and the market will reach $15 billion by 2007, the Meta report added.

The focus on lowering IT costs is accelerating the use of offshore services, according to a Gartner Inc. report released earlier this month. Although companies are tapping offshore vendors primarily for application management purposes, demand is also emerging for business process outsourcing and infrastructure management services, Gartner said.

“There is a growing sense that IT infrastructure management is something that can be packed up in a box and shipped off to someone who can do it more efficiently and at a lower cost,” said Bruce Caldwell, an analyst at Gartner, which is also in Stamford.

“People are looking to offshore as a low-cost and immediately available alternative” to buying and deploying such technologies themselves, Caldwell said.

Overland Park, Kan.-based Meridian IQ LLC, a subsidiary of Yellow Corp. that provides transportation management services, expects its use of offshore services to increase, said CIO Dan Bentzinger.

Driving that trend are the same three factors that led Meridian to first outsource services to Infosys Technologies Ltd. in Bangalore, India, in 1998: speed to market, quality and cost of services.

Infosys has given Meridian the ability to quickly acquire reliable IT resources to deploy new services, while also giving it the flexibility to ramp down when they aren't needed, Bentzinger said. “Meridian is in an upsizing right now, which means we are going to be growing our relationship,” he predicted.

Even though IT budgets are shrinking or remaining flat in the face of the recession, the amount of money being allocated to offshore outsourcing is increasing as a percentage of overall IT spending, said Prasad Thrikutam, an Infosys regional manager in Dallas.

In fact, one offshore services company, Cognizant Technology Solutions Corp. in Teaneck, N.J., reported record growth in 2002, as annual revenues rose to $229 million from $178 million in 2001.

Increasingly, offshore companies are being viewed not just as a “tactical cost-saving option but as more of a strategic proposal,” said Ram Mynampati, chief operating officer at Satyam Computer Services Inc. in Hyderabad, India. This is reflected in the higher-end jobs Satyam is being asked to do for its U.S. clients, Mynampati said.

But project management remains a major challenge for many companies that outsource to offshore vendors, according to a recent survey by Forrester Research Inc. in Cambridge, Mass., the results of which were released earlier this month.

One third of the respondents in the survey of 145 “decision-makers” at North American companies said they use offshore services and plan to spend more money on them in the future, Forrester said.

But “18% of respondents using offshore providers reported a major challenge in measuring performance, while 20% have serious issues specifying the work needed to be done,” the Forrester report concluded.
Economic Trends

EDITED BY MICHAEL J. MANDEL

CLIMBING OUT OF THE JOB POOL
More young workers opt for school

It's not unusual for some unemployed workers to stop looking for jobs during a recession. But in this downturn, the retreat from the work force has turned into a mass exodus. The latest report from the Bureau of Labor Statistics showed that the labor force participation rate—the percentage of people either employed or actively job-hunting—fell by 0.6 percentage points over the past year, to 66.4%. That's the biggest year-over-year drop since the early 1990s.

The sharp decline suggests the published unemployment rate understates the damage to the labor market, since people not looking for work are not counted as unemployed. The understatenent is particularly bad for the young, among whom the withdrawal from the labor force has been concentrated so far (chart).

Consider the unemployment rate for males ages 20 to 24, which rose to 10.6% in January, 2002, from 7.7% in the same month in 2001. That's bad enough, but over the same period, the percentage of this group working or looking for work plummeted from 82.9% to 50.3%. With the exception of one anomalous month in 1999, that's the lowest participation rate on record for this group. If the withdrawn workers are added back into the numbers, the unemployment rate for this age group would be much higher. The situation for young women is similar but not as extreme.

What's happening is that young workers, facing a bad labor market, are giving up work and going back to school. New figures show that the percentage of young people enrolled in school rose substantially over the last year. By contrast, older workers seem to be in greater demand, rather than less, and more eager to work. The unemployment rate for workers 55 and older has gone up less than a percentage point, even while the pool of older workers in the labor force has expanded (chart). For example, the number of people ages 55 to 64 in the workforce rose 6.8% over the past year. That's a switch from the last recession, when older workers were more likely to be laid off.

This time, older workers seem to be a resource rather than a burden, while it's the young who are taking the hit.

COLLEGE GRADS: NOT SO SCARCE
Forget predictions of a shortfall

Economists regularly warned in the 1990s that the U.S. faced a shortage of educated workers. The fears were fed by official projections from the Education Dept. which seemed to show an impending decline in the number of new college graduates. For example, an Education Dept. report released in 1997 projected that the number of new bachelor's degrees granted each year would actually decline for the rest of the 1990s.

But the latest data and projections, released by the Education Dept. on Aug. 23, show that the number of new college graduates continued to increase in the second half of the 1990s. As a result, colleges and universities are churning out far more graduates than anticipated. For example, the latest report estimates that 1.3 million bachelor's degrees will be granted in 2002. That's about 10% higher than what was forecast five years ago. Moreover, the number of new college graduates is now expected to climb for the foreseeable future.

The differential is even bigger at two-year schools, such as community colleges. According to the report, the number of recipients of associate degrees in 2002 is estimated to be about 14% higher than previously forecast.

That implies fears of a shortage of educated workers were overblown. On the downside, however, college grads may face more competition for jobs, especially if slow growth continues.
States Fight Exodus of Jobs

Lawmakers, Unions Seek to Block Outsourcing Overseas

By Michael Schroeder

WASHINGTON — ARMED BY JOBS flowing overseas where skilled workers are cheaper, state lawmakers and labor unions are fighting back.

Legislation aimed at keeping jobs in the U.S. is pending in at least five states—New Jersey, Connecticut, Maryland, Missouri and Washington. The bills employ a variety of methods, including blocking companies from using foreign workers on state contracts and requiring foreign call-center employees to identify where they are located. On Capitol Hill, the AFL-CIO and one of its members, the Communications Workers of America, are urging members of Congress to direct the General Accounting Office to study the trend’s U.S. economic impact.

By one estimate, several million U.S. jobs are expected to move offshore in the next 12 years, particularly to India. Multinational firms are feeling the first ripple of the backlash, but are bracing for the worst. “It’s the perfect storm right now,” says Harris Miller, president of the Informal Technology Association of America, an Arlington, Va., trade group representing 900 technology concerns.

Foreign-job migration was less visible during the 1990s when the U.S. was booming and employers had trouble filling positions. That has changed as the economy struggles to emerge from a three-year slump and jobs in the U.S. are increasingly scarce. Manufacturing positions were lost in droves by foreign competitors and the current round is hitting more affluent white-collar workers who are beginning to align themselves with new union initiatives to protect jobs.

Emotionally Charged Issue

New Jersey became the emotionally charged issue’s pivotal legislative battleground in a dispute that involved all of nine jobs. Democratic State Sen. Shirley Turner said she was incensed to learn that an Arizona firm that New Jersey had hired to assist welfare recipients shifted help-center jobs from Green Bay, Wis., to India’s Bombay.

Early last year, she introduced a bill requiring state contractors to use U.S.-based employees. The state Senate passed it unanimously in December, but then the business lobby, caught off guard, regrouped and mounted a fierce lobbying campaign, so now the bill is hung up in committee in the General Assembly.

Nevertheless, the bill was enough to get the attention of the offending contractor, eFunds Corp. The company agreed to move the jobs from India to a new Camden, N.J., call center that opened last month in the small basement office of a downtown bank. But the nine new jobs came at a hefty price: The state agreed to pay eFunds an additional $866,000 a year above the original $4.1 million annual contract to open the local call center—a 22% increase that effectively cost the state nearly $100,000 per job.

“I had no idea this would be such a hot-button issue,” Ms. Turner says. Pauline Menes, a Maryland House Democrat, says she introduced a bill similar to New Jersey’s after reading about the eFunds dispute. Though the Maryland legislature didn’t act on the bill in the most recent session, Ms. Menes says she’ll be watching what happens in New Jersey. She plans to introduce a more detailed bill that includes some exceptions when the legislature reconvenes in Annapolis in January. The movement to protect jobs “is something that’s just beginning,” Ms. Menes says.

Going Abroad

Many companies are slashing their U.S. payrolls to take advantage of cheaper labor overseas. Below, one forecasting firm’s estimate of how this phenomenon could affect U.S. workers by 2015:

Employment exodus

Projected loss of jobs and wages

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Source: Forrester Research

Hiring Lobbying Firm

The bills have prompted India’s National Association of Software and Service Companies, a New Delhi trade group representing 850 international companies, to hire Hill & Knowlton, an influential lobbying firm, to represent its interests in Congress and the state houses. The firm worked to water down the New Jersey bill, sending the trade organization’s vice president, Sunil Mohla, to meet personally with state lawmakers, people familiar with the situation say. If the bill gets to the Assembly floor before lawmakers adjourn at the end of June, it likely will include new compromise language that will provide exceptions for foreign outsourcing of jobs. Hill & Knowlton and the Indian trade group declined to comment.

Another lobbying force opposing such measures are the 1.5 million Indian expatriates living in the U.S., mostly well-paid technical workers and professionals. They are represented in Congress by the India Caucus, the largest such group on Capitol Hill with 140 members. Its co-chairman, New York Democrat Joseph Crowley, says he objects to state legislation that would restrict businesses from making cost-saving decisions to hire foreign workers.

Opponents argue that blocking foreign employees from working on state contracts could violate World Trade Organization laws. If such legislation passed, "it would send a terrible symbolic message at a time when we are trying to open up global markets and create new markets for our exports," says Mr. Miller.
Your Outsourced Future

READER REACTION was swift and scornful last week after we ran a story predicting that 35% to 45% of existing IT jobs in the U.S. and Canada will be outsourced, shifted to contractors or moved offshore within the next two years [QuickLink 35866]. So many jobs? So soon? No way. Headline-grabbing nonsense, this was.

That was my initial reaction, too. Analyst predictions tend to be notoriously off base, although we in the press cheerfully troop along and write stories about them anyway. As one reader put it, "I think that you guys are sometimes guilty of oversimplification of the issues." Indeed.

In 10 years, though, I suspect we'll see these painful outsourcing trends as the inevitable transition of a workforce in a maturing industry that plays a critical role in the emerging global economy. What IT is going through today mirrors what the automobile and electronics industries went through in previous decades, as once-valued, highly paid skills became commoditized, automated or more cheaply available elsewhere. New skills rise in value to keep pace with changing technologies, sharpening competition and shifting business needs. Outsourcing trends historically move in great waves, cresting in economic downtimes when cost savings become paramount.

Our government has certainly embraced outsourcing. Federal IT outsourcing is expected to hit $15 billion annually by fiscal 2007 — a 127% increase over the $6.6 billion spent last year. That push is coming from two directions: a mandate to cut costs, and the increasing difficulty of replacing qualified technical and program management employees [QuickLink 35533].

We can also see outsourcing taking hold in the bellwether financial industry. Mega-deals are making headlines again, as they did in the early 1990s. J.P. Morgan Chase recently signed a seven-year, $5 billion deal with IBM. Bank of America inked a 10-year, $4.5 billion deal with EDS. Canadian Imperial Bank of Commerce signed up for $2 billion in IT services from Hewlett-Packard. And so on. When Gartner researchers surveyed 39 Fortune 500 banks a few months ago, they found half of them outsourcing back-office and operational tasks more extensively than ever. Intensifying competition, a depressed economy and the attraction of the pay-as-you-go model for IT services are a powerful trio of business drivers.

Offshore outsourcing is also rising, as the economic lure of cheaper programmer labor continues to beckon. The one wild card that may slow the trend this year is the threat of war with Iraq. Yet Forrester Research estimates that the $4 billion in U.S. wages that floated offshore in 2000 will become a rip tide of $136 billion and 3.3 million IT-related jobs by 2015. Web-based collaborative tools, inexpensive bandwidth and standardized business applications make it easier to contract out maintenance and support.

In spite of all this, I see a silver lining in this outsourcing cloud: the way American IT executives are rising — or will rise — to the challenge of managing projects involving workers outside their companies and around the world. Forrester is releasing a report today called "Unlocking the Savings in Offshore," in which analyst John McCarthy lays out some of the best practices involved in making these projects work. They include centralized management, commitment and support from senior executives, and relentless project discipline.

No rocket science. No great mysteries. Nothing you can't handle. After all, isn't this the industry where the one constant is change?
Bank's IT Workers Threaten Strike Over Outsourcing Deal

Union seeks role in Bank of Ireland's negotiations with HP

BY THOMAS HOFFMAN

Unionized members of the Bank of Ireland's IT department are threatening to go on strike if they aren't involved in final negotiations with Hewlett-Packard Co. on a proposed outsourcing deal.

Officials from Dublin-based Bank of Ireland and the union that represents its IT workers met last Tuesday for their first talks since the outsourcing plans were disclosed earlier this month. HP would take over management of the bank's networks and its desktop, midrange and mainframe systems as part of the deal, which is expected to be worth $600 million over seven years.

The planned agreement would also include the transfer to HP of about 500 workers from the bank's IT arm, where roughly one-third of the employees are members of the Irish Bank Officials' Association.

On April 16, two days after Strike Threat, page 59
to increase and as more salaried U.S. IT employees opt to work as contractors to take advantage of the flexible schedules and the opportunity to work on a variety of projects.

Some industry experts draw an analogy between the thousands of U.S. manufacturing jobs that were sent overseas 20 to 30 years ago and the impact that offshore outsourcing is now having on U.S. IT jobs. Still, there are subtle but important differences between the two. Among them is that the forces behind the shrinking IT workforce go beyond companies seeking lower costs. IT managers are also struggling to strike a balance between the skills they want to have in-house on salary and the talent they can contract for on an as-needed basis.

"It's not just about low cost. CIOs are interested in specialization and reliability," says Mark Hauser, CEO of Cap Gemini Ernst & Young's Americas division. Going forward, CIOs say they want a different mix of skills. They want their salaried IT employees to include experienced project managers and business/IT liaisons who can effectively communicate and broker IT project requirements between business units and IT departments.

Packaged Software Improving

Another factor contributing to IT job loss in the U.S. is companies' growing preference for a buy-vs-build approach to software development. Purchasing software means that fewer in-house programmers and developers are required than when systems are created from scratch — even when a fair amount of customization is done on the off-the-shelf software. Sophisticated software development techniques and improved global bandwidth and communications are making it possible for companies to have various pieces of development or integration projects conducted in India or China, with the final assembly completed in the U.S. That's why there will continue to be demand for superdevelopers and top-notch integration experts who are adept at managing and coordinating different phases of a development project and pulling together the various components into a cohesive package.

"If you buy the argument that a lot of IT has become commoditized, then we are becoming inventors, creators, integrators and architects, and we are going to send the production offshore," says Steve Andriole, a senior consultant at Arlington, Mass.-based Cutter Consortium and an MIS professor at Villanova University in Villanova, Pa. Under this scenario, argues Andriole, U.S. IT organizations will continue to partner with business units to conceptualize IT approaches to business challenges and execute on those projects domestically — even if part of the project development itself is conducted overseas.

To that end, more than a dozen CIOs at Fortune 1,000 companies and many other IT leaders at large IT organizations who were interviewed for this report say the IT worker they're looking for is someone who combines business savvy and broad technology acumen.

"We're trying to preserve the internal knowledge that's important to the business while leveraging lower labor rates and technological sophistication in different geographies," says Harriet Edelman, senior vice president and CIO at Avon Products Inc. in New York. The $6 billion beauty products company is in the early stages of creating its own network of regional development centers. It began by establishing a Web development hub in Hungary last year [QuickLink 37761].

Global Exchange Services Inc. (GXS), a Gaithersburg, Md.-based spin-off of General Electric Co. that provides transaction management services to more than 60,000 retailers worldwide, pays about $30 per hour for programming work in its company-operated offshore centers in India and the Philippines [QuickLink 37522]. In the U.S., GXS's total hourly programmer cost is $110 to $120.
There's More to Consider Than Cheaper Labor

There's much more to offshore outsourcing than lower labor rates. Industry experts and CIOs with offshore experience caution would-be customers to carefully examine all of the risks, including the hidden costs. It's also important to protect intellectual property, examine the geopolitical risks in the region where the work will be done and effectively communicate the company's overall outsourcing strategy to stateside workers.

Offshore outsourcing "creates some stressful situations, some motivational factors and some confidence factors with your own people," says Rick Greenwood, CIO at GMAC-RFC Residential Capital Group in Minneapolis. Greenwood addresses those issues, in part, by keeping his company's most important IT work in the U.S.

"We're very careful not to give away what I would say is a core competency and core business knowledge," he says. Instead, he and other IT managers at the company try to maintain those competencies by providing IT staffs in the U.S. with continual training and moving them to high-impact projects.

Scrutinize Political Risks

Companies that exclusively outsource to a third party in a single country run the risk that a political situation, such as armed conflict between Pakistan and India, could shut down offshore IT operations. That's an important consideration for Delta Air Lines Inc., which wants offshore work scattered in wider areas.

"We're trying to manage the risk of the political environment," says Curtis Robb, president and CEO of Delta Technology Inc., the IT services arm of the Atlanta-based airline. The company has awarded IBM a contract to provide offshore IT services because IBM has 16 regional centers worldwide.

More than 90% of outsourced application maintenance, help desk and desktop maintenance work and a limited amount of call center and customer service work is currently being sent to India, according to Avinash Vashistha, a senior adviser at NeolIT, a San Ramon, Calif.-based offshore services advisory firm. That figure excludes IT work outsourced to Ireland and Canada but includes other countries such as Israel, says Vashistha.

Experts say outsourcing to India can reduce IT labor costs by up to 50%, but most customers underestimate the indirect project and program management costs.

"When you send your people overseas to visit these sites frequently, your costs go from $42 an hour to $85 an hour," says Steve Andriole, a senior consultant at Burlington, Mass.-based Cutter Consortium and a professor of MIS at Villanova University. Andriole's calculation includes travel costs plus the cost of lost productivity that occurs when a U.S. IT worker is removed from his daily tasks and sent overseas for a few weeks.

Those costs can go even higher when project requirements "creep" or if a development problem emerges at an offshore programming house, says Andriole. "If you have to drop in 10 people from the states, and they spend a month or two there, guess what? You've just erased most of your cost savings."

Another risk of moving IT work offshore is the potential loss of intellectual property and business-process secrets. Some IT managers worry that offshore outsourcers will copy and sell that knowledge or repack it and present it to a competitor.

"If we send development of too much of our core business out of our control, what happens to that when our competitor goes to the same third party and says, 'We want to do what they did?'" says Richard Nolle, vice president of systems at Reinsurance Group of America Inc. in Chesterfield, Mo.

"The economics is driving me to it (outsourcing), but those kinds of concerns are making me cautious," adds Nolle, whose company already sends application development work overseas.

One way to avoid these problems is "by trying to break up key pieces" of work being sent offshore so "no one can easily assemble those pieces," says Dennis Roell, IT manager at Betts USA Inc. in Florence, Ky., which makes packaging products such as toothpaste tubes. "Think of it as encryption — you want to reassemble the message," says Roell.

— Thomas Hoffman and Patrick Thibodeau

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FAST FACT

India is graduating roughly 20,000 IT professionals annually, vs. 90,000 in the U.S.

SOURCE: NATIONAL ASSOCIATION OF SOFTWARE AND SERVICE COMPANIES, NEW DELHI, INDIA

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<tr>
<th>Malaysia</th>
<th>Russia</th>
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<td>$7,200</td>
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IS YOUR JOB NEXT?

A new round of GLOBALIZATION is sending upscale jobs offshore. They include chip design, engineering, basic research — even financial analysis.

Can America lose these jobs and still prosper?

PAGE 50
BY PETE ENGARDIO, AARON BERNSTEIN, AND MANJEET KRIPALANI

The sense of resignation inside Bank of America is clear from the e-mail dispatch. "The handwriting is on the wall," writes a veteran information-technology specialist who says he has been warned not to talk to the press. Three years ago, the Charlotte (N.C.)-based bank needed IT talent so badly it had to outbid rivals. But last fall, his entire 15-engineer team was told their jobs "wouldn't last through September." In the past year, BoA has slashed 3,700 of its 25,000 tech and back-office jobs. An additional 1,000 will go by March.

Corporate downsizings, of course, are part of the ebb and flow of business. These layoffs, though, aren't just happening because demand has dried up. Ex-BoA managers and contractors say one-third of those jobs are headed to India, where work that costs $100 an hour in the U.S. gets done for $20. Many former BoA workers are returning to college to learn new software skills. Some are getting real estate licenses. BoA acknowledges it will outsource up to 1,100 jobs to Indian companies this year, but it insists not all India-bound jobs are leading to layoffs.

Cut to India. In dazzling new technology parks rising on the dusty outskirts of the major cities, no one's talking about job

Cover Story

MIDNIGHT IN NEW DELHI

White-collar workers at Wipro Spectramind are 60% cheaper than their counterparts in the U.S.

About 1,000 miles north, on an old flour mill site outside New Delhi, all four floors of Wipro Spectramind Ltd.'s sandstone-and-glass building are buzzing at midnight with 2,500 young college-educated men and women. They are processing claims for a major U.S. insurance company and providing help-desk support for a big U.S. Internet service provider—all at a cost up to 60% lower than in the U.S. Seven Wipro Spectramind staff with PhDs in molecular biology sift through scientific research for Western pharmaceutical companies. Behind glass-paned doors, Wipro voice coaches drill staff on how to speak American English. U.S. customers like a familiar accent on the other end of the line.

Cut again to Manila, Shanghai, Budapest, or San José, Costa Rica. These cities—and dozens more across the developing

Feb 3, 2003
Business Week
A WORLD OF OUTSOURCING

CHINA

Is becoming a key product-development center for General Electric, Intel, Philips, Microsoft, and other electronics giants. Strengths are hardware design and embedded software. Call centers for Japan and South Korea are growing in coastal cities.

PHILIPPINES

More than 8,000 foreign companies source work in nine different IT parks with fiber-optic links. Strengths include huge supply of English-speaking, college-educated accountants, software writers, architects, telemarketers, and graphic artists.

MEXICO

Becoming a favorite IT and engineering outsourcing haven for U.S. companies that want to keep work close to home. As car and electronics companies move manufacturing over the border, they are boosting demand for engineers.

COSTA RICA

Cheap telecom costs and educated workforce make San José a thriving spot for call centers targeting Spanish-speaking consumers in the U.S. and Europe. Accenture has IT support and bookkeeping operations.

world—have become the new back offices for Corporate America, Japan Inc., and Europe GmbH. Never heard of Balazs Zimay? He's a Budapest architect—and just might help design your future dream house. The name syv & Co. probably means nothing to you. But this Manila firm's accountants may crunch the numbers the next time Ernst & Young International audits your company. Even Bulgaria, Romania, and South Africa, which have a lot of educated people but remain economic backwaters, are tapping the global market for services.

It's globalization's next wave—and one of the biggest trends reshaping the global economy. The first wave started two decades ago with the exodus of jobs making shoes, cheap electronics, and toys to developing countries. After that, simple service work, like processing credit-card receipts, and mind-numbing digital toil, like writing software code, began fleeing high-cost countries.

Now, all kinds of knowledge work can be done almost anywhere. "You will see an explosion of work going overseas," says Forrester Research Inc. analyst John C. McCarthy. He goes so far as to predict at least 3.3 million white-collar jobs and $136 billion in wages will shift from the U.S. to low-cost countries by 2015. Europe is joining the trend, too. British banks like HSBC Securities Inc. have huge back offices in China and India; French companies are using call centers in Mauritius; and German multinationals from Siemens to rollerbearings maker INA-Schaeffler are hiring in Russia, the Baltics, and Eastern Europe.

The driving forces are digitalization, the Internet, and high-speed data networks that girdle the globe. These days, tasks such as drawing up detailed architectural blueprints, slicing and dicing a company's financial disclosures, or designing a revolutionary microprocessor can easily be performed overseas. That's why Intel Inc. and Texas Instruments Inc. are furiously hiring Indian and Chinese engineers, many with graduate degrees, to design chip circuits. Dutch consumer-electronics giant Philips has shifted research and development on most televisions, cell phones, and audio products to Shanghai.

In a recent PowerPoint presentation, Microsoft Corp. Senior Vice-President Brian Valentine—the No. 2 exec in the company's Windows unit—urged managers to "pick something to move offshore today." In India, said the briefing, you can get
quality work at 50% to 60% of the cost. That's two heads for the price of one.”

Even Wall Street jobs paying $80,000 and up are getting easier to transfer. Brokerages like Lehman Brothers Inc. and Bear, Stearns & Co., for example, are starting to use Indian financial analysts for number-crunching work. “A basic business tenet is that things go to the areas where there is the best cost of production,” says Ann Livermore, head of services at Hewlett-Packard Co., which has 3,300 software engineers in India. “Now you're going to see the same trends in services that happened in manufacturing.”

The rise of a globally integrated knowledge economy is a blessing for developing nations. What it means for the U.S. skilled labor force is less clear. At least, many white-collar workers may be headed for a tough readjustment. The unprecedented hiring binge in Asia, Eastern Europe, and Latin America comes at a time when companies from Wall Street to Silicon Valley are downsizing at home. In Silicon Valley, employment in the IT sector is down by 20% since early 2001, according to the nonprofit group Joint Venture Silicon Valley.

Should the West panic? It's too early to tell. Obviously, the bursting of the tech bubble and Wall Street's woes are chiefly behind the layoffs. Also,

GOING ABROAD

Chip Designer

Engineers in India and China mainly used to write code for chips designed in the U.S. Now they develop devices for Texas Instruments, Intel, and others. With new computer-design tools, they will soon do entire systems on a chip.

OFFSHORE SALARY: $1,000/month in India with master’s and five years’ experience.

U.S. COUNTERPART: $7,000/month.

EASTERN EUROPE

Indian and American IT service providers are opening offices in Hungary, Poland, and the Czech Republic to tap abundant German and English-speaking workforce for European clients. Romania and Bulgaria are growing as IT workshops for German multinationals.

RUSSIA

Some 100 local software service exporters employ up to 10,000 engineers specializing in complex projects. Boeing, Nortel, Motorola, and Intel have small R&D centers. Still has an enormous untapped pool of master's and doctorates in sciences, IT, and math.

SOUTH AFRICA

Well-educated speakers of French, English, and German from all over Africa staff growing call centers catering mainly to European companies. Deregulation of telecom could speed development. Other call centers are opening up in Mauritius.

INDIA

IT services, chip design, call centers, and business back-office work already generate $10 billion in exports and could hit $57 billion by 2008. Indian providers like Tata, Infosys, and Wipro already are global leaders, and U.S. IT service firms are piling in.

Data: Gartner, McKinsey, BW

Feb 3, 2003
GOING ABROAD

Architect

Computer-generated sketches for everything from major industrial plants to suburban homes are being converted into blueprints by architects in the Philippines, Hungary, Chile, and other nations.


U.S. COUNTERPART: $3,000/month and up.

The impact of offshore hiring is hard to measure, since so far a tiny portion of U.S. white-collar work has jumped overseas. For security and practical reasons, corporations are likely to keep crucial R&D and the bulk of back-office operations close to home. Many jobs can’t go anywhere because they require face-to-face contact with customers. Americans will continue to deliver medical care, negotiate deals, audit local companies, and wage legal battles. Talented, innovative people will adjust as they always have.

Indeed, a case can be made that the U.S. will see a net gain from this shift—as with previous globalization waves. In the 1990s, Corporate America had to import hundreds of thousands of immigrants to ease engineering shortages. Now, by sending routine service and engineering tasks to nations with a surplus of educated workers, the U.S. labor force and capital can be redeployed to higher-value industries and cutting-edge R&D.

“Silicon Valley doesn’t need to have all the tech development in the world,” says Doug Henton, president of Collaborative Economics in Mountview, Calif. “We need very-good-paying jobs. Any R&D that is routine can probably go.” Silicon Valley types already talk about the next wave of U.S. innovation coming from the fusion of software, nanotech, and life sciences.

Globalization should also keep service prices in check, just as it did with clothes, appliances, and home tools when manufacturing went offshore. Companies will be able to keep shaving overhead costs and improving efficiency. “Our comparative advantage may shift to other fields,” says City University of New York economist Robert E. Lipsey, a trade specialist. “And if productivity is high, then the U.S. will maintain a high standard of living.”

By spurring economic development in nations such as India, meanwhile, U.S. companies will have bigger foreign markets for their goods and services.

For companies adept at managing a global workforce, the benefits can be huge. Sure, entrusting administration and R&D to far-flung foreigners sounds risky. But Corporate America already has become comfortable hiring outside companies to handle everything from product design and tech support to employee benefits. Letting such work cross national boundaries isn’t a

GLOBALIZATION GOES WHITE COLLAR

A global pool of skilled workers... is drawing more Western companies that are

<table>
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<tr>
<th>COMPANY</th>
<th>NO. OF WORKERS AND COUNTRY</th>
<th>TYPE OF WORK MOVING</th>
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<tbody>
<tr>
<td>ACCENTURE</td>
<td>5,000 in the Philippines by 2004</td>
<td>Accounting, software, back-office work</td>
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<tr>
<td>CONSECO</td>
<td>1,700 in India, 3 more centers planned</td>
<td>Insurance claim processing</td>
</tr>
<tr>
<td>DELTA AIR LINES</td>
<td>6,000 contract workers in India, Philippines</td>
<td>Airline reservations, customer service</td>
</tr>
<tr>
<td>FLUOR</td>
<td>700 in the Philippines</td>
<td>Architectural blueprints</td>
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<tr>
<td>GENERAL ELECTRIC</td>
<td>20,000 in India,</td>
<td>Finance, IT support, R&amp;D for medical, lighting, aircraft</td>
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<tr>
<th>NUMBER OF NATURAL-SCIENCE AND ENGINEERING COLLEGE GRADUATES</th>
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<td>CHINA</td>
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<td>INDIA</td>
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<td>MEXICO</td>
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<td>U.S.</td>
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Data: National Science Foundation, BusinessWeek

radie puten offer costs gines deca can't differ and mana home empl 10 ft grade tech
Fran
HUNGARY

BáLÁZS ZIMAY
ARCHITECT
PAY: $18/HOUR

Zimay can design your dream house from Budapest—for half what draftsmen in the U.S. charge

radical leap. Now, American Express, Dell Computer, Eastman Kodak, and other companies can offer round-the-clock customer care while keeping costs in check. What’s more, immigrant Asian engineers in the U.S. labs of TI, IBM, and Intel for decades have played a big, hidden role in American tech breakthroughs. The difference now is that Indian and Chinese engineers are managing R&D teams in their home countries. General Electric Co., for example, employs some 6,000 scientists and engineers in 10 foreign countries. GE Medical Services integrates magnet, flat-panel, and diagnostic imaging technologies from labs in China, Israel, Hungary, France, and India in everything from its new X-ray devices to $1 million CT scanners. “The real advantage is that we can tap the world’s best talent,” says GE Medical Global Supply Chain Vice-President Dee Miller.

That’s the good side of the coming realignment. There are hazards as well. During previous go-global drives, many companies ended up repatriating manufacturing and design work because they felt they were losing control of core businesses or found them too hard to coordinate. In a recent Gartner Inc. survey of 900 big U.S. companies that outsource IT work offshore, a majority complained of difficulty communicating and meeting deadlines. As a result, predicts Gartner Inc. Research Director Frances Karamouzis, many newcomers will stumble in the first few years as they begin using offshore service workers.

A thornier question: What happens if all those displaced white-collar workers can’t find greener pastures? Sure, tech specialists, payroll administrators, and Wall Street analysts will land new jobs. But will they be able to make the same money as before? It’s possible that lower salaries for skilled work will outweigh the gains in corporate efficiency. “If foreign countries specialize in high-skilled areas where we have an advantage, we could be worse off,” says Harvard University economist Robert Z. Lawrence, a prominent free-trade advocate. “I still have faith that globalization will make us better off, but it’s no more than faith.”

If the worries prove valid, that could reshape the globalization debate. Until now, the adverse impact of free trade has been confined largely to blue-collar workers. But if more politically powerful middle-class Americans take a hit as white-collar jobs move offshore, opposition to free trade could broaden.

When it comes to developing nations, however, it’s hard to see a downside. Especially for those countries loaded up with college grads who speak Western languages, outsourced white-collar work will likely contribute to economic development even more than new factories making sneakers

GOING ABROAD

Financial Analyst

U.S. brokerages, investment banks, and rating agencies are buying equity research and industry reports from finance specialists in India. They mine the same databases available to Wall Street.

OFFSHORE SALARY: $1,000/month in India.

U.S. COUNTERPART: $7,000/month and up.

Companies that are eager to cut costs...

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<thead>
<tr>
<th>COMPANY</th>
<th>NO. OF WORKERS AND COUNTRY</th>
<th>TYPE OF WORK MOVING</th>
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<tbody>
<tr>
<td>HSBC</td>
<td>4,000 in China, India</td>
<td>Credit-card, loan processing</td>
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<td>INTEL</td>
<td>3,000 in India by 2005</td>
<td>Chip design, tech support</td>
</tr>
<tr>
<td>MICROSOFT</td>
<td>500 in India, China by year end</td>
<td>Software design, IT support</td>
</tr>
<tr>
<td>ORACLE</td>
<td>Doubling India staff to 4,000</td>
<td>Software design, customer support, accounting</td>
</tr>
<tr>
<td>PHILIPS</td>
<td>700 Chinese engineers in China</td>
<td>Consumer electronics R&amp;D</td>
</tr>
<tr>
<td>PROCTOR &amp; GAMBLE</td>
<td>650 in Philippines, 150 in China</td>
<td>Tech support, accounting</td>
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...a trend that’s likely to grow

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<tr>
<th>NUMBER OF U.S. JOBS MOVING OFFSHORE*</th>
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<td>2005</td>
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<td>LIFE SCIENCES</td>
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<td>LEGAL</td>
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<td>ART, DESIGN</td>
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<td>MANAGEMENT</td>
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<td>BUSINESS OPERATIONS</td>
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<td>COMPUTER</td>
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<td>ARCHITECTURE</td>
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<td>SALES</td>
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<td>OFFICE SUPPORT</td>
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<tr>
<td>TOTAL</td>
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*In low-wage countries such as India, China, Mexico, and the Philippines

Data: Forrester Research Inc.
GOING ABROAD

Accountant

Big corporations are having bookkeeping, such as accounts receivables, done in Ireland, India, and the Philippines and are shifting work on taxes and financial reports there, too. Soon, offshore accountants may do everything but on-site audits.

OFFSHORE SALARY:
$300/month in Philippines with master's.

U.S. COUNTERPART:
$5,000/month and up.

PHILIPPINES

Maribeth Medina
SGV, Ernst & Young
STARTING PAY:
AROUND $4,000

Manila number-crunchers work on the books of U.S. companies

This is no sweatshop work. Just two years out of college, Gaurav Daga, 22 is India project manager for software that lets programs running on Unix-based computers interact smoothly with Windows applications. Daga's $11,000 salary is a princely sum in a nation with a per capita annual income of $500, where a two-bedroom flat goes for $125 a month. Microsoft is adding 10 Indians a month to its 150-engineer center and indirectly employs hundreds more at IT contractors. "It's definitely a cultural change to use foreign workers," says Sivarakshakhan Sonasegar, Microsoft's vice-president for Windows engineering. "But if I can save a dollar, hallelujah."

Corporations are letting foreign operations handle internal finances as well. Procter & Gamble Co.'s 650 Manila employees, most of whom have business and finance degrees, help prepare P&G's tax returns around the world. "All the processing can be done here, with just final submission done to local tax authorities" in the U.S. and other coun-

THE NEW COLD WAR AT BOEING

You've heard about those companies that hire cheap overseas professionals to do their accounting, software programming, and architectural work, and you want to jump on the bandwagon. Not so fast. Your U.S. staff might just balk. There may be no better example of that than Boeing Co.

Nearly 12 years ago, as the Soviet Union collapsed, Boeing started recruiting out-of-work Russian aerospace engineers to collaborate on space and commercial-airplane projects. At first, their numbers were small. But the Russians did good work for as little as $5,400 a year. Boeing began to view its Russian staff as the vanguard of a new push into the European market, and in 1998 it opened its Moscow Design Center, which a year ago boasted nearly 700 engineers. From the day the center opened, engineers at Boeing's Seattle hub had voiced concerns. Last year, those fears boiled over.

Boeing's 22,000 engineers in Seattle, represented by the Society of Professional Engineering Employees in Aerospace (SPEEA), threatened to walk out in December, when their contract expired, if the Russian venture wasn't cut back.

Partly as a result, Boeing reduced its corps of Moscow engineers to about 350, though the company won't be precise. "The underlying fear is that we're giving away our technology and our competitive advantage, and we're losing jobs," says Dave Landress, a test engineer and union rep. The union has good reason for concern: Struggling to reduce costs to cope with the sharp falloff in orders from the ailing airline industry, Boeing has laid off 5,000 engineers since 2001.

Still, Boeing has refused to yield entirely to the union's demands. It declined, for instance, to adopt tough new
tries, says Arun Khanna, P&G's Manila-based Asia accounting director.

Virtually every sector of the financial industry is undergoing a similar revolution. Processing insurance claims, selling stocks, and analyzing companies can all be done in Asia for one-third to half of the cost in the U.S. or Europe. Wall Street investment banks and brokers, under mounting pressure to offer independent research to investors, are buying equity analysis, industry reports, and summaries of financial disclosures from outfits such as Smart Analyst Inc. and OfficeTiger that employ financial analysts in India. By mining databases over the Web, offshore staff can scrutinize an individual's credit history, access corporate public financial disclosures, and troll oceans of economic statistics. "Everybody these days is drawing on the same electronic reservoir of data," says Ravi Aron, who teaches management at the Wharton School at the University of Pennsylvania.

Architectural work is going global, too. Fluor Corp. of Aliso Viejo, Calif., employs 1,290 engineers and draftsmen in the Philippines, Poland, and India to turn layouts of giant industrial facilities into detailed specs and blueprints. For a multibillion-dollar petrochemical plant Fluor is designing in Saudi Arabia, a job requiring 50,000 separate construction plans, 200 young Filipino engineers earning less than $3,000 a year collaborate in real time with elite U.S. and British engineers making up to $90,000 via Web portals. The principal Filipino engineer on plumbing design, 35-year-old Art Aycardo, pulls down $1,100 a month—enough to buy a Mitsubishi Lancer, send his three children to private school, and take his wife on a recent U.S. trip. Fluor CEO Alan Boeckmann makes no apologies. At a recent meeting in Houston, employees asked point-blank why he is sending high-paying jobs to Manila. His response: The Manila operation knocks up to 15% off Fluor's project prices. "We have developed this into a core competitive advantage," Boeckmann says.

It's not just a game for big players: San Francisco architect David N. Marlatt farms out work on Southern California homes selling for $300,000 to $1 million. He fires off two-dimensional layouts to architect Zimay's in Budapest. Two days later, Marlatt gets back blueprints and 3-D computer models that he delivers to the contractor. Zimay charges $15 an hour, vs. the up to $65 Marlatt would pay in America. "In the U.S., it is hard to find people to do this modeling," Zimay says. "But in Hungary, there are too many architects."

So far, white-collar globalization probably hasn't made a measurable dent in U.S. salaries. Still, it would be a mistake to dismiss the trend. Consider America's 10 million-strong IT workforce. In 2000, senior software engineers were offered up to $130,000 a year, says Matt Milano, New York sales manager for placement firm Atlantis Partners. The same job now pays up to $100,000. Entry-level computer help-desk staffers would fetch about $55,000 then. Now they get as little as $35,000. "Several times a day, clients tell me they are sending this work off shore," says Milano. Companies that used to pay such IT service providers as IBM, Accenture, and Electronic Data Services $200 a hour now pay as little as $70, says Vinnie Mirchandani, CIO of IT outsourcing consultant Jetstream Group. One reason, besides the tech crash itself, is that Indian providers like Wipro, Infosys, and Tata charge as little as $20. That's why Accenture and EDS, which had few staff in India three years ago, will have 5,000 each by next year.

Outsourcing experts say the big job migration has just begun. "This trend is just starting to crystallize now because every chief information officer's top agenda item is to cut budget," says Gartner's Karamouzis. Globalization trailblazers, such as GE, AmEx, and Citibank, have spent a decade going through the learning curve and now are ramping up fast. More cautious companies—insurers, utilities, and the like—are entering the fray. Karamouzis expects 40% of America's 2 million American programmers to be offshore in five years.

**GOING ABROAD**

**Info-Tech Support**

No longer are Asian IT engineers only writing routine software applications and maintaining mature computer systems. Now they are remotely managing sophisticated networks, designing Web sites, and developing software for entire business processes for big Western corporations.

**OFFSHORE SALARY:**

$500/mo/month in India for database manager

**U.S. COUNTERPART:**

Up to $10,000/month.

**WARPATH**

Engineering union member Craig Buckham protesting a Russian venture

Boeing's 5,500 se. giving stive says 1 on to sing 101. d en e

**U.S. JOBS for U.S. Workers**

job-security language. The best the union could muster: a nonbinding letter acknowledging the concerns of both sides. And Boeing still plans to shift jobs to Russia in the future, company insiders say.

The strategy is to integrate the cheaper Russian engineers into the design process for everything Boeing makes. The Russian staff—spread over seven cities—already works on everything from redesigning jet-wing parts to designing components for the International Space Station. Boeing's other goal is to develop a 24-hour global workforce, made possible by a satellite link from Russia to Boeing's Seattle offices. "We have achieved substantial cost reductions on every airplane we deliver with the help of our Moscow team," Hank Queen, Boeing vice-president for engineering, told SPEA members recently.

It's not just lower pay that makes Russia so attractive. The company hopes a local presence will help win Russian orders. It hasn't so far. Last summer, Aeroflot weighed the pros and cons of the Boeing 737 vs. the Airbus A320 and picked Airbus, which opened its own Russian design center last year and plans to hire 60 engineers. Still, given the savings, Boeing is likely to keep shifting work to Russia, which is sure to keep some engineers sleepless in Seattle.

*By Stanley Holmes in Seattle, with Simon Ostrovsky in Moscow*
Drop by the Manila offices of Source 1 Asia at two or three in the morning, and you might think you've stumbled into some late-night college cram session. Some 750 men and women in their early 20s, jazzed on cappuccino and junk food, are pulling all-nighters in front of their computers. The walls of the cavernous room are painted hot pink, purple, and lime green. But it's not Calculus 101 that has these Filipinos burning the midnight oil. They're busy handling credit-card queries from ChevronTexaco Corp. customers and walking users through the intricacies of Microsoft Corp. software.

Say “call center” to most Americans, and they think of tedious, low-paid, dead-end jobs fielding complaints about phone bills or bank statements. But in the Philippines, call centers are viewed as a gateway to exciting careers working on behalf of the best service companies in the world. Some 10,000 Filipinos, almost all with college degrees, staff 45 such centers around the clock, seven days a week. Companies like American Express, Eastman Kodak, Intel, Microsoft, and Dell Computer are flocking to the Philippines, lured by the country’s low wages, generous tax breaks, and ample supply of English speakers. The call-center staff “are a very, very talented pool of people,” says Arun Khanna, Procter & Gamble’s Manila-based accounting director.

**THE WAY, WAY BACK OFFICE**

Filipinos such as Philip Sy see call centers as a stepping stone to an exciting career. “They’re committed, and comfortable with being trained and taking on responsibility,” says Sy. Philip Sy is a typical call center worker. After graduating in 1998 from the University of the Philippines with a degree in German and Italian, Sy took a $250-a-month job at Source 1 providing assistance to people installing software on their computers. Now 28, Sy is a Source 1 operations manager overseeing 150 people and earning $13,000 a year, a small fortune in a country where 40% of the population lives on less than a dollar a day. “Considering the career growth opportunities, a job here is pretty desirable,” says Sy, practicing yo-yo tricks as he wanders the floor monitoring calls. Another Source 1 employee, Karen Betiza, 25, is the daughter of a diplomat and has a college degree in communications. She says she views the job as a good starting place for a marketing career. Because they are able to hire some of the country’s best talent, call centers in the Philippines are moving far beyond telemarketing. At the offices of Tampa (Fla.-based Sykes Enterprises in the heart of Manila’s Makati financial district, some of the 2,200 agents troubleshoot for control systems for oil rigs made by a U.S. manufacturer. “The salary difference between a qualified engineer in the U.S. and here is colossal—at least 10 times,” says Michael Henderson, Asia managing director at Sykes. Others advise customers interested in life insurance and mutual funds offered by a major U.S. financial services company that Source 1 says it cannot identify. To get the licenses needed to market U.S. securities, Sykes flies Filipino staff to the U.S. and Hong Kong to take tests given by the National Association of Securities Dealers. Others at Sykes provide online support for users of Microsoft’s latest Internet-access service, MSN 8.0, and help buyers figure out how to operate Kodak digital cameras. Says 24-year-old Sykes employee Michelle Abreu: “I see myself working in the industry for a long time.” It’s that kind of attitude—and the fact that good jobs are scarce in the Philippines—that helps keep turnover at call centers under 10% a year, compared with upwards of 70% in the U.S. Indeed, Nathan Shapiro, Source 1’s director of Asian operations, says he has just one headache: The Filipino employees are too polite, leading to longer, costly phone chats. “We have to teach them to be more rude,” says Shapiro. That may be the one area in which U.S. service providers can’t be beaten.

By Frederik Balfour in Manila
A GLOBAL WHITE-COLLAR MIGRATION

Get ready for the second act of the grand drama we call globalization (page 50). The 1980s opened with a massive manufacturing migration from industrialized countries to the Third World that accelerates to this day. This decade is witnessing a second huge shift, this time in services, with white-collar professional jobs following the same blue-collar migratory routes to Asia and elsewhere. As the World Economic Forum meets in Davos, Switzerland—and as protesters gather there to shake their fists at globalization—we would all do well to ponder the consequences of this historic relocation.

We, for one, believe the latest iteration in the evolution of the global economy will generate more growth for everyone over time as countries focus their abilities on doing what they do best. But the adjustment may well be painful for those middle-class Americans and Europeans who see their jobs in software writing, chip design, architecture, and accounting move to India, China, Israel, Russia, and the Philippines. If the migration of services is not mediated by good growth-promoting government policy, there’s a serious risk that the anti-globalization forces will gain an army of jobless white-collar recruits.

The dimensions of the service shift are only just beginning to come into focus. We can discern the trend but not the strength or size of the move. The collapse of the tech bubble and the weak recovery are leading a growing number of U.S. bank, insurance, credit-card, accounting, investment banking, high-tech, engineering, and design companies to outsource white-collar work.

This is likely to prove to be more than just a cyclical phenomenon. The Internet, digitalization, the spread of white-collar skills abroad, and the big cost savings of outsourcing will probably make the shift of services a permanent feature of economic life. The good news is that the sloughing off of commodity-like service work will increase the profits and efficiency of American corporations and set the stage for the next big growth-generating breakthrough. Innovation is the driving force of the U.S. economy, not mass production of low-value goods or services. The painful loss of manufacturing in the ’70s and ’80s paved the way to the high-tech gains of the ’90s. The same forces are at work today.

For their part, India, China, and other countries are gaining large numbers of well-paying jobs, expanding the middle class, and reducing poverty. As a result, China is emerging as a locomotive to world growth. American exports to China in November were up 30% year-over-year at an annual rate of $24 billion, matching what the U.S. exports to France.

Yet the global migration of services presents potential problems. Deflation is blowing out of China as manufacturing moves to low-cost producers. So far, the much larger service sector has been able to retain pricing power, but the shift of services to low-cost countries could change that. Deflation and unemployment could accelerate sharply if the U.S. economy does not re-accelerate soon.

It’s a difficult time for developing countries as well. The Philippines has been exporting educated, English-speakers for decades, because it has not been able to build a working civil society with credible legal, financial, and political systems. Unless developing countries construct the institutional framework for stable growth, they may find themselves with the white-collar equivalent of maquiladoras, islands of cheap service work that do not transform their economies. India is especially vulnerable, with religious strife between Hindus and Muslims and a corrupt political system.

The U.S. must act as well. It should do what it has done in the past—move up the value-added ladder to create new products and services. That means promoting better education, completing the job of reforming the capital markets, and reducing business and investor risk at home and abroad. If it can restart its growth engine, the U.S. has nothing to fear from the great white-collar migration. If it doesn’t, there may be serious trouble ahead.

JUST GO, MR. PITT

Harvey L. Pitt is forgotten but not gone. The former Securities & Exchange Commission chairman, who resigned in disgrace months ago, remains in office while his replacement, William H. Donaldson, awaits Congressional confirmation. Bad idea. Pitt represented accounting industry interests in private practice in Washington. He was a reluctant reformer at best. He resigned after fumbling the key appointment to a new accounting oversight board that was supposed to generate investor confidence. Despite this terrible record, there he is, overseeing the SEC staff in writing rules that are supposed to keep accounting conflicts of interest in check. So we shouldn’t be surprised that these rules are as weak as they are. And we shouldn’t be surprised that the staff caved in to heavy lobbying from the discredited accounting industry.

As a lame duck, Pitt had one last chance to restore investor trust. Yet even after Enron, WorldCom, and Tyco, he sided with the accounting industry. In the end, the SEC softened proposed rules on banning firms that did audits from also offering tax services, especially on tax shelters, to the same client. It eased rules requiring rotation of auditors. And it backed off from insisting accounting firms break out specific fees that companies pay for their services, which would have provided more transparency. At a time of economic uncertainty, rising geopolitical risks, and public jitters, this was an appalling showing that reflects poorly on the Bush Administration. Harvey Pitt should leave now.
Server Wars

HOW DO YOU DOUBLE A $2 BILLION server-software business? First, keep IBM in the dark as long as you can, even if you are Microsoft.

In a few weeks the software giant will announce its strategy to boost corporate computing efficiency; IBM, Hewlett-Packard and Sun Microsystems have been pitching their efforts for months. As it to make up for lost time, Microsoft will say its approach, the Dynamic Systems Initiative, will be done in just five years. The others say ten.

About 150 crack Microsoft designers worked in stealth for two years on software aimed at putting more intelligence inside servers and applications to let systems work faster. After the first product debuts on Windows Server 2003 next month, some 4,000 Micrososfties will begin building applications for the new server. Outside developers will be brought in later.

The new software will need ever more powerful hardware to work well, and both HP and Dell Computer have been working with Microsoft for over a year to tweak their boxes for the new operating systems. IBM has not yet had a peek. Nor has Sun, an avowed Microsoft foe.

Microsoft executives insist IBM was given a chance to play and bowed out. "IBM wants to keep the mainframe relevant," says Bill L. Veghte, vice president of Microsoft's server division, which had $2 billion in revenue last year. While IBM has thrown lots of consultants at the problem, he says, "our approach is that this won't be solved by hardware—hardware is the problem." For its part, IBM may have decided not to join, but appears to have forgotten that move. "I'd find it hard to believe anybody has got a closer relationship [with Microsoft] than we do," says an IBM executive.

—Quentin Hardy

“What’s in It for Us?”

Pilots at European airlines make a lot less than their counterparts in America. Guess who’s opposed to opening up the U.S. market? BY IRA CARNAHAN

Despite its high-flying free trade rhetoric, the U.S. doesn’t allow foreign airlines to carry passengers between American cities, to set up a U.S. subsidiary or to buy more than a quarter of the voting stock of a U.S. airline.

Such restrictions have rankled Europeans for years. But now, having ended limits on airline ownership and investment within Europe, the European Commission is looking to spread free skies across the Atlantic. Adding to the pressure is a recent European Court of Justice ruling that parts of eight European countries’ bilateral air treaties with the U.S. violate European Union law. Member nations are expected to agree this year—perhaps by June—to bargain collectively with the U.S.

To bolster its campaign, the EC commissioned a study by the Brattle Group in Cambridge, Mass. that predicts ending restrictions would increase transatlantic travel up to 24% and save consumers billions. Scrapping controls on foreign ownership could also boost struggling U.S. airlines by giving them access to additional capital, partners and markets.

The economic case for greater openness may be strong, but so are the obstacles. The biggest: organized labor. "What’s it for us? What’s in it for the American work force and American business?" asks Duane Woerth, head of the Air Line Pilots Association. Pilots at major U.S. carriers earn an average $189,000, compared with $18,000 at Czech Airlines, says the International Civil Aviation Organization (ICAO). The Czech Republic and nine other low-wage countries are scheduled to enter the EU in 2004.

Then there’s the U.S. Department of Defense, which frets that foreign-owned airlines can’t be counted on to participate in the Civil Reserve Air Fleet, which ferries U.S. troops and cargo during war. (Solution: Require any foreign-owned airline seeking to operate in the U.S. to set up a U.S. subsidiary subject to the same laws and obligations as any other American airline.)

U.S. airlines, meanwhile, favor free skies in principle but aren’t gung-ho in practice. Why not? Some industry executives are preoccupied with the more urgent issue of survival, while others believe that the European airlines have more to gain than they do.

"The intellectual argument has been largely won," insists Barry Humphreys of Virgin Atlantic, which profits from some current limits but wants to open a low-cost U.S. subsidiary. "We now have to convince the politicians." And the special interests.

—The author examined some of the models in this chart. They revealed the potential for a significant increase in capacity on each route, but the potential far exceeded the growth that could be justified by the market. The models also showed that the potential for a significant increase in capacity on each route was not evenly distributed. For example, the potential for a significant increase in capacity on each route was much higher on routes that had a lot of competition than on routes that had little or no competition.

—The author also examined the data on the number of passengers on each route. The data showed that the number of passengers on each route was not evenly distributed. For example, there were a lot of passengers on routes that had a lot of competition, but there were very few passengers on routes that had little or no competition.

—The author also examined the data on the revenue per passenger on each route. The data showed that the revenue per passenger on each route was not evenly distributed. For example, the revenue per passenger on routes that had a lot of competition was much higher than the revenue per passenger on routes that had little or no competition.

—The author also examined the data on the number of flights on each route. The data showed that the number of flights on each route was not evenly distributed. For example, there were a lot of flights on routes that had a lot of competition, but there were very few flights on routes that had little or no competition.

—The author also examined the data on the number of airports on each route. The data showed that the number of airports on each route was not evenly distributed. For example, there were a lot of airports on routes that had a lot of competition, but there were very few airports on routes that had little or no competition.

—The author also examined the data on the number of airlines on each route. The data showed that the number of airlines on each route was not evenly distributed. For example, there were a lot of airlines on routes that had a lot of competition, but there were very few airlines on routes that had little or no competition.

—The author also examined the data on the number of passengers on each route. The data showed that the number of passengers on each route was not evenly distributed. For example, there were a lot of passengers on routes that had a lot of competition, but there were very few passengers on routes that had little or no competition.
The Cheap Decade

IF YOU CAN ANSWER THE RIDDLE BELOW, YOU'LL BE LIGHT-years ahead of the millions of other poor suckers trying to navigate their way through the turbulent early 2000s.

What do these have in common: Google, Salesforce.com, Blind Date, China, India, Wi-Fi and (just to throw a curve) Max Oshman, the 17-year-old Web designer I wrote about in the last issue? Answer: They are key actors in what I am calling the Cheap Revolution. CEOs, listen up. If you are on the wrong side of this revolution, you'd better rethink your company's mission. Quickly.

Consider:

- **Google.** This red-hot Web site search firm handles 170 million page views a day and has become the fourth-most-visited Web site in the world. Google performs its Internet miracle with a hardware power plant consisting of 12,000 cheap servers—basically, mail-order PCs without monitors—that average $2,000 apiece. That's stunning, but the cost savings go far deeper. When a server breaks, Google junks it, just like an old razor blade, and slips in a replacement. No fat service contracts. No bloated IT in-house "fix-it" departments. Google's cheap saves 90 cents on the typical IT dollar, according to Mike Nevens, former head of McKinsey's technology practice.

- **Salesforce.com.** The promise of cheap Web services for corporate enterprises died with the dot-com boom, right? Look again. Salesforce.com grew 136% in 2002 selling Web solutions that make your salespeople more productive. Hold the phone—doesn't Siebel Systems sell the same thing? Isn't Siebel struggling? Siebel is struggling, but that's because Siebel's multimillion-dollar installations are the equivalent of a $5,000 Savile Row suit. These days CFOs (who by nature favor cheap suits) are saying no to such spending levels. On the other hand using Salesforce.com is like buying from that Hong Kong tailor held up at the local Holiday Inn who peddles three suits for $1,700. Of course, neither the suit nor the software is the same quality, but in these times 90% functionality for 10% of cost might be a deal worth trying.

- **Blind Date.** With children ages 6 and 10, my wife and I decided last year to unplug our TV during weekdays. On weekends we allow the kids only approved DVD movies. So it is with some sense of guilt that I admit to being a closet fan of Blind Date—the raunchy comedy on the WB Network featuring men and women on a first date. Hilarious are the pop-up cartoon bubbles that spell out what the men and women are really thinking. Such as, "I'd rather clean catboxen than be with this dweeb," or "It's 11 a.m. and she's had how many gin fizzes?" Shows like these are popular with viewers. They're extremely popular with studio executives, because they can be produced at a tiny fraction of the cost of Friends or 24. Credit this TV trend (or blame it) on technology, which has shrunk $500,000 worth of film/video production equipment down to a camcorder and a PC. Sure, the technical-quality gap is noticeable—today. But the quality gap will shrink, along with the cost gap, as cheap, film-quality digital schemes such as Foveon's work their way into future camcorders.

- **China; India.** "How about those Mavs?" says Roger, the perky help-desk guy, to my Dallas friend on the phone. My friend is attempting to straighten out a credit card problem. On the other end of the line is Roger, an apparently educated Brit who speaks with a high-toned Oxford accent. My Dallas friend has just returned from England, so the two get to talking. But something strikes my friend as odd, out of place. Why would this educated Roger be doing lowly call-center work? So my Dallas friend asks, "Where are you, Roger?" It turns out Roger is calling from India, and his real name is Rogesh. He is working for $300 a month. When Rogesh completes his engineering degree, assuming he stays in India, he can expect to earn $1,000 a month. In China, as well, very sharp young men and women aspire to making $1,000 a month. In go-go Shanghai this feat requires an advanced engineering degree, but jobs for the qualified in China are plentiful. Global companies such as Taiwan's TSMC, America's Cisco and National Semiconductor and Germany's BMW are currently building plants in China, hoping to tap this abundant, cheap talent.

- **Wi-Fi.** France Telecom lost $23 billion in 2002. How? Like many other European state-owned telecoms, it had foolishly forked over billions for 3G wireless spectrum a few years ago. Whoops. Now comes dirt-cheap Wi-Fi and a host of other off-the-rack wireless wonders. It's like the scruffy PC versus the minicomputer all over again.

- **Max Oshman (a.k.a. Flash Kid).** Update: Max, partner Yves Darbouze and their global team of ten Web designers—average age 23, none of whom has ever met the others—have signed up a new client: Stevie Wonder. (This in addition to Bad Boy Records and Microsoft.) Max and Yves are picking up clients like crazy. They do spec work for free to quickly prove their worth. The e-gang's overhead costs are a few PCs, cheap Macromedia software and phone bills. Now, were I a Madison Avenue executive competing with ... a freaking high school junior! ... operating out of his parents' home! ... I think I might head out for a threemartini lunch and never return.

What I've described here are the first few drops of a storm that will overtake more than a few industries in the next ten years. Are you ready for the Cheap Decade?
The Story They All Got Wrong

Contrary to what you were authoritatively told by the media, our government has no evidence that increased education will raise incomes.

BY DAN SELIGMAN

LAST JULY THE U.S. CENSUS Bureau sent out a press release that appears to have been totally misunderstood by the journalists of America. With, I hasten to add, some exceptions. Or at least one. The release started off proclaiming that a new Census study showed a "big payoff" from education and then proceeded to particularize. It said that characters who hadn't made it through high school were earning, on average, only $18,900 a year in the late 1990s.

Meanwhile, those who had graduated from high school averaged $25,900, college graduates averaged $45,400, and acquirers of professional degrees averaged $99,300, which is possibly why you keep seeing parchment on the wall when you visit a doctor. Converting the annual figures to lifetime earnings (assumed to accrue between ages 25 and 64), the Census Bureau observed that the college graduate outearned the high-school graduate by $2.1 million to $1.2 million, while the professional person was up to $4.4 million.

Springing for the bait, newspapers from coast to coast trumpeted that the country would be better off with more education. According to the lead in the Seattle Post-Intelligencer story, "New government data support what your parents
have told you all along about staying in school: A good education does pay off.” An editorial in the Portland Press Herald lamented, in a sentence that speaks for itself: “In Maine, ours is not a well-educated work force.” The editorial then went on to argue that the Census data show the need for more community colleges. The Washington Post reporter started off with the thought that education has become the “ticket to upward mobility for everyone,” and later quoted the coauthor of the Census report, Jennifer Cheeseman Day, on its “bottom-line message” about education: “It pays off for everybody—men, women, whites, blacks, Hispanics.”

Is it really clear that the country needs more education? And that society would benefit if everybody got more? It is certainly possible to identify individuals not now going to college who would benefit if they did go. But it seems even easier to identify young persons who are in college and shouldn’t be there. The enormous number of college students instantly needing remedial help when they show up on campus surely carries a message. The National Center for Education Statistics tells us that 35.5% of first- and second-year undergraduates report having taken remedial courses—most often in math but also in reading, writing and, getting to the truly clueless, “study skills” (taught to 17.4% of those in remedial programs).

The biggest cliché in statistics is that correlation is not causation—that just because there’s a persistent association between two sets of data, we may not conclude that one of the events being measured is causing the other event. It would be very hard to find any serious possibility that the correlation exists mainly because smart people tend to want more education, and smart people are what employers keep looking for: workers who catch on fast, are easy to train, and don’t screw up. Many employers have used college degrees as a proxy for intelligence. But if not-so-smart people try to get in on the high-income game by, say, going to college instead of grabbing a job at age 18, they will ultimately find it doesn’t pay. The labor markets are quite sophisticated at sniffing out true mental-ability levels.

Employers not bashful about testing can do it in 12 minutes, which is the time it takes to administer the Wonderlic Personnel Test. This is now given some 2.5 million times a year to job applicants in tens of thousands of companies, not to mention the National Football League, which gives the test to almost every rookie. (A report on the test on CBS SportsLine tells us that offensive tackles are the smartest guys on the field.) Census Bureau scholars are probably too intelligent to confuse correlation with causation. And yet the study in question seems to say quite clearly that raising educational attainment causes incomes to rise: “People decide to go to college for many reasons. One of the most compelling is the expectation of future economic success based on educational attainment.”

So I called up Jennifer Day, the report’s coauthor, and asked a simple question: “Is the payoff from education or from the ability level that is correlated with the amount of education?” Crisp answer: “Obviously, we can’t decipher that.”

Next question: “What about the proposition that the work force now probably has as much education as it can use?” Answer: “I don’t know.”

**Labor markets are sophisticated at sniffing out mental ability**
Education Completed in USA, 1910 – 1999

% completing grade 5 or more
% completing high school or more (age 25-29)
% complete college (age 25-29)
% complete college


Grade 5-year plus
4-year college
High school or higher
4-year college, age 25-29
High school, age 25-29

FIGURE: Education completed in USA, 1910 – 1999. This shows the percentage of the total adult population (ages 25 and over) that completed various levels of schooling. The similar dashed curves for high school and colleges are for people of ages 25 – 29.

The quality of the labour force

The period of rapid economic growth started with a population that was well-educated by the standards of most developing countries. Primary school education was almost universal with only 5 per cent of the work-force without school attendance in the early 1960s. The provision of education greatly expanded during the next three decades, with a progressive move to universal education for the under-15 age group and then nearly universal for the 15 to 17 age group (Table 19). By 1993, all primary school leavers progressed to middle school while 98 per cent of middle school students went onto high school although neither middle school nor high school are compulsory. By 1990, 35 per cent of the population had received a high school education.

The number of students in four-year colleges and universities nearly doubled during the 1980s. By 1991, the share of the 18 to 21 age-group in higher education had reached 42 per cent, a level as high or higher than in most OECD countries with the exception of Canada and the United States. By 1990, the share of college graduates in the adult population had risen to 12 per cent from 6 per cent in 1980. Although the expansion of tertiary education has reduced the pay premium for advanced education, the earnings of university graduates are still more than twice those of middle school graduates (Diagram 19). Moreover, in

Table 19. Education indicators

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<tr>
<td></td>
<td>Thousands</td>
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<tr>
<td>Kindergarten</td>
<td>5</td>
<td>n.a.</td>
<td>22</td>
<td>66</td>
</tr>
<tr>
<td>Elementary school</td>
<td>6-11</td>
<td>3 623</td>
<td>5 749</td>
<td>5 658</td>
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<tr>
<td>Middle school</td>
<td>12-14</td>
<td>528</td>
<td>1 319</td>
<td>2 471</td>
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<td>High school</td>
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<tr>
<td>Tertiary education</td>
<td>18+</td>
<td>101</td>
<td>201</td>
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<tr>
<th></th>
<th>Per cent of age-group</th>
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<tr>
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<td>86.8</td>
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<td>Tertiary education</td>
<td>18+</td>
<td>8.8</td>
<td>16.0</td>
<td>37.6</td>
</tr>
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Source: Korean Educational Development Institute, Educational Indicators in Korea (1993).
Diagram 19. SALARIES BY OCCUPATION AND EDUCATION

**A. Occupation**
- Administrative and managerial
- Professional and technical
- Clerical
- Production

**B. Education**
- University graduates
- Junior college graduates
- High school graduates
- Middle school graduates

Diagram 18. THE GROWTH OF POPULATION AND LABOUR FORCE

![Graph showing population and labour force growth over time]

Source: Economic Planning Board of Korea.

Table 18. Participation rates by age and sex

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<tbody>
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<tr>
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<td>47.3</td>
<td>30.6</td>
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<tr>
<td>Female</td>
<td>43.7</td>
<td>73.3</td>
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<tr>
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<tr>
<td>Female</td>
<td>47.3</td>
<td>53.5</td>
<td>64.5</td>
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</table>

Source: Economic Planning Board, Korea Statistical Yearbook (several issues).
OECD Economic Survey, Korea 1994

IX. Conclusions

S. Korea

An appraisal of past policies

With a per capita income of more than $7 000 in 1993, Korea is no longer a "developing" country. Its transformation from one of the poorest countries in the world only 40 years ago to an industrialised country has been amongst the most rapid in the world. The most important factors behind this success story have been an early, policy-induced, export orientation, a high and rising rate of national savings, a commensurate high level of investment in physical assets and human capital, and, last but not least a highly motivated labour force, willing to work hard to acquire new skills and to adapt flexibly to changing labour demand conditions. The priority given to private sector developments over public sector developments, together with sound fiscal policies, enabled Korea to avoid many of the problems seen in developing countries. The negative influences of interventionist policies often found in other countries have been limited because success in international markets has generally been the criterion by which policies have been evaluated in Korea. The emergence of Korea as a major trading nation has been accompanied by a progressive reduction in government intervention in foreign trade. Industrial policy has also been re-oriented towards a less discriminatory approach in part as a reaction to the problems which had arisen from the drive towards heavy industries in the 1970s.

The need to change policies

With the almost twelve-fold growth in the absolute size of the economy in the past 30 years, policies of administrative guidance and discriminatory regulation are not only difficult to implement but have also become increasingly unsuitable for ensuring a continued fast pace of economic development required
to catch up with the most advanced industrial nations. With markets becoming bigger and goods more sophisticated, and with the number of companies growing and demand becoming more volatile and difficult to predict, more emphasis should be put on private sector initiatives with increasing reliance on signals from the market. The re-allocation of labour to more efficient uses will be a key to maintaining rapid growth in the next decade, along with improving technology and the easing of regulations which tend to impede the necessary transformation of the economy. Deregulation, especially in financial markets, will enable Korea to use domestic savings more efficiently, to benefit from lower borrowing costs abroad and to draw on foreign savings, thereby promoting investment and growth.

Stabilising the macroeconomic foundation

The strong demand pressure on resources had led to a high and accelerating rate of inflation in the second half of the 1980s, calling for a shift of policy priority from growth to stability. Money supply growth was reined back in 1991 and 1992, and interest rates first raised and then only allowed to drop back in line with the fall in inflation. Enterprises had to adjust to the rapid growth of real earnings, which outstripped labour productivity advances by as much as 40 per cent between 1987 and 1992. As investment in more capital-intensive lines and methods of production increased, the share of business investment in output attained a record high in 1991, followed by a sharp drop of investment growth in 1992. Many labour-intensive products are now beginning to be outsourced to foreign plants, notably in China. However, thanks to strong demand in Asia, especially in China, the growth of total exports in 1992 was twice that of world trade and the current account deficit fell to 1½ per cent of GNP. Despite this favourable export performance, real growth of GNP slowed to just under 5 per cent in 1992 – or 2 percentage points below the estimated rate of potential output.

Concerned about the growing slack in the economy, the authorities eased the stance of monetary policy at the beginning of 1993. During the spring and summer, the authorities appeared unclear about the extent to which monetary growth should be allowed to exceed the government target and the central bank withdrew liquidity from the market, with short-term rates peaking at almost
The Crisis That Isn’t

It is common for politicians to deplore illiteracy. But when you get right down to it, what they are deploiring is the fact that half of the population reads less well than the median person. Is that really a crisis?

BY DAN SELIGMAN

A CASUAL READER, OR EVEN A casual illiterate, could be forgiven for assuming that illiteracy presents a huge national problem. Coming at us from all directions are authority figures proclaiming that it is a grave threat. George W. Bush has called it a "national emergency." Surveys find that 30% of the adults in Appalachia are "functionally illiterate." The figure for Dallas is said (by the National Institute for Literacy) to be 29%. One learns from the U.S. Department of Education Web site that between 40 million and 44 million people "read at a level less than necessary for full participation in society"—whatever that is. Most of these folks are possibly among the 60 million people who could, according to Time Warner, benefit from more literacy education, like the company's own Time to Read program. Several years ago the National Center for Education Statistics (NCES) was encouraging you to worry about the fact that 70% of the U.S. prison population is illiterate.

You have possibly never read an article stating that the country's illiteracy problem is much overblown. Until now, that is.

Anybody trying to get up to speed on literacy instantly hits a discouraging speed bump: There is no agreed-upon definition of literacy. Instead, as you have possibly already intuited from the examples above, there are infinite data based on endlessly shifting standards. Take that 70% prison figure, for example. It comes with a rather daunting footnote, which states: "About seven in ten prisoners ... are apt to experience difficulty in performing tasks that require them to integrate or synthesize information from complex or lengthy texts or to perform quantitative tasks that involve two or more sequential operations and that require the individual to set up the problem." This raises two questions: One is whether we really want our bank robbers and drug dealers to become more proficient in dealing with life's complexities. (The NCES an-

swer is a resounding yes: "Literacy programs for inmates cannot afford to be shortchanged.") The other question is: On that rather demanding definition of literacy, what proportion of the non-prison population is illiterate? Answer: almost 50%.

Severely criticizing the arbitrariness of all these measures is an excellent entry on illiteracy in the Encyclopedia of Human Intelligence, published by Macmillan in 1994. The entry notes that differing popular definitions have yielded illiteracy estimates for American adults ranging from less than 1% (when the standard is an ability to sign your name) to more than 90% (when the standard is an ability to delineate the difference between two employee fringe benefits after reading a detailed description of each). A cherished detail from the encyclopedia is the figure on ability to comprehend a New York Times editorial. Of this challenging task the encyclopedia states: "More than 60% could not understand the main idea." My heart goes out to them.

Perhaps your biggest surprise in exploring all these data will be the revelation that "illiteracy" nowadays does not refer merely to reading ability. When you see references to "functional illiteracy," you can generally assume that what's being gauged is a whole range of mental abilities. The most recent national sample of literacy is a 1992 study, done under contract for the...
Toyota has set itself a mighty growth goal while whipping up yet another low-cost way to build cars and trucks. This is not good for the Big Three.

BY ROBYN MEREDITH
WITH JONATHAN FAHEY

TOYOTA WILL SOON ANNOUNCE that it has made more profits in a single year than any automaker in the last decade—$12 billion. The U.S. delivered 80% of those profits, at a time when the Big Three are struggling for scraps. While Toyota powered to an estimated 8.3% operating margin, on its revenue of $143 billion, Ford lost $1 billion, giant GM scraped and clawed to a 1.5% margin, and Chrysler lost market share. All this is reflected perhaps most compellingly in the companies’ valuations: Toyota’s market capitalization of $84.3 billion is bigger than those of General Motors, Ford and DaimlerChrysler combined.

“In a lackluster time Toyota has gone to record levels of profitability,” says Stephen C. Usher, an analyst at J.P. Morgan Chase in Tokyo. “And now it is getting serious.” Meaning serious trouble for those Big Three competitors. In the next decade Toyota wants to expand its share of the worldwide auto market by nearly half, to 15%. That would exceed
General Motors' global share of 14.2%, now the largest, followed by Ford.

Is that sweat gathering on Detroit's collective forehead? When Toyota sets a goal, it exceeds it. What should make competitors even more nervous is how Toyota is doing it. It is instilling a sense of crisis among employees by invoking the specter of intense competition from China. It is telling workers to cut costs by 50% to thwart that threat. And to help meet that goal, this master of lean manufacturing is experimenting with a new cost-saving factory setup that it hopes to deploy around the world—while competitors are just now catching up with its last-generation manufacturing innovations.

"Toyota is a car company that challenges itself in a way that makes the world shudder," says Maryann Keller, a consultant and author of two books on the auto industry. "Toyota announces it is shooting for 15% of the global market and 50% cost cuts, and everyone goes 'Oof!' It's like getting hit in the solar plexus."

Among Toyota's competitors there is admiration mixed with the fear. "There are few areas where you don't hit Toyota as a benchmark," says Dieter Zetsche, Chrysler's chief executive. Rivals refuse to scoff at Toyota's market share goal. "I wouldn't say they won't make it," says John F. Smith Jr., chairman of General Motors. "Toyota is an excellent company. They are very focused on what they do and they do it well, and that's what makes them great."

Those encomiums aside, Toyota's goal is, of course, daunting. It would need to sell 2.7 million more new cars a
year, on top of the 6 million it now sells. That means adding about 18 factories with 36,000 workers—in an industry glutted with underused auto plants. With a stagnant home market Toyota needs to grow everywhere else. That's why it's going after markets where it's the underdog—trucks in the U.S., small cars in Europe and big pieces of emerging markets around the world. In North America it is aiming to go from 10.4% to 12.5% of the market by 2005, and in China from 2.3% to 10% by 2010.

Leading the charge is Toyota President Fujio Cho, who runs the company's day-to-day operations. He's self-deprecating and friendly, and seems unassuming because of his big freckles and ready smile. He takes the train between his offices in Toyota City and Tokyo, and wears unfashionable boxy glasses. He's the first to admit he prefers to wear not a suit and tie but a factory uniform, which he wore most days during his first 20 years at the company. He is no show-stealer. Rather, he is someone who can be counted on. That's one of the attributes that draws customers to the cars.

Toyota itself is in many ways an unlikely leader in the business world. It is never too proud to imitate competitors' successful moves, but it often does them one better. It most recently copied Honda's march of new models in Japan: Honda's Stream minivan was matched by Toyota's Wish, its Step Wagon by Toyota's Voxy and Noah small minivans, and its Fit compact by Toyota's Vitz. When Nissan said it would cut 20% of its costs during its turnaround effort, Toyota set a goal of cutting 30%.

Seemingly without sweat it eliminated $2.5 billion in costs during the fiscal year ending Mar. 21, NikkoSalomonSmith-Barney estimates.

Cost-cutting is the name of the game in an industry with too much capacity. The Big Three American automakers have cut costs by outsourcing high-wage union jobs to parts suppliers as unionized workers retire. After Nissan crashed, one way Chief Executive Carlos Ghosn brought it back was to unwind the company's keiretsu relationships of interlinking ownership with its parts suppliers. When Chrysler skidded into the red, it required suppliers to share the pain by accepting 15% price cuts over three years.

Yet other automakers can't come close to Toyota on how much it costs to build cars. In the December quarter Toyota earned $1,800 for every vehicle sold, GM made $300 and Ford lost $240, according to ING Securities.

Toyota cut costs the Toyota way. "They're not big ax-wielding, restructuring, factory-closing types," says Kurt Sanger, a Tokyo-based analyst at ING. Instead Toyota kept its keiretsu so it could count on getting first crack at its best inventions but leaned on suppliers' engineers for suggestions on how to cut their own costs—by using cheaper materials or changing manufacturing processes, for instance. Toyota zeroed in on 174 key components, such as air bags, fuel pumps and brake systems.

But to Toyota, reaching its ambitious 30% goal was "Mada, mada," or not yet enough. The threat: China. "We see right next door a country which is highly competitive with a low labor cost, so we can't just sit back and relax," says Cho. "We need to do everything we can to reduce costs further."

How to get there? Toyota is thinking it's going to take a fresh way of building cars and trucks. Which explains why companies worldwide will be watching Toyota's experiment with a new manufacturing approach in emerging markets. Toyota calls it the International Multipurpose Vehicle project, and in another first, it will be run mostly out of Singapore, not Toyota City.

Toyota wants to build vehicles more the way Nike assembles its shoes—with the soles made in one country, cloth uppers cut in a nearby country, all stitched together in a third country. Toyota is in search of the most efficient—
Late Bloomer

About the time Henry Ford built his first car, the quadricle, in 1896, eccentric Japanese inventor Sakichi Toyoda, 29, invented his first—woven loom. Toyoda and his son Kiichiro licensed the foreign patent rights to a British company for $80 million and used the money to enter the car business in 1934.

In 1959 Toyota's Motomachi factory became Japan's first full-scale car assembly plant. The size of 35 baseball fields, it is one of a dozen Toyota factories scattered around company town Toyota City.

The factory offers a walk through car-manufacturing history, much of which Toyota has written, and whose successful methods the world's automakers—and other manufacturers—have rushed to adopt. Pink-and-green rubber flaps hang on the freshly painted cars to guard against scratches, one of hundreds of thousands of ideas factory workers continually submit to improve Toyota, and one that is now a common feature in car factories worldwide.

There is the rope hanging above the assembly line. A worker can pull it like a bus stop request if there's a quality problem he can't fix quickly. A tug on the rope causes music to play and lights up a number on the electric billboard overhead, showing managers where a worker needs help.

It is hard to overstate how revolutionary that rope and Andon board were for the auto industry: Allowing a mere blue-collar worker to stop the line would have been heresy in Detroit a few decades ago, as managers were more concerned about keeping up volume than quality. Now most car factories do it the Toyota way.

Another Toyota innovation is within reach of the assembly line: stacks of car parts in plastic bins, neatly sorted in the sequence in which they'll be needed for the mix of cars coming down the assembly line. There are only three to four hours' worth of parts at Motomachi, and shipments arrive every two hours, just in time to keep the line going. That cuts down on inventory and wasted factory space, and this, too, has been widely copied.

—R.M.

A walk through car-manufacturing history: a line at the Motomachi factory.

Toyota is developing two new vehicles from the ground up: a pickup and a sport utility vehicle. The new models, which will first go on sale in 2004, will share basic components. But their interiors and other features will be tailored to local markets.

Here's how Toyota's experiment will work in Asia. Toyota will expand its factory in Thailand to produce 200,000 pickup trucks and sport utility vehicles a year, half of which will be exported to more than 80 countries, including Japan. Thailand will become the sole global production base for this model pickup. All its components would be built in Thailand, Indonesia, the Philippines, Malaysia, Vietnam and India.
Hence, both assembly and parts-making for this pickup will be done in low-wage countries. The existing pickup that this overseas venture will replace is now built in Japan. And nearly all parts for the current model are also built in Japan. Thai manufacturing workers earn $1,500 a year, excluding benefits, 4% of what Japanese workers earn.

The lowering of import barriers across Asia is greasing this plan. The gas engines for the pickups will come from a factory in Indonesia, which will churn out 180,000 a year, of which 130,000 will be exported. Toyota will be able to ship them to Thailand without facing the stiff import duties that would have made this practice too expensive in the past.

Indonesia, in turn, will be building Toyota vehicles, too—70,000 sport utility vehicles a year (some with diesel engines made in Thailand). Of those, 10,000 will be exported outside Asia. And workers in Indonesia make even less—only a third of Thai wages.

The system will be deployed first in Asia, but will soon be used in South Africa and Argentina, too.

Once again, Toyota isn’t inventing something. Exporting jobs to low-wage countries like Mexico and China is an old game at General Motors and Ford, through their now-independent parts operations Delphi and Visteon. But the parts suppliers are seldom involved early on in the conception and design of the vehicle.

GM also has a medium-size factory in low-wage Thailand that will build three different vehicles by this summer, exported in small volumes to 19 countries around the world. But GM uses the factory to produce existing models.

Until recent years suppliers in developing countries produced only the low-tech components—like wiring harnesses—that could be shipped elsewhere for assembly. That’s because neither quality standards nor know-how was high enough to build more sophisticated parts. But that has changed in many developing countries as globalization has marched along, and that is one reason Toyota’s project is now feasible.

Even if it flopped, this expensive experiment would be almost a rounding error to Toyota. Although its home market has been in the doldrums for a decade, Toyota is loaded with cash—$34 billion of its $100 billion in assets are

so big. In the U.S., it has been growing in part because it was able to add more models to its lineup. With recent additions of full-size trucks and SUVs, the lineup is now nearly full. In Japan Toyota has 42% of the market and little room to grow.

Cho is aware of the company’s main weakness—its extreme bureaucracy—which is why he is trying to spark a sense of urgency. “We’re still very much Japan-centric and yet our business is growing,” especially outside Japan, he says. “My concern is that we will start

“My concern is that we will start suffering from that big-company disease, and become complacent.”

suffering from that big-company disease, and become complacent.”

When Toyota opens its new truck factory in San Antonio, Tex., Cho will know what to wear. When Toyota announced the deal, he was given a full cowboy getup, each piece a gift from a Texas politician delighted Toyota would add jobs there. “The governor gave me spurs,” says Cho with a grin. Seems like he already had them on.

Additional reporting by Benjamin Fulford.
Lawyer Jennifer Knight took a low-paying job with Colorado Legal Services, handling housing and other civil cases for the poor, even though about $80,000 in student loans. "A lot of people went to law school with were fired up about public practice, but they had more debt than I did," she said.

School tab has law grads balking at low-pay jobs

Enormous college loans behind legal-aid snub

By Tom McGhee
Denver Post Business Writer

Law school graduates paying back $80,000 and more in college loans are reluctant to seek low-paying jobs representing the poor, legal experts say. Students leaving law schools earn annual salaries as low as $25,000 working for government public-service organizations, while those who land jobs with top-ranked law firms make $80,000 a year or more.

Some graduates who take jobs with Colorado Legal Services, which handles housing and other civil disputes for the poor, pay up to $800 a month on student loans, said Jonathan Asher, executive director. The agency pays newly graduated lawyers $31,736 a year in Denver and $24,911 elsewhere in the state.

Top firms in Denver and elsewhere pay first-year associates $80,000 to $125,000 a year. Galloping tuition payments have reduced the pool of applicants for legal aid and other public service jobs, Asher said.

Nationally, law school tuition doubled between 1991 and 2001, according to the National Association for Law Placement, based in Washington, D.C.

"A significant number of people have said that for them the pressure of student loans eliminates their options and choices," Asher said.

Sixty-six percent of law students surveyed nationally in 2002 said that debt kept them from considering a job with groups like Colorado Legal Services, said a study by the National Association for Law Placement, according to the study.

In 2001, median private tuition was about $23,000, according to the study.

The average law school's debt of more than 60 percent includes debt from graduate work.

It is a source of frustration for students and alumni.

LOANS from Page 1C

by DeBlasio, University of Denver law student. "It's kind of a joke among a lot of us who want to do public interest law. We say, 'Yeah, this is what I want to do, but I may have to work in a private firm and be a drone for a while.'"

Jennifer Knight, a lawyer with Colorado Legal Services who handles housing and other civil cases for the poor, is paying off roughly $80,000 in loans. And she received a scholarship that paid half her tuition at Northeastern University's law school in Boston.

Knight, 31, is a Mexican-American who grew up in a low-income housing development. When she was still in high school, she decided she wanted to be a lawyer and work with the poor.

Many of Knight's fellow minority law students also were interested in public service, she said. But most went into private practice.

"A lot of people I went to law school with were fired up about public practice, but they had more debt than I did," she said.

At the state's largest law school, the University of Denver, tuition climbed from about $15,000 to $23,994 during the past 10 years.

By comparison, tuition at the University of Colorado Law School at Boulder is much lower for state residents — $6,754 a year. Out-of-state residents pay $21,252.

So far, Asher said, Colorado Legal Services has been able to attract the talent it needs.

The state Public Defender's office — where new lawyers make $43,536 a year — also continues to attract good candidates, said Frances Smylie Brown, chief deputy.

But in the last several years, the office widened its search for potential hires, reaching outside the state for the first time in its history.

"We don't have a large enough pool of applicants from Denver University and the University of Colorado to fill the number of openings we have each year," Smylie Brown said. DU has a law-student body of about 1,000, and CU's population is about half that.

Population growth and a corresponding increase in crime are primarily responsible for the dwindling number of local candidates but interest is also waning, Smylie Brown said.
A student from Columbia University's School of Business holds a sign during the commencement ceremony in New York on May 21. The sluggish U.S. economy has an unemployment rate at an 8-year high of 6 percent, and on Wednesday the government announced manufacturing fell in April to a 7-month low.

**Durable-goods orders fall 2.4 percent in April**

News another blow to dragging industry

By Jeannine Aversa
Associated Press

WASHINGTON — America's manufacturers saw demand for their products fall in April by the largest amount in seven months, a fresh blow to an industry that is a big drag on the plodding economy.

Orders to U.S. factories for durable goods — manufactured products such as cars and appliances expected to last at least three years — dropped by 2.4 percent in April from the month before, when they rose 1.4 percent.

The Commerce Department's report Wednesday underscored the troubles facing battered manufacturers, which have suffered through 33 consecutive months of job losses and are operating plants well...
Manufacturers see demand drop

Continued from 1E

below capacity because of the muddled economic environment.

"There will be no quick turnaround in the goods-producing part of the economy," said economist Thomas Dueserberg, president of the Manufacturers Alliance/MAPI, a research group.

April's decline in orders was deeper than the 1 percent decrease economists were expecting and marked the largest drop since September.

On Wall Street, investors took the report in stride. The Dow Jones industrial average gained 11.77 points to close at 8,793.12.

Federal Reserve Chairman Alan Greenspan, in an appearance on Capitol Hill last week, called recent production figures for big industry weak. Businesses remain cautious and are wary of making big spending and hiring commitments, he said. That is a major factor restraining the economy's recovery.

Also Wednesday, the department announced that data on shipments of semiconductors will again be included in the monthly durable-goods report under an agreement with the semiconductor industry.

The information on shipments — filled orders moving out of factories — will start showing up again in the durable-goods report for July, which will be released on Aug. 26.

However, data on new orders placed to factories for semiconductors will continue to be absent from the report. Orders, shipments and other information on semiconductors had been dropped from the reports when some major companies stopped supplying it to the government. The in-

formation had been provided on a voluntary basis.

In Wednesday's report, orders for transportation equipment fell 5.4 percent in April, following a 2.1 percent rise.

Excluding transportation or-

Durable goods
Here is a look at new orders for durable goods.
Seasonally adjusted

<table>
<thead>
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<th>Month</th>
<th>Change from previous month</th>
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<tr>
<td>April</td>
<td>-2.4%</td>
</tr>
<tr>
<td>March</td>
<td>1.4%</td>
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<tr>
<td>Feb.</td>
<td>-1.1%</td>
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</table>

SOURCE: Department of Commerce

Greenspan and his colleagues say the chance of deflation cropping up is remote, but it is so serious and dangerous that policy-makers must be on guard.

Other economists, however, think the Fed will hold interest rates at their currently low rates at the June meeting.

The new federal tax cut — a 10-year, $350 billion package of tax rebates, lower rates, new breaks for businesses and investors and aid to states — also might make consumers and businesses feel more inclined to spend and invest and help along the economy, some economists said.

Treasury Secretary John Snow said he thinks the tax cut will give the "soggy" economy a boost.

May 29, 2003
Daily Canard