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PRESIDENTIAL ADDRESS: N.G.A./HYATT REGENCY, CHICAGO
MONDAY, JULY 31, 1989/10 A.M.

GOVERNOR BALILES ((BAA-LYLES)), I WANT TO COMMEND YOU ON THE SUCCESS OF YOUR CHAIRMANSHIP. GOVERNOR BRANSTAD, I KNOW YOU WILL BRING YOUR CHARACTERISTIC ENERGY AND VISION TO THE LEADERSHIP OF THE GOVERNORS ASSOCIATION. CONGRATULATIONS.

I ALSO WANT TO SALUTE OUR HOST AND MY GOOD FRIEND, JIM THOMPSON -- A GREAT GOVERNOR AND A FORMER N.G.A. CHAIRMAN WHO HAS ROCKED THE WORLD OF ILLINOIS POLITICS BY ANNOUNCING HE WILL NOT RUN FOR A FIFTH TERM . . . ((AND TO THINK, JIM, THEY WERE JUST GETTING USED TO YOU.))

AND IF I MAY, LET ME RECOGNIZE MY CHIEF OF STAFF, ANOTHER FORMER N.G.A. CHAIRMAN, ((AND ANOTHER QUIET AND RETIRING SOUL)), JOHN SUNUNU . . .

ALSO AMONG US IS A GREAT AMERICAN AND A SON OF ILLINOIS, ED DERWINSKI, MY GOOD FRIEND AND A FRIEND TO AMERICAN VETERANS. AND FINALLY, LET ME SALUTE THE SECRETARY OF TRANSPORTATION, SAM SKINNER, WHO IS DOING SUCH AN EXCELLENT JOB IN DEVELOPING A NATIONAL TRANSPORTATION STRATEGY.

LET US BEGIN BY ASKING: WHAT IS THE ROLE OF THE GOVERNOR IN AMERICAN POLITICAL LIFE?

WELL, THE GREAT 19TH-CENTURY OBSERVER OF AMERICAN POLITICS, ALEXIS DE TOQUEVILLE ONCE ASKED A COUNTRY POLITICIAN THE SAME QUESTION. THE ANSWER HE GOT WAS THIS: "THE GOVERNOR COUNTS FOR ABSOLUTELY NOTHING AND IS PAID ONLY TWELVE HUNDRED DOLLARS." ((PAUSE))

WELL, YOU STILL CAN'T GET RICH OFF A PUBLIC SALARY. BUT TODAY, THE OFFICE OF GOVERNOR COUNTS FOR A GREAT DEAL. IN FACT, LEADERSHIP IN AMERICA IS INCREASINGLY THE SUM OF YOUR EFFORTS AND YOUR VISION.

THAT IS WHY I AM A FEDERALIST. I WAS THERE WHEN RONALD REAGAN ISSUED THE EXECUTIVE ORDER ON FEDERALISM; AND I WANT YOU TO KNOW THAT I STAND BY IT.

WE BELIEVE IN FEDERALISM, AND YET, WE ARE A PEOPLE, ONE NATION, INDIVISIBLE. JUST AS WE SHARE OUR CHERISHED CONSTITUTION, SO WE ALSO SHARE COMMON CHALLENGES AND RESPONSIBILITIES.

TO CURE OUR NATION OF ILLITERACY, DRUG ABUSE AND CRIME, WE MUST ACT IN TANDEM, PRESIDENT WITH GOVERNOR, AND GOVERNOR WITH MAYOR, UP AND DOWN THE LINE. IN SHORT, WE MUST FIND OUR COLLECTIVE WILL AS A NATION.

THAT IS WHY I HAVE COME TO CHICAGO TO MEET WITH MY FELLOW CHIEF EXECUTIVES. WE SHARE, AS EXECUTIVES, A SPECIAL RESPONSIBILITY . . . SOME DESCRIBE IT AS A GREAT BURDEN. BUT FOR US, IF IT IS A BURDEN, IT IS ONE CHEERFULLY ACCEPTED.

TO SIT WHERE THE BUCK STOPS, TO RESOLVE DISPUTES, TO HELP THOSE IN NEED AND TO SET A COURSE FOR THE FUTURE, IS TO KNOW A SPECIAL KIND OF SATISFACTION.

IN FACT, OUR MISSIONS AS EXECUTIVES ARE SO SIMILAR THAT MANY PRESIDENTS HAVE CALLED ON YOU FOR GUIDANCE. IT WAS TEDDY ROOSEVELT WHO CALLED THE NATION'S FIRST CONFERENCE OF GOVERNORS -- THE FORERUNNER OF THIS ASSOCIATION -- AT THE WHITE HOUSE.

HE BROUGHT THE NATION'S GOVERNORS TOGETHER TO CALL FOR CONSERVATION, FOR AN END TO THE RECKLESS DENUDING OF OUR FORESTS. AND THEY STARTED A TRADITION THAT WE ARE CARRYING ON TODAY, WORKING TOGETHER AS PRESIDENT AND GOVERNORS FOR A CLEANER ENVIRONMENT.

AS YOU KNOW, I HAVE PROPOSED THE FIRST MAJOR REVISION OF THE CLEAN AIR ACT IN MORE THAN A DECADE.

IT SETS TOUGH STANDARDS, AND GIVES STATES AND INDUSTRY THE FLEXIBILITY NEEDED TO REDUCE COSTS AND BREAK THE LONG-STANDING LEGISLATIVE LOGJAM. THE POTENTIAL FOR CONSENSUS IS THERE. THE AMERICAN PEOPLE WANT CLEAN AIR. WE CAN WORK TOGETHER TO SEE THAT THEY GET CLEAN AIR.

IT WAS ANOTHER ROOSEVELT, ALSO A GREAT GOVERNOR OF NEW YORK BEFORE HE WAS A GREAT PRESIDENT, WHO CALLED ON THE GOVERNORS TO HELP HIM STEM THE FINANCIAL CRISIS OF THE GREAT DEPRESSION.

TODAY, WE DO NOT MEET IN A SPIRIT OF IMMEDIATE CRISIS. THE NATION IS SOUND.

BUT THE DECLINE OF OUR EDUCATIONAL SYSTEM, THE THREAT OF CRIME AND DRUGS, THE ECONOMIC DEPENDENCY OF SO MANY -- THESE PROBLEMS THREATEN TO ENDANGER THE VERY LEADERSHIP POSITION OF AMERICA IN THE NEXT CENTURY.

FOR AMERICA TO REMAIN COMPETITIVE WILL REQUIRE YOUR BEST EFFORTS, YOUR EXECUTIVE KNOW-HOW. THE ULTIMATE CHALLENGE, AS GOVERNOR BALILES PUTS IT, IS "TO BECOME AGAIN THE YANKEE TRADERS WE ONCE WERE."

((TAKE NOTE, GOVERNOR CUOMO, WHEN THE GOVERNOR OF VIRGINIA SAYS "YANKEE TRADER," HE'S REFERRING TO CLIPPER SHIPS, NOT TO GEORGE STEINBRENNER.)) YOUR CREATIVE RESPONSE TO OUR NATION'S COMPETITIVE POSITION IS MORE THAN PERCEPTIVE; IT IS FORWARD-LOOKING, AN ATTRIBUTE OF THE BEST KIND OF LEADERSHIP.

AS YOU KNOW, I HAVE JUST RETURNED FROM AN ECONOMIC SUMMIT WHERE THE COMPETITIVE POSITION OF OUR NATION WAS AN UNDERLYING THEME IN DISCUSSIONS ON THE GREAT ECONOMIC ISSUES OF TRADE, MONETARY POLICY AND INTERNATIONAL DEBT. BUT NO LESS IMPORTANT TO AMERICA WAS THE START OF MY JOURNEY . . . IN EASTERN AND CENTRAL EUROPE.

OF COURSE, POLAND AND HUNGARY TODAY ARE NOT THE ECONOMIC MAGNETS THAT WE FIND IN WESTERN EUROPE OR THE PACIFIC RIM. BUT I SAW A TREMENDOUS POTENTIAL IN THE AWAKENING SPIRIT OF THOSE LANDS.

AND THE BEAUTY OF IT IS THAT WE CAN BOOST REFORM WITHOUT MASSIVE GOVERNMENT-TO-GOVERNMENT PROGRAMS. WE CAN DO THE MOST GOOD, AS AMERICAN LEADERS, BY SIMPLY FACILITATING TRADE AND INVESTMENT, BY SIMPLY OPENING DOORS FOR OPPORTUNITY.

BUT TO OPEN THESE DOORS WILL REQUIRE LEADERSHIP AT EVERY LEVEL OF GOVERNMENT. YOU HAVE ALREADY ESTABLISHED A GREAT TRADITION OF SEARCHING FOR THOSE OPPORTUNITIES ABROAD. NOW I ASK YOU TO INCLUDE POLAND AND HUNGARY ON YOUR LIST. WHILE GOVERNORS HAVE NO FORMAL ROLE IN FOREIGN POLICY, YOU ARE BECOMING OUR ECONOMIC ENVOYS AND AMBASSADORS OF DEMOCRACY.

YOU ARE A NEW FORCE IN RESTORING AMERICAN INTERNATIONAL COMPETITIVENESS AND EXPANDING WORLD MARKETS FOR AMERICAN GOODS AND SERVICES.

OF COURSE, YOUR FOCUS IS ON THE CRITICAL DOMESTIC ISSUES. AS CHIEF EXECUTIVES, WE KNOW FIRST-HAND HOW CRUCIAL OUR SOCIAL HEALTH IS TO THE FUTURE POSITION OF AMERICA.

A NATION IN WHICH A HALF OF OUR YOUTH IS IGNORANT OF GEOGRAPHY, IN WHICH DRUGS ARE RAMPANT, IN WHICH A

SUBSTANTIAL PROPORTION OF THE POPULATION KNOWS LITTLE HOPE -- SUCH A NATION WILL NOT LONG REMAIN COMPETITIVE. IN THE FINAL ANALYSIS, IMPROVING OUR SCHOOLS, DRIVING OUT DRUGS AND BRINGING HOPE AND OPPORTUNITY TO THOSE WHO NEED IT MOST -- THESE ARE ISSUES OF OUR NATIONAL WELL-BEING, EVEN OUR NATIONAL SECURITY.

FIRST AND FOREMOST ARE OUR CHILDREN AND THEIR EDUCATION. WORKING TOGETHER, YOU AND I CAN RAISE THE LEVEL OF LEARNING IN THE CLASSROOMS OF AMERICA.

ON APRIL 5, I SENT TO CONGRESS AN EDUCATIONAL REFORM PACKAGE, BASED ON FOUR PRINCIPLES ROOTED IN THE PRACTICAL EXPERIENCE OF THE STATES. TO HAVE REFORM, EXCELLENCE AND ACHIEVEMENT MUST BE RECOGNIZED AND REWARDED. TO HAVE REFORM, FEDERAL DOLLARS SHOULD BE TARGETED TO THOSE MOST IN NEED. TO HAVE REFORM, WE NEED FLEXIBILITY AND CHOICE -- CHOICE FOR PARENTS, AND CHOICE FOR SCHOOLS IN THEIR SELECTION OF TEACHERS AND PRINCIPALS.

FINALLY, THE ESSENCE OF REFORM IS ACCOUNTABILITY IN EDUCATION AND REWARD FOR THOSE SCHOOLS THAT SHOW PROGRESS.

IF IMPLEMENTED, I BELIEVE THAT THESE MEASURES WILL RESTORE THE QUALITY OF AMERICAN EDUCATION AND REDEEM THE FUTURE OF MILLIONS OF CHILDREN. BUT THERE IS MORE TO BE DONE. ON JUNE 5, I ASKED THE BUSINESS COMMUNITY TO STUDY WHAT THE PRIVATE SECTOR CAN DO TO ENERGIZE AND SUPPORT EDUCATIONAL REFORM.

NOW I WANT TO RENEW MY PLEDGE TO ASSEMBLE THE NATION'S GOVERNORS IN A SUMMIT, TO SHARE IDEAS AND TO EXPLORE OPTIONS FOR EDUCATIONAL PROGRESS. ONLY TWICE BEFORE HAVE THE GOVERNORS MET WITH THE PRESIDENT ON AN ISSUE OF VITAL NATIONAL IMPORTANCE. NOW THERE WILL BE A THIRD SUCH CONFERENCE, AN HISTORIC MEETING ON EDUCATION. TODAY, I INVITE YOU TO WORK WITH ME AT A GOVERNORS' SUMMIT ON EDUCATION, TO BE HELD AT ((LOCATION)) ON SEPTEMBER 27TH AND 28TH.

TOGETHER, WE CAN FIND WAYS TO STRENGTHEN OUR SCHOOLS, TO ENLARGE OPPORTUNITIES AND TO IMPROVE OUR NATION'S EDUCATIONAL PERFORMANCE.

AS CHIEF EXECUTIVES, WE ALSO SEE DRUGS AND CRIME AS THE MOST HARROWING DOMESTIC THREAT TO THE FUTURE OF AMERICA.

I PROPOSED, ON MAY 15TH, A COMMON-SENSE APPROACH TO CRIME TO DETER THE CRIMINALS' USE OF WEAPONS, TO REFORM THE CRIMINAL JUSTICE SYSTEM, TO ENHANCE ENFORCEMENT AND PROSECUTION, AND TO EXPAND PRISON CAPACITY TO ENSURE BOTH THE CERTAINTY AND SEVERITY OF PUNISHMENT. I PROPOSE THE HIRING OF 825 NEW FEDERAL AGENTS AND STAFF; 1,600 NEW PROSECUTORS AND STAFF; AND AN ADDITIONAL ONE BILLION DOLLARS FOR FEDERAL PRISON CONSTRUCTION.

I HAVE PROPOSED TOUGH NEW LAWS, INCLUDING MANDATORY PRISON TERMS, NO DEALS WITHOUT COOPERATION AND THE DEATH PENALTY FOR COP-KILLERS. BUT I NEED YOUR LEADERSHIP TO SEE RESULTS. WORK WITH ME. TOUGHEN YOUR LAWS. AND PUT THE WORST OFFENDERS BEHIND BARS. IF YOU DO, WE <u>WILL</u> TAKE BACK THE STREETS. ((PAUSE))

FINALLY, AMERICA CANNOT CONTINUE TO LEAD THE WORLD IF WE LAG IN PROVIDING OPPORTUNITY AT HOME.

LAST YEAR, AS YOU KNOW, CONGRESS AND THE ADMINISTRATION ENACTED MAJOR WELFARE REFORM LEGISLATION, THE FAMILY SUPPORT ACT OF 1988. THIS ACT GREW OUT OF A CONSENSUS THAT THE WELL-BEING OF CHILDREN DEPENDS ON MORE THAN MATERIAL NEEDS. CHILDREN NEED A FAMILY ENVIRONMENT THAT ENCOURAGES SELF-SUFFICIENCY. IN A WORD: CHARACTER.

WITH THIS IN MIND, I REESTABLISHED THE LOW INCOME OPPORTUNITY BOARD WITHIN THE WHITE HOUSE. AND I HAVE ASKED THE BOARD TO ASSIST YOU IN THE COMPLEX AND TIME-CONSUMING PROCESS OF OBTAINING FEDERAL APPROVALS FOR EXPERIMENTS IN STATE WELFARE REFORM. SO MANY INNOVATIVE POLICIES HAVE COME FROM THE STATES. LET US CONTINUE TO WORK TOGETHER TO KEEP YOUR ADMINISTRATIONS FREE TO EXPERIMENT, FREE TO BE CREATIVE.

IN FACT, I HAVE INSTRUCTED THE DOMESTIC POLICY COUNCIL, AND THE LOW INCOME OPPORTUNITY BOARD, TO MAKE FLEXIBILITY THE GUIDING PRINCIPLE, SO THAT STATES WILL HAVE GREATER FREEDOM TO EXPERIMENT WITH WELFARE REFORM.

AND I AM PLEASED TO ANNOUNCE THAT THIS WEEK THE DPC HAS COMMITTED ITSELF TO GIVE YOU GREATER ROOM TO MANEUVER; AND TO GRANT WAIVER REQUESTS AS QUICKLY AS POSSIBLE.

MANY OF OUR RESPONSIBILITIES OVERLAP IN EDUCATION, LAW ENFORCEMENT AND WELFARE. AT TIMES, THERE HAS BEEN FRICTION BETWEEN THE STATES AND THE "FEDS." PERHAPS WHAT WE NEED BETWEEN THE FEDERAL GOVERNMENT AND THE STATES IS A FRIENDLY COMPETITION WELL KNOWN TO CHICAGOANS.

HERE, ALONG THE MAJESTIC LAKEFRONT SKYLINE, THERE HAS BEEN AN ON-GOING COMPETITION AMONG DEVELOPERS TO RETAIN THE TITLE OF THE WORLD'S TALLEST BUILDING. ((YOU MIGHT SAY THIS GIVES THE PHRASE ONE-UPMANSHIP A WHOLE NEW MEANING.))

YET, THIS IS THE KIND OF ONE-UPMANSHIP THAT BUILDS, NOT DESTROYS, THAT LIFTS, NOT LOWERS, THAT TAKES US ALL A LITTLE CLOSER TO THE STARS.

I HAVE COMMITTED THE POWERS OF MY OFFICE TO LIFT AMERICA -- STARTING IN THE CLASSROOMS AND THE STREETS.

WORKING TOGETHER, WE CAN ACHIEVE A NATIONAL CONSENSUS. WORKING TOGETHER, WE CAN MAKE THE NEXT CENTURY ANOTHER AMERICAN CENTURY.

THANK YOU, GOD BLESS YOU AND GOD BLESS AMERICA.

# # #

RGA

is not enough to win Congress. We must get down to the nuts and bolts of politics, for we are competing against the master mechanics of all time.

It's no coincidence that our party slipped to minority status in the House as we became a minority in the state legislatures. And it's no coincidence that this has remained true. How long have the Democrats been in control of the House?

Look at my son Neil. He is thirty((age))-years-old. He has been married for ((years)). He has started a business, and he and ((wife)) now have ((number)) beautiful children. And there has not been one day in the life of this grown man, this father, when the Speakership of the House of Representatives changed parties. Not once. And there are millions of Neils around America, millions of men and women who have never known true two-party competition in what is supposed to be the branch of government that is closest to the people.

Today, Democrats now have a redistricting advantage in states that compose about 90 percent of the seats in Congress. We have got to change that, and change that soon.

To lead America in the next century, we must first make aggressive gains at the state level in the next few years. Critical gubernatorial and legislative races in the eight largest states alone will determine whether Republicans will be treated fairly in the drafting of 209 Congressional Districts.

A majority, or even a large minority, of Republicans in state legislatures can join with you to sustain the veto of

Chicago Tribune 312 222-3232

Architechtural Editor- Paul Gapp x6180

Stanley Ziemba x3489
(wrote the articles on Sears Tower)

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CONTENTS: Use of phrase "Yankee trader" in Chairman's Overview of all America in Transition task force reports (part of boilerplate message).

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NOTE: Call me if you have any further questions.

"Whether we welcome it or not, our domestic market is now part of the global marketplace. The central question [illegible] able to compete in those markets successfully."

Governor Gerald L. Baliles
Virginia

Chairman's Overview

The world is growing smaller. Fiber optic networks span the continents, linking remote corners of the globe. Billions of dollars move in seconds from Milan to Tokyo to New York. Goods move across continents in a single day. An individual product may contain parts manufactured in five different countries and be assembled in a sixth. New markets and opportunities emerge almost overnight. In this highly competitive and rapidly changing environment, success belongs to those who most quickly anticipate, adapt, and respond.

The international frontier is no longer the future—a new age has arrived. The evidence abounds. A common market in Western Europe will be finalized in 1992. The United States and Canada are on a ten-year path toward free trade. World output is shifting dramatically to Japan and the Pacific Rim. By the beginning of the twenty-first century, the global economic terrain will be one of large trading blocs, instead of individual countries, trying to maximize their growth through trade.

As the global marketplace has emerged, the United States' role as an economic decisionmaker has changed. During the 1960s, when the U.S. economy was partially insulated from global influence, it was possible to influence the economy by then-traditional fiscal and monetary policies. With the development of the Eurodollar market, foreign ownership of a large portion of the federal debt, and huge increases in foreign trade, the economic sovereignty once enjoyed by the United States has been reduced.

Twenty years ago, states were bystanders as international events changed the economic landscape. That, too, has changed. Our boundaries are no longer the borders of our states, but every corner of the globe. As Governors, we are challenged to confront this new reality.

State government is well-positioned to meet the challenges of the next century. But we must begin preparing for this transition. Our agenda includes a six-point offensive. Specifically, we must:

- Discover new and emerging markets abroad for American products, to become again the Yankee traders we once were.
- Bring an international perspective to our daily living—to understand foreign nations and the people beyond our borders . . . to learn the international languages of business.
- Expand our research, and use our technology, to create both new products and new processes to maintain America's competitive position.
- Capitalize on the natural advantages of American manufacturers and regain competitiveness in our domestic markets.
- Improve our highways, airports, airways, and ports so we can effectively move our people across town and our products around the globe.
- Invest in the health, education, and training of our children so they can live healthier and more productive lives.

This year, I have created six NGA task forces to examine these issues that together form the foundation for the nation's future:

R. Emmett Tyrrell Jr.

Bring In the Uniforms

The vast military operation now envisaged by the government of Colombia to thwart its international drug dealers brings to mind a thought that at first might strike you as, well, somewhat goofball.

The thought is this: two things that distinguish a European city from an American city are a) there are markedly more uniforms to be seen on the streets of a European city and b) there is much less crime. Colombians seem to recognize that crime in its most brutal forms is best dealt with by men in uniform. The Europeans knew this long ago.

Here in this country for many years we have been afflicted by those of a professorial mien, lecturing us on the need to deal with the "underlying causes of crime" so as to reduce crime. Maybe Colombia, too, was afflicted by such criminologists. If so they are not active in Colombia's present campaign against crime.

In Colombia criminal drug dealing has become so rampant that the cops have been called in and the military too. When crime becomes as bold and pervasive as it is in Colombia, the counselors and therapists and other quacks who minister to the "underlying causes of crime" are superfluous.

Using force to put down violence does seem to be a logical course of action, and it is heartening to see that federal drug czar William Bennett has put law enforcement at the center of our national campaign against drugs.

When, back in the hopeful days of the 1960s, the reformers spoke of the "underlying causes of crime," they had in mind poverty, joblessness, broken homes and single-parent families. Whether or not these are the causes of crime, our experience over the years suggests that notwithstanding all the money spent, all the programs and all the social analysis, we still have not eliminated these underlying causes.

Meanwhile, crime has gotten worse, particularly in the inner cities. In fact, crime is so rampant in the inner cities that were it significantly reduced America might well be able to boast of being relatively crime free. Hence, what Colombian authorities have settled on as the best way to fight crime might also be the best way to fight crime in our drug-ridden inner cities. Bring in the uniforms.

Actually, wherever Americans are serious about maintaining law and order they recognize the effectiveness of more well-trained police. In Washington, D.C., the murder capital of the republic, 3,855 police officers were employed in 1988 to patrol 68 square miles. On Capitol Hill, where we would not allow a bird dropping to land on a congressman's blow-dried hairdo unless the congressman so desired it (some might!), the government employed fully 1,200 Capitol police. The old Hill crawls with them. Moreover, you can be sure that all are highly trained. Imagine how criminals might fare in the rest of the District of Columbia if anything like this complement of uniformed police were on duty.

"The American inner city is our equivalent of drug-ridden Colombia."

Such distinguished students of crime as Ernest van den Haag and James Q. Wilson have been arguing, with increasing authority, that criminals generally are quite rational individuals. They commit crimes because committing crimes is relatively risk-free and profitable. By raising the risks and lowering the profits of crime society can reduce it.

Now in the summer issue of the public policy quarterly The Public Interest, John J. DiIulio Jr. contends that many of what an earlier generation of policy analysts called the "underlying causes of crime" can be ameliorated by improved law enforcement in the inner cities. The American inner city is our equivalent of drug-ridden Colombia.

In our slums decent citizens are victimized by criminals who make employment, education, family life—in fact normal life—difficult and sometimes impossible. DiIulio prescribes better policing, programs that divert youth from crime and more intensively supervised probation and parole programs. More than three-quarters of those 3 million or more Americans under correctional supervision are on probation or parole. An astonishing number of them return to prey on the inner cities in which a parole officer may have 300 of these felons to supervise. Supervision at best amounts to a telephone call a month.

DiIulio's suggestions are all quite sound, but let us not underestimate the benign influence of a cop on each corner. There is nothing brutal about this. The streets of Paris are alive with gendarmes, all in colorful uniforms and well-armed. Naturally the crime rate in Paris is much lower than the crime rate in New York. Paris is called the City of Lights. In New York they steal the lights.

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The New York Times/Jim Wilson

In 1981, Eugene M. Lang offered to put 61 East Harlem youths through college if they finished high school. He is now guiding David Nieves, Teh-Chen Mary Lee and 32 others through their college years.

East Harlem Students Clutch a College Dream

By JOSEPH BERGER

Eugene M. Lang descended like a fairy godmother into the lives of a lot of poor East Harlem Cinderellas. He promised 61 graduating sixth graders at Public School 121 that he would pay their way through college if they would stay in school long enough to take up his offer.

Eight years later, with Mr. Lang watching over their progress, serving as their advocate with school officials and treating them to pleasant trips and restaurant meals, many of those children are starting their junior years at colleges like Swarthmore and Bard.

"Mr. Lang was one of the first people who took a personal interest in me, and through meetings and honest conversations, he made me look at my life in a different way," said Aristides Alvarado, now a 20-year-old junior at Rensselaer Polytechnic Institute. "I know now I'm going to make it. And someday, I'll be big — real big — and pay the tuition for my own class of Dreamers."

Still, East Harlem's streets can thwart even the most determined. Some of Mr. Lang's children — they call themselves "Dreamers" after his "I Have a Dream" Foundation — have been unable to elude the traps of drugs, crime and untimely pregnancy and accept his gift.

One young man dropped out of the State University of New York at Albany so he could support a teen-age sister his mother had left behind when she moved to Puerto Rico. Another was doing fine at an upstate community college until, on a Christmas visit home, he saw his drug-addicted brother kill himself with a gun.

More than half the original 61 sixth graders — 34 — are enrolled at least part time in public and private colleges. Ten completed their sophomore years on schedule. Another nine either graduated from high school or re-

Continued on Page 28, Column 4

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East Harlem Students Clutch a Dream

Continued From Page 1

ceived general equivalency diplomas. Of those who passed up college, some are holding jobs Mr. Lang helped them get.

Eight children left the neighborhood before the program could help them, and little is known about their progress. Mr. Lang describes four of the 61 as "lost souls" who will probably never collect on his offer. Six girls have had babies, with one already the mother of three. At least four of the boys have fathered children. One young man is in Sing Sing, though with Mr. Lang's prodding, he is taking college courses.

'They Need to Survive'

"For a lot of students, college is a very foreign concept," said Juan Martinez, a 20-year-old at Swarthmore. "The program made it a reality, that it's an obtainable goal, something you can do." But some people, he said, "get totally overwhelmed — they need to survive, to make it hand to mouth, day to day, and they can't expend their energy on education."

Mr. Martinez, one of the program's most outstanding students, talks of the difficulties he had adjusting to a quiet suburban campus where he pined for rap music and the bustle of a big city. He eventually formed his own rap club.

The 70-year-old Mr. Lang, who grew up in East Harlem and made his fortune developing new technologies into commercial ventures, says his charges have achieved far more than they would have without the program. In the city's poorest neighborhoods, he contends, 75 percent of children never finish high school. Board of Education statistics, which critics say are overly rosy, indicate that dropout rates at Manhattan's worst high schools are more than 40 percent.

Seymour Fliegel, former deputy superintendent of School District 4 in East Harlem, notes that P.S. 121 has some of the lowest achieving children in the district. "If 50 percent of those kids are going to college, it's a small miracle," he said.

Met Students Regularly

Still, Mr. Lang's experience suggests that even someone with the best of intentions and lots of money and energy must settle for less than perfect results.

"You're dealing with a very difficult situation because the things that make these kids tick tend to be even somewhat incomprehensible," Mr. Lang said. "The conditions of life of these children tend to change cataclysmically, without warning. There are needs that require they drop out of school."

Mr. Lang has met regularly with most of his students, shepherding them through the pitfalls of a ghetto adolescence, exhorting them to do better, bawling some out, forgiving others.

To a promising girl who wrote him a letter admitting that she was pregnant and needed to drop out, he wrote back: "Dear, you have not let me down, and there is nothing for me to forgive. My hopes for you remain as strong as ever — perhaps even more so when I read the intelligence, maturity, faith and strength of character that I see written into your letter."

Later, he contacted her father and urged him not to be hard on her. The girl called Mr. Lang a few days later to say, in radiant tones, that she and her father had just been shopping for baby clothes.

Call to College President

Mr. Lang is also not afraid to use his considerable influence. One of his protégés, a Hunter College student, registered for difficult courses in medieval art and the Civil War instead of the remedial-reading classes he needed. The remedial courses were closed. Learning of the situation, Mr. Lang called Hunter's president, Dr. Paul LeClerc, who arranged for remedial courses at another City University branch.

> 'For a lot of students, college is a very foreign concept.'

"It was nothing more than a parent would have done," Mr. Lang said, relaxing the other day in a soft leather armchair in his company's midtown office. "The system is amenable to help. It takes a bum rap. But you can't get parents involved who don't have the ability to get involved."

Mr. Lang has been so satisfied with the program that he set up the foundation to advise others who want to imitate his gesture. Now 130 sponsors in 31 cities have put up a collective $40 million to assure almost 9,000 youngsters that if they graduate from high school, their hopes of a college education will be realized.

Patrons include James Bush, a nephew of the President; Felix G. Rohatyn, chairman of the Municipal Assistance Corporation, who with his wife, Elizabeth, has gone ice skating with his Lower East Side students, and Reuben Mark, president of the Colgate Palmolive Company.

Help in Their Lives

Each sponsor deposits at least $300,000 into annuity funds operated by the foundation. Annual payments cover costs like the salary of a worker who counsels the children, deals with their schools and arranges for tutoring. The fund eventually finances tuition at a state or city college, which in New York City is $1,250 a year. Those who attend private colleges scramble for additional scholarships.

Getting through junior high and high school is the toughest part, and Mr. Lang wants patrons not just to provide money but to delve into the students' lives, give them direction and reclaim them from their own missteps, just as vigilant parents might do.

"You have to keep reinvigorating them, rekindling their ambition, helping them overcome immediate problems — which may be emotional, economic, sociological — and get them back on track," Mr. Lang said. "If this were my natural child, and my child were to do this, would I say, 'The hell with this kid'? You can't do that.

"You don't just put the child on the track and assume that the child will not be derailed," he continued. "The chances are that the child *will* be derailed, and you have to be there and be sensitive and reach out and try to bring the child back on track."

Diane Sullivan Morris, a 43-year-old native Minnesotan who is president of Bay Linens Inc., has invited her adopted East Harlem sixth graders to her office, taken them out on a sailboat to learn sailing and sent them to weekend camps in East Hampton.

When one student, Angelo Fontanez, 14, was mugged at a Manhattan high school, Ms. Morris and her class worker, Maria Cedeno, stepped in and arranged for a transfer to a better school. Angelo now enjoys visiting the professional photo studio of Ms. Morris's husband, Leonard.

Ms. Morris says that of the 61 children she started with in 1986, 45 are still in touch with the program. Four have dropped out of school, two have had babies and one is in an adolescent detention center on drug charges.

'Such Poor Preparation'

"The only disillusionment," she said, "is that I see a lot of kids who are very bright who have had such poor preparation in grade school that it's very difficult to overcome. I wish we had started with them in the first grade."

She said the program is important because "we're losing touch as a city with a whole generation of kids, and it's not right, and we all need to take more of an interest in that."

Cynics may dismiss the idea of wealthy executives visiting East Harlem's squalid streets as patronizing. But Mr. Lang said that for many executives, this role holds more trepidations than a report to their corporate boards.

"When you're living in a nice private home," he said, "it takes a bit of gumption to go to a housing development, walk through a hall and knock on the door of an apartment where one of your Dreamers might live. Or to walk into a restaurant with six kids who, if they came on their own, would be chased out with a bat."

Still, Mr. Lang said, the sponsors are getting a big yield for their investment.

"They've gotten something they can't buy: the affection of a whole group of kids," he said. "It's a good thing for us. It makes us a better part of the human race."

Rhode Island Offers Scholarship Plan for Poor

PROVIDENCE, R.I., Sept. 1 (AP) — Rhode Island will offer full state-college scholarships for low-income pupils under a sweeping plan that will also provide academic help to pupils from the third grade through high school, Gov. Edward D. DiPrete says.

In return students and parents signing up for the plan, called the Rhode Island Children's Crusade, must allow state monitoring of report cards, shun drugs and early pregnancy and obey the law. The only academic requirement is that they do not fail courses.

The planned $50 million program, which is contingent on raising $10 million from businesses, foundations and schools, was announced Thursday. It would involve as many as 10,000 third graders a year beginning in 1991 and continuing through 2000.

Pupils would be tutored and paired with mentors throughout elementary and high school. Top performers would receive summer jobs where they could serve as role models.

"We really feel that if the program is successful, we may have made a fundamental change in certain patterns" that contribute to students' dropping out, said Americo W. Petrocelli, the state's higher-education commissioner, who designed the program.

The program was also approved Thursday by the State Board of Governors for Higher Education.

Businesses, foundations and schools will be asked to contribute the initial $10 million to a foundation to start the program by September 1991. The state would be expected to contribute $3.2 million a year, bringing the fund, with interest, to about $50 million after 10 years, an aide to the Governor said.

Governor DiPrete also said he would be "knocking on the door of the White House" to at least match the state's contribution.

The Rhode Island plan seeks to cut the dropout rate among poor students in half, to 25 percent. An estimated 1,200 of the students who finish the program each year would attend college and 1,200 would go on to jobs or other training programs, said Leila Mahoney, Mr. DiPrete's senior assistant, who is in charge of raising money for the program.

The New York State Legislature passed a Liberty Scholarships plan last year for lower-income students accepted at public or private New York colleges. Louisiana also has a scholarship program for some low- and moderate-income students.

But Rhode Island's program would go further, by enrolling students at an early age and giving them educational and social help, Ms. Mahoney said.

Any third grader could enroll, but the program is aimed at about 3,200 who receive subsidized hot lunches at school or whose families receive food stamps, Ms. Mahoney said.

Governor DiPrete said students who ran into legal problems or became pregnant should be given a chance to get back into the program if they showed willingness to continue their studies.

But there is some doubt about whether the parents will be quick to sign their children up.

"I don't think the parents that don't care, that they're going to even bother with this," said Jessica Ley, 12 years old, who is a tutor in one of this city's poorest neighborhoods. "Some parents don't care, and I have a few friends who have parents like that."

When told of the comment, Mr. DiPrete said: "I'm not so sure. I think they might say: 'Thank God. Give us a hand.'"

Theater, anyone?
Check the Theater Directory for Broadway & Off-Broadway shows...every day in The New York Times.

A Seismic Shock for Education

By Chester E. Finn Jr.

WASHINGTON

The annual Gallup education poll sponsored by the professional educational fraternity Phi Delta Kappa often yields startling results.

On many issues spanning the survey's 21-year history, the public has declared itself in favor of seismic changes in the ground rules of the education system — reforms that go far beyond what many educators (and elected officials) are comfortable with.

The 1989 poll, unveiled Aug. 24, amounts to a major earthquake. The hoariest policy assumption of American schooling — that essential decisions about curriculum and standards must be locally determined — turns out to be another political myth.

In sharp contrast to a century-old practice, people say they want national education standards, a national curriculum and national tests.

The temblor couldn't be more timely. On Sept. 27, President Bush and the governors will gather in Charlottesville, Va., for an education "summit meeting." No weightier topic could be on their agenda than the challenge of developing common school norms and curriculums for the whole country — and a testing-and-accountability system by which we can know over time whether those norms are being met.

Many educators would surely balk, for they would be protective of their autonomy, the decentralization of today's system and the degree to which its results are blurred and its employees spared from consequences.

But Gallup's data suggest that it may be timely for elected officials to set aside the conservatism of the professionals and the incrementalism of recent reform efforts and, instead, rewrite basic assumptions about how to chart the course and gauge the progress of the nation's schools.

A poll shows a preference for national standards, curriculum.

Whether those officials have the courage to do so remains to be seen, but it is clear the electorate would support such shifts.

Asked "would you favor or oppose requiring the public schools in this community to conform to national achievement standards and goals?", 70 percent of Gallup's respondents were in favor, 19 percent opposed.

Asked "would you favor or oppose requiring the public schools in this community to use a standardized national curriculum?", the responses were 69 percent yes, 21 percent no.

And asked about "requiring the public schools in this community to use standardized national testing programs to measure the academic achievement of students?", the results were 77 percent affirmative, only 14 percent negative.

In every instance, people with children enrolled in the public schools were even more enthusiastic about these changes than adults with no youngsters in school.

This doesn't mean citizens want Federal officials to run their schools. As recently as two years ago, survey data showed 39 percent wanting Washington to have "less influence on improving the local public schools" (while 37 percent favored "more influence").

Yet for some time polls have found the public receptive to greater state influence and stronger state-led accountability measures. In 1987, some 84 percent of those surveyed agreed that one of the things the Federal Government should do is "require states and local school districts to meet minimum educational standards."

Such changes imply greater homogeneity than our state-based, locally administered education system has ever displayed, as well as tougher norms and consequences linked to school results.

But in tandem with the uniformity, people favor ceding more operational authority to individual principals and giving students choices among schools.

Other tremors emerge from the data. Virtually no one supports the universal practice of allowing youngsters to drop out upon reaching a specified age. Forty-five percent would keep them in school until they graduate, while 38 percent would oblige them to meet "certain standards of knowledge and skill" before being permitted to leave school.

Asking one's opinion of a hypothetical event is not the same as confronting people with actual disruptions in long-established patterns. Nor can we be certain the public would reward public officials who take such initiatives. (Voter participation rates in local school board elections are scarcely encouraging.)

But alarmed by the drab performance of schools, despite years of marginal reforms, parents and taxpayers seem ready for profound changes.

The participants at the education summit meeting would do well to heed the Gallup data. Helping guide the public to where it says it wants to go is not a bad definition of leadership. Besides, when the territory is covered with decrepit old structures, an earthquake may be the only way to clear the ground for new construction. □

Chester E. Finn Jr., professor of education and public policy at Vanderbilt University, is director of the Educational Excellence Network.

Words To Ponder

Parade Mag 9/3/89

Scott Metcalf/SMU

James Lehrer at SMU commencement: A diploma "does *not* mean you are educated"

From the many commencement addresses we've heard and read this year, we submit for your attention the following excerpt from an address by James Lehrer. He is the Lehrer of *The MacNeil/Lehrer NewsHour* on PBS-TV, and he gave his talk on May 20 at Southern Methodist University in Dallas:

"I urge you to please keep in mind what the diploma you are about to receive does *not* mean. It does not mean you are educated. Quite the contrary. It means, I hope, that you have been opened up to a perpetual state of ignorance... and thus a lifelong hunger for more—more ideas, more information, more good thoughts, more challenges, more of everything.

"I must tell you that some of the dumbest people I know went to great, prestigious colleges and universities like SMU...They walked across a stage as you are going to do, with diplomas in their hot little hands, pronounced themselves well-educated...and proceeded to never read another book, entertain another fresh idea or tax their minds in any way beyond what was minimally required to make a living or make it socially, or both."

New School Term in Chicago Puts Parents in Seat of Power

NYT 9/3/89

By ISABEL WILKERSON
Special to The New York Times

CHICAGO, Sept. 2 — With the start of the new school year, Chicago will begin what education experts say is the most radical attempt in this country to revamp a big-city school system by shifting power almost overnight from downtown bureaucrats to parents and community people at each of the city's 600 schools.

Each school will be run by a parent-led council with the far-reaching authority now held by the Board of Education. The councils, to be chosen in elections next month, will have the power to approve budgets, make recommendations on books and curriculums and assign and dismiss principals.

The change, intended to streamline the nation's third-largest school district after New York and Los Angeles, grew out of deep frustration over a school system described in 1987 by William J. Bennett, then Secretary of Education, as the nation's worst.

All over the city, people are now bracing for the transfer of power. Officials are polishing plans for elections for the 6,000 council slots, and trying to prevent vote fraud on Election Day and infighting afterward.

Into the Political System

Dozens of community groups are trying to educate parents, many of them school dropouts bewildered by their new responsibilities, and to get them to run for council seats. Leaders of black and Hispanic neighborhoods are waging a get-out-the-vote campaign to bring disaffected minority residents into the political system.

Seventy percent of Chicago public school students are from families below the poverty level, and in the low-income communities there is a sense that more is at stake than just schools. Parents who live in a housing project on Chicago's South Side took notes like schoolchildren at a seminar on school change this week.

"These local school council elections, as disarrayed as they may be, are going to be more important to us than the election of Harold Washington," Salim Al-Nurridin, a community organizer, told the group, referring to the late Mayor whose 1983 election galvanized the city's black voters. "This is about restructuring our community

Continued on Page 26, Column 1

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from the ground up."

Several other districts, including New York and Dade County, Fla., have tried decentralization. New York is divided into 32 community school districts, and Dade County has conferred greater authority to individual schools on a limited basis. But no other decentralization effort has been as far-reaching and as quickly done as Chicago's.

'Absolutely Precedent-Breaking'

"This is the biggest change in American school control since the 1900's," said Michael Kirst, a professor of education at Stanford University who has written several books on school governance. "It is the most drastic change in any school system I can think of. It is absolutely precedent-breaking."

The trend in other districts has been to transfer power to principals rather than directly to parents, said Chester E. Finn Jr., a professor of education and public policy at Vanderbilt University and a former Assistant Secretary of Education under Mr. Bennett.

"To take an entire system, convert it to civilian control and insist that this happen everywhere at once makes Chicago unique in the country," said Professor Finn. "Nobody anywhere in this country has conferred this kind of authority on a lay board."

The effort to overturn Chicago's top-heavy bureaucracy came after Mr. Bennett denounced the 410,000-student school system, where the dropout rate is 45 percent and the average test score of students in nearly half the schools was in the bottom 1 percent in the nation in 1987.

"You've got close to educational meltdown here," Mr. Bennett said.

The Legislature Acts

After months of lobbying by an unlikely coalition of business leaders, education advocates and parents in all income brackets, the Illinois Legislature settled on legislation last year that streamlined the central office and gave more authority to principals in hiring staff. Most important, it made parental control the centerpiece.

The councils will be made up of six parents, two community residents with no children in the school and two teachers, all elected to two-year terms. The principal will sit on the board but will have no say on his appointment or dismissal, a decision that will require seven votes. Not only will lay people outnumber professional educators, but each council will be headed by a parent as well.

The law abolishes the lifetime tenure of Chicago principals. Earlier this week, Judge Robert Sklodowski of Cook County Circuit Court, calling Chicago "an educational wasteland," ruled against a group of principals who sought to keep their tenure. So when the principals come up for reappointment, half in June 1990 and the other half in June 1991, depending on the results of a lottery, each council will decide whether to keep the principal or to hire another under a four-year contract.

The New York Times/Michelle V. Agins

Salim Al-Nurridin, a community organizer in Chicago, who told parents in a housing project, "These local school council elections, as disarrayed as they may be, are going to be more important to us than the election of Harold Washington."

The change is probably the boldest ever in a big-city system.

The changes in the school system are expected to create a weaker role for the superintendent and the Board of Education and thus leave Mayor Richard M. Daley as the leading voice on school policy. The changes will undoubtedly figure prominently in the 1991 mayoral campaign.

While taking away millions from its budget, the law did leave the Board of Education a key lever over the councils: The board can close a school if a council fails in its duties. The law leaves the superintendent with administrative duties as set by the board.

Board Keeps a Key Function

Advocates of change say an all-powerful, distant bureaucracy was crippling the schools. "There was no accountability," said Dr. Donald Moore, executive director of Designs for Change, an education research and advocacy group in Chicago. The change, he said, "gives people with the greatest stake in the schools a bigger say in how they're run."

Critics fear that the parent-led councils will turn into unmanageable fiefdoms led by people with little knowledge of education. One principal said flatly, "I don't feel a group of parents should be allowed to run the school."

Bruce Berndt, president of the Chicago Principals' Association, said change was happening too fast. "We are literally learning how to swim by being thrown into the pool," he said.

One fear, he said, is that principals will have to spend more time politicking than administering: "You've got to win seven votes to get hired," Mr. Berndt said. "You could get 120 percent on your evaluation and not get rehired because they want somebody's brother-in-law."

Nowhere but Up?

Indeed, Professor Finn said, "some parents will make uneven, inconsistent and even foolish decisions." But he added, "There's nowhere to go but up."

Now community groups are using training sessions to educate parents. At a workshop from a housing project on the South Side, Florence Cox, a parent leader and trainer, passed out charts of the Board of Education hierarchy and maps of the school districts. Many parents had barely finished the eighth grade, she said, and more than once she had to suspend the session so parents could find one of the five sheets she passed out.

Mrs. Cox started with the basics, telling parents that they should not get rid of a principal just because they did not like him, that they should not go into the schools looking only for things to criticize.

Parents Taking Seat of Power in Chicago Schools

"Now that you'll be elected public officials, you'll be responsible to the people who elected you," Mrs. Cox said. "If somebody wants a copy of the minutes, you have to give them one. And you can't have secret meetings. If you walk home together and stand under a street light talking, that's a meeting, people. You can't do that."

Serious Campaigns Ahead

Mae Frances Lyons, who lives at the Prairie Courts housing project on the South Side, came in wanting to run for a parent seat at Drake Elementary School. But she was not certain after hearing what the job entailed. "This is mind boggling," said Mrs. Lyons, who dropped out of high school in the 10th grade. "I think I'd better back off from this."

In some communities, parents and residents are gearing up to campaign as if they were running for mayor. "This is going to be a serious, no-kidding, no-jive campaign," said Mr. Al-Nurridin, the community organizer rallying South Side residents.

Campaigning is likely to be especially intense in Hispanic areas, where community leaders are hoping to galvanize people now out of the political system because of language barriers or lack of citizenship. To vote for the parent and resident seats in the school council elections requires only that the voter be 18 or older and live in the community or have a child at the school.

"This is going to be the largest experiment in grass-roots democracy the country has ever seen," said Dan Solis, executive director of United Neighborhood Organization, a Hispanic community group here. "We have a community with a large number of people who are not citizens, who have been intimidated for years because their English wasn't that good, who are now suddenly able to leapfrog into the system into positions with real power."

What happens in Chicago could transform not only disenchanted minority neighborhoods but also public education in general, experts say.

"It's a bold experiment," Professor Kirst said. "If it fails, there will be very little interest anywhere else. If it works, it will be a beacon for the country."

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August 14, 1989, Monday, Final Edition

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LENGTH: 982 words

HEADLINE: Beijing-Bound on the Yalu Limited

BYLINE: Peter Maass, Special to The Washington Post

DATELINE: BEIJING

BODY:

The overnight train from Pyongyang to Beijing is no Orient Express. The food is just adequate and the scenery less than spectacular, but the $ 50 fare is a bargain for a half-day's journey between communism's stark Stalinist past and its tenuous chaotic present.

Like many other things in North Korea -- one of the communist world's most isolated nations -- the train is old but well preserved. The mahogany walls of the dining car are a bit scratched and greasy, but so is the faded picture of President Kim Il Sung, who stares down at the diners like a plump proprietor. The meals -- fish cakes, chicken, a few fried potatoes -- are standard Third World transport cuisine, tasteless but filling. It is a sweltering day, and although the car has no air-conditioning or fans, the windows are sealed shut.

The trip begins at Pyongyang's central railroad station, a concrete-slab edifice topped by another portrait of President Kim -- this one giant size -- the only ruler North Koreans have known since their country was founded in 1948. As women in traditional dress wave goodbye, the dark-green passenger cars leave behind the bland, scrub-brush clean North Korean capital and head northwest along the Korea Bay toward the Yalu River, the placid muddy boundary with China and a generation-old symbol to many Americans of the frustrations of the Korean War.

The foreign passengers comprise a cast of characters suitable to an Agatha Christie whodunit. There is the Korean-American who was reunited in Pyongyang with family members cut off by the war for more than a generation. There is a Chinese cloud seeder who was in Pyongyang to ensure that rain did not spoil a massive international youth festival there. There is a young blond Finn who spent five months in Pyongyang helping organize the festival.

"I feel like I just finished boot camp," the Finn says wearily.

For the most part, they will pass the trip in moderate comfort in well-cushioned, four-person sleeping compartments. A short step into the next car, however, is a giant leap into the primitive. Here, North Koreans making local trips ride on hard benches in a tube of institutional olive-drab. Some passengers are stripped to their undershirts in the stifling car, as a hot dusty breeze whips through open windows. A couple of men play Go, leaning intently over the gameboard. Two soldiers sit in a corner, leaning heavily on their AK-47 assault rifles.

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The landscape that flickers by is unchanging and, for the most part, unappealing. The thin soil of northwestern Korea returns little for backbreaking labor. Well into summer, the corn is runty, and the rice fields will provide skimpy harvests in the fall. The rocky hillsides bear only sparse vegetation -- perhaps an indication of the region's harsh winters or a lingering result of massive deforestation during the Korean War.

Most of the buildings that rise up out of the mottled countryside are unpainted four- and five-story concrete boxes, and they fade quickly into the background as the train clatters northward. There are few single-family farmhouses, virtually no people to be seen and only one or two motor vehicles on the asphalt and dirt roads that run alongside the tracks.

Several times the train stops briefly at stations presided over by the obligatory portrait of President Kim. His presence at each depot is even more dependable than the punishing summer sun -- the latter vanishes at night, but Kim is always there, gazing down into the darkness at passing trains.

Then suddenly we are at the Yalu, crossing a kilometer-long railroad bridge with the deep, dark river swirling below. It was at the Yalu that U.S. troops halted in their pursuit of North Korean forces in the fall of 1950, and it was across the Yalu that hundreds of thousands of Chinese Communist troops counterattacked to relieve their North Korean allies, driving the Americans halfway back down the peninsula in a bitter winter campaign.

For the rest of the war, Chinese and North Korean troops were steadily supplied across the river, while the U.S. command was forbidden to attack the northern half of the bridges or the Manchurian "sanctuary" on the other side.

On this trip, a handful of Americans among the train passengers, most too young to have any memory of the Korean War, cluster at the windows and click away with cameras at one of the bloody conflict's chief landmarks.

Passport and customs formalities at the North Korean border town of Sinuiju are efficient and perfunctory. Not so in China, where officials confiscate a passenger's videotape cassette but return it after some discussion. They apparently fear it may be footage of the massacre of demonstrators in Beijing's Tiananmen Square, although it is unclear how they could think it might be smuggled in from North Korea, which has imposed an even firmer blackout on information about the demonstrations than China.

The scenic difference between North Korea and China becomes clear as the train rolls into the Chinese border town of Dandong. North Korea is swept clean from Panmunjom in the south to Sinuiju in the north -- dirt and disorder, it seems, are as absent as dissent. China may be the opposite.

Dandong, like many Chinese cities, is grimy and clogged with energetic people and a mishmash of buildings thrown up seemingly with little forethought. There are many privately farmed plots of land scattered over the countryside. It has a lived-in feel that is absent in stark North Korea.

But the heavily armed troops at the Beijing station demonstrate a strong similarity between the two countries -- both depend on brute force to govern. The two regimes are a bit like the professional cloud seeder on the train, in that they also attempt to control powerful natural forces. But they might wish

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for greater success than his. It poured during the Pyongyang festival's closing ceremony.

GRAPHIC: MAP, LARRY FOGEL

TYPE: FOREIGN NEWS

SUBJECT: RAILWAY TRANSPORTATION; CHINA, PEOPLES REPUBLIC; KOREA, NORTH

ORGANIZATION: YALU RIVER

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News Release

FEBRUARY 13, 1989 (06-89)

Contact: Rae Young Bond, 202/624-5330

INVESTING IN CHILDREN IS A TOP A PRIORITY FOR GOVERNORS;
STATE PROGRAMS ARE ENSURING CHILDREN ARE HEALTHY, SAFE, EDUCATED

WASHINGTON, D.C. -- One of the top priorities on governors' agendas this year is investing in programs for children to ensure that they are healthy, safe, and well-educated. Today's children will shape the future, and so governors are taking steps now to help those children become productive, literate, and well-trained adults who can lead the country into the 21st century.

"How we support our children is the most important decision we will ever make," said New York Gov. Mario M. Cuomo. "Our children are the future foundation of our economy . . . and we must reach them early in their lives to make a difference."

Many of the governors' 1989 state of the state addresses and budget recommendations focus on an agenda for children: the expansion of prenatal and infant care to low-income women and children; the availability of quality, affordable day care; an increase in youth services; the improvement or initiation of early childhood education programs; and a toughening of laws for child support enforcement and penalties for child abusers. Many governors recognize the importance of taking early measures to prevent a child from later becoming a school dropout, drug abuser, pregnant teenager, or criminal.

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Idaho Gov. Cecil D. Andrus, who allocated 90 percent of new state dollars to programs that will improve the education, health, and safety of the state's children, noted that "it's a pay now or pay later situation."

Nevada Gov. Bob Miller said his highest priority as governor "is to all the children in our state. . . . When this legislative session adjourns, I sincerely hope we will be able to go back to our children and say, 'We have made a difference, we have helped you prepare for the future, we have improved your quality of life.' "

The governors' commitment to children also is reflected in a major new report that links prevention-oriented youth programs with America's international competitiveness (see accompanying story).

Infant/Children's Health. To ensure that children get a healthy start, governors are strengthening maternal and child health services and allocating state funds to expand Medicaid coverage and federal nutrition programs so more women and children can be reached. Missouri Gov. John Ashcroft declared his health agenda for 1989 "the most ambitious in Missouri history" and announced his new Healthy Beginnings program that will expand Medicaid coverage of low-income women and children by covering children up to age 4, broadening nutrition programs, and increasing funds by $13 million for Women, Infant, and Children's Nutrition (WIC), a federal program that provides food to low-income mothers and children.

Oklahoma Gov. Henry Bellmon's priority this year is "allocating resources to help bring about a more supportive environment in which children can grow up safe, one in which they receive the health care they need." He included a $44.6 million increase in the health department's budget to expand WIC funding and prenatal and infant care, enhance early intervention services for

children with disabilities, and provide full funding for immunization for children.

In Delaware, Gov. Michael N. Castle has expanded Medicaid to cover pregnant women and children to age 3 with incomes up to 100 percent of the poverty level. Washington Gov. Booth Gardner has proposed the First Steps initiative that focuses on maternity care for poor women and children up to 8 years of age.

Mississippi Gov. Ray Mabus, who has broadened Medicaid coverage for expectant mothers and children, said that "each percentage point in infant mortality represents human tragedy and heartache, lives unfulfilled, and future leaders lost." Rhode Island Gov. Edward D. DiPrete's 1989 "Year of Family Health" will take a special look at children's health issues, beginning with expansion of a program called RIte Start, an innovative project aimed at helping disadvantaged pregnant women deliver healthier babies. "In just its first year, RIte Start has helped nearly 800 mothers obtain proper prenatal delivery and postpartum care, and as a result, Rhode Island now enjoys the lowest infant mortality rate in the country," said Gov. DiPrete.

South Carolina Gov. Carroll A. Campbell Jr. is launching a statewide assault on infant mortality through a coordinated effort with Blue Cross/Blue Shield and a Columbia television station to educate pregnant women about the need for prenatal medical care. He also has appropriated $900,000 of state funds to implement an NGA initiative that would expand Medicaid coverage for poor pregnant mothers and children from age 1 to 2. "It is not only the right thing to do, it is the fiscally responsible thing to do because this program cuts later medical costs," said Gov. Campbell.

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"Our families are our most precious asset and our children our most critical investment," said Kansas Gov. Mike Hayden, who last year appointed a Governor's Commission on Children and Families; based on their report, Gov. Hayden has recommended expansion of the Maternal and Infant Program, which serves low-income families by providing free prenatal care for qualified expectant mothers and well-baby checkups for infants up to one year and the Healthy Start Program, which helps new parents with prenatal care, infant health care, and healthy parenting techniques.

Child Care. Child care is rapidly advancing as the most pressing issues on the children's agenda. Many governors have made significant increases in state funding for child care. Pennsylvania Gov. Robert P. Casey has increased child care to $36 million, "the largest amount ever." Wisconsin Gov. Tommy G. Thompson increased state appropriations for child care by 169 percent -- a total increase of $13 million -- during the last two years, saying that a strong investment in child care provides an avenue of opportunity for single parents, especially young mothers, to break the cycle of dependency." In Vermont, funding for child care has grown from $1.7 million in 1984 to $5.4 million in 1989. "Because I believe these dollars help many families step out of poverty, I will recommend that this appropriation be increased by 24 percent next year, to $6.7 million," said Gov. Madeleine M. Kunin.

Many governors see the need for expansion of quality child care to all sectors of the population as essential for economic growth. Gov. Campbell has called for a cooperative declaration that affordable child care be a right for working women. "This is purely an economic issue," said Gov. Campbell. "Lack

of affordable day care constitutes one of the greatest obstacles to expanding opportunities for working women . . . . It further denies business and industry a source of productive employees and denies the state potential tax revenue."

Alabama Gov. Guy Hunt, who declared 1989 "The Year of the Child," has called for a spirit of cooperation between government and the private sector on issues of day care, and has asked for continued funding for "new plans to get business more involved with the state's efforts to make life better for our children."

Gov. Campbell, like many governors, believes the state should play a role in educating the private sector and encouraging companies to provide or support day care. Gov. Hayden has endorsed a Day Care Business Tax Credit that would create a special tax incentive for businesses that provide their employees with various forms of child care assistance (such as offering child care at or near the work site; offering flexible benefit plans that feature child care as an employee benefit; or contracting with local child care centers for special employee discounts).

Many governors are using the strategy of establishing "model" day care programs for state own employees to promote employer-sponsored child care in the private industry. New Jersey Gov. Thomas H. Kean has created three child care centers for state employees, and recognizing that parents prefer to use smaller, more intimate setting for day care for their children, he has proposed a new state effort to create up to 60 "mini child care centers" in churches, public housing projects, and private homes, each serving 6 to 35 children. "There are some people who would brush this off as a 'women's issue.' But child care is a family issue and an economic development issue."

Gov. Mabus also has proposed legislation for pilot projects for quality child care for state employees near their work, as well as extended day programs through schools. He also has instituted a first-in-the-nation Child Care Information Network that is provided through 76 state employment offices. Colorado Gov. Roy Romer appointed a First Impressions Task Force to focus on early childhood issues and help guide state decisions, develop a state network for children and family resources and referrals, increase public awareness, and spur the involvement of business and civic leaders in family issues, such as day care.

"One of the barriers facing businesses that wish to offer more day care or other dependent care support for their employees is the lack of information and technical assistance," said Gov. Cuomo. To respond to this need, Gov. Cuomo has proposed the creation of a Clearinghouse on Work and Family within the state's economic development department.

Governors also are utilizing day care providers as a means for offering readiness programs. North Carolina Gov. James G. Martin has called for $2 million for pre-kindergarten developmental day care for at-risk 4-year olds, saying that "in addition to programs to reduce dropout rates, we must find better ways to prepare 4-year-olds to 'drop-in' when they get to kindergarten and first grade."

Early Childhood Education. Many governors, like Gov. Martin, are directing new dollars toward specific programs that enhance or institute early childhood education, particularly for at-risk children. In Vermont, every child has the opportunity to attend kindergarten, and Gov. Kunin has put new emphasis on the benefits of early education through an initiative that provides $1.5 million in grants to local communities to establish programs for at-risk 3- and 4-year-olds.

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Hawaii Gov. John Waihee has set a goal to guarantee early childhood education for all of Hawaii's children by the year 2000 and has asked the lieutenant governor to head a special child care/ early childhood education cabinet to continue work with the appropriate public and private agencies toward this goal.

In Arkansas, Gov. Bill Clinton's Home Instruction Program for Preschool Youngsters (HIPPY) is one of the state's most successful programs designed to prepare children for the first grade. HIPPY teaches parents how to improve the learning skills of their 4- and 5-year-old children at home by reading and playing learning games each day. As of September 1988, 1500 families in 21 counties were participating in the HIPPY program and Gov. Clinton noted that Arkansas "has the lowest dropout rate in the South."

Gov. Castle recognizes that many of the problems that young people face -- drug abuse, teen pregnancy, dropping out of school -- have their roots in the preschool years, and is "recommending that we triple our spending . . . to implement a statewide, district-by-district strategy to assist children at risk" through meaningful after-school and summer programs.

Ohio Gov. Richard F. Celeste, through his Education 2000 Commission, has initiated or strengthened a number of programs that will provide early childhood education, particularly to those who are disadvantaged, and will expand educational opportunities to gifted students by providing significant summer experiences. Over the next two years Ohio plans to create 30,000 new child care slots, some as part of Education 2000. In addition, $300,000 in state funds will be spent to expand licensing and to develop new day care slots.

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Youth Services. Governors also are seeking ways to shift children's services to the community level to encourage family and local involvement. "We must choose . . . a trail that leads from the community to the capitol instead of the other way around," said Oregon Gov. Neil Goldschmidt, emphasizing that the children's agenda must be viewed not as a state government program, but as a way of helping communities to help families.

North Dakota Gov. George A. Sinner's office and the Children's Services Coordinating Committee have received a $3.75 million grant over a five-year period from the Annie E. Casey Foundation to help finance an effort to avoid out-of-home placements of children and adolescents. The Children's Services Coordinating Committee was established in 1987 with the goal of moving state programs for children at risk toward a community-based, coordinated network of services. As a result, 1,156 children were placed in foster homes last year.

Gov. Miller has proposed a Children's Resources Bureau under control of the director of the human resources department to bring together Nevada's services with one intake and referral point for families of multi-problem, emotionally disturbed children. "Today, children needing help are too often shuffled from agency to agency. They are tested, interviewed, and delayed . . . This is just plain unacceptable," said Gov. Miller.

Other governors are calling for interagency cooperation to provide a wider range of youth services, particularly for those at risk. Gov. Ashcroft has proposed a Caring Communities program that will respond to the needs of at-risk youth through a joint effort by the departments of social services, health, education, and mental health, with the goal of helping troubled youth receive treatment and intervention while remaining in their own homes, communities, and schools, with meaningful involvement of parents and community leaders.

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Maine Gov. John R. McKernan's budget includes $3 million in new funding for programs aimed at older, at-risk children, allowing for more casework for troubled youth, more referral options, better foster care, and expanded efforts at parent-teen communications.

In South Carolina, Gov. Campbell has established a council to address problems of at-risk youth that includes representatives from all human services agencies, the general assembly, major education groups. A report from them is expected by July 1.

Virginia Gov. Gerald L. Baliles has called for an integrated, multi-agency approach to providing early childhood development services and has recommended that a Department of Youth be established by July 1990 to give children the priority they deserve. "Where poverty endures there are doctors, plumbers, lawyers, business leaders, engineers, mechanics, teachers, and workers of all descriptions," said Gov. Baliles, "But you haven't met them yet -because they only exist as potential. They are children, a living potential too often being wasted."

Declaring that for many young people today, "youth is a season of despair, disillusionment, and alienation," New Jersey Gov. Thomas H. Kean has created an innovative program that moves beyond the traditional avenues of solving the problems of troubled youth. The New Jersey School-Based Youth Services Program is a $6 million joint effort between the departments of human services, education, health, and labor that for the first time brings comprehensive services to teenagers in the public schools. At least one site located in every county, each providing mental health and family counseling, health and substance abuse services, and employment counseling and training services.

This "one-stop shopping" method has already served 17,000 and in full operation, it is expected to reach 38,000 young people a year. Describing

this combined effort between educators and human service professionals, Gov. Kean said that New Jersey schools "cannot easily teach children who are emotionally distraught, pregnant, or hooked on drugs -- children who see no hope for a rewarding career."

Child Protection. Governors are focusing on developing new and better methods for identifying children in danger of abuse or neglect and are stiffening child abuse laws and instituting stiffer penalties. Pennsylvania Gov. Robert Casey has asked the legislature to overhaul the state's child abuse laws to protect more children, with earlier and more effective intervention where abuse is suspected; and better training, higher pay, and tougher professional standards for child abuse case workers. He also has allocated $5 million for child abuse prevention, marking the "first time ever that state funds were specifically earmarked to fight child abuse."

In Delaware, payment for foster care homes that care for abused and neglected children has been increased by up to 100 percent of the federal standard. In Idaho, Gov. Andrus is planning for a coordinated statewide effort to fight child abuse and has proposed the formation of a Child Abuse Resource Center to help communities combat child abuse at the local level and to provide specialized assistance and support to the individual needs of victims of child abuse. The resource center would draw on the cooperative effort of law enforcement, health and welfare, and prosecuting officials to help find treatment for all victims, develop regional investigative teams for child abuse cases to ensure prosecution of offenders and protect the child from unnecessary multiple interviews, and work with schools to develop child prevention education programs. "We can pay in advance to provide child abuse protection and treatment, or we can pay later if an abused child becomes an abusing adult and . . . ends up as a nonproductive resident of a county jail."

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NATIONAL GOVERNORS' ASSOCIATION

Hall of the States
444 North Capitol Street
Washington, D.C. 20001-1572
Telephone (202) 624-5300

News Release

EMBARGOED UNTIL 11:30 a.m. (EST)
FEBRUARY 25, 1989
(13-89)

Contact: Rae Young Bond, 202/624-5330

GOVERNORS CALL FOR NATIONAL COMMITMENT TO INTERNATIONAL EDUCATION

WASHINGTON, D.C. -- The nation's governors today released a major report that calls international education a critical ingredient in the nation's ability to be competitive in the world and outlines steps states can take to help citizens of all ages -- from the smallest child to corporate executives -- learn more about the world around them.

"More than ever before, our national security -- indeed, world stability as a whole -- depends on our understanding of and communication with other countries," said New Jersey Gov. Thomas H. Kean, chairman of the NGA Task Force on International Education, which produced the report. "If we are to reap continued prosperity and security in the 21st century, we must plant the seeds of international education today."

The other members of the task force are Hawaii Gov. John Waihee and Minnesota Gov. Rudy Perpich.

The Task Force on International Education is one of six task forces developed as part of NGA's "America in Transition: The International Frontier" initiative. Launched by Virginia Gov. Gerald L. Baliles when he became NGA chairman last summer, the

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initiative is moving on two fronts: understanding and meeting the challenges of the international economy, and finding ways to regain domestic markets, improve U.S. infrastructure, and invest in America's children.

The other five task forces are looking at children, domestic markets, foreign markets, research and technology, and transportation infrastructure. Gov. Baliles believes that the way the nation responds to these challenges throughout this "decade of decision" will determine its readiness to compete effectively on the international frontier.

Announcing the initiative in August, Gov. Baliles said that America's governors were already on the front lines preparing the United States for the 21st century. "Governors have led the movement to reform education, to help the disadvantaged become self-sufficient, and to revitalize state economies," he said. "Now, governors will work together to help shape a strategy for America in a highly competitive international arena."

Recommendations for States

The report of the Task Force on International Education highlights innovative and successful curricula, classes, and projects and calls for a national commitment to international education, involving state agencies, all levels of education, and the private sector. The report recommends that governors develop strategic plans for international education at the elementary, secondary, and postsecondary levels; create coalitions of education, business, and government; promote the alignment of curriculum, instruction, and assessment; and remain responsive to the changing needs in international education.

Governors can and should take the lead in creating an international focus in the U.S. education system, according to the report. Working with a broad

coalition involving teachers, school administrators, university presidents, college faculty, and the business community, Governors and states can build upon their accomplishments in leading education reform to expand international education for children, youth, and adults in all settings.

The report recommends the following objectives for state action:

- International education must become part of the basic education of all students.
- More students must gain proficiency in foreign languages.
- Teachers must know more about international issues.
- Schools and teachers need to know of the wealth of resources and materials, other than textbooks, that are available for international education.
- All graduates of colleges and universities must be knowledgeable about the broader world and conversant in another language.
- Business and community support of international education should be increased.
- The business community must have access to international education, particularly information about export markets, trade regulations, and overseas cultures.

Other Conclusions

Like the NGA Task Force on Children, which released its report on Feb. 16, the Task Force on International Education emphasizes that the United States cannot compete beyond its borders unless it becomes competitive within its borders. The new report suggests that the United States is not well-prepared for international trade because its citizens do not know the languages, the cultures, or the geographic characteristics of the nation's competitors.

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The report includes evidence that the United States is lacking an international focus: a large proportion of American students and adults are unaware of the most basic facts about world geography or international events; fewer than 5 percent of U.S. college students graduate with fluency in a second language; and teachers lack adequate international preparation.

In educating students, the report states, the languages, cultures, values, traditions, and even the location of other nations are often ignored. Schools and universities reflect the same lack of global understanding that pervades the nation from government and business leaders to school children.

However, the report contains several examples of state programs that provide an international focus in schools and other settings, and notes that some of these programs could be important components of a comprehensive strategy.

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Copies of the Report of the Task Force on International Education are available for $10.95 each, prepaid, from the NGA Publications Office, 444 North Capitol Street, Suite 250, Washington, D.C. 20001.

that the bill accords special treatment to a specific institution and does not require selection on a competitive basis. Selecting recipients competitively helps to ensure that the taxpayers' money is spent on projects that address an acknowledged need and demonstrate the greatest promise of success. Legislative provisions that accord special treatment to certain applicants or, as here, identify the sole recipient of assistance are particularly objectionable. I am concerned also that the Institute, proposed as a "regional demonstration center," would set an undesirable precedent for the noncompetitive establishment of additional regional centers, without a demonstrated need for a Federal role in this area.

Finally, I note that Title I of the bill would unnecessarily extend two SBA pilot programs. The goal of the pilot procurement program can be accomplished under existing authorities. The extension of the surety bond waiver program provided in Title I has proved unnecessary, as no waivers have been requested since the program was first authorized in 1978.

RONALD REAGAN

The White House,
October 7, 1986.

Statement on the Death of Hal Wallis
October 7, 1986

Nancy and I were deeply saddened to learn of Hal Wallis' death. He was a gifted and dedicated artist, who gave the world some of our greatest films.

His talent, professionalism, and instinct for excellence were an inspiration to all of us who had the privilege to work with Hal. Hal Wallis was a special friend who we will miss. We extend our deepest sympathy to his family.

Remarks at the Republican Governors Association Dinner
October 7, 1986

It's an honor to speak to the Republican Governors Association—all the more so because I used to be a member myself. One of the aspects of these meetings that I used to enjoy most was the sense of diversity—the distances between our States, the different outlooks in our people, even the regional accents. Come to think of it, this sort of diversity reminds me of a story. You'll discover when you get to be my age that quite a few things remind you of a story. [*Laughter*]

Seems that a farmer from John Sununu's State of New Hampshire was visiting a rancher in Bill Clements' State of Texas. And he was driving down the highway, and there was a Texan driving on the highway. And there was an accident, and they collided. Well, they got to talking then a little bit, and the Texan took the—no real damage to the cars—and the Texan took the New Hampshirite out and said if he needed a lift he'd give him a lift. He said, "Well, let me show you our place down here." So, they got in the car, and he started. And he drove him past some longhorn cattle, and then he showed him how high the corn grew and finally ended up bragging about the size of the ranch itself. He said, "Just imagine, you know," he says, "I can start in the morning and drive all day—one side of my ranch—and I never get to the other side." The New Hampshirite says, "Yup. I got an old pickup truck just like that." [*Laughter*] I don't mean to tell jokes at the expense of the State of Texas; it's just that what happened when I flew to Dallas in July still has me a little annoyed. Air Force One landed

at the airport, I got
Texas Ranger asked
[*Laughter*]

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at the airport, I got off the plane, and a Texas Ranger asked to see my passport. [*Laughter*]

But, ladies and gentlemen, it was good to see so many of you in the Oval Office this afternoon, and I want to thank you again for inviting me to spend a few minutes with you this evening. And I want you to know that I consider myself deeply indebted to each of you, both for the wonderful work you're doing out in your States and to all the help you've given to those of us working here in Washington. Special thanks to your chairman, John Sununu of New Hampshire, to your vice chairman Tom Kean of New Jersey, and to your immediate past chairman Dick Thornburgh of Pennsylvania. To all of them, I can say congratulations on a job well done. And to Lamar Alexander of Tennessee, immediate past chairman of the National Governors' Association, you have everyone's gratitude for your leadership, especially on the NGA's recently announced education initiative.

But if I could, tonight, I'd like to take a moment or two to consider the theme taken up by this year's RGA idea book: the second stage of the revolution. Of course, first we need to be as clear as we can about just what it is that's taken place in the first stage of the revolution. There are the many changes we've been able to effect in policy—themselves tremendously important—changes like the lower tax rates and the more limited role of the Federal Government that have led to some 46 months now of economic growth and to the creation of more than 11½ million new jobs, and changes like the rebuilding of our national defenses and the firm reassertion of America's world role on behalf of human freedom. But beyond the policy itself, it seems to me that something still deeper and more lasting has taken place: a shift in expectations, a change in the very way the American people think about government itself. As one columnist put it: The key fact about all that has happened since our administration first took office is that we have completely altered the terms of what has been called the contemporary political conversation.

Now, this becomes clear in even a brief look at the record. When we started, for example, the idea of any major tax reform was considered outlandish, maverick. But today we've not only seen our 1981 tax cut take effect, we've seen the passage of the most sweeping and dramatic tax reform in decades. A recent headline in the Washington Post told the story: "The Impossible Became the Inevitable." Consider aid to anti-Communist insurgencies. When we took office, fashionable opinion in Washington still centered on the notion of containment, or merely attempting to slow the Soviet advance. Well, the idea that we should actually offer help to those attempting to reverse that advance seemed outlandish, a deviation from established and comfortable patterns of thought. Yet today we see our country firmly on the side of freedom fighters in Afghanistan, Africa, and Cambodia. El Salvador is safely in the freedom family. When we first got here everyone was talking as if it was Vietnam—Get out of El Salvador—and now there's a healthy democracy there. Grenada has been finally saved. And, yes, aid will soon go to the freedom fighters in Nicaragua.

Of course I could go on discussing national policy—our strategic defense initiative, in particular, that represents another dramatic change, a quantum leap, if you will, in the very way we think about defending our country. But I want to focus, instead, for a moment on all that this first stage of our revolution has meant to you in your States. From the first, our administration took the concept of federalism seriously. You couldn't put a Governor back here in this job that he wouldn't take it seriously. That's the greatest strength and source of freedom in our nation: that we are a federation of sovereign States. For example, we reduced a large number of complicated programs involving the States into a much smaller number of block grants, and that whittled down an awful lot of expensive Federal overhead. We shifted certain programs from Federal to State management. And we instituted a new openness toward the States. This openness is especially visible in the contributions that so many of you have made to the studies we're now finishing on federalism, the American family, and low-income assistance. Still more recently, of

course, many of you have taken a strong lead in your States in the national crusade against drug abuse.

Now, it's true that in the early days many of you faced difficulties as we cut back Federal financing of State affairs. And believe me I know what you were going through, because I've been there. But overall, these 3 and more years of economic expansion have put our States and cities alike in good economic shape. And in the large cities that demand special attention from so many of you, a recent study by the Urban Institute concluded that budgets are by and large in good condition. Now, I wish I could say the same thing about Washington. [*Laughter*] Indeed, the study found, as early as the end of 1982, the Nation's cities were financially better off than they had been at any time during the 1970's.

And as we've limited government here in Washington, you in the statehouses have been taking the lead on matters that are important to your own people. In Indiana we've seen merit pay for State employees. In North Carolina we've seen the Year of the Child, a sweeping initiative to protect children from kidnaping, neglect, and other abuses. We've seen the teacher career ladder in Tennessee and New Jersey's alternate route for teacher training, a program that allows certain highly motivated college graduates to teach even if they haven't had the traditional training. We've seen job programs in Oregon, New Hampshire, Illinois, and elsewhere. And we've seen tax incentives used to promote economic growth in programs like Pennsylvania's economic revitalization tax credit.

The Christian Science Monitor put it this way: "Decentralization of power . . . could be one of the most long-lasting effects of" my Presidency. Well, you were always ready and willing to go that route. It was just Washington, for a long time, that thought its main goal should be to try and make the States into administration districts of the Federal Government. Then they ran into a bunch of Governors that didn't agree. And a recent statement by Dick Thornburgh and John Sununu put it like this: "Washington has changed . . . but an even bigger change is going on right now in the States . . . in the cities, in America's communities and neighborhoods." So it is that yet another fundamental, long-lasting, and dramatic change has taken place. Power has stopped flowing to Washington and begun to flow back where it belongs: to the States.

Even though this change is already underway, most of stage one of our revolution has taken place here in Washington, as we've continued to limit the scope of the Federal Government. Now it's time for resources, initiatives, and public attention to shift back to the States still more definitely, still more dramatically—in other words, to alter the balance of power permanently in favor of levels of government that are closer to the people. This is stage two of our revolution. And, yes, this means setting aside liberal, Democratic Governors, fixed by choice and habit alike in their dependency upon Washington—setting them aside for Republican Governors, Governors of energy and new ideas. You know, just last month I campaigned in Detroit for Bill Lucas, one of the most impressive men I've ever met and, as you know, our candidate for Governor of Michigan. Later that day I campaigned in Omaha for Kay Orr, one of the five Republican women running for Governor this year. And I couldn't help but think that those two stops demonstrated perhaps more clearly than anything else ever could: Today it's the GOP that's the party of ideas, the party of the future, the party of opportunity for all.

Now, this year we have an historic chance to win back a majority of statehouses for the first time since 1968, to carry the revolution more decisively out of Washington and into the country. And although the media seems to have a near fixation on the U.S. Senate, there can be no doubt that what happens in the statehouses is of equal, if not greater, importance. Just the other day, Dick Wirthlin—you know our pollster—made a remark that I believe sums it up: "Changes in the States can endure longer than almost anything that happens in Washington." And he said, "I'm playing this one for my grandchildren." And as he is for many of you, Dick Wirthlin is for me sort of like that stockbrokerage firm you've heard about on television: When he talks, I listen. [*Laughter*]

But that's just what this year's State races come down to: contests for the future, contests that will help shape our life in America for our children and our children's children. So, I pledge my full commitment. If there's anything at all we can do to help, just let us know. For in the end, these statehouse races are about freedom, about whether or not freedom in America will be expanded by bringing government closer to the people, about whether or not we give to the people the freedom to dream, to dare, and the freedom to which they, as Americans, are so richly entitled. So, my friends, it's on to stage two.

Now, for the benefit of those candidates for Governor who are here in the audience and have not yet been Governors, I'd like to tell you a little bit about what it's all like when you first step in there. I remember in California, I inherited from a Democratic Governor a State that was in almost as bad a shape as the Federal Government was. And every day it seems someone would stand in front of my desk saying they'd found a new problem. And this went on until I was getting a little harried. And then one day on the way to the office I had the radio on in the car, and it was a disc jockey on. And out of the clear blue sky, he said—and I fell for him—he said, "Every man should take unto himself a wife, because sooner or later something is bound to happen that you can't blame on the Governor." [*Laughter*]

Well, thank you, and God bless you all. And believe me, I'm looking forward to that majority of Republican Governors, because I know that I'll be a lot more comfortable back here. See, I'm outnumbered right now, and I'd like it the other way around. Thanks again.

Note: The President spoke at 7:20 p.m. in the Vista Ballroom at the Vista International Hotel.

Informal Exchange With Reporters on the Budget
October 8, 1986

The President. I have one thing I would like to say—a little statement. We are 8 days into the fiscal year. We do not have a budget. We had a continuing resolution for a few days while the Congress continued to debate. That expires as of midnight tonight, and the Government has no funds. Now, I don't think that we should go for another short-term continuing resolution. I think it is time that we have a budget, and I think it is time that the Congress does not tie to that budget things having to do with armament and national security that will tie my hands now on the eve of going to Iceland to debate and to negotiate with the Soviet Union. And I think the message to Congress should be that it is high time that we have a budget, and a budget that deals with the financial situation and does not try to bring in their views on international relations and national security.

Q. Will you be able to get them to compromise at all?

The President. What?

Q. Are you willing to compromise at all on putting off these amendments until early next year?

The President. And what good would that do? The man I'm talking to across the table would know that all he has to do is wait and the Congress will help him do their work.

Q. You really want to scrap SALT II? It means that much to you?

The President. I want a budget, which I haven't had since I've been here.

Q. You asked them about this yesterday.

The President. What?

Q. You made this request yesterday. What did they [congressional leaders] say?

The President. Let me say I did not get a firm answer.

Q. Mr. President, was there any U.S. involvement in this flight over Nicaragua—carrying the arms—any involvement whatsoever?

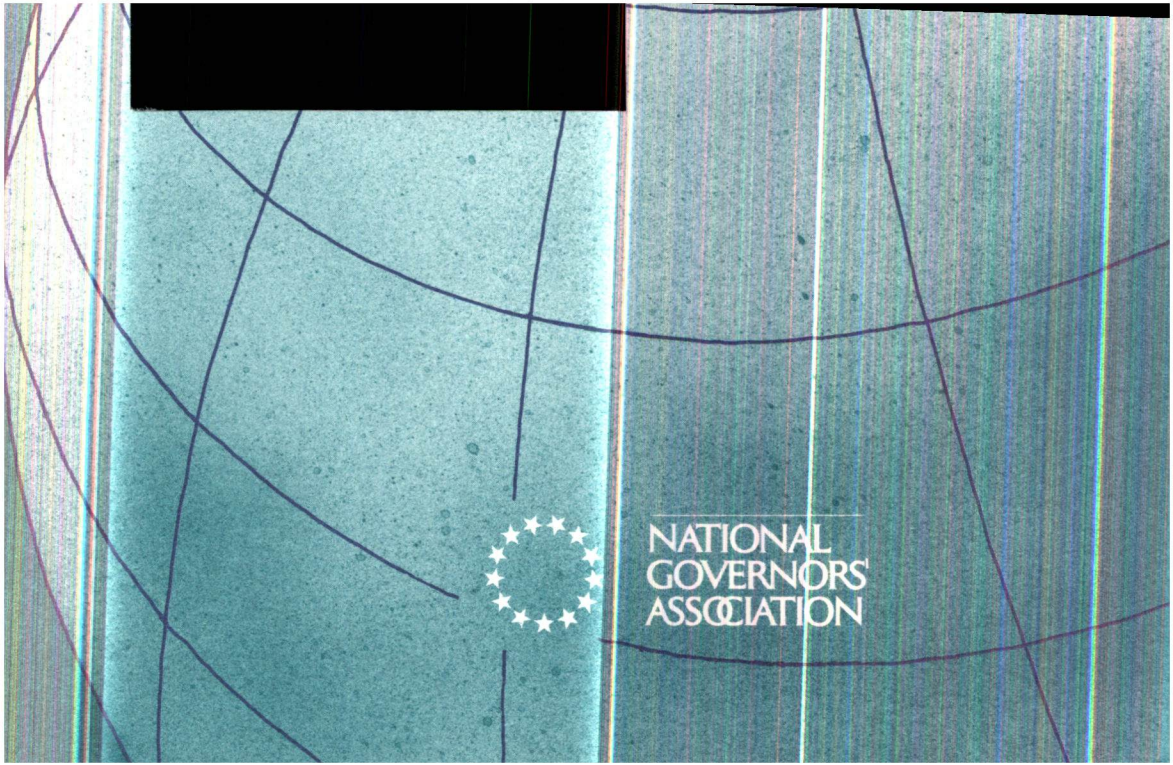
The President. I'm glad you asked. Abso-

AMERICA IN TRANSITION

The International Frontier

Report of the Task Force
on Research and Technology

The National Governors' Association, founded in 1908 as the National Governors' Conference, is the instrument through which the nation's Governors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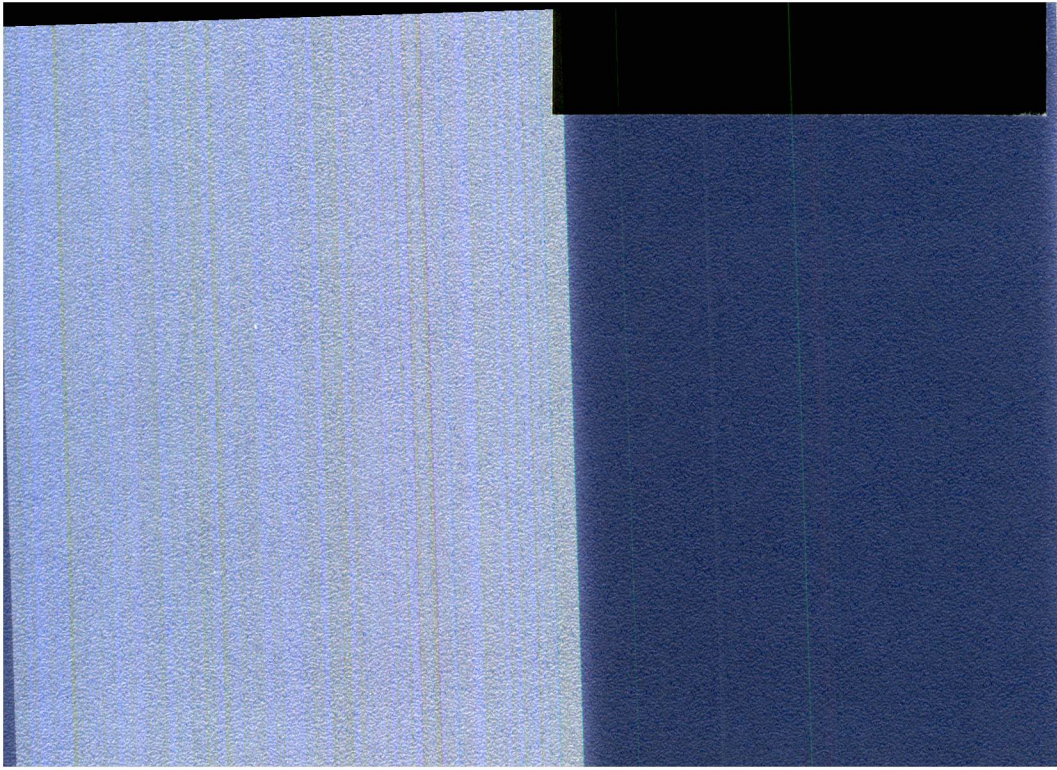
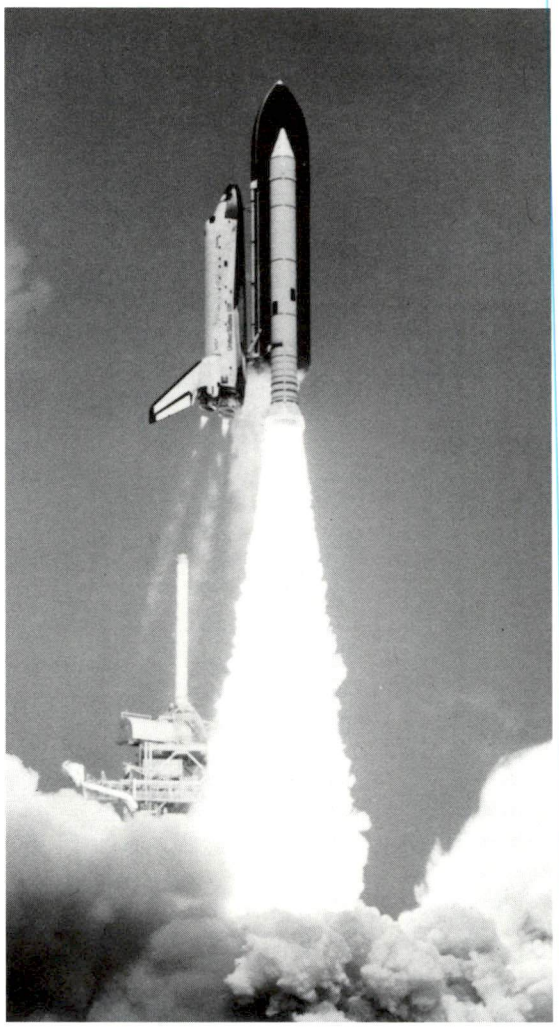


Hall of the States in Washington, D.C. The association serves as a vehicle for sharing knowledge of innovative programs among the states and provides technical assistance and consultant services to Governors on a wide range of management and policy issues. The Center for Policy Research serves the Governors by undertaking demonstration projects and providing anticipatory research on important policy issues.

AMERICA IN TRANSITION

The International Frontier

Report of the Task Force on Research and Technology



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"Our ability to compete internationally faces unprecedented challenge from abroad. Our world leadership is at stake, and so is our ability to provide for our people the standard of living and opportunities to which they aspire."

John A. Young, as chairman of the President's Commission on Industrial Competitiveness in *Global Competition: The New Reality*

Chairman's Overview
Foreword

"Whatever the new frontiers in scientific exploration, the development and commercialization of new discoveries must be factored into the equation. The goal is to turn ideas into products. States can take the lead in helping turn the fruits of today's research into exportable products and services."

Governor Gerald L. Baliles
Virginia

Chairman's Overview

The world is growing smaller. Fiber optic networks span the continents, linking remote corners of the globe. Billions of dollars move in seconds from Milan to Tokyo to New York. Goods move across continents in a single day. An individual product may contain parts manufactured in five different countries and be assembled in a sixth. New markets and opportunities emerge almost overnight. In this competitive and rapidly changing environment, success belongs to those who can anticipate, adapt, and respond quickly.

The international frontier is no longer the future—a new age has arrived. The evidence abounds. A common market in Western Europe will be finalized in 1992. The United States and Canada are on a ten-year path toward free trade. World output is shifting dramatically to Japan and the Pacific Rim. And, in an attempt to encourage trade and foreign investment, the People's Republic of China and the Soviet Union are experimenting with capitalism. By the beginning of the twenty-first century, the economic terrain will be one of large trading blocs, instead of individual countries, trying to maximize their growth through trade.

As the global marketplace has emerged, the United States' role as an economic decisionmaker has changed. During the 1960s when the U.S. economy was partially insulated from global influence, it was possible to influence the economy by then-traditional fiscal and monetary policies. With the development of the Eurodollar market, foreign ownership of a large portion of the federal debt, and huge increases in foreign trade, the economic sovereignty once enjoyed by the United States has been reduced.

Twenty years ago, states were bystanders as international events changed the economic landscape. That, too, has changed. Our boundaries are no longer the borders of our states, but every corner of the globe. As Governors, we are challenged to confront this new reality.

State government is well-positioned to meet the challenges of the next century. But we must begin preparing for this transition. Our agenda includes a six-point offensive. Specifically, we must:

- Discover new and emerging markets abroad for American products, to become again the Yankee traders we once were.
- Bring an international perspective to our daily living—to understand foreign nations and the people beyond our borders . . . to learn the international language of business.
- Expand our research, and use our technology, to create both new products and new processes to maintain America's competitive position.
- Capitalize on the natural advantages of American manufacturers and regain competitiveness in our domestic markets.
- Improve our highways, airports, airways, and ports so we can move our people across town and our products around the globe.
- Invest in the health, education, and training of our children so they can live healthier and more productive lives.

This year, I have created six NGA task forces to examine these issues that together form the foundation for the nation's future:

foreign markets, international education, research and technology, domestic markets, transportation infrastructure, and children.

This is the fourth of the six reports. It centers on an issue of crucial importance to America's future competitiveness: our ability to commercialize technology more rapidly than our competitors.

It all comes down to supporting, securing, and maintaining scientific leadership and technological preeminence. The scientific research community can identify any number of potentially rewarding projects—a supercollider particle accelerator, a biology program to map the human genome, a satellite study of the global environment, a permanent space station, or manned exploration of Mars.

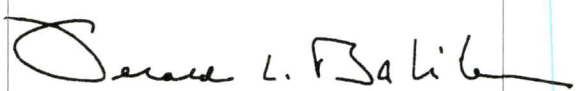
Whatever the new frontiers in scientific exploration, the development and commercialization of new discoveries must be factored into the equation. Capturing the full potential of emerging technologies will require the commitment of government, universities, and thousands of private businesses.

The goal is to turn ideas into products. We must be willing to put our research and development resources into those areas with the greatest commercial promise and to transform our business and academic strategies to take advantage of rapid advances in technology. States can take the lead in helping turn the fruits of today's research into exportable products and services.

This report will demonstrate a need for action, spur debate, and help encourage the formation of a commercialization strategy. Historically, American economic success has been rooted in the imaginative works of the mind and hand. In the past, we have translated scientific discoveries, innovations, and ideas into economic opportunities. It is time to do so again.

In the months ahead, the nation's Governors will continue their work, releasing recommendations on topics ranging from how to finance our aging infrastructure to how to regain our domestic markets. Governors may not agree on every recommendation made in the reports, but we have reached some clear conclusions.

Together, these reports should serve as a guide, outlining the steps Governors and their states can take to lead the nation into the twenty-first century. . . a road map for an America in Transition.

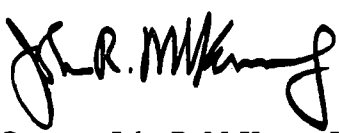


Gerald L. Baliles
Governor of Virginia
Chairman, National Governors' Association

policy goals, teaming up with other states to initiate such programs as regional product development centers, and providing entrepreneurship training and assistance through the state university system. States should help develop a world-class workforce by improving technology literacy in both schools and the workplace; offering incentives for math and science students; retaining top science and engineering faculty; and providing continuing education opportunities for corporate managers, scientists, and engineers. States can help businesses develop new products by enhancing seed capital programs, expanding advanced technology and industrial research centers, and strengthening incentives for university-industry collaboration.

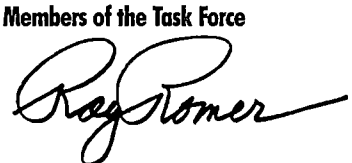
- **Develop products for the international marketplace.** In helping develop better manufacturing processes, states can do the following: establish flexible manufacturing centers and networks; direct higher education institutions to reform business administration and engineering programs to emphasize manufacturing and production management; and establish Governors' award programs for excellence in manufacturing. Awards serve as an incentive for quality achievement and heighten public and media awareness of technology's importance.

Just as the United States built a public education system that created the most skilled and productive labor force in the world; just as we built an interstate highway system and transportation network to move raw materials and finished goods to their markets inexpensively; just as we built a research and development capacity that harnessed nuclear energy, developed the transistor and the integrated circuit, and landed men on the moon—we now must act to rekindle our innovative and entrepreneurial spirit and develop a successful commercialization capacity.



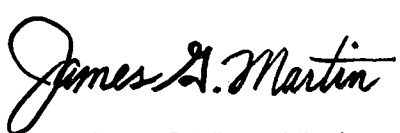
Governor John R. McKernan Jr., Maine
Chairman, NGA Task Force on Research and Technology

Members of the Task Force

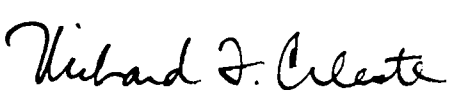


Governor Roy Romer, Colorado

Governor Terry E. Branstad, Iowa



Governor James G. Martin, North Carolina



Governor Richard F. Celeste, Ohio

The Challenge

"Global competition has created new ground rules for technology. The keys to success are speed and teamwork. We've been too slow, too fragmented, too uncoordinated, and too adversarial. We must become faster, more focused, more comprehensive, and more collaborative. And this means a new, more active partnership with government."

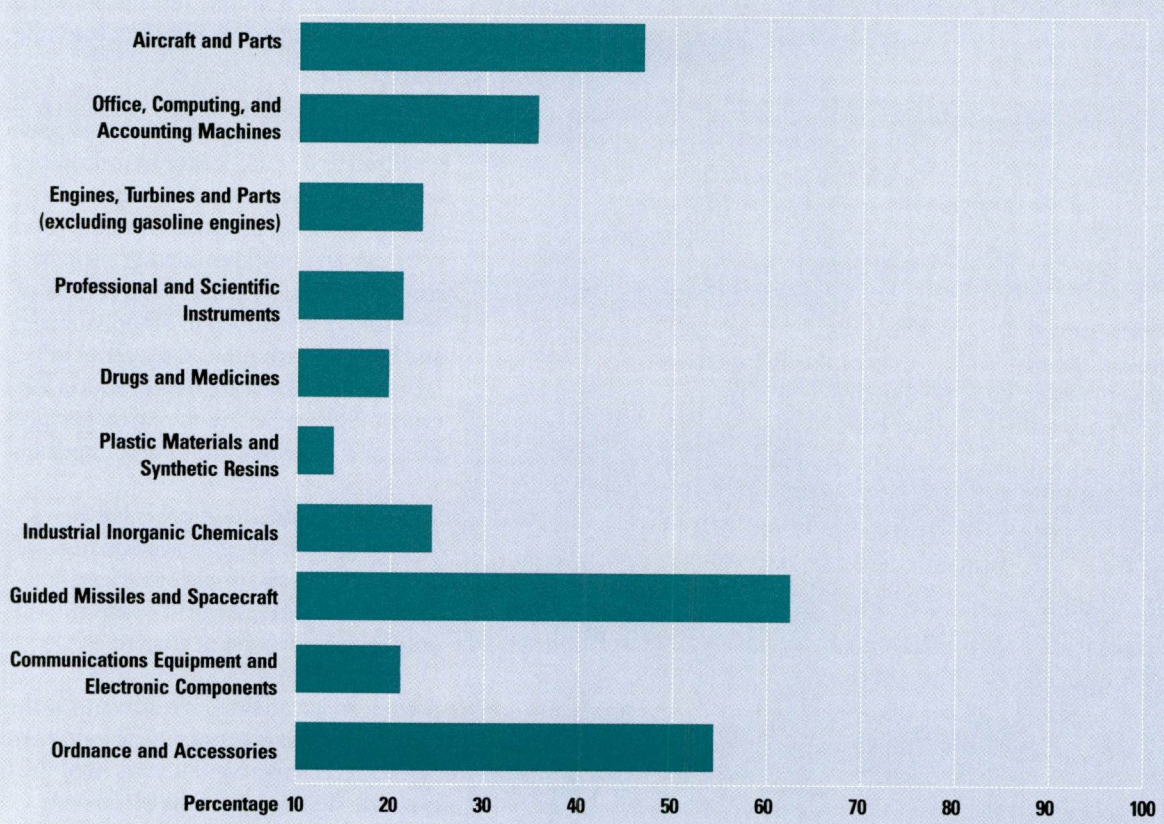
Admiral B. R. Inman, Chairman and
CEO, Westmark Systems, Inc.
and former CEO of Microelectronics
and Computer Technology Corporation

ceramics—now used for sports equipment and automobile engine production—can rapidly advance into the construction industry and the manufacture of industrial equipment. The development of digital compatibility in televisions, telephones, radios, recordings, and movies will link all of these products with computers, revolutionizing these industries.

The United States must make a national commitment to capture the economic potential of these and other technologies. Our future position in the world and our national standard of living depend upon it. The nation that develops the most effective research and technology strategy will lead the world into the twenty-first century.

Figure 3 **U.S. Share of Selected High Technology Exports, 1984**

(Among major industrialized countries)



Note: Categories represent 10 highest ranking industries in research and development spending as a percentage of output.

Source: U.S. Department of Commerce, International Trade Administration, Office of Trade and Investment Analysis, 1989.

The Context

"The continued economic progress of the United States demands that we maintain and improve our international competitiveness. Our ability to do that depends on the full development of our human resource potential, promotion of scientific and technological progress, removal of barriers to innovation, careful assessment of any governmentally imposed burdens on the free economic system, and removal of domestic barriers to the flow of goods and services."

President George Bush, announcing the creation of the White House Council on Competitiveness, April 1989

"If you're the only contender in the race, you can stroll across the finish line with your new product. For years the United States was in that position. America often is still the first out of the starting gate with an idea, but we have to do better at completing the race to commercialization—and winning it."

Governor James G. Martin
North Carolina

The Context

For most of our history, economic strength was based largely on access to natural resources, inexpensive transportation, scale of production, and size of market. In each of these areas, the United States had advantages over its foreign competitors and thus controlled the world economy.

The U.S. dominance of world markets in the 1950s and 1960s also stemmed from the condition of economic competitors who were reconstructing after the war, as well as America's worldwide leadership in science and technology, which resulted from large investments in research.

Today, however, the U.S. market is about 25 percent of the world market, compared with nearly 60 percent at the end of World War II. Today more products are created from man-made materials that require manufacturing know-how rather than plentiful natural resources. Today our competitors have thriving economies. The world has changed and we must change with it.

Recapturing our role as a world leader, particularly in research and technology, requires prompt and decisive action. It requires an appreciation of the competition the United States faces in commercializing technology. It requires a grasp of how commercial product development has changed and an understanding of the players and their roles in the commercialization process. Finally, it requires a vision of the potential impact of today's emerging technologies.

Our trading partners, especially Germany and Japan, have dramatically increased their technology-intensive exports over the last decade. Japanese products are now beginning to dominate the market in three major areas: communications and electronics equipment, professional and scientific instruments, and office and accounting machines. This dramatic change is partly the result of these countries' committing more than 2.8 percent of their GNP to civilian research and development, while the United States spends only about 1.7 percent.

Japan and Western Europe do not present the only challenges to our economic future and standard of living. The "Four Tigers of East Asia"—Hong Kong, Singapore, South Korea, and Taiwan—also have started to challenge our leadership. Their economies have achieved almost unprecedented growth in some high technology product areas by adapting new technology, developing a talented scientific and engineering workforce, and streamlining manufacturing processes.

The story of the videocassette recorder epitomizes the United States' failure in the development of technology-related products. Ampex, a U.S. corporation, invented the videotape recorder, but sold its patents to Japan's Sony after it was unable to develop a marketable product. By shifting from tapes to cassettes and designing a machine that could manufacture video recording heads at a reasonable price, the Japanese developed a product that revolutionized the television and film industries. In 1987 Japan manufactured more than 72 percent of all videocassette recorders; the United States produced less than 1 percent.

Similar stories can be told about stereo sound equipment and phonographs. The United States was at one time a major exporter of each of these products; today we export almost none. Our competitors found a way around our vast lead in

technology by focusing their attention on developing products for important world markets.

Today in consumer electronics—an area once dominated by American firms—the top ten worldwide companies (by dollars of sale) include only two U.S. firms: IBM and General Electric. Of the other companies, six are Japanese and two are Western European.

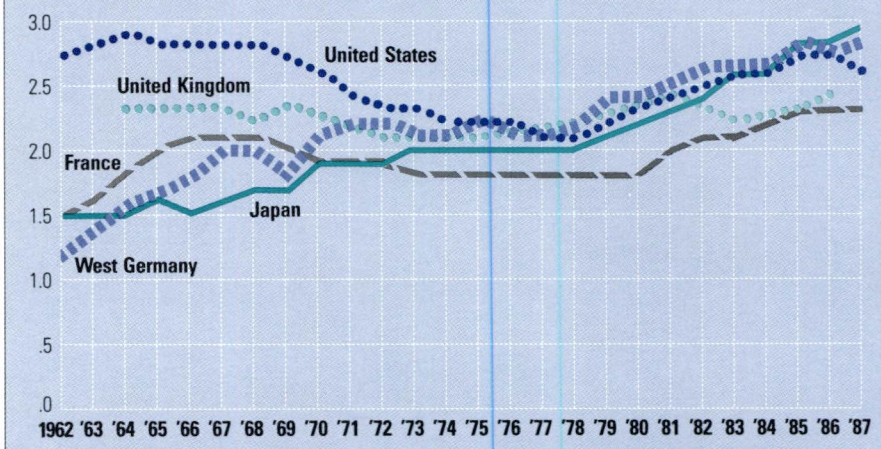
Leadership in the global economy now is associated with the ability to translate the latest advances in research and technology into products for consumer markets. Future economic strength will be linked to this ability to "commercialize" research and technology.

The Commercialization Process

During the glory days of U.S. high technology dominance, the commercialization process was straightforward and clear: it was driven by research. Scientists and researchers worked in laboratories and when their discoveries seemed useful to an industry, that industry—automobile, steel, textile—would adopt the change. America was the world's manufacturer. There was no significant competition. Universities trained U.S. engineers and scientists, and the government supported academic research and financed scientific advances in areas such as aerospace, computers, and nuclear power.

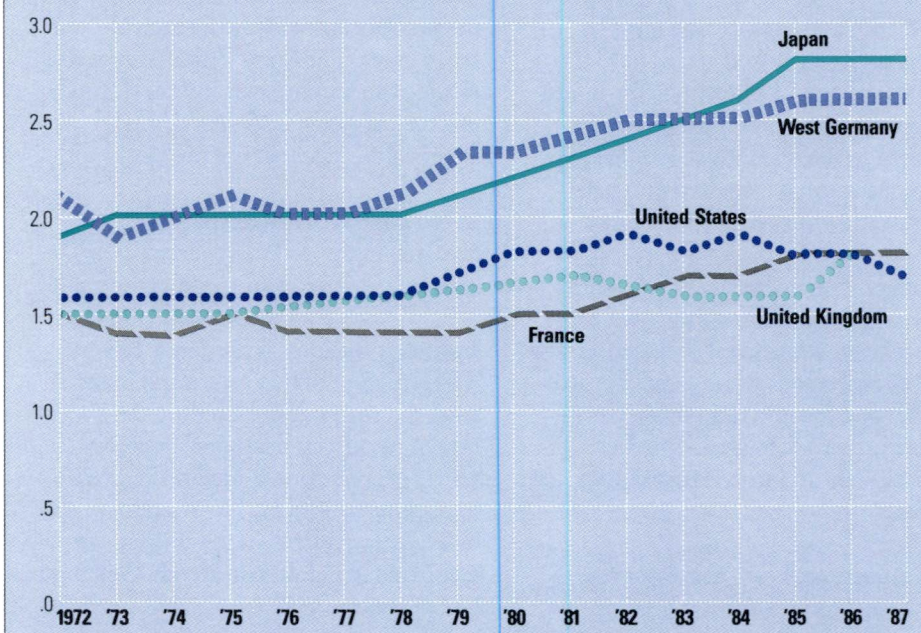
Today there is a new model. A focus on the market and a continual and open communication system between all participants in the process are key ingredients, according to the Council on Competitiveness' latest study, *Picking Up the Pace:*

Figure 4 **Total R&D Spending as a Percentage of GNP**



Source: National Science Foundation, *Science Indicators.*

Figure 5 **Nondefense R&D Spending as a Percentage of GNP**

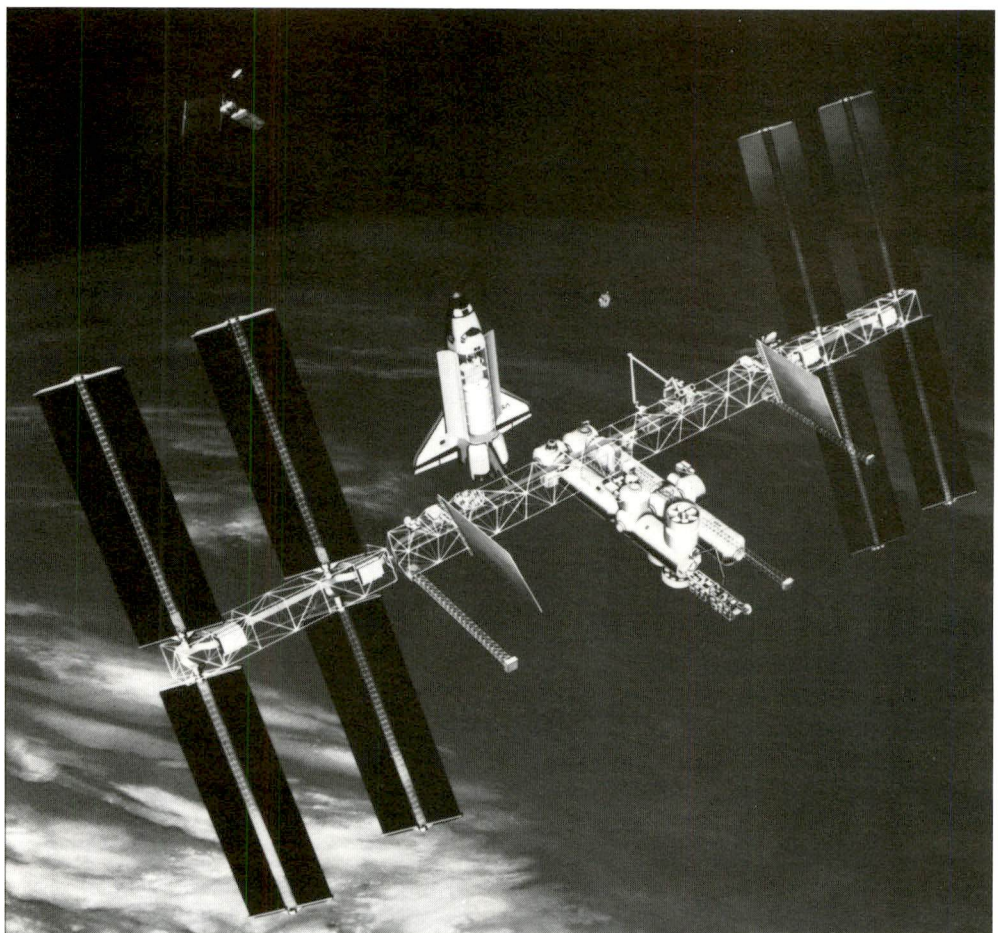


Note: Figures reflect national R&D expenditures, excluding government funds for defense.

Source: National Science Foundation, *Science Indicators.*

"Technology is not a 'thing,' but a dynamic process involving the application of knowledge, resources, and technique to problem solving. It is not simple or neat, nor does it happen only in one way. Technology emerges not only from the laboratory and university, but also from the manufacturing process. Often technology is born on the factory floor."

Lewis B. Kaden, as chairman of the Cuomo Commission on Trade and Competitiveness, in *The Cuomo Commission Report*, 1988



ment of new and popular products. High-definition television alone is estimated to create a market of $40 billion by the year 2007. Compact disc players with the capacity to record will likely create a worldwide market, and could displace audio cassette recorders.

Telecommunications products and services are projected to account for more than 10 percent of world GNP by the year 2000, according to the U.S. Department of Commerce. The market for ceramics, $4 billion in 1980, is expected to grow by at least 10 percent each year through the 1990s.

The Japanese have developed the Linear Motor Car, a train levitated by superconducting magnets, that has reached speeds above 320 mph, fast enough to replace commuter airlines. U.S. biotechnology firms have genetically engineered corn plants resistant to a wide range of pests, which could reduce the pesticides needed to guarantee a healthy crop. The frontiers of science continue to expand.

Just as countries with gold once led the world, followed in turn by countries with plentiful natural resources and inexpensive energy, the twenty-first century will dawn with countries successful in technology commercialization leading the way.

Critical Issues

"Military research during World War II led to the jet engine, computers, and nuclear power. Today, however, 97 percent of military R&D spending goes not for basic science that can yield a spectrum of benefits, but for weapons development and testing—work that does little of use in the civilian sector. Such military spending has helped the United States maintain its global market share in military-intensive areas such as aircraft, guided missiles, and spacecraft, even as the country lost its competitiveness in civilian technology markets."

Judith B. Reppy
Cornell University economist at
American Association for the
Advancement of Sciences meeting,
January 1989

"The increasingly competitive global marketplace demands constant product refinements. We must learn to do better even those things we now do very well. Our long-standing leadership in health sciences and biotechnology is one area where an already strong foundation can support a rich set of opportunities for the future."

Governor Terry E. Branstad
Iowa

Critical Issues

The opportunities presented by emerging technologies make the need for action doubly critical. The United States must revitalize existing industries to benefit from the approaches to innovation and manufacturing that have worked for our competitors. We also must push more aggressively toward discovery and implementation of these new technologies.

It is time to unleash the creative energies of the American people and rekindle an entrepreneurial spirit to meet these challenges. There are barriers in our path, but by overcoming them the nation stands to benefit. Doing so will strengthen our ability to compete and succeed in world markets as emerging technologies are incorporated into every industry.

Emerging Technologies

Throughout time, "each technological innovation has met a critical need while creating the demand and the opportunity for the next breakthrough," says Trevor I. Williams, author of *The History of Invention.* Technology continues to shape modern society, and some innovations bring revolutionary change.

Harnessing electricity brought light to the world and powered much of the Industrial Revolution. The telephone was the vanguard of a host of communications products and services that provide the foundation for economic, political, and social activity. Jet aircraft have brought even the most remote points of the globe within comfortable reach. Television has had a profound effect on activities as diverse as medical diagnosis and the conduct of foreign policy.

Today, fiber optics and computer circuitry are being integrated into a broad cross-section of business and other activities, with even more potential for innovations and applications. Still further in the future, other emerging technologies have the potential to revolutionize the way we live. What are some of these emerging technologies and what role could they play in restructuring U.S. industries? Following are some technologies most frequently cited as holding promising applications.

- **Space Technology.** The world already has benefited from a number of products derived from space program research and development, including miniaturized batteries for pacemakers and watches, heat-reflective material to insulate shock patients, and new approaches to treating and recycling wastewater. But even more profound innovations may be in store. Planet and space exploration technologies and discoveries aid environmental, meteorological, and geological endeavors, and have implications for materials research and communications. The ability to use the zero-gravity conditions of space for sustained periods may make it possible to produce new materials that cannot be produced on earth. Space-grown crystals could accelerate the design of new pharmaceuticals or synthetic vaccines. Containerless processing of materials eliminates contamination problems and permits production of special glasses and fiber optics useful in high-energy laser applications and superconducting ceramics. Sustained microgravity aids the suspension of materials, which could lead to the creation of new super-pure metals with greater strength and improved physical properties.

- **Biotechnology.** Experiments in genetic engineering hold the promise for agricultural, medical, and pharmaceutical products unimagined a generation ago. They would cost less than the products they replace, be safer and more effective than those currently available, and could virtually alleviate world problems such as malnutrition, energy production, disease, and pollution.

- **High-Definition Television.** In the very near future, this new technology could render an entire generation of home video and studio equipment technologically obsolete, as it opens up new dimensions and opportunities in video imaging for medical and defense purposes. It has been estimated that high-definition television could result in as much as $200 billion in economic activity and create 180,000 new jobs over the next several decades.

- **Superconductivity.** Prototype superconducting magnets have been developed that cost about one-fifth as much to operate as conventional magnets; new low-temperature superconductivity generators can produce 25 horsepower per pound compared to only 2 horsepower per pound for conventional generators; and new microprocessors can operate twenty-five times faster than comparable silicon chips and use only 0.5 percent as much power. Eventually, superconductivity could make it possible to develop low-loss electric transmission systems, high-speed computers, and other forms of magnetic technologies such as metal sorting, purifying, and recycling.

In addition, polymer plastics and ceramics have electronic and structural uses as alternatives to metal, yet take less energy to make and are immune to corrosion. Polymers' enormous ability to absorb energy and vibrations makes them useful in robot arms, tennis rackets, and automobile bodies. Ceramics can be used to make engines more lightweight and fuel-efficient, to make cutting tools tougher and more precise, and as bone and joint replacements.

These and technologies such as robotics, artificial intelligence, and microelectronics could immensely affect our economic future. Innovations and products derived from these technologies could mean tremendous commercial opportunities for the United States, but only if it is willing to mobilize its resources. In a number of areas, there is evidence that we are already losing ground.

- Twenty-five years ago, only the United States and the Soviet Union had the capacity to travel to space. Today, at least ten countries have established facilities for space launches. This gives our competitors access to space in order to conduct research and development in the full array of space products and processes.

- Eight countries—Australia, Austria, France, Germany, Japan, Netherlands, Sweden, and the United Kingdom—have made biotechnology an established research and development or industrial priority. The United States has yet to identify official priorities for industrial biotechnology research and development.

- Only one U.S.-owned company produces television sets, and some of its plants are not located in the United States. Without that manufacturing base, we may be shut out of the high-definition television market altogether. Sony will soon offer a complete line of high-definition television equipment, including video cameras and recorders, monitors, display and transfer systems, and post-production equipment. Fiber-optic cable, currently used primarily by telephone companies in this country, is ideal for transmitting high-definition television signals. Japan has already announced construction of a fiber-optic and satellite-based network to distribute high-definition television services to ten Japanese cities within three years.

- In analyzing U.S. efforts in superconductivity, the Congressional Office of Technology Assessment noted that the financial criteria that drive decision-making in American corporations work against a technology like superconductivity that has uncertain prospects and delayed profits. The short-term view fostered by U.S. financial markets could put American companies behind the

Japanese within two or three years—if they are not already behind. Japanese firms are much more aggressive in studying possible applications of superconductivity. Their companies have more people working on the topic, many of them applications-oriented engineers and business planners who can convert discoveries into products for the marketplace.

The opportunities created by these emerging technologies are plentiful, far-reaching, and largely still within our grasp. However, with each passing day, with each action not taken, the gap between the promise and the reality widens. Too often, opportunities slip through our fingers and into the hands of our major international competitors.

Barriers to Success

The barriers to developing these technologies are apparent when one considers the way ideas are converted into successful products. Doing this as effectively as our competitors is central to gaining a share of the world market in many product areas.

Research and Development

Research and development, where the commercialization process begins, is the cornerstone of competitiveness in emerging technologies. This is also the area where the United States in the past has enjoyed its greatest competitive advantage. At any level of comparison, today we are at a disadvantage.

- The United States spends more money on total research and development activities than any other country. However, in commercially applicable research, the situation is very different. The United States spent 1.7 percent of its GNP on nondefense research and development in 1987, compared with 2.6 percent in West Germany and 2.8 percent in Japan. Both countries have been ahead of the United States on this measure since the 1960s. Throughout the 1980s, they have seen their nondefense research and development rise as a percentage of GNP faster than that of the United States.

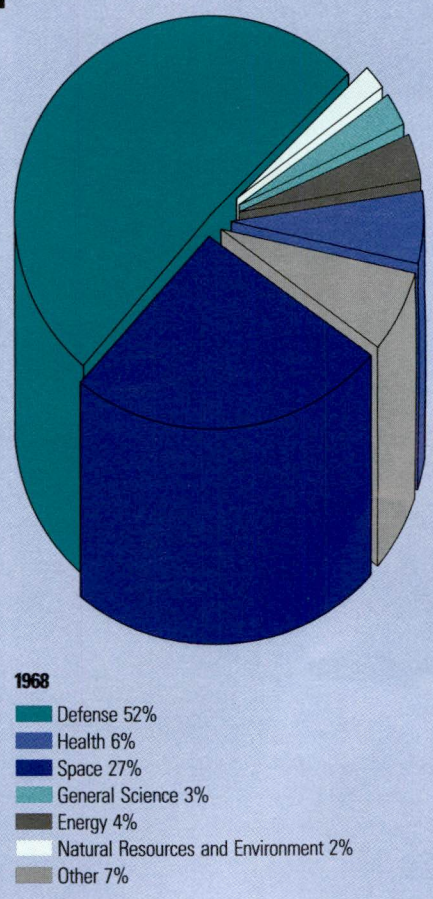
- Of the total $60 billion federal research and development budget in 1988, 68 percent went for national defense, compared with 49 percent in 1978. Defense projects have become increasingly specialized and less likely to provide support for broader commercial technology development and application. Because this work is based on the concept of "the best product regardless of price," it fails to deliver cost-efficient spin-offs for industry.

- Smaller U.S. corporations that have relied heavily on the results of federal research and development activities have suffered as the federal emphasis has shifted to more specialized defense projects.

- U.S. industry is outspent by its competitors. Japanese industry spending for research and development represents 1.9 percent of GNP, compared with only 1.3 percent for U.S. industry, much of which is concentrated among our largest industrial corporations.

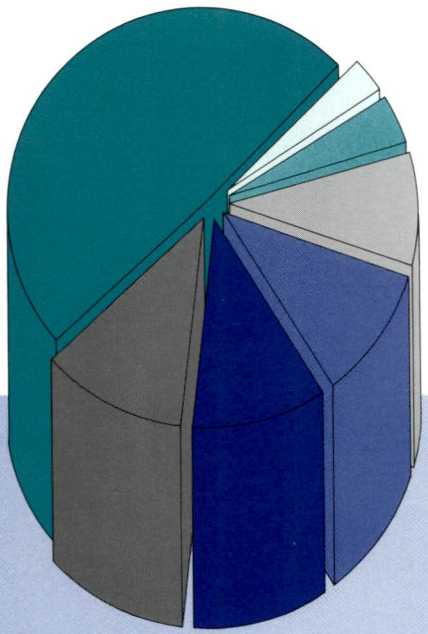
The results of this change in the relative level of research spending are already showing.

Figure 7 **Federal R&D Spending by Purpose**



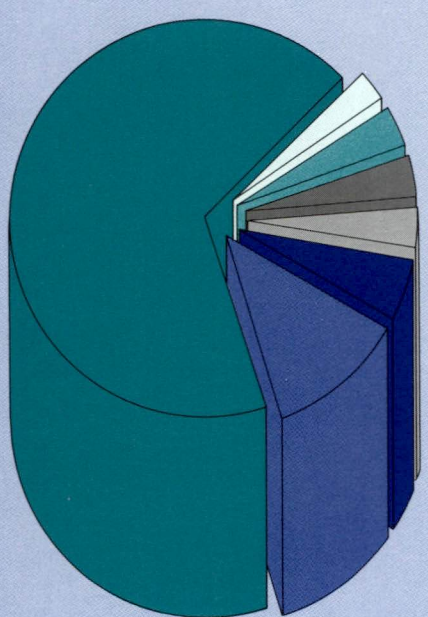
Note: Figures may not total 100 percent due to rounding.

Source: National Science Foundation, *Science Indicators.*



1978

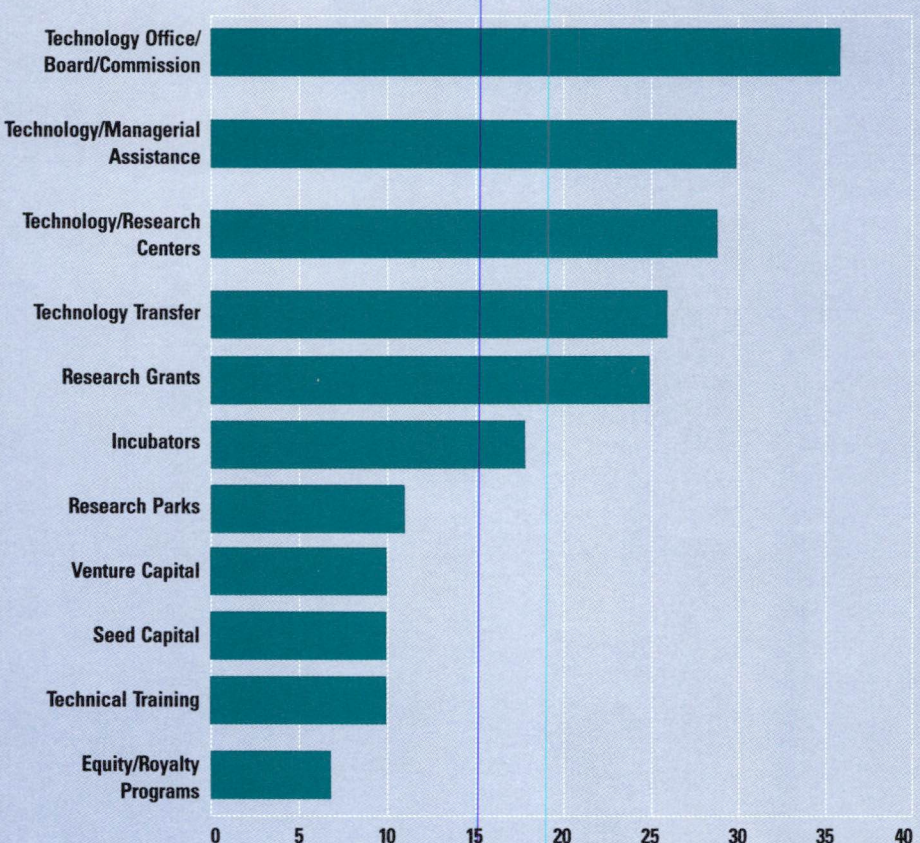
- Defense 49%
- Health 11%
- Space 11%
- General Science 4%
- Energy 12%
- Natural Resources and Environment 3%
- Other 8%



1988

- Defense 68%
- Health 12%
- Space 6%
- General Science 4%
- Energy 4%
- Natural Resources and Environment 2%
- Other 5%

Figure 8 **Number of States Supporting Science & Technology Initiatives, Fiscal 1988**



Note: For description of state technology programs, see page 22.

Source: Minnesota Department of Trade and Economic Development, *State Technology Programs in the United States,* 1988.

- Between 1975 and 1987, the share of U.S. patents granted to foreigners rose from 35 percent to 46.6 percent, with the Japanese share more than doubling.

- General Electric, which for twenty-five years had been the annual recipient of the greatest number of U.S. patents, slipped to number four in 1987, surpassed by Canon, Hitachi, and Toshiba.

- In a number of key product areas, U.S. inventors are granted a lesser share of U.S. patents than Japanese or German inventors. These include primary metals, aircraft, and motor vehicles.

New Product Development

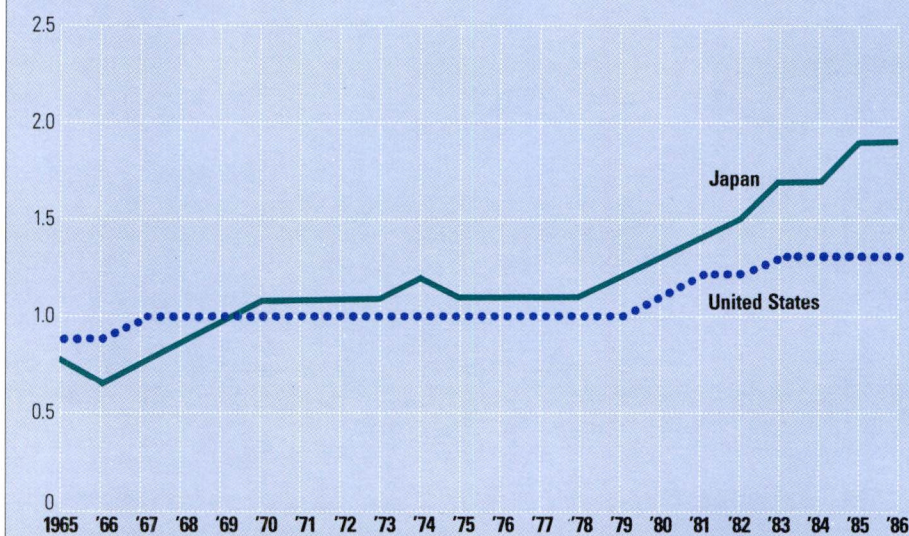
The actual development of full-scale models of new products is the most expensive portion of the commercialization process, requiring both long-term investment and the highest risk of capital. Our competitors often establish consortia to spread this risk, and they utilize their strengths in state-of-the-art manufacturing techniques to deliver a well-designed and engineered product. They also benefit from having a more technologically literate workforce with superior math and science skills and significantly more engineers per capita.

U.S. industry's focus today is short term—the quarterly profit and loss statement. Rather than viewing long-term investments in product development and improved manufacturing processes as assets, the financial markets consider them as expenses.

"Merger mania" preoccupies many major U.S. firms. Press reports on takeovers far outnumber reports on successful solutions to manufacturing problems or technological advances. These pressures only drive management's attention further from the

Figure 9

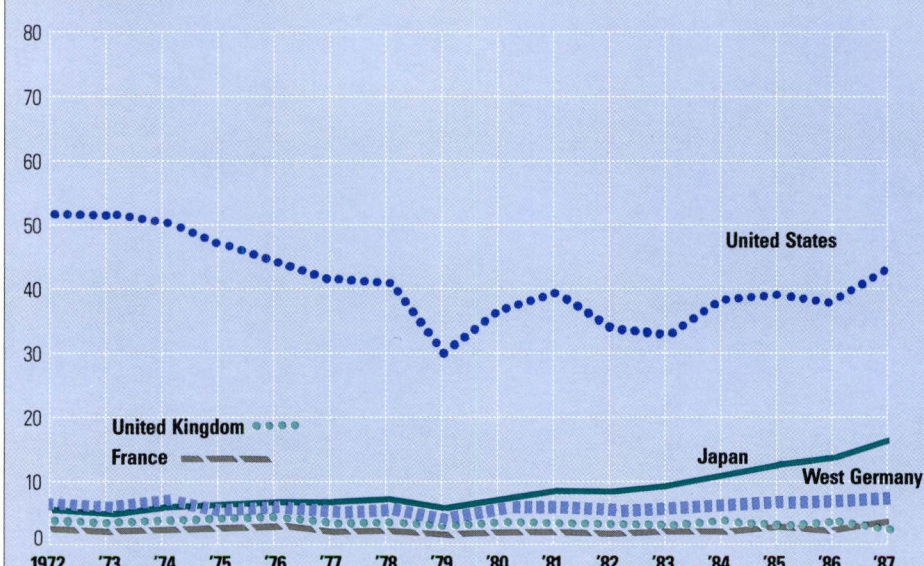
Company-Funded R&D as a Percentage Of GNP, U.S. v. Japan



Note: Japanese industrial R&D is more than 98 percent company-funded.
Source: National Science Foundation, *The Science and Technology Resources of Japan: A Comparison with the United States,* June 1988.

Figure 10

U.S. Patents Granted by Country of Inventor



Note: U.S. patent counts for 1979 are unreliable because Patent and Trademark Office did not have enough money in that year to print all approved patents.
Source: U.S. Department of Commerce, U.S. Patent and Trademark Office, "Technology Assessment and Forecast Report: All Technologies Report, 1963-1987," March 1988.

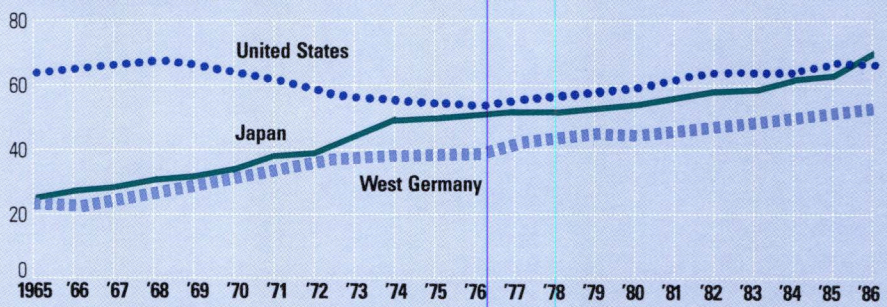
critical goal of creating new products, and hinder greater investment in research and development. The National Science Foundation's annual Survey of Industrial Research and Development showed that out of the 200 companies that account for 90 percent of U.S. industrial research and development, twenty-four companies involved in mergers or leveraged buyouts reduced their research and development expenditures by 5.3 percent between 1986 and 1987, while the remaining companies experienced an increase of 5.4 percent.

The difficulties associated with establishing cooperative ventures with other companies—antitrust uncertainties, tax treatment, and corporate structure and control—have limited the chance for U.S. firms to share risks more efficiently. Sematech, the recently established joint industry consortium to find improved processes for manufacturing semiconductor chips and the Microelectronics and Computer Technology Corporation Project (MCC) are two exceptions that illustrate the potential in joint industry efforts.

In addition, the failure of U.S. companies to profit from earlier discoveries due to the inability to enforce international patents adds to the risk of product development. Corning, which discovered fiber optics, lost the major share of profit on its discovery after investing more than $200 million in research.

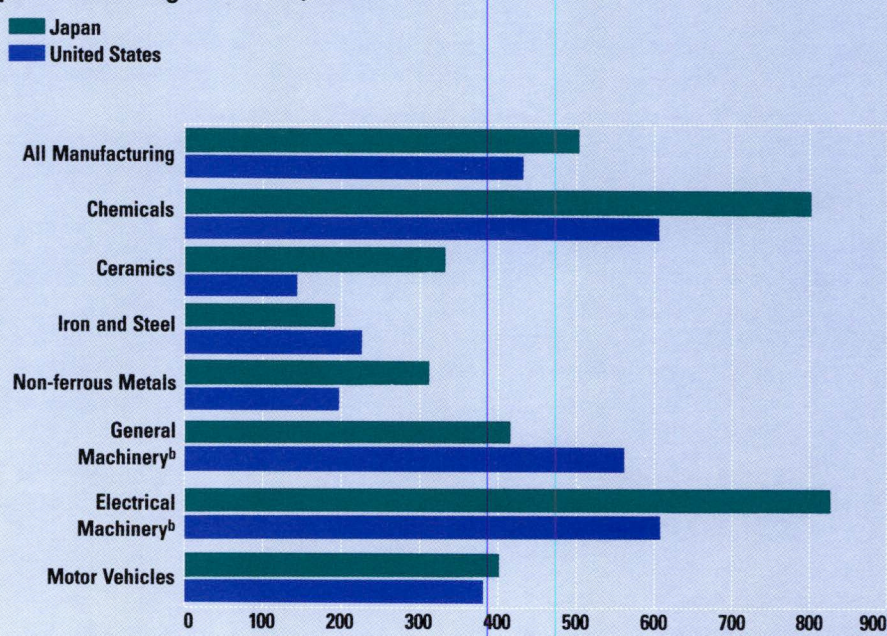
The quality of the workforce will remain an issue in the next century unless decisive action is taken. The United States faces a very serious shortage of engineers. The National Science Foundation indicates that between 1989 and 2010, the nation will fall short—by more than 700,000—of the expected demand by industry and academia for degreed scientists and engineers.

Figure 11 **Scientists and Engineers Engaged in R&D**



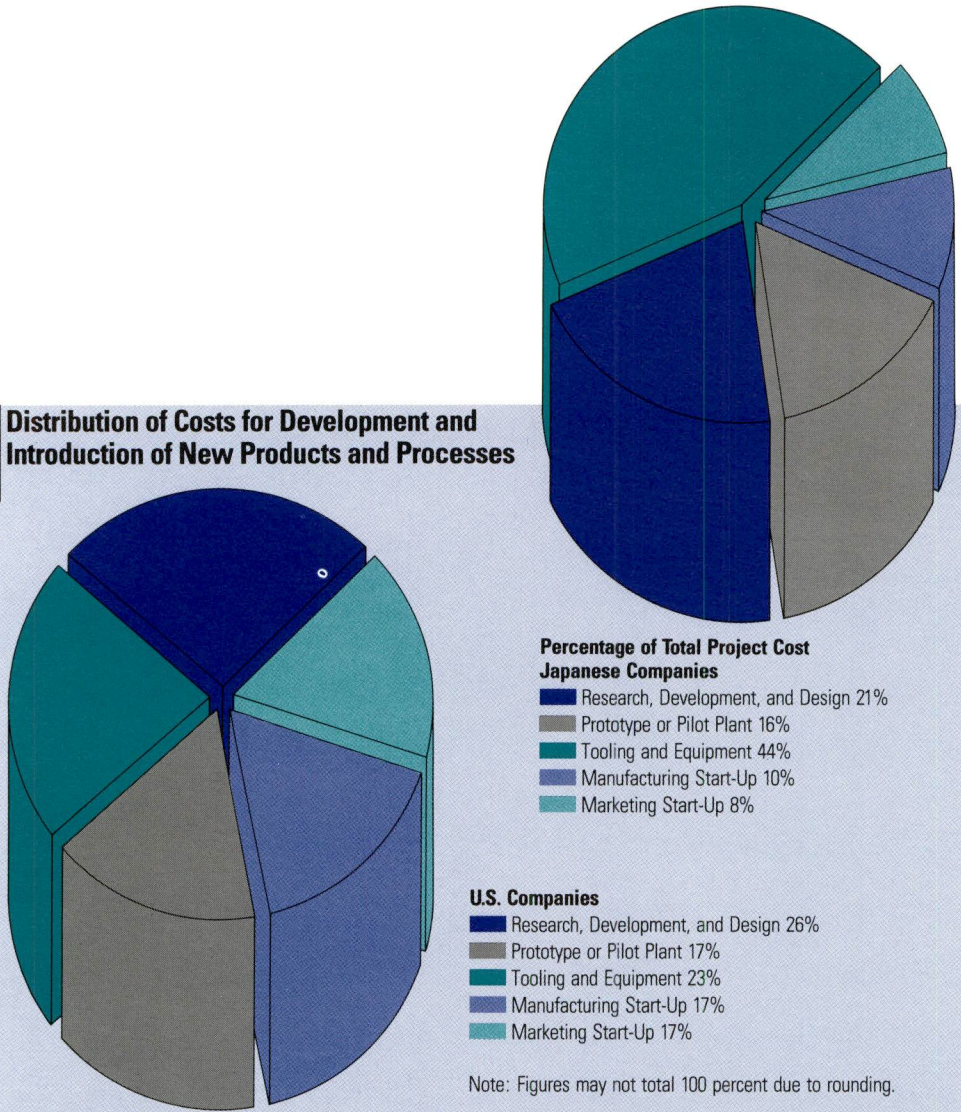
Note: Figures include all scientists and engineers engaged in R&D on a full-time equivalent basis, except those for Japan, whose data include persons primarily employed in R&D.
Source: National Science Foundation, *Science Indicators.*

Figure 12 **Industrial Scientists and Engineers Engaged in R&D per 10,000 Employees for Selected Manufacturing Industries, 1986[a]**



Notes: a. Number of U.S. scientists and engineers are in full-time equivalents; Japanese are total numbers of scientists and engineers engaged in R&D.
b. These categories are not comparable for the United States and Japan because they represent different SIC product groupings. The U.S. category for general machinery includes computers, whereas computers are classified under electrical machinery in Japan.
Source: National Science Foundation, *The Science and Technology Resources of Japan: A Comparison with the United States,* June 1988.

Figure 13 **Distribution of Costs for Development and Introduction of New Products and Processes**



Notes: Survey figures are from 1985 for 50 matched pairs of U.S. and Japanese firms. In the category "prototype or pilot plant," for cases of product development, the costs include investments in pilot plants.
Source: Congressional Office of Technology Assessment, *Commercializing High-Temperature Superconductivity*, June 1988.

The United States has critical shortages of qualified teachers in key science areas. The National Science Foundation estimates that 60,000 math and science teachers in U.S. secondary schools are not fully qualified, and that an additional 30,000 secondary school math and science teachers will be needed by 1995. In addition, in 1985 8.8 percent (or about 1,300) of all university engineering faculty positions were vacant, a situation that will get worse as the faculty recruited in the 1950s in response to the launch of Sputnik retire during the next ten years.

The continuing acceleration of scientific discoveries and technological advancement requires that education be viewed as a continuing process for scientists and engineers, as well as for industry—both labor and management. As emerging technologies are integrated into businesses, continuing education will be needed to understand the opportunities these discoveries offer.

Manufacturing

Manufacturing is essential to realizing the full potential of the commercialization process. Without adequate capacity in manufacturing, much of the information needed for the design of a product is lost. Further, when research is market-driven, the manufacturing process is the place where changes can be made quickly, resulting in either a more successful product or greater reductions in cost.

In today's markets—especially for technology-related products—product lives are so short (an average of six months) that once a product is being manufactured, its successor must already be in the late design stages. This demands flexible manufacturing facilities, regular retraining of workers, and close cooperation between design and manufacturing divisions to assure efficient crossovers to new products.

Success in incorporating emerging technologies also demands a broad, stable, and efficient manufacturing capacity that can provide the materials, the trained workers, and the machinery required to manufacture the new products. The loss of manufacturing capacity in certain industries can seriously hamper future product development.

Yet, a survey of European executives involved in industry, trade, banking, and investment ranked the United States twelfth overall in its production techniques, behind such countries as Japan (No. 1), Sweden (No. 2), Switzerland (No. 3), Germany (No. 4), and Finland (No. 5).

Unfortunately, many U.S. business administration programs focus more on financial management than on management of the manufacturing process or management of the entire production process. This lack of familiarity with manufacturing engineering results in less flexibility and creativity when analyzing proposed production costs, and poses greater difficulties for product design, which must work within a narrower set of constraints.

If the United States' goal is to lead in emerging technologies, that goal demands immediate and decisive action by both the private and public sectors. America needs a national commitment to move forward into the future more aggressively.

The State Role

"Some states, and some Governors, have been able to integrate universities, industries, and state policies in a package of technological innovation and competition that is quite impressive. It shows a greater awareness of the way the world is going than you find in many places in Washington. It's where the action is in many key sectors."

Frank Press, President
National Academy of Sciences

"In the states, a new consensus is already forming, with a new state commitment to research. This reality may be the most important development in science policy in the 1980s. For the first time, state legislators and citizens are joining scientists and engineers to support long-term research. Even more significant, perhaps, is that states are cooperating with each other in these efforts."

Governor Richard F. Celeste
Ohio

The State Role

The ability of the United States to increase technology-intensive exports in the twenty-first century will depend on the effectiveness of both federal and state policy. State policies operate within the framework of federal policies that significantly affect business decisions in research and development, investment, intellectual property rights, and international trade. Because of this influence, defining the state role requires an initial discussion of federal responsibilities.

Federal dollars and priorities propel much of both civilian and national defense research and development, and federal antitrust regulations affect the ability of firms to enter into joint research agreements. Federal tax policies encourage—or discourage—investment in new product development, and federal patent and intellectual property right protections determine whether U.S. firms will benefit from their discoveries. The federal government has constitutional responsibility for international trade agreements, such as the General Agreement on Tariffs and Trade (GATT), that set quotas and tariffs on high technology products. Finally, the federal government must approve exports of many high technology goods because of their national defense sensitivity. The federal government drives public investment, as well as the overall tax, legal, and international regulatory framework for technology development and export in the United States.

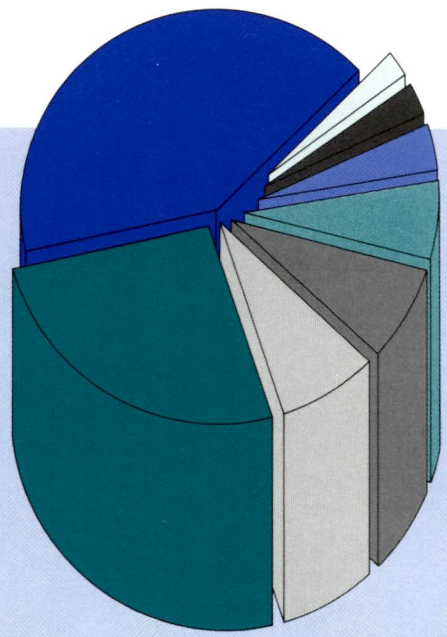
While the federal role in science and technology includes substantial support for long-term basic research, states have focused greater attention on applied research and development. State technology and economic development programs have encouraged greater commercialization of new products and processes. And states have the primary responsibility for educating future scientists and engineers, both through education policies at every level and the resources they invest in schools and universities.

Governors are in a unique position to focus attention on the need to improve the United States' ability to commercialize new scientific discoveries. In state after state, Governors have forged partnerships with the private sector to spur economic development. State governments work closely with the business community and are in a position to influence business decisions and to operate as brokers to bring together the creators and users of new technologies.

The recognition that states needed to take a more aggressive role in promoting commercialization came about in the early 1980s when several states hit hardest by the 1982 recession—most notably Michigan, Ohio, and Pennsylvania—reassessed their state policies. In fiscal 1988, forty-four states spent $550 million on their applied research and technology activities. A variety of innovative programs—including research consortia, seed and venture capital funds, incubators, endowed university chairs, technology fellowships, and equipment subsidies—were developed to build on existing strengths and to capitalize on research already occurring at universities, colleges, and federal laboratories. These new programs include efforts to stimulate research, introduce technology into firms, support capital acquisition, improve management, and determine overall state technology policy.

State support for applied research and the establishment of advanced technology centers is encouraging more market-driven research and is influencing the relationships between university researchers and

14 State Spending on Science and Technology Initiatives, Fiscal 1988



Note: For description of state technology programs, see page 22.

Source: Minnesota Department of Trade and Economic Development, *State Technology Programs in the United States,* 1988.

industry representatives. New institutions have been established to provide early seed capital to projects that have commercial potential. Support structures have been established to help technological innovators and entrepreneurs translate research into new products.

Governors also have led the new wave of education reform in the United States. They are promoting programs to require additional teacher training in basic science and mathematics and are establishing new highly competitive scientific secondary schools. Further, this education reform stresses more performance measurement, greater accountability, and more parental choice in schools. In higher education, states again play a major role.

States provide the principal funding for research facilities. While the National Science Foundation supports research facilities at fifty of the nation's largest universities, state funds are the primary support in the majority of colleges and universities, where the vast majority of industry's engineers are trained. States also invest directly in research, and perform educational assessments.

States have built an impressive track record in technology development and commercialization that will contribute substantially to reasserting America's future leadership in technology.

Descriptions of State Technology Programs

Technology Offices. These include boards, commissions, authorities, or offices that oversee or coordinate state technology initiatives. The most common type of structure is a public/private partnership of representatives from private firms, academia, and state government. Technology offices may operate as independent public agencies or private nonprofit corporations. The duties and responsibilities of technology offices range from the administration of multi-million dollar technology centers to information dissemination and advisory services.

Technical/Managerial Assistance. Technical or managerial assistance programs assist in the development of business plans and marketing strategies, advise firms on personnel, accounting, and legal matters, and identify sources of financing. Professionals also evaluate product lines and manufacturing processes, assist in the use of state-of-the-art design and manufacturing tools, and identify special expertise at universities and other research centers.

Technology/Research Centers. These centers, also known as "Advanced Technology Centers" or "Centers of Excellence," are usually located at universities or affiliated with them. They strive to increase cooperation between academic institutions and state-based industries. These centers generally concentrate on a particular field of research that draws on the strengths of a university and/or the major industries in the state. Technology or research centers assist in the creation of new firms through the development and enhancement of products and processes, attracting new industries to the state, and enhancing the competitiveness of existing industries through the application of advanced technology processes or products.

Technology Transfer. Technology transfer programs facilitate the transmission of new technologies from the laboratory to the private sector. These technologies can become the impetus for the creation of new businesses, the introduction of new product lines for established firms, or the revitalization of mature industries. Technology transfer is achieved through information exchange and active outreach programs that seek users for existing and newly developed technologies.

Research Grants. Research grants are usually made to universities based on joint proposals from the university and a private sector sponsor. Most often, these grants require a certain level of matching funds from the private sector. Grant approval usually depends on its potential for economic development and future job creation.

Incubators. Incubator facilities provide below-market rates for office and lab space for start-up companies. In addition, these facilities offer shared support for clerical, reception, and computer services. Once a company has progressed to a specified development level, it is expected to leave the incubator in order to allow the facility to accommodate new start-up companies. Incubator facilities are usually located in or near advanced technology centers and commercial research parks.

Research Parks. Research parks are planned groupings of technology companies, often near universities, that encourage university/private partnerships. They draw industry to a particular location and provide incubator facilities and services that encourage the development of new businesses. Generally, states provide initial capital with the requirement that future funds come from private sources.

Seed/Venture Capital. Seed and venture capital programs provide risk financing to early-stage companies that are unable to secure funds from traditional sources. Funding is provided to start-up companies whose projects have commercial and/or job creation potential. Seed capital is provided to companies that have yet to develop a marketable product. Venture capital financing is available to developing companies with established business plans and commercially feasible projects.

Technical Training. Realizing the significance of a skilled workforce for attracting high technology businesses, states offer various training programs. States either sponsor programs through an institute for higher learning or provide financial assistance to private companies to implement their own training programs.

Equity/Royalty Investment. States with equity or royalty investment programs provide risk capital to new start-up businesses and developing firms. Funding is generally available to companies with commercially feasible products and processes. Typically, funds are used as working capital for land and equipment purchases, organizational expenses, and research and development efforts. Equity investments provide the state with a share by ownership in the financial success of the firm. Royalty investments require a repayment to the state based either on a dollar amount per unit sold or a percentage of gross or net revenues.

Source: Minnesota Department of Trade and Economic Development. *State Technology Programs in the United States,* 1988.

"Rather than target specific industries or products, most states are targeting *processes:* technological innovation, capital formation, new business formation, the commercialization of research, and the adoption of new manufacturing technologies. They are not trying to *plan* economic activity, but to quicken the pace of innovation, to sharpen our ability to bring new ideas to market, to increase the technological sophistication with which we manufacture."

David Osborne, in
Laboratories of Democracy

State Action Agenda

"We have no way of knowing what new problems will appear tomorrow, or next year. But we can be certain that we will still need more knowledge to cope with these problems. In an uncertain world, knowledge—along with the scientists and engineers who produce it—is our most important resource. In an increasingly technological world, many more of our leaders in industry, in government, and in academia must have technical training if we are to control events."

Erich Bloch, Director
National Science Foundation

State Action Agenda

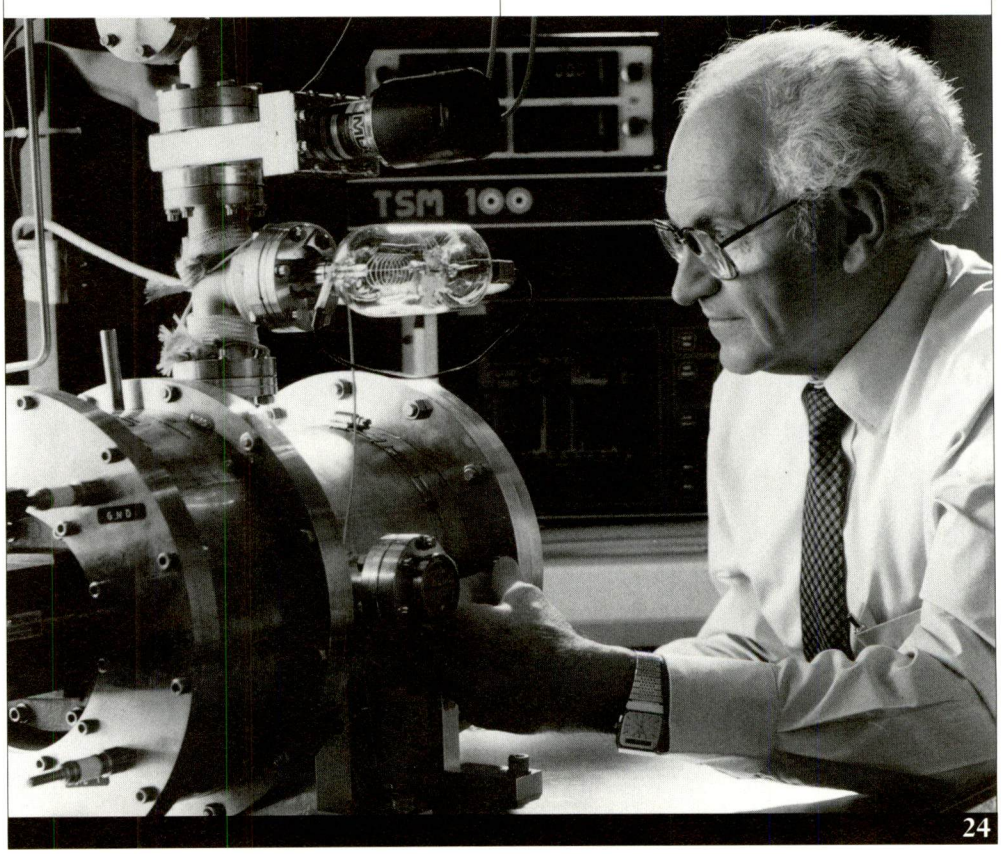
Expanding research and development efforts, converting ideas into new products, and manufacturing those products for the international marketplace are essential for success. The United States must act decisively in each of these areas to be a viable leader in the international arena. Capturing the potential of emerging technologies through commercialization will help assure continued U.S. economic strength into the next century.

Governors play a pivotal role in forging partnerships among business, academia, and government that can create strategies to reverse the decline in high technology exports. Such partnerships can define the steps needed to secure a world market share for a wide range of emerging technology applications, despite unprecedented international competition.

Emerging technologies have the potential to restructure some industries and to spawn others. Governors can help assure that governments at all levels thoroughly understand the opportunities and issues, and can take appropriate steps to remove roadblocks and provide incentives.

Expanding Research and Development

Meeting the technology needs of U.S. business begins with maintaining a strong and broad research base. Science provides the fertile ground on which commercially viable innovations grow and flourish. But preeminence in research does not automatically lead to technological and commercial success. In the increasingly competitive environment of the international economy, the United States must learn to use its research strengths to create commercial advantages. Government



and industry must focus on development, while retaining a strong foundation in basic research.

OBJECTIVE: Direct more public and private resources toward market-driven research and development.

The U.S. government provides the funding for about half of all research and development in the country, directly affecting the total U.S. effort. Because of its fundamental role, the following steps are recommended for federal action.

- **Commercial Focus.** Federal research and development spending should provide a better balance between commercially viable technology and narrowly focused classified defense research. National security is appropriately a preeminent federal concern. However, economic security is essential, too, and attention should be paid to defense research and development that has the potential for commercialization. For instance, the U.S. Department of Defense recently used research funds to support development of U.S. capacity in high-definition television and to support work by the Sematech program involving the semiconductor industry.

- **Federal Laboratories.** Technological and scientific discoveries made in federal laboratories still are not readily available to U.S. industries. The federal government should take further steps to make this research more accessible to business and to work with the states to speed the transfer of technology to commercial uses.

- **International Scientific Journals.** In addition, the federal government should step up its support for the translation of leading foreign scientific journals and other materials, especially in strategic emerging technology areas. This would increase U.S. business access to technological discoveries outside the United States.

Just as government should focus more on commercial technology research, so should industry. While the private sector is the largest contributor to U.S. applied research and development efforts, it still spends much less of its research and development budget on process innovations than do foreign corporations. Although research and development is not treated as an asset by U.S. business accounting principles, it is critical to the long-term economic future of both industry and the nation.

State governments have taken the lead in responding to America's research and development needs. Since the early 1980s, more than forty states have initiated programs to support applied research by industry and universities. States are working collectively at both the national and regional levels to address common problems and share ideas and innovative practices to encourage market-driven research.

As further steps, states should:

- Establish long-term direct support for commercially applicable research through advanced technology centers and applied research grants. More than half the states already have established competitive grant programs, such as the one operated by Virginia's Center for Innovative Technology. This program awards funds on a competitive basis to colleges and universities to fund research with commercial potential.

"If we cannot promote the growth of wider understanding of the world view of science and technology, we endanger not only our own abstract enterprises, but even the essence of democracy. For the necessities of economics will eventually enforce a social division into islands of the trained who understand enough to devise and operate an increasingly complex technology, with a sea of onlookers—bemused, indifferent, and even hostile."

Philip Morrison, Professor of Physics, Massachusetts Institute of Technology and host, PBS science series, "Ring of Truth"

"High tech is indeed the leading edge, but there cannot be an edge without a knife. There cannot be a viable high-tech sector by itself any more than there can be a healthy brain in a dead body. There must be an economy full of innovators and entrepreneurs, with entrepreneurial vision and entrepreneurial values, with access to venture capital, and filled with entrepreneurial vigor."

Peter F. Drucker,
Innovation and Entrepreneurship

Requiring matching funds from industry and including joint industry-university panels to direct projects helps ensure that the efforts are market-driven.

- Support business research consortia aimed at achieving technological advances for strategic industries. The Microelectronics Center of North Carolina brings together universities and affiliated private firms to conduct research and development in microelectronics. New Jersey and Michigan, among other states, support similar efforts in biotechnology.

- Provide incentives for collaborative industry-university research to promote closer relationships between the two and to encourage more state-of-the-art research projects for students and faculty. These projects also would direct a greater portion of university research funds into market-driven research projects. Through Colorado's Advanced Technology Institute, the state has established four Centers of Excellence, which bring together universities and private businesses to conduct research in specific technological areas. Technologies targeted for development include advanced materials, optoelectronic computing systems, artificial intelligence, and biotechnology.

OBJECTIVE: Expand international cooperation efforts.

Scientific discoveries and technological development know no national boundaries. Any nation that presumes it can stand alone in research will soon find itself trailing rather than leading. Governors should take the lead in their states to promote international cooperation and collaboration.

States can:

- Sponsor international exchange programs for scientists and engineers. North Carolina, for example, has established an exchange program in cooperation with a West German state to allow scientists and engineers from North-Rhine Westphalia to conduct collaborative research with scientists and engineers in North Carolina.

- Negotiate joint technology agreements with other countries. Maine has an agreement with the Research and Productivity Center in New Brunswick, Canada, in which Maine's small firms can purchase engineering and design services on a fee-for-service basis. Such agreements are particularly important for small firms to get access to public domain research typically found in advanced technology centers.

  In Virginia, the Governor signed a cooperative agreement with a French association of more than 7,000 small businesses to exchange technology and capital through joint ventures with Virginia businesses. The state will support the formation of strategic alliances between French and Virginia-based small and medium-sized companies. Ohio and the state of Parana in Brazil have entered into an agreement to provide for scientific and technological cooperation. Goals of the agreement include exchanging researchers, conducting joint research, and sharing information on technology transfer methods.

- Use overseas offices to keep state businesses informed of technological advances made outside the United States. As of 1988, forty-one states had established 133 foreign trade offices that can provide a direct link between industry, universities, and foreign trading partners. By strengthening linkages between technology programs and trade programs, Governors can make both programs more effective.

Converting New Ideas Into New Products

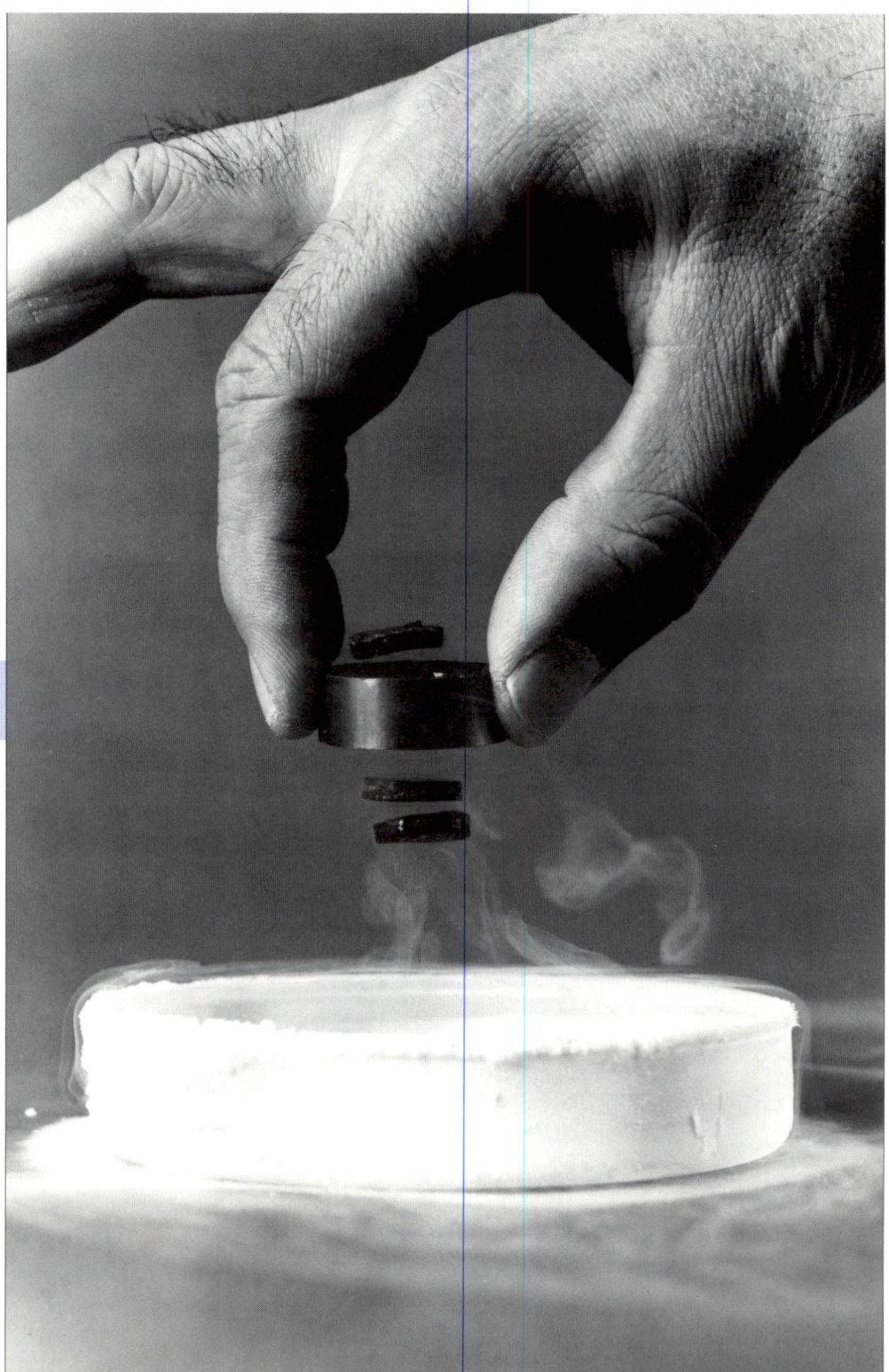
Central to success with emerging technologies is moving ideas rapidly from concept to products suitable for manufacture and sale. Only countries that commit to this expensive, long-term process will be well-positioned to capture significant world market shares of products derived from new technologies.

OBJECTIVE: Improve the climate for long-term investment and innovation.

As in research and development, the federal government bears the greatest responsibility. A number of U.S. policies do not address the realities of the new global economy by failing to recognize the market-driven model of innovation. These policies are often inconsistent and create uncertainty and economic risk in the private sector, which hinders U.S. industry from taking a longer-term view of investment in developing new products.

Because of its fundamental policy role, the federal government should address some of these risks:

- **Antitrust Policy.** Revise antitrust laws to promote rather than hinder the collaborative research and development needed for success in today's world markets.



- **Tax Policy.** Revise federal tax laws to reward corporate investment in research and development, and protect these incentives over a reasonable period of time. For example, a reliable tax credit on research and development is a strong incentive for long-term investment in development projects.

- **International Agreements.** Negotiate agreements that provide guidance for international technology exchange and access, and facilitate patent procurement and product commercialization. The recent U.S.-Japan technology agreement offers a bilateral framework for cooperation in research and technology development. Adequate enforcement of international intellectual property rights agreements also is needed to ensure that U.S. corporations secure a fair return on their product development costs. Multilateral negotiations underway to update the General Agreements on Tariffs and Trade are attempting to address this issue for the ninety-six GATT countries.

States can do their own part in encouraging innovation. States should:

- Direct Governors' technology task forces or commissions to develop a strategic investment plan for science and technology. Membership on these task forces can be drawn from education, government, and a broad cross-section of industry. Their guidance can better focus and more effectively leverage state program funds. In Vermont, the Governor created by executive order a Governor's Advisory Council on Technology. The council is developing a strategy both to help existing business adopt new technologies and to aid emerging industries that offer opportunities for the application of technology.

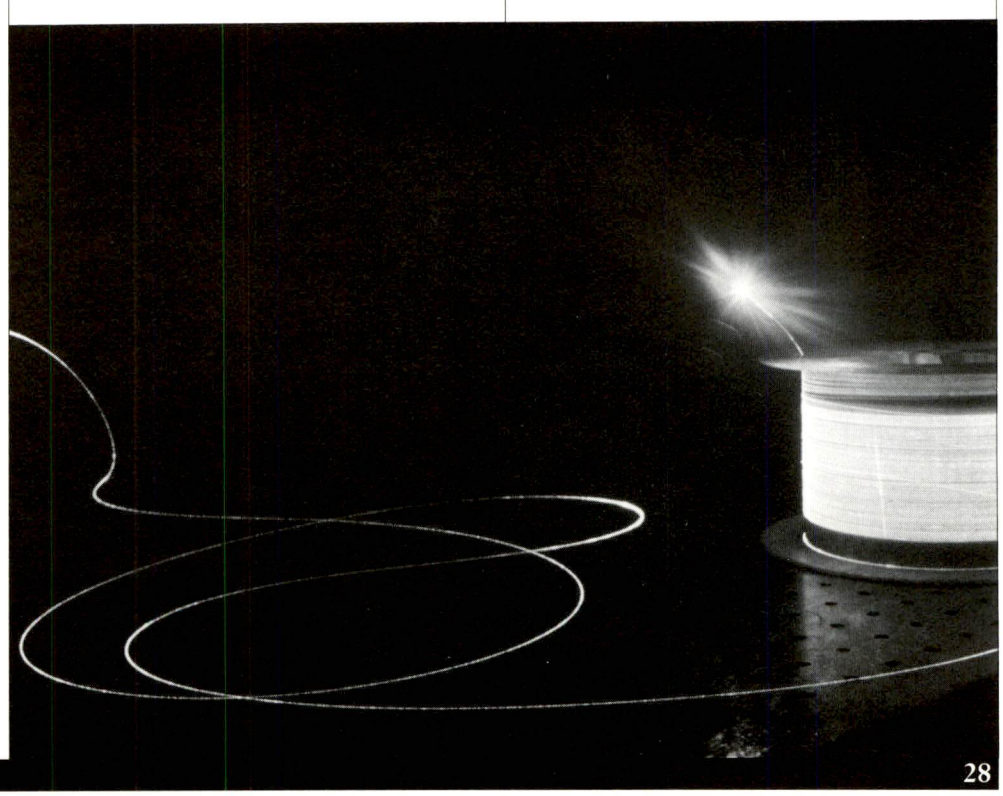
- Team up with other states to foster regional and state-to-state initiatives. States can pool their resources, for example, to promote shared use of a regional supercomputer or an interactive telecommunications network. Such collaboration can provide innovators in those states with higher quality research and development tools.

  Governors of the six New England states passed a resolution to establish a New England Technology Advisory Council that will coordinate resources to address issues of regional importance involving technological research, development and commercialization. The NGA Working Group on State Initiatives in Applied Research, made up of Governors' science and technology advisers, has met regularly to exchange information and discuss the implications of national and international developments on state programs.

- Inform students and small business leaders about the commercialization process and entrepreneurial opportunities. Courses, seminars, and conferences in the college and university system can provide a forum for discussing the link between entrepreneurship and technological innovation to stimulate interest in pursuing the development of innovative products.

OBJECTIVE: Create a world-class workforce.

Leadership in the new global economy requires that American workers be technologically literate, imaginative, and adaptable to rapid change. It also requires more scientists, engineers, mathematicians, technicians, and computer specialists in the workforce. A large contingent of highly skilled, technology-oriented workers is a critical asset in the commercialization of new technologies.



"The world is rapidly changing. To prepare our children for the future we must educate critical thinkers who can adapt to change in an increasingly competitive environment."

Governor Roy Romer
Colorado

As traditional stewards of the nation's education and training system, states must take steps to address both long-term academic needs as well as short-term requirements.

States should:

- Raise math and science skills at the K-12 level to enable students to compete with the children of our foreign trading partners. In addition, states can incorporate information about the role of technology in today's society throughout the K-12 curriculum. The pervasive influence and importance of technology can be emphasized in the teaching of almost any subject, including history, English, music, civics, and health, as well as the physical, life, and social sciences.

- Meet existing and expected demand for science and math teachers and engineers. Actions include increasing scholarships in science and engineering, providing forgivable educational loans to students who agree to become math and science teachers, and promoting an increase in the number of women and minorities who pursue science and engineering degrees.

- Establish incentives to retain highly competent faculty. For example, a state can set up endowed chairs and professorships in engineering, mathematics, and life and physical sciences.

- Design new programs emphasizing technological literacy to meet the needs of today's—and tomorrow's—workforce. Workplaces of the future will require even stronger computer and communications skills. Other areas for emphasis might include computer-aided design and manufacturing (CAD/CAM), and manufacturing technology.

  The Center for Productivity, Innovation and Technology at Chattanooga State Technical Community College is one such program. The center trains two-year degree students in state-of-the-art technologies and retains workers and consultants to industries seeking to adopt new technologies. The center houses a prototype automated factory as well as an automated CAD/CAM center. The factory includes completely automated flexible manufacturing cells, various kinds of robots, and quality control units. At six of its technical colleges, South Carolina has created centers focused on advanced machine tool technology, microelectronics, computer applications, water quality, and robotics.

- Utilize the resources of the state's colleges and universities to provide advanced technology and science courses at business sites for corporate managers, scientists, engineers, and workers.

OBJECTIVE: Strengthen the effectiveness of business in new product development.

Government policy changes can do only so much. Ultimately, business must respond to the challenges posed by international competition. Both the current growth of U.S. imports and the revolution in worldwide manufacturing demand

"In today's international economy, virtually all aspects of the commercialization process have become globalized. For U.S. companies, this means that they must become as much 'hunters and gatherers' of technology as they are generators . . ."

Council on Competitiveness,
Picking Up the Pace

an appropriate response from U.S. businesses. They must make the kinds of structural and policy changes that permit maximum flexibility and communication throughout every step of the commercialization process. But states can take steps to help businesses get started.

States should:

- Provide financing through seed capital programs that support the development of commercial ideas, feasibility testing, and prototype development. Ohio's Edison Seed Development Fund provides capital both for early-stage research and for the development of a product, process, or system for commercialization, or for a demonstration prototype. In 1983, Iowa established the Iowa Product Development Corporation. The corporation helps innovators that need risk capital to bring a new product or process to the market. In its first few years, the corporation created more than 300 new jobs by investing approximately $3 million in new ventures.

- Use advanced technology or industrial resource centers to disseminate technical assistance and information. These centers should provide services covering the entire commercialization process, from patent procurement to product design to market information. Where feasible, states can pool resources to fund these centers.

  Illinois has established sixteen technology commercialization centers throughout the state. These centers directly assist entrepreneurs in such specific areas as research, feasibility studies, prototype development, product testing, financing, production, and marketing. Pennsylvania's $30 million, three-year industrial resource center program is designed to help Pennsylvania companies identify and implement new technologies. Nine centers have been established to assist small and medium-sized manufacturers. Through the statewide Virginia Community College system, ten directors of economic and technology development help Virginia businesses apply research to new product development.

- Encourage close collaboration between university and industry for joint projects to develop new products. To promote the chances of success, business must be required to invest along with the state and must participate in managing the effort. California's recently established competitive technology program requires matching funds, includes a board of business leaders and leading scientists, and focuses on projects holding the most commercial promise.

Manufacturing Products for the International Marketplace

As a new product is being developed, attention also must be given to the process for producing it quickly and economically, without sacrificing quality. It is essential that products and processes be developed concurrently. As technological advances and consumer preferences dictate changes in product design, the accompanying manufacturing process must be able to adapt as well.

It is likely that many new innovations will rely on the capacity of the existing manufacturing base. Only by retaining expertise in manufacturing and a viable manufacturing capacity can the United States expect to successfully manage the commercialization process.

OBJECTIVE: Develop faster, more flexible manufacturing processes.

States can:

- Establish flexible manufacturing centers. These centers provide a single location for training and actual manufacturing capacity with state-of-the-art procedures. Michigan's Industrial Technology Institute offers a flexible inspection and assembly laboratory designed to assist firms in every step of product design and manufacturing.

- Foster flexible manufacturing networks. These networks are contractual arrangements among groups of companies that can respond to changing production schedules and requirements. Maine is setting up a network designed to foster collaborative production between small firms—which can result in the ability to quickly manufacture high quality finished products for international markets.

- Direct colleges and universities to review and revise business administration and engineering programs. These disciplines should include sufficient manufacturing training, with an emphasis on production management. Oregon State University and the University of Massachusetts, for example, have established graduate programs in manufacturing engineering.

- Establish Governors' award programs for excellence in manufacturing. Improved efficiency, quality control, and the development of improved processes could be rewarded, providing an incentive for excellence and focusing public and media attention on the value of quality manufacturing.

Conclusion

The race is on. The competition is tough. Opportunities abound. To excel in this contest requires leadership at home. The federal government must exert its leadership and bring together all of the players to develop a national approach to this challenge. A national commitment on the part of industry, academia, and government is central to realizing the nation's full potential in research and technology.

As chief executives, Governors can use their leadership and policymaking abilities to help the United States become more successful in developing new products and manufacturing techniques, and capturing the potential of emerging technologies. Already, Governors are taking steps to establish pioneering programs and focus national attention on the importance of research and technology to the nation's economy.

The United States must act now to build and shape the future. Making the most of its traditional strengths, America can confidently and successfully meet the economic challenges and opportunities that lie ahead.

"There is a Japanese proverb that says it is far easier to recover from military defeat than from economic conquest. Japan's experience in recent years is certainly an example of the first part of the proverb. We must make a national commitment to ensure our economic competitiveness in world markets or we may suffer an economic conquest from which we may never recover."

Governor John R. McKernan Jr.
Maine

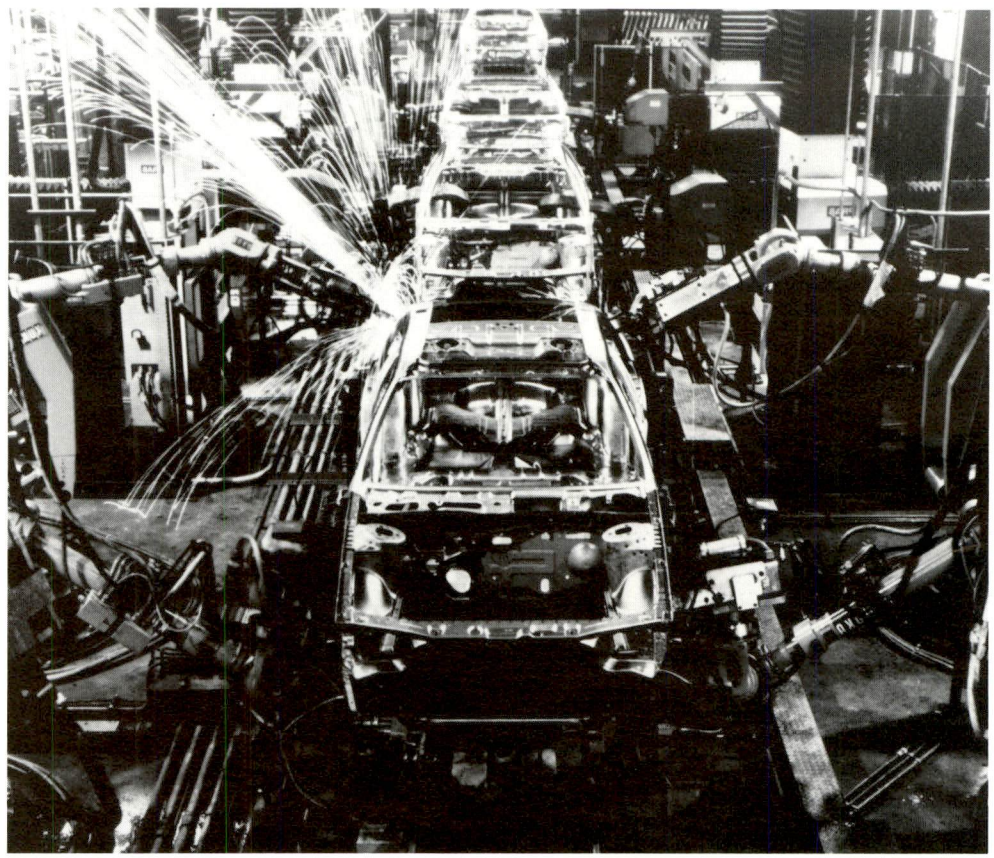


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Photo Captions

Cover. The Space Shuttle Orbiter Columbia lifting off from Kennedy Space Center on June 27, 1982.

Page 9. A research engineer checks the alignment of laser beams used to measure air velocity inside a combustion chamber.

Page 10. Artist's concept of the baseline configuration of Space Station Freedom manned base. Freedom is an international space complex comprised of the permanently manned orbiting base and unmanned scientific platforms to be placed into orbit in the mid 1990s.

Page 13. Weighing less than 20-millionths of an ounce, the bar code glued to this worker bee lets researchers automatically monitor the bee's passage through the hive entrance as it goes for nectar and pollen. Scientists hope the system will, among other things, help determine how resistant bees are to pesticides.

Page 24. New Engineering Research Center. Jacques Pankove, a program manager for Colorado's Optoelectronic Computing Systems Center, was the first to demonstrate high-luminescence efficiency in gallium arsenide. He also discovered and explained radiative tunneling in semiconductors.

Page 27. Superconductivity, the ability of certain materials to conduct electricity without loss at low temperatures, is demonstrated by the so-called Meissner effect. When the superconductor is chilled to the temperature of liquid nitrogen (about minus 300 degrees Fahrenheit), it repels a magnetic field (the magnet is the object being held) and the superconductor will remain suspended or levitated.

Page 28. Hair-thin strands of ultrapure glass today carry voice, data, and video signals in the form of digital laser impulses that traverse continents and oceans. In systems now being installed, a pair of these fibers is capable of transmitting nearly 50,000 simultaneous phone calls.

Page 31. Engineer working at Interact 3000 series work station with computer-aided design.

Page 32. A modern automotive assembly line.

AMERICA IN TRANSITION

The International Frontier

Report of the Task Force on Foreign Markets

NATIONAL
GOVERNORS'
ASSOCIATION

Hall of the States in Washington, D.C. The association serves as a vehicle for sharing knowledge of innovative program among the states and provides technical assistance and consultant services to Governors on a wide range of management and policy issues. The Center for Policy Research serves the Governors by undertaking demonstration projects and providing anticipatory research on important policy issues.

AMERICA IN TRANSITION

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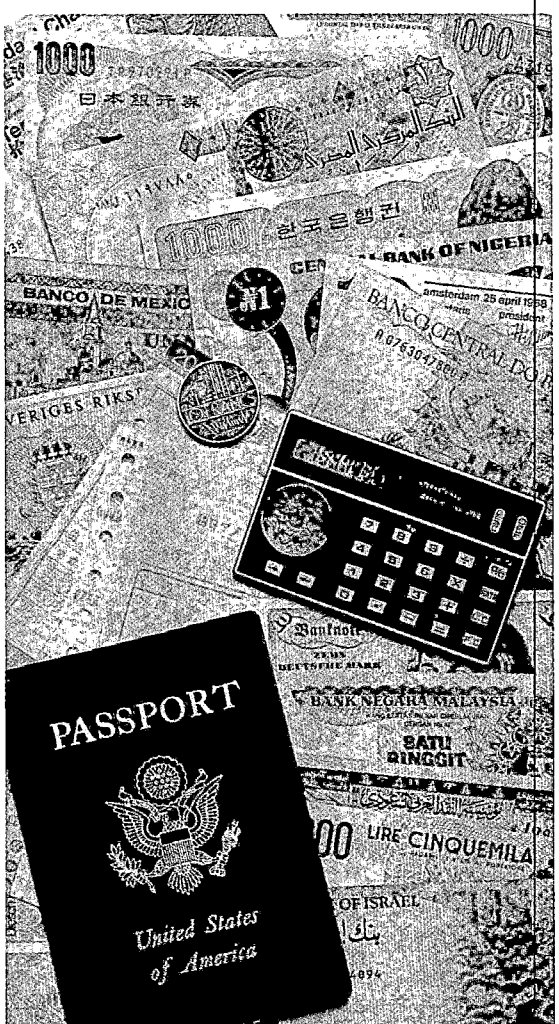

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Chairman's Overview
Foreword

"The emerging markets throughout the world present new challenges for businesses, for governments, and for state trade activities. These markets also present opportunities beyond our borders for trade that will bring new prosperity and economic vitality to our states."

Governor Gerald L. Baliles
Virginia

Chairman's Overview

The world is growing smaller. Fiber optic networks span the continents, linking remote corners of the globe. Billions of dollars move in seconds from Milan to Tokyo to New York. Goods move across continents in a single day. An individual product may contain parts manufactured in five different countries and be assembled in a sixth. New markets and opportunities emerge almost overnight. In this competitive and rapidly changing environment, success belongs to those who can anticipate, adapt, and respond quickly.

The international frontier is no longer the future—a new age has arrived. The evidence abounds. A common market in Western Europe will be finalized in 1992. The United States and Canada are on a ten-year path toward free trade. World output is shifting dramatically to Japan and the Pacific Rim. And, in an attempt to encourage trade and foreign investment, the People's Republic of China and the Soviet Union are experimenting with capitalism. By the beginning of the 21st century, the economic terrain will be one of large trading blocs, instead of individual countries, trying to maximize their growth through trade.

As the global marketplace has emerged, the United States' role as an economic decisionmaker has changed. During the 1960s, when the U.S. economy was partially insulated from global influence, it was possible to influence the economy by then-traditional fiscal and monetary policies. With the development of the Eurodollar market, foreign ownership of a large portion of the federal debt, and huge increases in foreign trade, the economic sovereignty once enjoyed by the United States has been reduced.

Twenty years ago, states were bystanders as international events changed the economic landscape. That, too, has changed. Our boundaries are no longer the borders of our states, but every corner of the globe. As Governors, we are challenged to confront this new reality.

State government is well-positioned to meet the challenges of the next century. But we must begin preparing for this transition. Our agenda includes a six-point offensive. Specifically, we must:

- Discover new and emerging markets abroad for American products, to become again the Yankee traders we once were.
- Bring an international perspective to our daily living—to understand foreign nations and the people beyond our borders . . . to learn the international language of business.
- Expand our research, and use our technology, to create both new products and new processes to maintain America's competitive position.
- Capitalize on the natural advantages of American manufacturers and regain competitiveness in our domestic markets.
- Improve our highways, airports, airways, and ports so we can move our people across town and our products around the globe.
- Invest in the health, education, and training of our children so they can live healthier and more productive lives.

This year, I have created six NGA task forces to examine these issues that together form the foundation for the nation's

future: foreign markets, international education, research and technology, domestic markets, transportation infrastructure, and children.

This is the third of the six reports. It explores a subject crucial to our successful participation in the new world economy—penetrating foreign markets.

Today, the facts of life for every American Governor are that nations are interdependent; change is constant; and the states are vulnerable to economic events that once were very remote.

The era of sheltered industries and self-sufficient national economies has ended. American firms and workers in all the states are exposed to competition as never before. This new global economy respects no national boundaries. Since the 1950s the U.S. percentage of world exports has dropped by nearly one-third. Trade deficits have been tenacious. Competition is fierce.

We cannot afford to be constrained by distance, culture, or language. To meet this competition we must develop a new way of thinking about our economic potential.

We can do something about this competition.

We can cultivate an export culture. We can develop programs that identify markets.

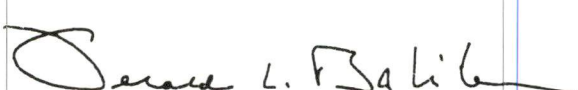
We can encourage producers and suppliers to look for customers anywhere they can find them—even when the customer lives on the other side of the world.

The emerging markets throughout the world present new challenges for businesses, for governments, and for state trade activities. These markets also present opportunities beyond our borders for trade that will bring new prosperity and economic vitality to our states.

Commerce and the development of nations go hand in hand. From the emergence of the great Mediterranean trading centers to the discovery of an all-water route to India to the first transoceanic flights, great nations have developed as their international trade has developed.

In the months ahead, the nation's Governors will continue their work, releasing recommendations on topics ranging from how to finance our aging infrastructure to how to develop new technologies. Governors may not agree on every recommendation made in the reports, but we have reached some clear conclusions.

Together, these reports should serve as a guide, outlining the steps Governors and their states can take to lead the nation into the 21st century. . . a road map for an America in Transition.



Gerald L. Baliles
Governor of Virginia
Chairman, National Governors' Association

"The future will require state leadership to shape and coordinate an effective trade promotion strategy that responds to the diversity in the world marketplace. Only then can we successfully confront the challenges and seize the opportunities that lie beyond our borders."

Governor Ray Mabus
Mississippi

Foreword

The post World War II era has ended. Our challenge is to take advantage of the opportunities this presents.

After World War II this country produced while the rest of the world reconstructed and purchased. It was a period of fantastic growth. American businesses grew along with the largest consumer market in the world—our own. They invested in research and development, designed new products for emerging markets, and produced goods at less cost than most foreign firms. They sold products in a world market free from meaningful competition.

Looking back on that age, David Halberstam comments: "We were rich in a world that was poor. We mistook an historical accident and believed it was a permanent condition. . . . The playing field is for the first time even. It took thirty to forty years after World War II for other nations to catch up with us. No longer," Mr. Halberstam concludes, "do we automatically set the pace."

In the aftermath of war, America sought an economically renewed Europe and Japan—strong, productive democracies. But our success in this endeavor exposed American firms and workers to foreign competition both at home and in overseas markets.

Our competition comes from all types of economic systems—from the export-driven economies of the newly industrialized countries to the nonmarket economies of the socialist countries, to the free market economies of the industrialized world.

In the past two decades, international trade has increased dramatically, but not always in America's favor. In 1968, U.S. exports to the rest of the world totaled $34.7 billion. In 1988, exports totaled $322.2 billion. And yet, even at these levels, American exports have failed to keep pace with foreign imports. Trade deficits have ballooned to unprecedented levels. Foreign investment earnings now rival and, some economists assert, will soon surpass American investment earnings overseas.

It is time to get back into the race. We must succeed in overseas markets as well as foreign nations have prospered in ours. It is time to face up to the complexities of international trade and see that for every challenge a commensurate opportunity exists.

If we are to make a commitment to international trade—finding new markets, developing new products—our strategy must be both realistic and innovative. We must start with a clear assessment of where we are:

- **The American position has changed.** The United States is now a leading world trader, not *the* leading world trader.
- **Economic sovereignty has eroded.** Our economy, like the rest of the world, now responds rapidly to changes in the economies of other nations. Joint decisionmaking on economic and monetary policies is becoming a reality.
- **Trading blocs are on the horizon.** The trend toward trading blocs, including Europe 1992 and the U.S.-Canada Free Trade Agreement, may be a harbinger of new bilateral and plurilateral trading partnerships around the world.

- **World output is shifting.** It is shifting toward the Pacific Rim countries. Meanwhile, huge international debt has stymied countries in other parts of the world that seemed on the verge of accelerated growth.

- **The rules of the game are changing.** The eighth round of negotiations to update the General Agreement on Tariffs and Trade is now underway. It will address agriculture, services, non-tariff barriers, intellectual property rights, and investment—all of which are critical in today's international marketplace.

- **The rate of technological change is accelerating.** The pace has quickened. It is now possible to interact in the world marketplace as quickly and easily as in our own.

It is true that the federal government sets the rules of trade. We are provided a framework through GATT, trade legislation, and various bilateral and multilateral agreements. But in the end, our success depends upon decisions made by thousands of individual corporations and business people. And state governments are in a position to help.

But state governments, like businesses, cannot hope to position themselves in the international marketplace without a well-conceived and aggressive trade plan. A state plan must begin with a rigorous assessment of current trade efforts and state trade barriers. The state plan also should address ways to achieve the following goals.

- **Elevate trade to a top priority within the state** by raising public awareness of the connections between international markets and the state's economy, appointing a cabinet-level trade official to direct and coordinate the state plan, improving international education, and recognizing successful export efforts.

- **Boost export activity within the state** by providing information and brokering services for financing, market opportunities, and technology; establishing mentoring programs; and getting new and existing exporters to promote services, undertake joint ventures, package complementary products and services, and develop new products.

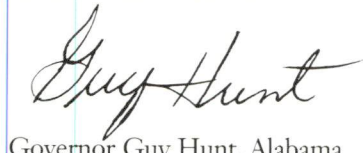
- **Develop new markets and relationships beyond our borders** by pooling resources with other states, monitoring opportunities in the European Community and other changes in the international trading system, strengthening cultural exchange, hosting international business representatives, building a network of international alumni of the state's colleges and universities, tracking business opportunities linked to foreign aid, and stimulating foreign demand for American products.

While extraordinary growth and innovation have characterized state international programs in the last two decades, the future demands more.

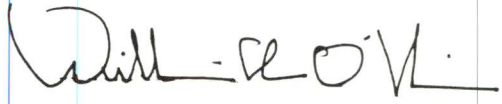
The future will require state leadership to shape and coordinate an effective trade promotion strategy that responds to the diversity in the world marketplace. Only then can we successfully confront the challenges and seize the opportunities that lie beyond our borders.

Governor Ray Mabus, Mississippi
Chairman, NGA Task Force on Foreign Markets

Members of the Task Force

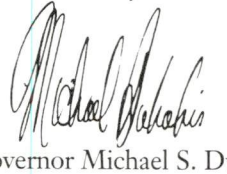


Governor Guy Hunt, Alabama

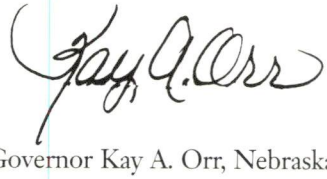


Governor William A. O'Neill, Connecticut

Governor Terry E. Branstad, Iowa



Governor Michael S. Dukakis, Massachusetts



Governor Kay A. Orr, Nebraska

Governor Booth Gardner, Washington

The Challenge

"Turning problems into opportunities is an American tradition. The challenges presented by today's international market should be approached no differently. Through the solutions we find, our economy should grow and become stronger."

Governor Booth Gardner
Washington

The Challenge

The world has changed and so has America's position in it. The United States cannot afford to stand still, because standing still means losing ground. We must act now to respond to—and take advantage of—the dynamic world economy.

This is a new challenge for the United States. But Americans have always had the determination and ingenuity to confront new frontiers. Such strengths helped make the nation the leading world economy, a position held unchallenged for four decades.

From the end of World War II through the early 1970s, the U.S. position dominated international trade negotiations and drove global market conditions. There was no U.S. export strategy; none was needed. "Competitiveness" was not an issue. America's preeminent position in the world was taken for granted.

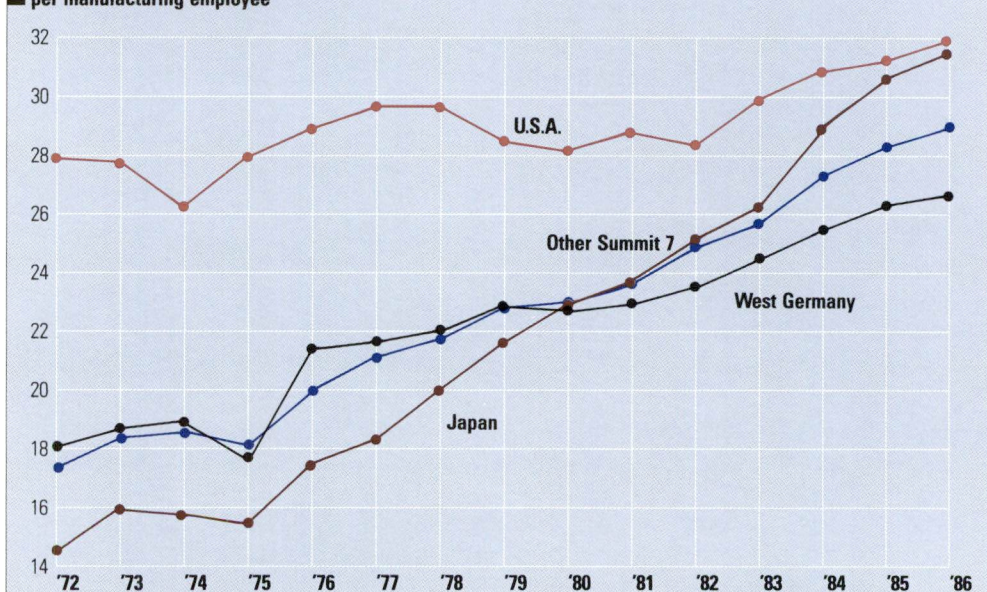
Essentially, this country produced while the rest of the world reconstructed and purchased. It was a period of fantastic growth. American businesses grew along with the largest consumer market in the world—their own.

U.S. firms invested in research and development, designed new products for emerging markets, and produced goods at less cost than most foreign firms. They competed fiercely with each other, but gave little thought to the possibility of foreign competition. Content with their domestic customers, most did not consider foreign markets at all. Even today, most U.S. companies do not venture beyond our borders. In this regard, not much has changed.

What has changed is that consumers worldwide can choose from an array of products and services in an increasingly integrated marketplace. American preem-

Figure 1 **Trends in Absolute Growth, 1972-1986**

Values in thousands of dollars per manufacturing employee



Source: Council on Competitiveness, "Competitiveness Index," June 1988.

Note: Other Summit 7 include Canada, France, Italy, and the United Kingdom.

inence is challenged by a growing number of competitors from around the globe.

The competition comes from all types of economic systems—from the export-driven economies of the newly industrialized countries and the developing nations. It comes from the nonmarket economies of the socialist countries and from the free market economies of the industrialized world. The majority of world commerce is conducted by countries with principles and practices much different from our own.

Virtually no sector is exempt. From wheat to computers, from automobiles to banking services, the United States faces major challenges.

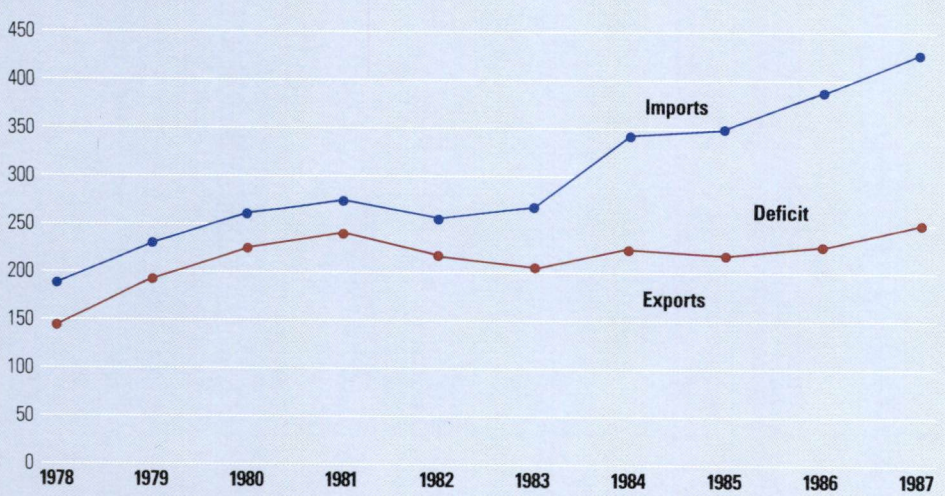
The U.S. trade balance has swung dramatically from a small surplus in 1981 to a $118 billion deficit in 1988. The U.S. share of the international export market has dropped 30 percent since the 1950s. American basic industry has lost nearly half of the global market share it commanded twenty years ago.

The effects of these developments at home are evident. Real economic growth dropped from nearly 4 percent in the 1960s to 2.6 percent in the 1980s. Real hourly wages peaked in 1973 and have declined by 10 percent during the last fifteen years.

The world market in which the United States must compete is now increasingly complicated, unpredictable, interdependent, and extremely competitive. But the dramatic growth in the number of competitors also means a corresponding increase in potential foreign markets. These markets present opportunities to export U.S. goods and services.

Figure 2 **U.S. Merchandise Exports, Imports, and Deficit, 1978-1987**

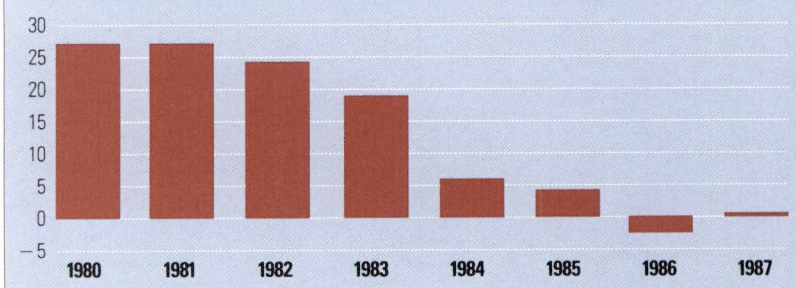
Values in billions of dollars



Source: U.S. Department of Commerce, *United States Trade: Performance in 1987,* June 1988, p. 13.

Figure 3 **U.S. Trade Position in High Technology, 1980-1987**

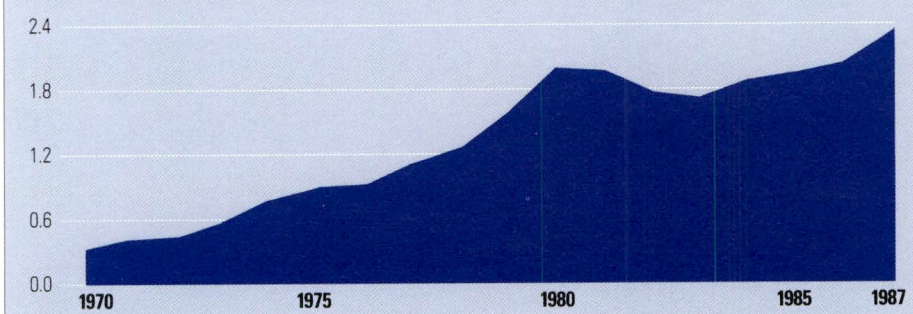
Values in billions of dollars



Source: The National Science Foundation, 1988.

Figure 4 **Total World Trade: Exports**

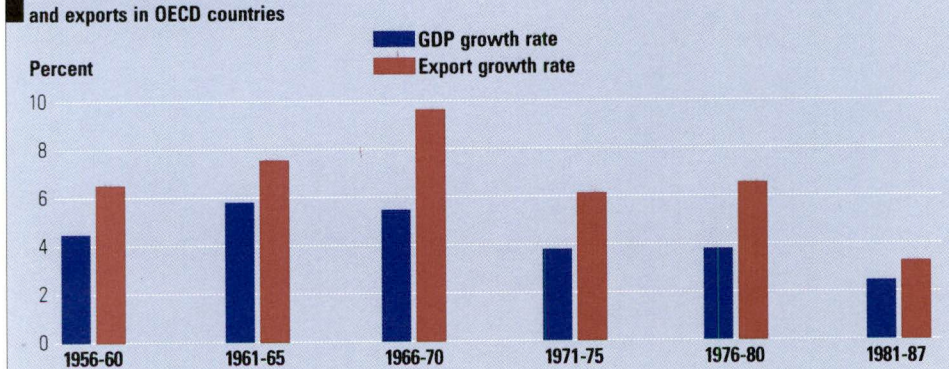
Values in trillions of dollars



Source: Coopers & Lybrand, *1989 Economic Report—Worldwide*, p. 11.

Figure 5 **Exports Lead Growth, 1955-1987**

Annual rate increase in real GDP and exports in OECD countries



Source: U.S. Agency for International Development, *Development and the National Interest*, 1989, p. 49.

What those opportunities call for, however, is a new way of thinking. It is not enough, as it once was, to have an efficient production process and a marketing plan.

American business people must develop a keen understanding of the trade rules, languages, politics, and economic systems of foreign countries. They must be prepared to respond to differing consumer tastes and cultural demands. They must place a premium on the ability to anticipate and adapt quickly to both market and technological changes.

Competing successfully in the international marketplace requires that a national export strategy be devised. It is not enough to rely on traditional markets and products. New markets for existing products must be developed, and new products and services for existing markets must be created.

It is not enough to prod new exporters into action. Existing exporters must be pushed to do more—both to expand their trade volume and to diversify their trade relationships.

The clear imperative for the United States is to increase exports to foreign markets. America has the resources, technology, and labor force to compete. But it requires a national commitment to succeed and an effective strategy to reach beyond our borders. The time to act is now.

The Context

"The future well-being of Nebraskan farmers, bankers, and business people depends on how well we adjust to the changing nature of America's position in the world marketplace. Adjusting means making a greater effort to forge new trade initiatives and devise bold approaches. We not only must work harder, we must work smarter to develop new and expanded markets in this fiercely competitive environment."

Governor Kay A. Orr
Nebraska

"The health and vitality of an open international trading order will be importantly dependent over time upon the willingness of governments of large trading countries to reach some realistic collective judgments about the broadly appropriate level of exchange rates. Those judgments will, in turn, need to influence the design and implementation of domestic policies if they are to be meaningful and durable."

Paul Volcker, former Federal Reserve Board chairman, on the occasion of the 40th anniversary of the General Agreement on Tariffs and Trade, reported in *The Wall Street Journal*, November 28, 1988

The Context

Making a commitment to international trade—finding new markets, developing new products—must begin with a realistic vision of the world marketplace.

The vision must recognize and build upon the trends that define the international frontier.

The American Position Has Changed

No longer does the United States hold unchallenged leadership in technology, manufacturing, finance, and transportation. The United States used its post-war productive capacity to rebuild the western European and Japanese economies and to support economic development of many Third World and Pacific Rim countries. This contributed to an unprecedented expansion in world output and rise in the world standard of living. It is only natural for U.S. leadership to be challenged.

America is now a leading world trader, not *the* leading world trader. While the United States still leads the world in scientific and technological advances, other areas are contested by Europe, Japan, and other countries. There are still plenty of opportunities. The difference is that the United States must now look and compete for them.

Economic Sovereignty Has Eroded

The United States no longer enjoys the economic sovereignty it once maintained. Its economy, like the rest of the world, is now inextricably intertwined with others in the global marketplace. The value of the U.S. dollar relative to most other currencies is determined in conjunction with six other major industrialized countries. These major economic powers are moving toward joint decisions on U.S. and world interest rates.

America has a stake in the economic health of its major trading partners and can benefit from the larger markets that result from healthy economies. Thus, the erosion of U.S. economic sovereignty comes with opportunities as well as problems.

Trading Blocs Are on the Horizon

Trading blocs, comprising several countries with consistent trade policies, have begun to emerge. International attention has focused on EC 1992, the plan for the twelve countries in the European Community to fully integrate their economic markets by 1992.

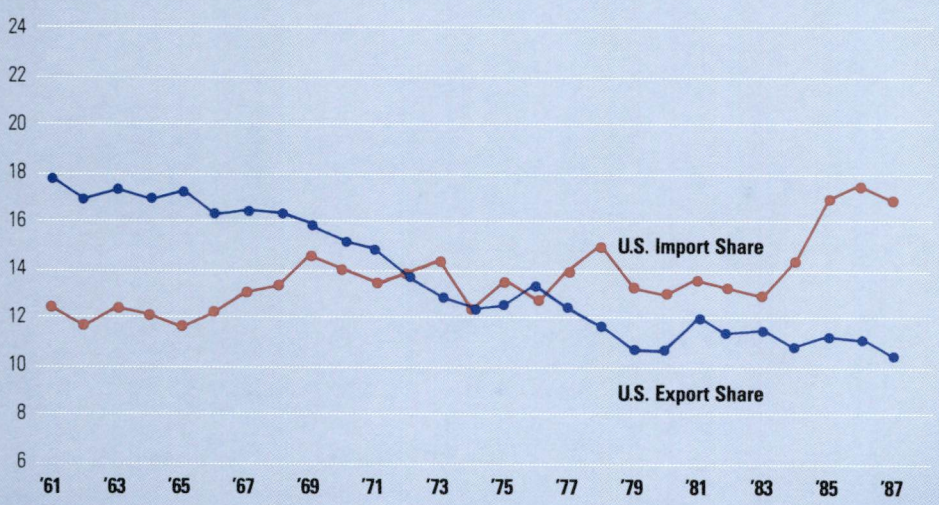
The EC 1992 program will affect world trade, but precisely how is subject to much speculation. Will it result in a "fortress Europe," with a perimeter of protectionism to keep overseas competition at bay?

Or will it invigorate the European economy and lead to additional trade and investment opportunities?

The U.S.-Canada Free Trade Agreement could move both nations toward a more integrated market over the next ten years. Under the agreement, all tariffs and quotas will be eliminated between the United States and Canada, its largest trading partner, by 1999.

The Soviet bloc countries are now making plans to more fully enter the world market as an extension of "perestroika." The addition of these nonmarket economies as full partners in the international marketplace will take time and pose many political and economic challenges. But the size of this market and the breadth of its needs make this development impossible to ignore.

Figure 6 **U.S. Share of World Exports and Imports, 1961-1987**



Source: U.S. Department of Commerce, *United States Trade: Performance in 1987*, June 1988, p. 3.

These trends may be harbingers of new trading relationships around the world. Already the United States is exploring the feasibility of bilateral free trade agreements with Mexico, Japan, Korea, Taiwan, and the Association of Southeast Asian Nations. Geography, culture, and economic necessity may lead other nations down the same path.

World Output Is Shifting

The shift of world output toward the Pacific Rim started with Japan, whose economy has grown an average of about 4.5 percent annually for the past five years. Next came the "Four Tigers of East Asia"—Hong Kong, Singapore, South Korea, and Taiwan. In 1987, their economies grew between 8 percent and 14 percent in real terms. Malaysia and Thailand are now poised for economic expansion and the next tier of Pacific Rim countries is on the rise. In comparison, the economies of Western Europe and North America grew at an annual rate of less than 4 percent over the past five years.

Countries in other parts of the world that seemed on the verge of strong economic growth have been stymied by debt. Brazil owes interest on $124 billion in outstanding debt, while Nigeria faces a $29 billion debt. Most Latin American and African countries continue to face these and other obstacles to growth. The world financial community is working to solve the debt question. One thing is clear: until this problem is resolved, these nations cannot make necessary investments and fulfill their potential as producers and consumers. Over the long run, these countries could represent significant markets for U.S. products and services.

The Rules of the Game Are Changing

The General Agreement on Tariffs and Trade (GATT) is forty-one years old. Intended to cover tariffs and quotas on manufactured goods, GATT did not address the proliferation of non-tariff measures restricting trade in products and services or the complexity of trade patterns or relationships that have emerged. GATT was devised to govern a world trading system that no longer exists; today less than 7 percent of global economic activity is covered by GATT rules.

The eighth round of GATT negotiations was still ongoing in April 1989 and proposals were being discussed to include key areas such as agriculture, services, and intellectual property rights. If GATT cannot be updated, countries are certain to accelerate the movement toward bilateral and plurilateral agreements. The consequences for free trade and world economic growth are uncertain.

The Rate of Technological Change Is Accelerating

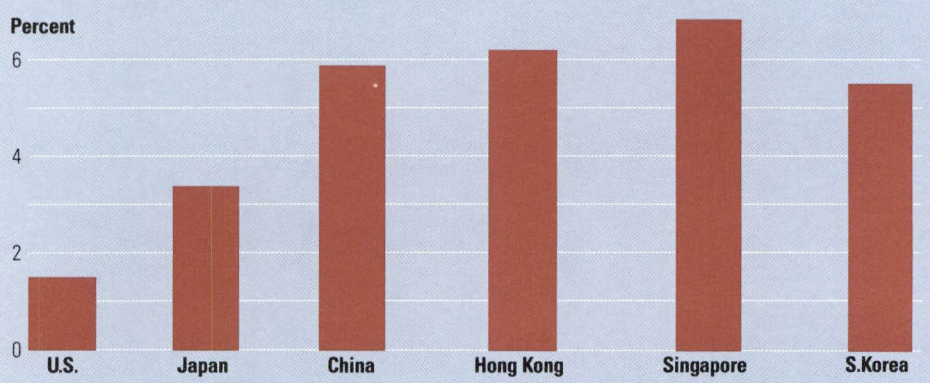
Billions of dollars can now be debited and credited across continents within seconds. Stocks can be traded at any time day or night in London, Paris, New York, or Tokyo. Some high-valued specialty products can be ordered and delivered across continents in twenty-four hours.

The time from design to final product has been shortened as firms accelerate schedules to meet emerging demands. Computer-aided manufacturing permits assembly lines to be adapted rapidly to create new products.

The pace of technological change has quickened. Technological advances have generated new information, additional products, and quicker response times. They have reduced decision times and increased flexibility. Success belongs to those with the agility to anticipate and adapt quickly to both technological and market changes.

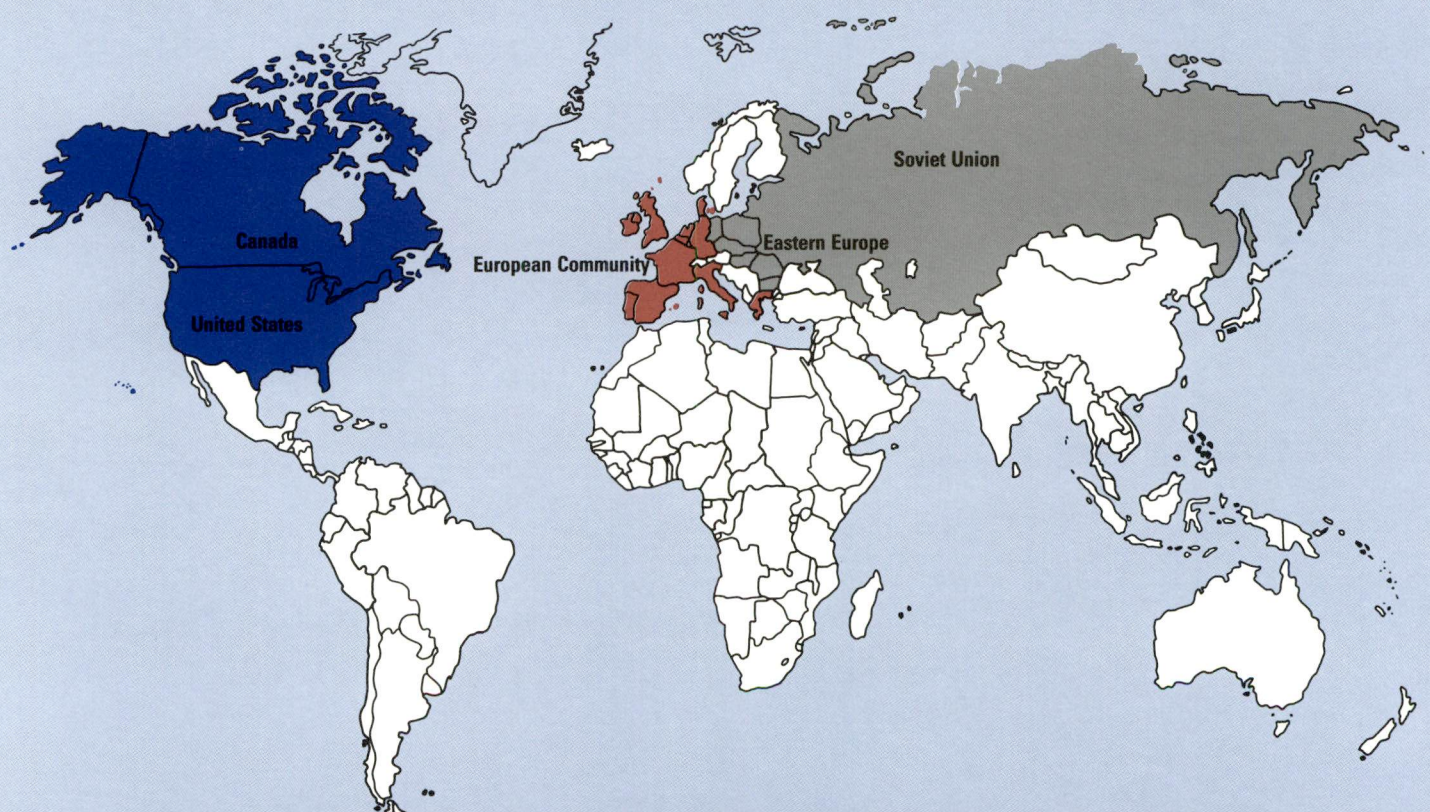
Figure 8 **Growth Rates in the Pacific Rim**

Average annual percent change, 1973-1986
Increase in per capita GNP



Source: *Newsweek,* February 22, 1988, p. 44.

Figure 7 **World Trading Blocs**



Critical Issues:
Review of World Trade

"An additional 440,000 jobs were created by the 1986-1987 growth in U.S. exports. Additional sharp export growth in 1988 created a similarly large number of new U.S. jobs. While some of the new jobs are in agriculture, most of the increased employment is in manufacturing and service industries."

U.S. Department of Commerce, *1989 Industrial Outlook*

Critical Issues: Review of World Trade

The United States' trading relationships span the four corners of the world. Nearly 200 countries traded with the United States in 1988 and U.S. exports grew more rapidly in 1988 than in any year since 1979. Exports totaled $322 billion in 1988, 27 percent above the 1987 level. The export expansion was broadly based, with exports to all major world areas increasing: to Europe by 26 percent, to Japan by 34 percent, to Canada by 16 percent, to developing countries by 31 percent, and to the newly industrialized economies of East Asia—Hong Kong, Singapore, South Korea, and Taiwan—by 48 percent. Despite the large number of countries with which the United States does business, ten countries accounted for two-thirds of total U.S. merchandise trade (see Table 1).

The growth of world merchandise trade continued its five-year rise in 1987, reaching $2.5 trillion—in volume terms, a nearly 4 percent increase over 1986 levels (see Figures 9, 10).

World business services trade also continued its growth in 1987. About one-fifth as large as world merchandise trade, the level reached $516 billion in 1987.

Manufactures exports accounted for almost 80 percent of total U.S. exports in 1988, or $255 billion. In 1987 business services exports reached $59.4 billion, a 14.8 percent increase over 1986, but the U.S. surplus in services trade has declined since 1981.

Increasingly, nearly all business is conducted on a global basis. In the future, successful companies will need to understand their industry internationally and implement strategic plans to establish and maintain a world market position. The firms that succeed will be those that recognize the strategic importance of key world market areas and the global nature of markets and production.

Table 1

Ten Top U.S. Trading Partners in 1988

Domestic & Foreign Exports, f.a.s.; General Imports, c.i.f.

Values in billions of dollars

Exports

Country	1987	1988	Percent of 1988 Exports
Canada	$59,814	$69,233	21.6
Japan	28,249	37,732	11.8
Mexico	14,582	20,643	6.4
United Kingdom	14,114	18,404	5.7
West Germany	11,748	14,331	4.5
Taiwan	7,413	12,131	3.8
South Korea	8,099	11,290	3.5
Netherlands	8,217	10,095	3.2
France	7,943	10,086	3.1
Belgium/ Luxembourg	6,189	7,405	2.3
			65.9

Imports

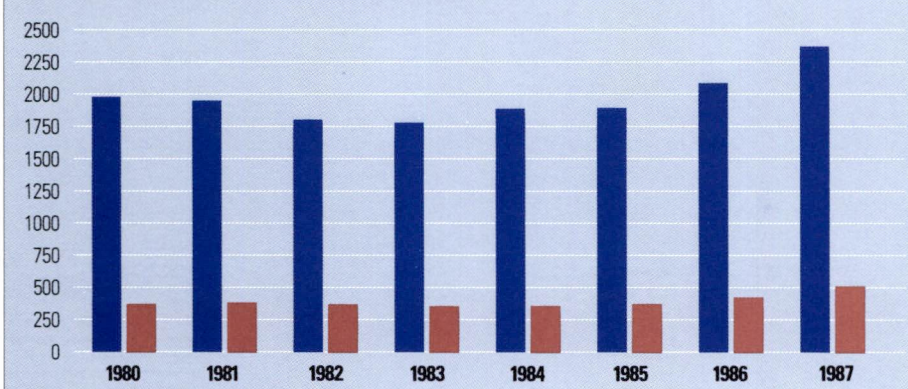
Country	1987	1988	Percent of 1988 Imports
Japan	$88,074	93,168	20.3
Canada	71,510	81,434	17.7
West Germany	28,028	27,421	6.0
Taiwan	26,406	26,256	5.7
Mexico	20,520	23,545	5.1
South Korea	17,991	21,209	4.6
United Kingdom	17,998	18,740	4.1
France	11,177	12,689	2.8
Italy	11,698	12,277	2.7
Hong Kong	10,490	10,810	2.4
			71.4

Source: U.S. Department of Commerce, *United States Trade: Performance in 1987*, June 1988, p. 35. Updated March 1989.

Figure 9

World Merchandise and Business Service Exports, 1980-1987

Values in billions of dollars

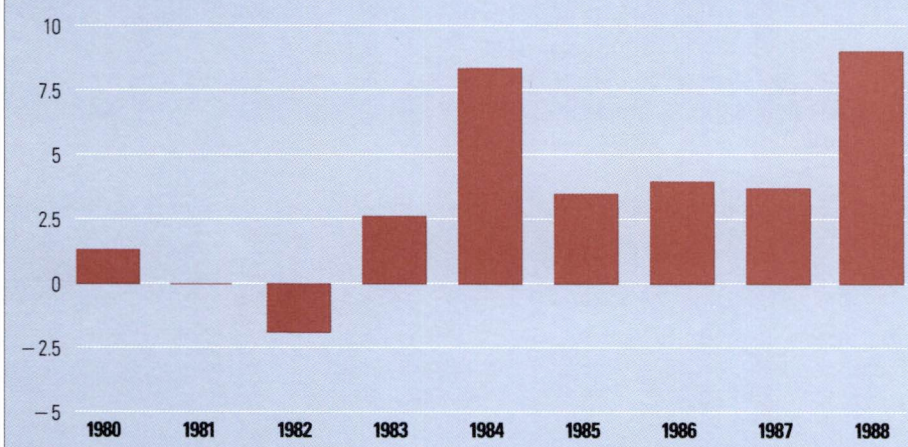


Source: U.S. Department of Commerce, *United States Trade: Performance in 1987,* June 1988, p. 2.

Figure 10

Change in World Merchandise Trade Volume, 1980-1988

Percent



Source: U.S. Department of Commerce, *United States Trade: Performance in 1987,* June 1988, p. 2. Updated March 1989.

Four types of world economies or markets effectively illustrate the diverse markets that U.S. exporters face: traditional markets, newly industrialized economies, developing economies, and nonmarket economies. These broad categories only roughly correspond to geographic regions. Rather, they represent groups of diverse countries that may have similar economic and political structures or are at similar stages of development. These examples, although not comprehensive, demonstrate a range of challenges and opportunities confronting U.S. exporters.

- **Traditional Markets/Developed Economies.** Changing market conditions will challenge relationships the United States has with well-established trading partners—Canada, Europe, and Japan. The European Community (EC), whose members are among the United States' oldest and most established trading partners, will serve as an example of a traditional market for U.S. products. The integration of the European Community's internal market will require America to look at old friends in new ways.

- **Newly Industrializing Economies.** Several countries are becoming major new trading partners. The fast-growing, newly industrialized East Asian economies of Hong Kong, Singapore, South Korea, and Taiwan will offer new trade opportunities and require new market approaches.

- **Developing Economies.** Newly emerging markets in Latin America, Africa, and Southeast Asia represent the commercial frontiers of the international economy. Trading with the diverse nations of India, Indonesia, and Thailand presents some common problems, but these countries nevertheless represent significant market opportunities for U.S. firms.

- **Nonmarket Economies.** In centrally planned economies, market forces are not significant because the national government controls virtually all means of production and distribution and is responsible for all trade relations. Recent trends in the Soviet Union, Eastern Europe, and China bode well for increased trade, but these countries pose special challenges for the American exporter.

Developed Economies: The European Community

Despite the increasing level of trade with a broader array of countries, the United States' biggest trading partners are among its oldest: Canada, Japan, and the European Community.

Well-established trading relationships complement other political, institutional, and socioeconomic ties that bind the United States to other developed nations. These relationships are being challenged by the growing complexity and changing nature of the world economy—and by internal changes within the countries themselves.

The United States is embarking on a major new relationship with its closest neighbor and largest single trading partner. The U.S.-Canada Free Trade Agreement, which phases out tariffs and many other trade barriers over the next ten years, serves as a model for future bilateral and multilateral negotiations. As implementation begins, American companies are gearing up to take full advantage of the trade opportunities inherent in this new trade relationship with an old partner.

Japan is the largest single supplier to the U.S. market. In the last twenty years, Japan has become the second largest economy in the noncommunist world. The combined GNP of the United States and Japan totals about 35 percent of world output; U.S.-Japanese trade grew to $131 billion in 1988. As Japan adjusts to its position as a world leader, substantial progress has been made by the United States to improve access to its markets. But Japan remains a special challenge for U.S. exporters.

While European nations are a traditional destination for U.S. exports, changes underway in the European Community could represent significant new trade opportunities for U.S. businesses. In 1985, the Commission of the European Communities outlined a plan to integrate the economies of the twelve member countries by 1992. The plan consists of almost 300 recommended directives that, if adopted, would reduce or eliminate many barriers to trade within the European Community.

Challenges

Transition to Unified Internal Market. Although 1992 is the target date for completion of the internal market, some directives are already in place. The remaining regulations will be implemented and phased in over the next three years. The challenge for U.S. businesses will be to keep abreast of changes and to interpret policy directives on standards, requirements, and trade prospects. The reduction of overlapping or conflicting regulations and procedures will present important commercial opportunities for U.S. businesses. However, it will also mean that their European counterparts will be more competitive both in Europe and around the world.

Aggressive Competition in an Established Market. Because of fierce competition in the European market, there are high standards for quality of products and services. Aggressive selling techniques are required, with emphasis on quality, service, and price. American businesses must be persistent, consistent, responsive, and reliable in order to obtain a competitive edge.

Product Adaptation and Packaging. Successful marketing means adapting existing products to the European market. Printing packaging labels and instructions in local languages and modifying products to accommodate cultural preferences are among the changes that can make products more marketable. Accurate and detailed market research is essential to identify these needs.

Figure 11 **European Community**

- In 1988, U.S. exports to the European Community rose 25 percent with the U.S. trade balance improving with almost all EC member countries.
- U.S.-EC trade amounted to about $165 billion in 1988, with 24 percent of all U.S. exports going to EC members.
- More than 80 percent of U.S. trade with the European Community is in manufactures. The portion of agricultural exports to the region has declined from 16 percent of the total in 1980 to 10 percent in 1988.

Opportunities

The EC 1992 program will create a unified $4.5 trillion market of 320 million consumers, in which goods, services, capital, and people will move across national borders as easily as they do across state borders in the United States. The single internal market is expected to add 5 percent, about $260 billion, to the European Community's gross domestic product; this would stimulate increased demand for imports. The lower value of the dollar also makes U.S. goods and services even more attractive to European buyers.

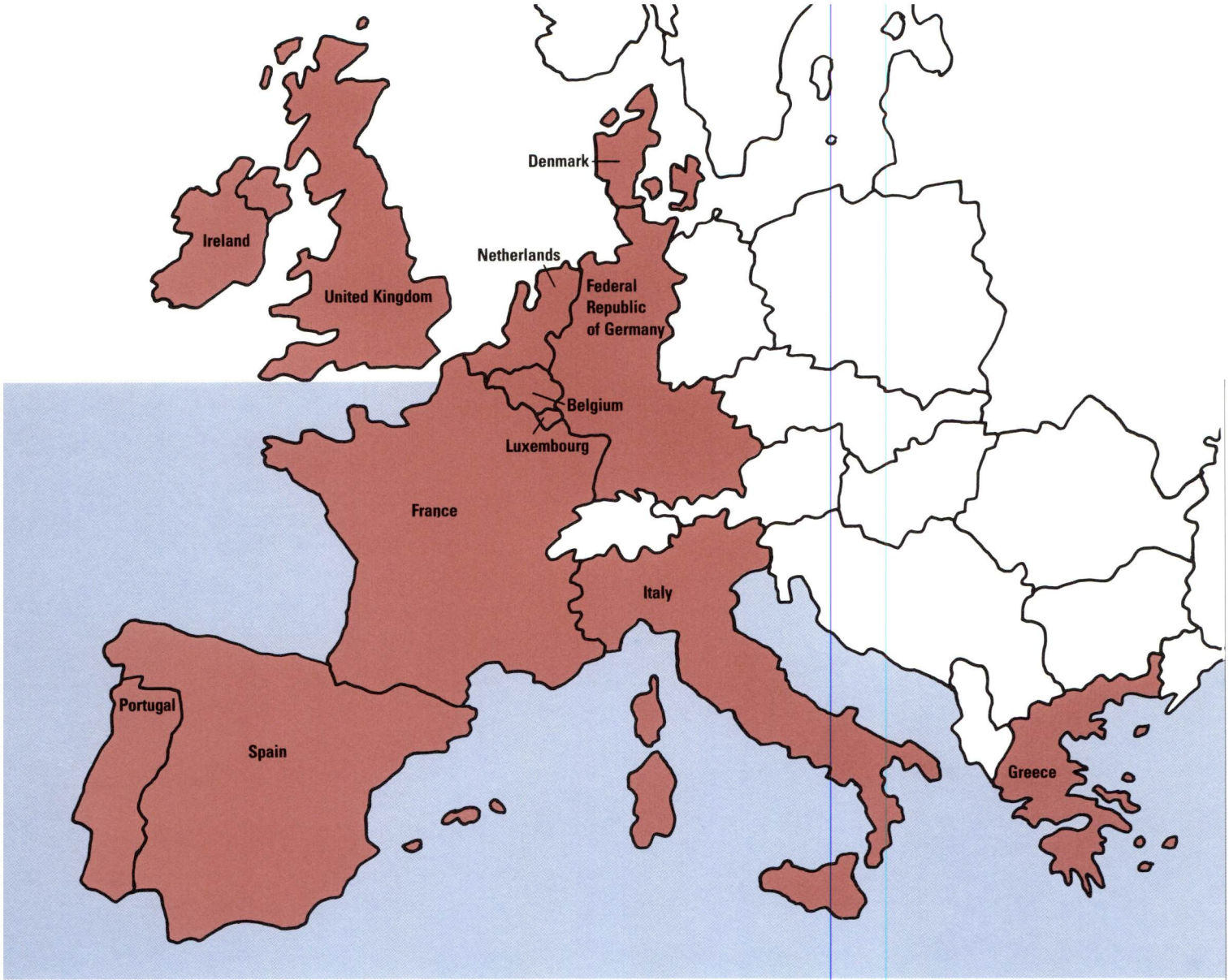
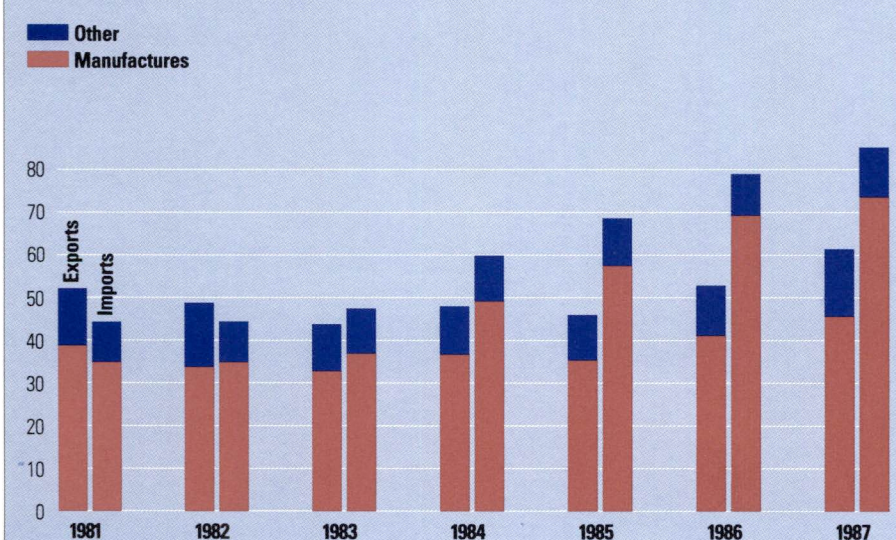


Figure 12 **U.S. Trade with European Community, 1981-1987**

Values in billions of dollars



Source: U.S. Department of Commerce, *United States Trade: Performance in 1987,* June 1988, p. 43.

Newly Industrializing Economies: Hong Kong, Singapore, South Korea, Taiwan

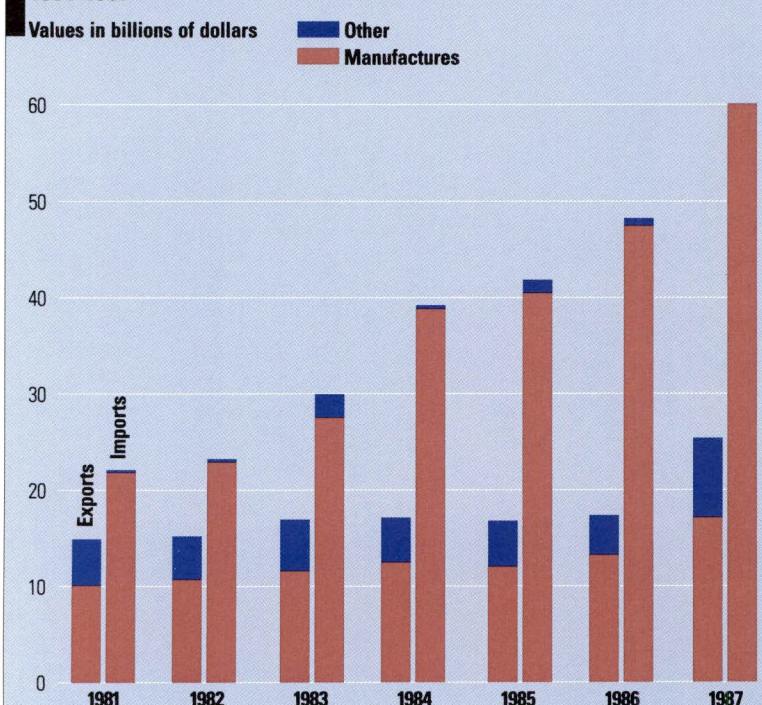
While world markets are still dominated by the United States, Japan, and Europe, many other countries are making their presence felt. These newly industrializing countries have largely achieved their economic development through a successful strategy of increasing manufactured exports. They have developed their manufacturing and export capacity to the extent that they not only are becoming increasingly competitive in the global marketplace, but often represent large and growing markets.

The challenges and opportunities posed by newly industrializing economies are illustrated in four East Asian economies: Hong Kong, Singapore, South Korea, and Taiwan. Known as the "Four Tigers of Asia," they are fierce competitors both in the U.S. domestic market and in other countries. A strong partnership of government and business has helped these countries obtain major market shares by targeting key industries and aggressively advancing exports. What is particularly striking about their success is that some of these countries were considered poor developing nations as recently as ten years ago.

Challenges

Tariff and Non-Tariff Barriers. The government-industry relationship in Korea and Taiwan has been successful in achieving its export goals, in part because it also

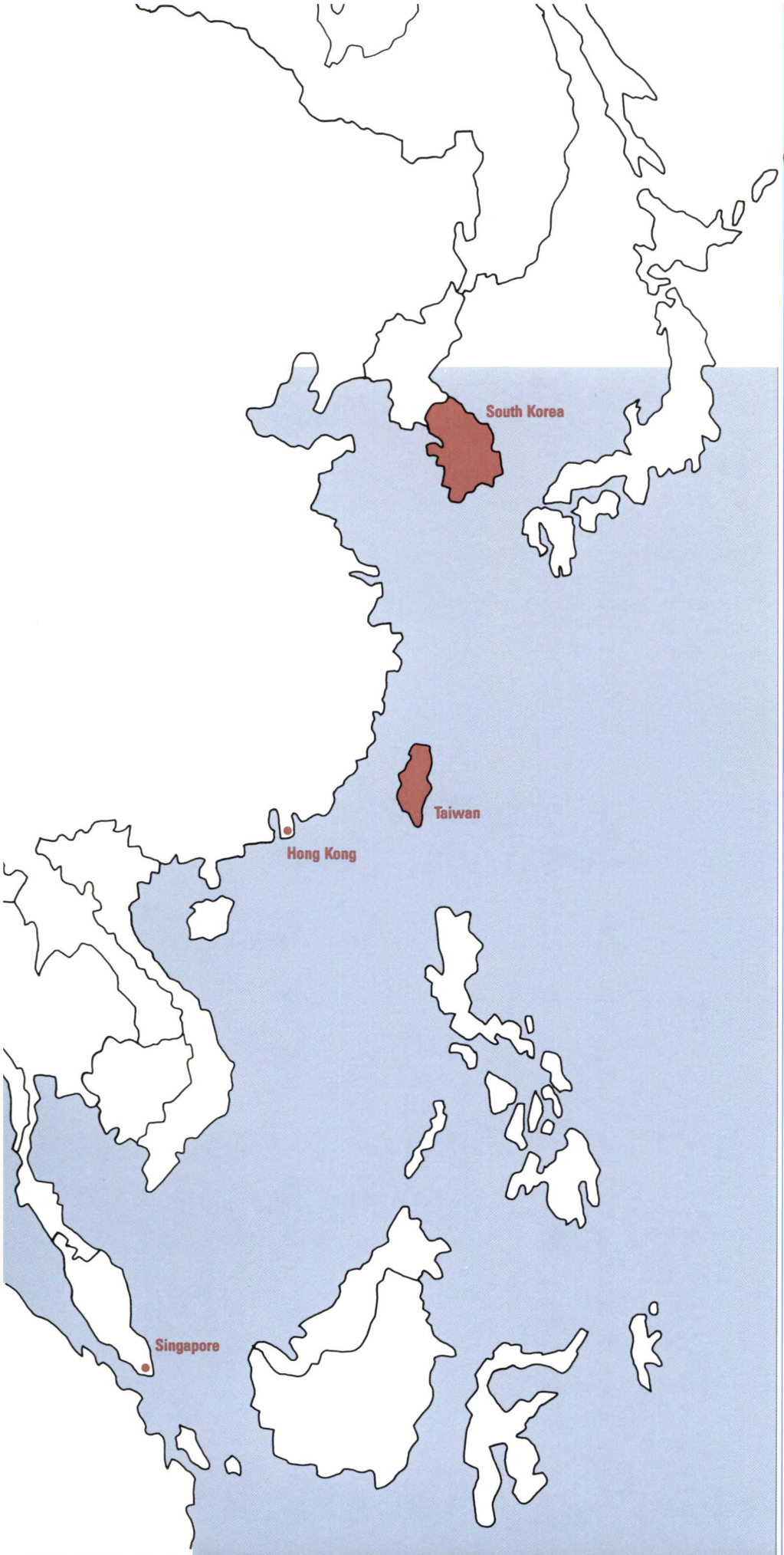
Figure 13 **U.S. Trade with East Asian NICs, 1981-1987**



Source: U.S. Department of Commerce, *United States Trade: Performance in 1987,* June 1988, p. 39.

Figure 14 **East Asian NICs**

- U.S. manufactures exports to these countries totaled more than $26 billion in 1988.
- In 1988, U.S. exports increased by more than 49 percent. However, U.S. imports were almost twice as large as exports. The U.S. deficit with them grew to $32 billion. These four countries accounted for about 23 percent of the 1988 U.S. trade deficit.



protects domestic industries. Along with tariffs, these countries impose non-tariff barriers to their markets. This makes it difficult for American firms even to enter the market, let alone compete with native companies. Although substantial progress has been made, continued negotiations to address these non-tariff barriers will be required if Americans want to compete in the Korean and Taiwanese markets.

Weak Protection of Intellectual Property Rights. Protection of intellectual property rights includes patents, copyrights, and trademarks. In many countries, inadequate enforcement of laws regarding intellectual property rights often does not prevent others from pirating works or inventions of authors, inventors, or trademark owners. Problems range from the unlawful copying of motion pictures and records to the illegal manufacturing of patented pharmaceuticals, chemicals, and biotechnologies. Counterfeiting and piracy mean lost export sales for U.S. firms.

Opportunities

These export-driven economies are becoming prosperous and represent major market opportunities. U.S. exports to these countries are expected to continue to increase.

After 1996, Hong Kong will cease to be a British Crown Colony and will revert back to the People's Republic of China. Already an entry point for trade, Hong Kong will offer further opportunities for expanded trade and financial dealings with China.

Singapore hopes to establish itself as a financial and technical service center for medium-sized companies involved with international trade in the Far East. This objective could pose special export opportunities for U.S. service industries.

Developing Economies

Developing countries contain half of the world's 5 billion people and purchased 33 percent of U.S. exports in 1988.

The upper-income populations of developing countries often are overlooked. However, the top 10 percent of the population in developing countries represents a rapidly growing market of 250 million people, a population equal to that of the United States. Moreover, many of the rural poor are moving into the cities and are becoming active consumers and producers in the world market.

The developing world is anything but monolithic. It includes many relatively poor, least developed countries, a growing number of middle-income countries, and several countries poised on the brink of sustainable growth and affluence, ready to join the ranks of newly industrializing countries. Each kind of developing nation represents a different kind of market, and each requires a different marketing strategy.

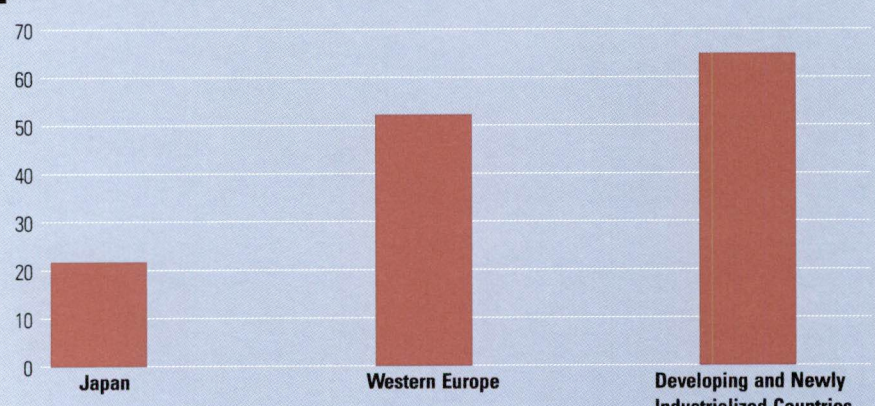
Challenges

Import Protection. Many developing countries use highly restrictive barriers to protect and stimulate domestic industries. However, these "hot-house" efforts often have resulted in waste and inefficient use of scarce human and capital resources. More and more developing countries are learning that open market strategies and the discipline and efficient use of foreign competition have advantages. American exporters who have competitive products are well-positioned to gain a foothold in these potentially receptive, rapidly expanding markets.

Debt Burden. The Third World is deep in debt to the rich nations of the world, owing about $1.3 trillion in 1988. Approximately $165 billion is required each year to service the debt—about the same as the amount of annual foreign assistance and private investment provided by all governments and firms in the richer half of the world. International commercial banks and other private lenders carry about 47 percent of the debt; the balance is carried by official lending institutions.

Figure 15 **U.S. Exports—Where They Go**

Value in billions of dollars

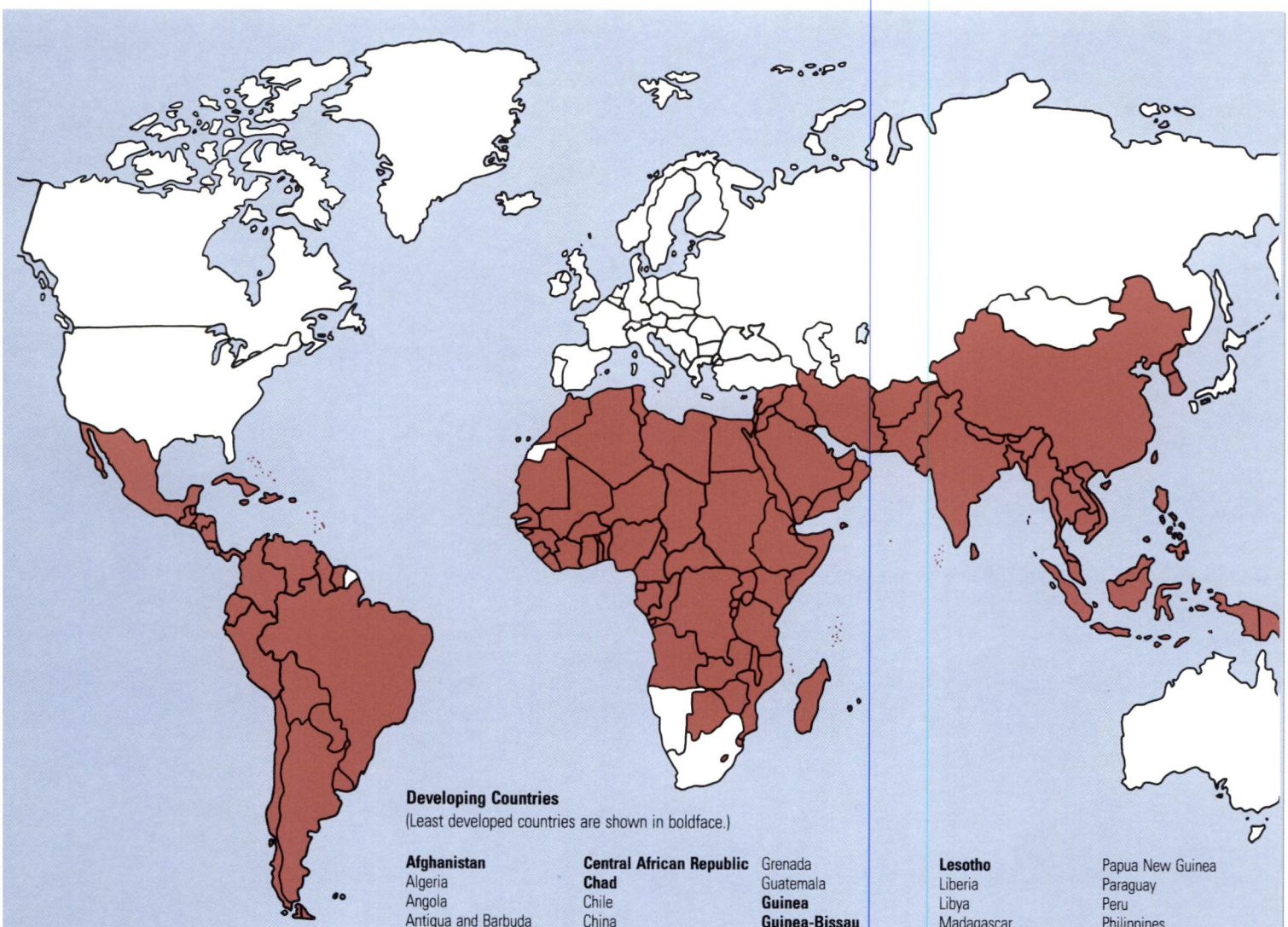


Source: U.S. Agency for International Development, *U.S. AID Highlights,* vol. 5, no. 3 (summer 1988).

Note: Statistics for first ten months of 1987.

Figure 16 **The Developing World**

- The "NICs of the '90s" include Brazil, Chile, Costa Rica, Malaysia, Thailand, and, perhaps, Kenya, Senegal, and Uruguay. They are already markets for a range of consumer goods as well as sophisticated capital equipment and services.
- The least developed nations include Bangladesh, Bolivia, Chad, Ethiopia, Haiti, Mali, Nepal, Niger, and Somalia. Most of their purchases abroad are funded by development loans and grants; therefore, doing business involves a three-way relationship between a U.S. firm, the purchasing country, and a national or international financial assistance agency.
- The middle-income countries include Colombia, Egypt, India, Mexico, Morocco, Nigeria, and Pakistan. These countries exhibit elements of both markets, but often also have strict import barriers to protect fledgling industries. Their accelerating growth and rising productivity have great promise.



Developing Countries
(Least developed countries are shown in boldface.)

Afghanistan
Algeria
Angola
Antigua and Barbuda
Argentina
The Bahamas
Bahrain
Bangladesh
Barbados
Belize
Benin
Bhutan
Bolivia
Botswana
Brazil
Brunei
Burkina
Burma
Burundi
Cambodia
Cameroon
Cape Verde
Central African Republic
Chad
Chile
China
Colombia
Comoros
Congo
Costa Rica
Cuba
Cyprus
Djibouti
Dominica
Dominican Republic
Ecuador
Egypt
Equatorial Guinea
El Salvador
Ethiopia
Fiji
Gabon
The Gambia
Ghana
Grenada
Guatemala
Guinea
Guinea-Bissau
Guyana
Haiti
Honduras
Hong Kong
India
Indonesia
Iran
Iraq
Ivory Coast
Jamaica
Jordan
Kenya
Kiribati
North Korea
South Korea
Kuwait
Laos
Lebanon
Lesotho
Liberia
Libya
Madagascar
Malawi
Malaysia
Maldives
Mali
Malta
Mauritania
Mauritius
Mexico
Morocco
Mozambique
Nauru
Nepal
Nicaragua
Niger
Nigeria
Oman
Pakistan
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Qatar
Rwanda
St. Christopher and Nevis
St. Lucia
St. Vincent and the Grenadines
Sao Tome and Principe
Saudi Arabia
Senegal
Seychelles
Sierra Leone
Singapore
Solomon Islands
Somalia
Sri Lanka
Sudan

Source: U.S. Department of State, 1985.

As debt drops to manageable levels, economic growth will be restored and American export prospects will expand. To work their way out of debt, Third World nations must export, and from 1980 to 1987 the United States absorbed almost $15 billion of additional manufactured exports from Third World debtors. By comparison, the European Community absorbed about $5 billion, and Third World manufactured exports to Japan increased by only $436 million over the 1980-1987 period. Dollars earned through exports go both to reducing debts and to restoring imports of products that can further fuel their development.

Lack of Foreign Exchange. Many Third World countries have difficulty obtaining the hard currency needed to purchase American goods the conventional way. But American exporters can gain access by countertrade, working with American firms that import from these countries to barter goods.

Opportunities

Market Size. No firm that ignores this market can pretend to have a global perspective. Exporters must be willing to learn about the diverse cultures, needs, and potential of these markets. Becoming active often requires patience, a willingness to make long-term investments, and resourcefulness to overcome unfamiliar obstacles. The opportunities are as vast and varied as the developing countries themselves.

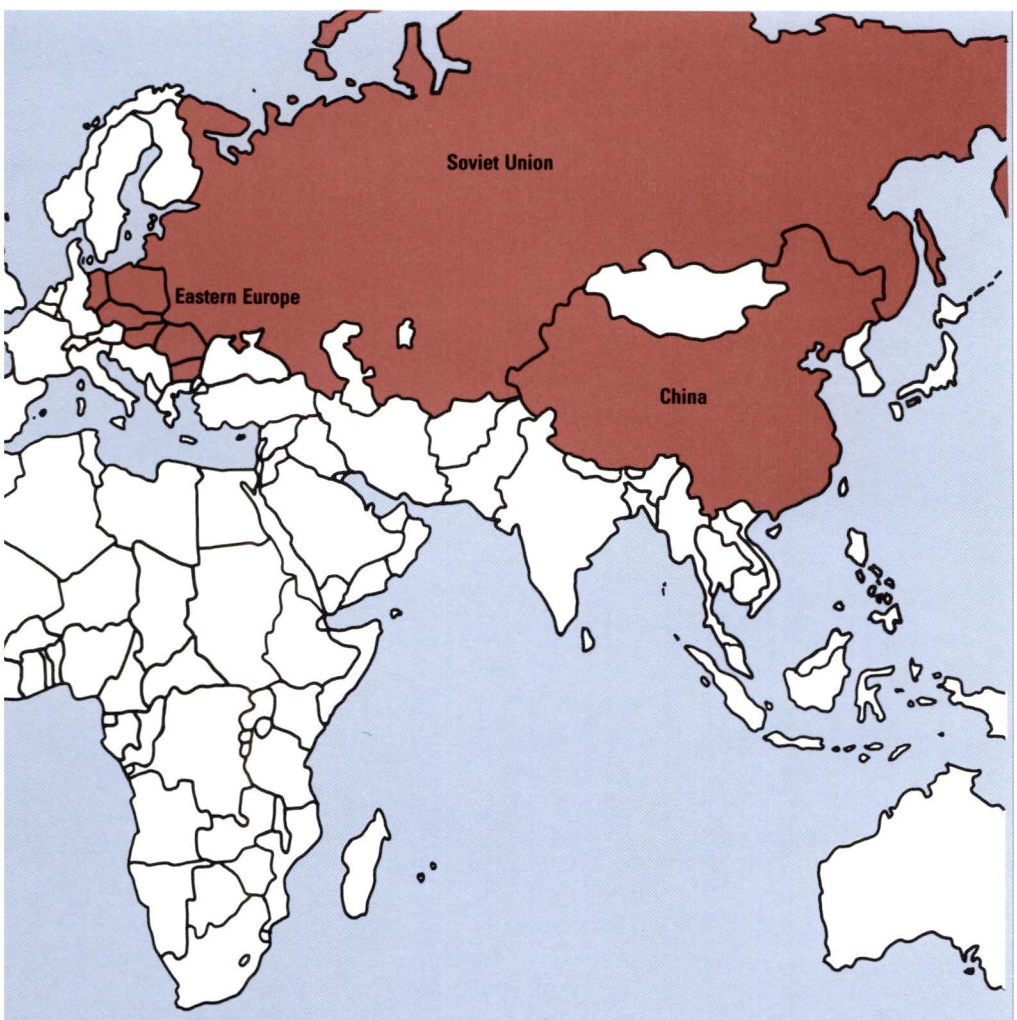
Debt Conversion. Solutions to Third World debt will take time and will be complex, but can create new opportunities for American firms. For example, in countries where debt is largely held by commercial banks, debt-for-equity swaps have been proposed, often with help from the United States, the World Bank, and other international organizations. These swaps provide a way for American firms to find local partners, become familiar with local markets, and invest for future growth. Swaps also are a positive way to deal with protectionism.

In countries where debt is held largely by international donor agencies, schemes such as debt-for-nature swaps have been used. The concept of debt for nature involves forgiving loans and debts to nations that use comparable local resources to address severe natural resource problems, such as flooding and loss of forests, to clean up drinking water supplies, or to improve waste disposal and recycling. These environmental and human problems have global as well as local consequences. By easing the debt burden for countries that invest in environmental and natural resource management, richer countries help their own citizens as well. These efforts also create new markets for the services and products of American firms with expertise in these areas.

Development Assistance and Trade Liberalization. Most developing countries receive foreign economic assistance. These loans and grants finance a range of goods and services that developing countries could not otherwise afford but that are essential to their growth. Assistance programs such as those of the U.S. Agency for International Development, the World Bank, and regional development banks help U.S. exporters who want to export products purchased with development assistance funds. There are even programs designed to encourage participation of small and minority-owned businesses. Firms that have sold goods purchased with assistance funds find that importing countries often return to purchase more products on commercial terms.

Figure 7 **The Nonmarket Economies**

- Soviet Union. U.S. exports to the Soviet Union reached $2.8 billion in 1988. Although trade with the Soviet Union represented 0.4 percent of total U.S. trade in 1988, it provided a $2 billion trade surplus.
- Eastern Europe. In 1988, the United States imported ($1.7 billion) almost twice what it exported ($882 million) to the six countries of Eastern Europe: Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, and Romania. Bulgaria is the only country in the region with which the United States ran a surplus.
- China. U.S. exports to China reached $5.0 billion in 1988. The U.S. $3.4 billion deficit with China in 1987 rose to $4.3 billion in 1988.



Nonmarket Economies: Soviet Union, Eastern Europe, China

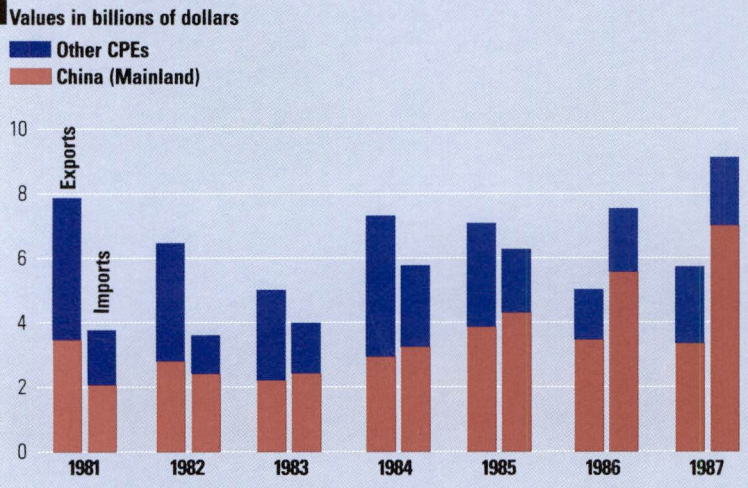
Centrally planned or nonmarket economies are seeking expanded trade activity with the rest of the world. These economies represent potentially vast markets for consumer and other capital goods. But because they function outside traditional market forces, they pose particular challenges for American businesses. While most are taking steps to decentralize and streamline their international trade systems, the governments can inhibit trading relations. Because the currencies of these countries are not traded on the open market (that is, not subject to exchange), they often must obtain needed goods through barter (countertrade).

Challenges

Foreign Exchange Controls. The currencies of these countries are not subject to exchange on the world market and thus have no value outside their national boundaries. Therefore, these countries must use a "hard currency," such as gold or a traded currency (e.g., dollars or Marks), to purchase goods from the West. Facing external debt and a lack of available hard currency, most of these countries have controls that restrict use of hard currency, thus effectively limiting the entry of foreign products into the domestic market.

Countertrade. Due to a lack of hard currency, many countries require Western companies to obtain counterpurchase commitments in lieu of cash transactions. Often, nonmarket economies—and most developing countries—exchange local products and raw materials for Western goods because they do not have adequate hard currency reserves. Countertrade may

Figure 18 **U.S. Trade with Centrally Planned Economies, 1981-1987**



Source: U.S. Department of Commerce, *United States Trade: Performance in 1987,* June 1988, p. 45.

take the form of barter (bilateral trade without money) or counterpurchase, whereby the initial exporter agrees to find a third party who will buy the nonmarket country's goods.

Coordinating the activities of a number of diverse parties in a counterpurchase agreement can be difficult. In general, most American firms are unfamiliar with the exigencies of countertrade, and thus would prefer to avoid its use. But barter and countertrade remain a feature of trading relationships with nonmarket economies.

Trade Policy Uncertainties. While these economies continue to seek trading opportunities with the rest of the world, they often lack a well-established trade infrastructure that facilitates transactions. In many cases the systems of commercial law in these countries are new, untested, and subject to interpretation. Questions arise concerning labor laws, management practices, and profit repatriation. American firms, especially smaller companies, will need technical and information assistance if they want to establish a position in these market areas.

U.S. Export Controls. The U.S. national security export licensing system is designed to prevent the export of strategically sensitive and militarily significant technology and goods to communist bloc countries. The licensing process is lengthy and frustrating for the American exporter, despite a number of improvements. The 1988 omnibus trade bill called for further changes, including requirements that recognize widespread foreign availability of many controlled items and liberalization of controls on exports to China. Export control requirements have broad implications for U.S. trade generally, but of course they directly affect trade with centrally planned economies. Recent Soviet requests for greater access to Western technology will have an impact on the future debate on U.S. export administration.

Opportunities

While there is still some uncertainty about the future of economic restructuring in the Soviet Union and Eastern Europe, these countries and China continue with economic reforms to facilitate trade and countertrade arrangements. Efforts at reform are intended, among other things, to reorganize banking, improve productivity and export quality, and grapple with exchange and debt problems.

It is likely that the drive to modernize industry in these countries will increase their demand for Western products and processes. Therefore, these reforms could represent long-term opportunities for U.S. firms. In addition, most of these countries are promoting joint ventures with Western partners.

Traditional American exports to the Soviet Union and Eastern Europe have been largely agricultural. While tremendous challenges remain for American exporters, some long-term prospects exist for services and manufactured products. China's real GNP increased 9.4 percent in 1987, indicating impressive growth for its economy.

Conclusion

Each market area is unique. Trade strategies must be diverse and flexible to meet the needs of individual markets. States can help businesses be more sensitive to these market differences and respond appropriately to the challenges and opportunities they face. The following sections will highlight state actions to help companies venture beyond our borders.

The State Role

"To survive and prosper, Alabama must reach out to international markets. As Governor, I take seriously my responsibility to help Alabamians export their goods and services. That's why I instructed the state's overseas offices to begin actively seeking markets, and why I personally have worked to develop new trading relationships with officials in other countries, particularly in the Pacific Rim."

Governor Guy Hunt
Alabama

"While the federal government sets the rules on trade, success in developing and expanding foreign markets depends on the decisions of thousands of corporations and business people. State governments are positioned to help."

Governor Gerald L. Baliles
Virginia

The State Role

For twenty years, Governors have led efforts to guide and stimulate economic development and job creation in their states. By the early 1980s, this activism extended beyond state and national borders.

This activism has challenged Americans to change their way of thinking—from how children are educated to how products are designed.

Most states have trade programs that serve as catalysts and brokers in the international arena. They promote joint ventures and seek foreign investment. States provide technical assistance—from seminars on the "how tos" of trade, to individual exporter counseling, to dissemination of specific trade leads.

Forty-one states maintain offices in twenty-four different countries. Seventeen states have export finance programs; others provide information on non-state sources of financing.

States promote international tourism with its positive influence on America's trade balance. States promote international travel to the United States through state advertising campaigns and tourism missions.

Governors are personally involved in these efforts, making eighty-seven trips abroad in 1987 alone. These trips—in tandem with other state efforts—have helped position their states in world trade.

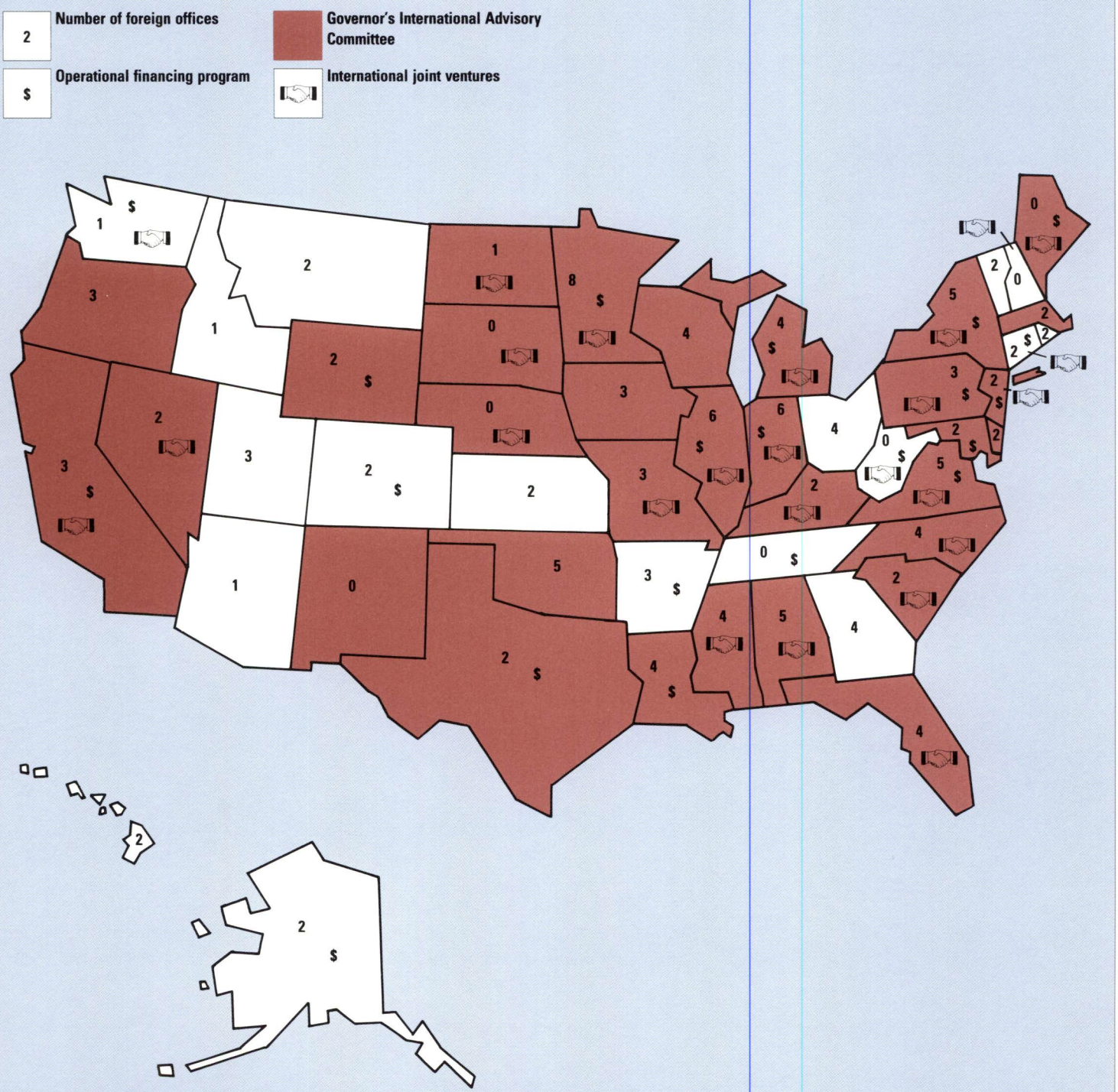
Governors also have played a leading role in the resurgence of international education in this country. Foreign language enrollments are up, and more than half of the states take part in the National Geographic Society's Geographic Alliance program, an in-service training program for teachers.

States operate within an overall national economic and foreign policy framework established by the federal government. The government negotiates international agreements, sets tariffs, defines national monetary and fiscal policy, provides international development assistance, and applies national security considerations to trade activities.

While the federal government sets the rules on trade, success in developing and expanding foreign markets depends on the decisions of thousands of corporations and business people. State governments are positioned to help.

Over the past two decades, there has been extraordinary growth and innovation in the states' international programs. The future demands more. State leadership is required to shape and coordinate an effective trade strategy that responds to the diversity within the world marketplace. Only then can the United States successfully confront the challenges and seize the opportunities that lie beyond its borders.

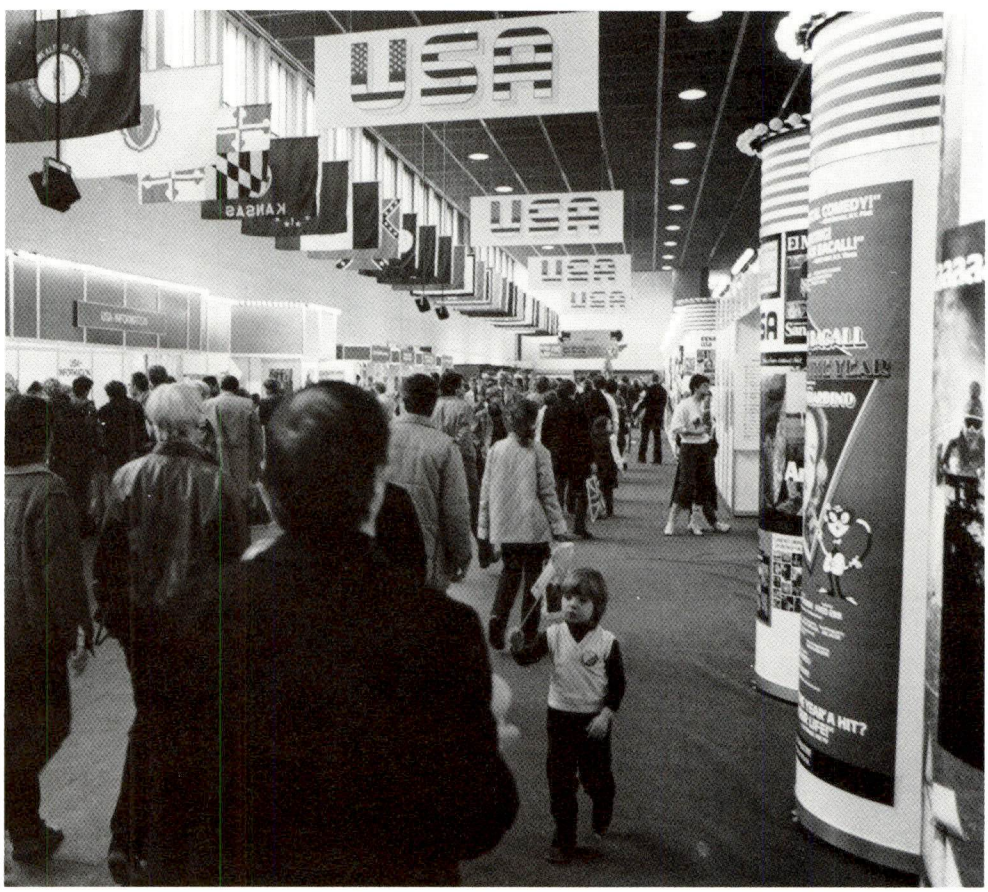
19 Selected State Trade Activities



Source: National Governors' Association, 1989.

"It is time to get back into the race. We must succeed in overseas markets as well as foreign nations have prospered in ours. It is time to face up to the complexities of international trade and see that for every challenge a commensurate opportunity exists."

Governor Ray Mabus
Mississippi



"It's time to get serious about trade. The opportunities beyond our borders are many, but we must work hard to realize them. Governors can build ties to other parts of the world and help exporters gain access to new markets."

Governor Ray Mabus
Mississippi

State Action Agenda

"Like any good football team, we can't sit on our lead. We must begin an all-out campaign to encourage exports by our companies. We'll continue to nurture the spirit of innovation. We'll work closely with our small and medium-sized businesses to help them find new markets. In the 1990s the newly unified European Community will provide the next frontier for Massachusetts' products. We must and will move to seize that opportunity."

Governor Michael S. Dukakis
Massachusetts

State Action Agenda

Trade does not just happen. It takes a concerted, well-considered plan of action to connect a supply of goods on one side of the world and a market on the other.

Like businesses, states must take a strategic view of world markets. Just as commercial companies must respond to diversity in the world marketplace, states must mobilize the diverse resources within the state to provide a coordinated, responsive trade network.

What follows are concrete suggestions on how states can help connect goods, markets, and the state's businesses.

OBJECTIVE: Develop a plan to position the state in foreign markets.

The time is right for states to design, build consensus for, and execute a statewide strategic trade plan. Governors should:

- Enlist full participation from state government, business, and academic leaders who have expertise in international matters. Governors can provide the leadership and policy direction needed to bring together public and private leaders. Officials from state trade, education, agriculture, and commerce departments, overseas offices, colleges and universities, port authorities, and the legislature should be enlisted from the public sector. Business people active in international affairs, including international lawyers and bankers, should be drawn from the private sector. Governors can use this team of experts to design statewide plans. But before developing the plan itself, the team must review the state's current trade promotion efforts and assess the impact of any state trade barriers.

In Maryland, the Governor's World Trade Efforts Commission, composed of public and private sector representatives, recommended the establishment of the state's international division as a "one-stop shop" for businesses involved in international trade and commerce. Located in Maryland's World Trade Center in Baltimore, this office offers a full complement of state resources to Maryland businesses wishing to identify commercial, marketing, and trade opportunities in the international arena.

As recommended by the Virginia International Trade Commission, Virginia consolidated state trade development activities under the direction of a new entity, the Virginia World Trade Council. The council is composed of four citizen members appointed by the Governor and five agency directors from the State Council of Higher Education, the Virginia Port Authority,

and the Departments of Education, Agriculture and Consumer Services, and World Trade. The council establishes an annual comprehensive and coordinated trade strategy for the commonwealth, including targets for increased trade activity and accountability measures for participating agencies.

- Review existing state efforts to promote trade, joint ventures, and other economic links to foreign markets. In evaluating current efforts, the team of experts might ask such questions as:

— Does the state's international trade program fit within the broader economic development goals of the state? Conversely, do the state's economic development goals adequately acknowledge the importance of trade?
— Are efforts focused primarily on recruiting foreign investments or do they also seek to help local firms enter foreign markets? Are state trade and investment staff working closely together toward coordinated objectives?
— Have sectors where the state has a special advantage been identified?
— Are locally based firms working aggressively to develop a presence in overseas markets, through exports, joint ventures, and licensing agreements? Has the state identified its exporters?
— Are universities, banks, and the business service sector actively helping firms develop their overseas activities?
— Is there enough cooperation with federal officials?
— Is the state identifying and incorporating innovative ideas and practices developed by other states or countries?

Massachusetts has embarked on an aggressive initiative, "Export 90s," to help small and medium-sized companies realize their full export potential. A policy review panel is visiting exporting and nonexporting companies across the state to identify their needs as they enter foreign markets. The panel will assess relevant national and international issues and help develop a comprehensive plan for aiding Massachusetts businesses.

To better promote Alabama's goods and services, the Governor consolidated the state's trade operation with the International Investment Division of the Alabama Development Office. He also charged the five overseas offices with promoting trade in addition to investment, tourism, and the port of Mobile.

- Assess whether the state is doing anything that has a negative impact on its trade potential. Identifying international and federal obstacles to expanding contacts with foreign markets tells only part of the story. Governors should ensure that the state's policies and objectives and those of a strategic plan are not in conflict, and take steps to mitigate the effects of any state trade barriers.

  Having gathered the facts, the team of experts can consider highly creative strategies that draw on existing state programs. The team should be charged by the Governor with shaping and coordinating an effective, comprehensive market penetration strategy. Such a strategy will be unique to each state, taking into account different needs and resources.

OBJECTIVE: Elevate trade to a top priority in the state.

Every citizen, company, and institution must understand the importance of strengthening American international competitiveness. The effort must be sparked by individual commitment and energy as well as by coordinated, well-planned, and supportive government initiatives.

Giving trade a higher profile throughout the state is the first part of a strategic plan that must be related integrally to other priorities, including economic development, education, and competitiveness. To accomplish this goal, Governors can consider the following actions.

- Convince other state leaders and the public of the importance of foreign markets to the state's economy.

  Governors can use their position and visibility to lead a public education effort that stresses the importance of finding new markets and justifies the long-term investment in education and marketing research that this will entail.

  Governors can sponsor briefings for members of their cabinets, legislatures, leading members of the business community, and others who may not be directly involved with trade, or sensitive to its importance. Eventually this could create a pool of state ambassadors to travel on behalf of the state and advocate state international trade efforts.

  A Governor's state of the state address and budget message can include a statement on the state's international trade position. These can be used to propose

"For the first time in nearly a decade, Iowans and all Americans can capitalize on the export opportunities offered by foreign markets. Now is the time for exporters of commodities or durable goods to realize increased profits by enhancing their export activities."

Governor Terry E. Branstad
Iowa

and justify new efforts to enhance that position. In this way, a Governor can provide high visibility to trade, while educating legislators and citizens about the role of trade in the overall economy.

Nebraska's International Trade Diplomats Program recruits groups participating in a state college/university travel program to deliver information on behalf of the state to overseas locations they will be visiting. Designated diplomats attend orientation meetings where they receive assignments and promotional materials. Participants spend a short period of time away from their scheduled tour to visit U.S. embassies, consulates, commercial attaches, and other key officials. In addition, Nebraska encourages the diplomats to distribute tourism packets promoting international travel to Nebraska to travel agencies.

- Appoint a senior-level official to carry out the state's strategy.

  Once a strategy has been designed and agreed to by a team of experts, Governors will need to put someone in charge of seeing it through. A "trade czar" would oversee the implementation of a statewide trade plan. Appointing someone with trade responsibility to a high-level post, possibly at a cabinet level, promotes visibility while ensuring coordination of statewide efforts.

- Build a firm foundation throughout the education system.

  In order to work and compete in a global economy, a good grasp of geography and languages is crucial. Steps are needed to create a new generation of knowledgeable business leaders dedicated to competing in the international marketplace.

  States can increase the international perspective of their students by improving cultural awareness, language training, and teacher training, and by encouraging the private sector to work more closely with schools and universities to improve international education. International education is critical to developing a better understanding of potential customers. A successful salesman will understand a customer's language, living conditions, needs, and desires.

New Jersey recently used state funds to establish a Center for International Business Education, which is administered by Rutgers University. The center will serve as a resource for and sponsor of instructional programs in international business and foreign languages and cultures. It will provide an information clearinghouse for international education and export/import assistance throughout the state.

- Recognize success.

  A Governor's award for excellence in exporting or for quality products or services not only serves as an incentive for exporting, but also raises public awareness and reinforces the message that trade is a top priority for the state.

OBJECTIVE: Boost export activity within the state.

Ultimately each company must make its own export decisions. But when jobs and economic growth are at stake, states also have a vital role to play in boosting export activity.

States should target not only potential exporters, but also infrequent exporters that could increase both the frequency and the value of their shipments abroad.

They also can expand the number and type of markets with which they do business.

For smaller companies, the focus should be on finding market niches, not on market dominance.

Market research for best export prospects—especially federal government trade leads—often is oriented heavily toward the "big ticket" sectors where a few large companies are active. States must dig deeper to find manageable export opportunities for smaller and medium-sized businesses.

State activities could include the following.

- Help firms with complementary products and services to work together and package their approach to overseas markets.

  States can help companies that already export goods work out coat-tail arrangements with smaller companies that offer complementary, noncompetitive products or services. Both firms benefit because they can offer more comprehensive service to customers. Meanwhile, the small companies gain experience with and exposure to the export market. Examples of cooperative exporting include contracts for shipping boxes and containers, equipment maintenance, and spare parts and supplies. Cooperative agreements also can include training to operate the exported equipment.

  Export trading companies facilitate smaller exporters' access to new markets. States can help smaller companies establish or join export trading companies or find other ways to ease their entry into unfamiliar markets.

- Establish a "mentoring" program so experienced exporters can help others.

  States provide technical assistance to new-to-export firms. But there is nothing like first-hand experience—especially in more unfamiliar market areas—to help a company learn the exporting process. States can encourage current exporters to share nonproprietary information and help match them to less-experienced firms.

- Promote the development of joint ventures with overseas companies.

  Joint venture promotion combines traditional components of state international programs—export promotion and investment attraction — to form an approach uniquely suited to a global economy where enterprises draw resources from around the world, without regard to national boundaries. Because states are a one-stop source of information about firms within their jurisdiction, they play an important role in bringing about successful partnerships. As interest in joint ventures grows, states can expect continued and increased demand for their match-making services.

New York's Joint Venture/Acquisition Program has been operating for more than four years. Through this program, the state can accommodate foreign investments by companies interested in investing but not in establishing operations in the United States. In cooperation with the state's regional offices and various local development organizations, New York can match the state's manufacturers with the overseas investors.

Massachusetts and Israel signed a joint accord to encourage cooperation on innovative projects relating to trade and tourism. In less than one year, the Massachusetts-Israel Exchange has fostered about thirty trade and joint venture projects. From this model, several states, including California, Florida, Maryland, Michigan, New Jersey, Texas, Virginia, and Wisconsin, have developed similar programs with Israel.

Ohio and the Hubei Province of China have crafted a six-point science and technology agreement that will carry out special research and technology development work and exchange experts and information in the fields of laser processing and laser welding, new polymer material and its use, computerized manufacturing technology, biotechnology, agriculture, animal husbandry technology, technology markets, and technology transfer.

A sister state joint venture project between Japan's Hyogo Prefecture and the state of Washington is currently under development. The proposed 170-unit housing development project, called Washington Village, will be built in Hyogo Prefecture with American construction techniques and Washington state wood products.

- Design programs to promote services as well as manufactured goods.

  States rarely measure the contribution of services exports to their economies. States should identify markets for technical expertise as readily as those for commodities and manufactured goods. In this way they can help service industries participate in export programs.

  Because there is no international framework governing services trade, service industries often face formidable

"On a recent joint trade mission to the Far East, Governors Clinton, Roemer, and I learned first hand that pooling our resources and working together is the most effective way to expand our presence in foreign markets. Foreign officials responded much more positively to us as a team."

Governor Ray Mabus
Mississippi

challenges in foreign markets. State programs may need to be modified to accommodate the special information and technical assistance needs of exporting service firms.

Alabama was one of the first states to make a specific and concentrated effort to identify service sector companies and include them in the state export database, trade missions, catalog sales, and other promotional activities.

- Determine the export potential of unusual products and services.

  Export promotion is more than convincing businesses to sell their existing product lines overseas. Often products in plentiful supply, or even by-products of state economic activity, are marketable overseas. States can use their knowledge of overseas markets to help exporters sell by-products or surpluses to international partners.

Mississippi discovered great interest and acceptance in the Soviet Union for catfish and is actively developing that market.

Virginia, noting that chicken feet is a delicacy in the Far East, arranged for its chicken processing plants to stop discarding the feet and export them to Hong Kong.

- Assist firms in locating financial assistance for export transactions.

  Firms have cited the lack of export financing as one of the biggest barriers to their export activity. States can establish their own export finance programs, including direct lending and loan guarantee programs, or they can serve as an information clearinghouse, encouraging commercial lenders to provide necessary services. Whatever method a state chooses, confronting the problems of export finance is essential to a state's strategic trade plan.

The Minnesota Export Finance Authority, established in 1983, was the first state export finance agency in the country. It provides pre-export working capital loans for small and medium-sized businesses, as well as post-export financing assistance.

Initiated in 1985, the California Export Finance Program, like Minnesota's program, backs only transactions that would not otherwise receive support from commercial banks. A key component of the California initiative is to encourage commercial banks to become more receptive to the financing needs of small and medium-sized exporters, by sponsoring seminars and other educational activities.

Colorado International Capital is a new public-private venture that provides preshipment financing to Colorado exporters.

The Indiana Export Authority offers fixed interest rates lower than those generally available in the private sector, with qualified exporters able to borrow up to 90 percent of the value of each export transaction.

- Encourage the state's higher education system to help exporters.

  University and college business programs are a good source of free export counseling. Teams of graduate students can research foreign markets for small and medium-sized companies that lack the resources to hire an export manager or sift through market data. In

return, these students get hands-on experience developing their marketing skills by conducting market research in designing export strategies.

States can expand ongoing university and college programs and ensure that these initiatives are part of a statewide strategy.

The Alabama International Trade Center, affiliated with the University of Alabama in Tuscaloosa, gave export assistance to approximately forty companies during 1979, its first year. Last year, it provided assistance to almost 350 companies.

The international marketing program managed by the Virginia Department of World Trade matches graduate students in international business with businesses seeking to develop first-time international marketing plans.

Working in cooperation with the North Carolina Community College system, which consists of fifty-eight facilities, the North Carolina Department of Commerce presents "Trade Days" videotapes every three months for export companies. The videotape is shown on the same day and at the same time throughout the system and is designed to orient new-to-export companies to the international arena.

The Impact Center at Washington State University applies science and technology to problems facing the state's agricultural exporters in international markets. It provides information about foreign markets, consumers, distribution channels, and trading systems; helps solve economic, social, or technical problems that impede export of specific products or processes; and helps develop new products for overseas markets.

- Utilize technology to improve the efficiency of promotion efforts.

  Telecommunications and other technologies make it almost as easy to conduct trade around the globe as it is around town. States also can incorporate technological advances in communication into their own plans and programs.

  Video productions are a good way to reach many people and communicate complicated information. States can describe their trade programs and resources on videotape and loan them to businesses throughout the state. A state overseas office director is perceived as more accessible if a business person has "met" him or her on tape. For best effect, videotapes used in trade shows are subtitled in foreign languages.

New York uses video presentations about state firms and their products in its trade show exhibits. Eight- to ten-minute videotapes on each participating company contain footage of the equipment or product in action, unusual applications, the manufacturing process, the key people involved in the company, and their interest in finding an overseas partner or customer.

Massachusetts signed an agreement with India to establish "tradeports" that will substantially advance communications between the United States and India. The Indo-American Tradeport will provide a direct video, data, and voice communication link between the two countries and promote Massachusetts technologies and services to Indian partners.

The Washington State Business Assistance Center provides trade leads through an electronic bulletin board. Smaller firms that do not have established networks of world trade contacts can access the information by computer link.

OBJECTIVE: Develop new markets and relationships beyond our borders.

Most current state trade promotion efforts are directed toward well-established market areas. An effective state trade plan should take a more strategic view of the world and *all* its markets. Due to political, economic, and other changes, these markets are continually evolving and none should be overlooked. Individual countries should be viewed not only as markets themselves but also as entry points to a region.

Finding new markets takes work. State trade officials will need to develop greater expertise in unfamiliar market areas. States can provide initial assistance to exporters by offering state-specific information and by linking them with basic information sources in the federal government. Once new markets have been identified as suitable for a concerted state effort, states can initiate the following actions.

- Pool state resources for trade and tourism promotion.

  Governors want to learn about new market opportunities. But this developmental work is expensive and long-term. Even in this competitive arena, there is room for cooperation. Ways can to be found to share these start-up costs.

"We cannot be satisfied as mere custodians of the present. New markets are out there if we persevere. We must establish an expanded foundation of strong, flexible trading relationships upon which our successors can build a brighter future."

Governor William A. O'Neill
Connecticut

Pooling state resources is tremendously effective for states that have worked together to promote trade and tourism in the international marketplace. This approach saves state dollars, increases opportunities for companies, reduces demands on U.S. embassies abroad, and increases the impact in overseas markets. States should increase their cooperative export promotion ventures.

In Brussels, Tokyo, and other world commercial capitals, directors of state overseas offices should be asked to propose cooperative projects. Joint market research initiatives or reporting are possible activities. In addition, state offices abroad should suggest ways to increase the visibility of state export promotion initiatives. Other possible options include a stronger joint program to promote conferences with business and government leaders or official affiliation of the offices with the National Governors' Association or the U.S. Department of Commerce.

The Governors of Arkansas, Louisiana, and Mississippi signed cooperative agreements in 1988 to promote economic development and international trade as a way of improving the quality of life in the three-state region. The International Cooperation Initiative calls for the three states to form working partnerships with other countries in the areas of international trade, industry, technology, commerce, culture, and tourism.

The Mid-South Trade Council, whose members are the international trade development agencies of Alabama, Arkansas, Kentucky, Louisiana, Mississippi, Tennessee, and the World Trade Center in New Orleans, recognizes that by combining the products and services of an entire region, more benefits may be gained by all the states involved. By sharing costs and personnel, they can increase their services to businesses interested in pursuing export opportunities. The council is now studying the feasibility of establishing a joint office in Canada.

The Southeast Tourism Society is a recently developed pilot program for state tourism promotion offices that focuses on the needs of local tourism efforts within Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, Tennessee, and Virginia. The society recently initiated an international program.

New England USA is a nonprofit, private sector organization established to promote the six New England states as a region offering major vacation, recreation, and meeting destinations. Working in cooperation with state agencies and member businesses, this organization serves as a clearinghouse for information about the region to vacationers and business travelers both in the United States and abroad.

- Identify and target opportunities inherent in major changes to the international trading system.

  The U.S.-Canada Free Trade Agreement. Europe 1992. Latin American debt. The opening of China, and possibly the Soviet Union and Eastern Europe. The growth of the Four Tigers of East Asia and other newly industrializing economies. These key changes to the international trading system offer new opportunities for American business.

  States can help businesses take advantage of opportunities by disseminating accurate and timely information

obtained from the U.S. Departments of State and Commerce, the state offices overseas, and representatives of other governments.

The Connecticut World Trade Association is a private, nonprofit, membership-based organization dedicated to educating Connecticut's businesses on the international marketplace. The association recently sponsored a forum, where panelists led discussions on Europe 1992. Also planned are briefings on the Pacific Rim, the Middle East, the Caribbean, Latin America, and other regions.

- Strengthen cultural and other exchanges, especially with developing countries.

  A country with an import profile matching the state's exports may be enhanced by a sister state relationship. Or, commercial and cultural exchanges can be selected that reflect the state's ethnic make-up.

  Personal contacts are an essential part of trade. Many states are still getting to know their potential trading partners around the world through sister state relationships, trade missions, and overseas offices.

Ohio has located an office in Lagos, Nigeria, to begin linking Ohio businesses with the largest market in Africa. This office also serves as a base for contact with other countries in the region.

To encourage increased participation in overseas trade shows and trade missions, Iowa provides financial assistance that reimburses some of the costs incurred by Iowa firms. The Export Trade Assistance Program covers up to 75 percent of expenses, or $5,000 per event. Results thus far have been impressive—66 participants with more than $20 million in sales.

Several of the Pacific Northwest states have undertaken activities to develop markets in the Soviet Far East. Oregon organized a trade mission there in 1987. Alaska organized a trade mission in October 1988 that led to a sister state agreement with Khabarovsk, a territory north of Vladivostok. A number of Washington firms already are selling products in the region.

Oklahoma identified India as a potential user of its products. Largely supported by the private sector, Oklahoma's trade program with India includes swapping trade delegations and a joint venture with an Indian university community. To date, Oklahoma has sold more than $300 million in products to India.

- Coordinate a Governor-led trade mission or exchange to a new market area, either independently or with other states.

  Personal contacts between Governors and senior government officials can be especially important to opening doors in new market areas. In many cultures of the developing world, personal and cultural exchanges often precede business ties.

  States should work, perhaps collectively, to develop relationships with new trading partners. This requires a long-term commitment of time and resources. Governors may find that the personal contacts made in an initial trip are more valuable in the long run than in the first few months after they return.

- Host foreign business people in the states.

  States can work with local businesses to court foreign businesses more assiduously. This is particularly valuable in following up state business participa-

tion in trade fairs and visits abroad. By hosting prime prospects back in the states, giving them "keys to the state," and arranging visits to local businesses' headquarters, states can help convert initial contacts into customers and partners. Such foreign business people often will come at their own expense and are accustomed in their own cultures to the personal introductions state officials can provide.

- Use alumni of local universities to help open doors.

  More than 200,000 new international students come to the United States yearly, largely to state secondary schools, colleges, and universities. For these students, America becomes their classroom and state and local communities become their temporary homes. Over the last twenty-five years, more than 5 million foreign students have returned home with direct exposure to American tastes, products, and ways of life. Many have assumed influential positions in government, business, or academia.

  International student alumni of U.S. schools, colleges, and universities can open doors for visiting state officials and business representatives. They are active consumers interested in freer trade and broader markets that will offer them access at competitive prices to products they used in the United States. Here, then, is an opportunity for state governments to work with their educational systems to cultivate new trade, investment, business, and tourism ties through foreign students.

Businesses in Iowa gain a better understanding of the international arena by meeting with foreign students attending Iowa colleges and universities. Through plant visits and discussions with exporters arranged by the state, students learn about Iowa products and services available in the world market. Since the program's inception, more than fifty-five Iowa manufacturers have benefited from the perspective of 225 foreign students from thirty-five countries.

- Identify and promote opportunities associated with foreign aid programs.

  Foreign aid—financial and technical—will continue to be important in the developing world. States can do much to help local businesses land contracts to supply products and services through U.S. and multilateral development assistance programs. With state government help, businesses and farmers could capture a larger share of the multilateral foreign assistance flowing from the World Bank and the regional banks for Latin America, Asia, and Africa. This requires states to collect and disseminate information to local businesses about multilateral contracting opportunities for products and services.

- Stimulate foreign demand for American products.

  Instead of just *pushing* U.S. products into foreign markets, states should work on ways to encourage foreign countries to *pull* them in. There is a great demand for some American products in world markets, particularly where American culture is popular.

  For example, state film offices could encourage foreign filmmakers to use more locations in the United States in their films. India has the largest movie industry in the world and a large and growing middle class. The Indian theater is a good place to promote familiarity with U.S. consumer goods and services. Australia, Canada, England, France, Italy, Japan, Mexico, and the Soviet Union also have strong motion picture industries and are important markets for American exports.

  States should investigate market opportunities with third-country firms that could use American products or services. For example, Japanese-owned hotels around the world often rely on supplies and hotel management services from the United States, especially when the hotels cater to Western clientele.

Conclusion

"Business as usual" just is not enough anymore. As the world gets smaller, state initiatives must become more far-reaching. The competition has gotten tougher, but American companies are in a good position as long as they act promptly.

A statewide strategic trade plan, developed at a Governor's behest, can help keep things moving.

A successful state trade strategy enables everyone to work toward the goals of making trade a top priority, expanding export activity at home, and targeting markets abroad. Each plan will be different, uniquely suited to a state's resources and needs.

Governors should take immediate steps to develop such a plan. The changing international trading system, and our position in it, demand a strategic response. The challenges are real. The opportunities are great. The stakes are high. The time is now.

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Works Consulted

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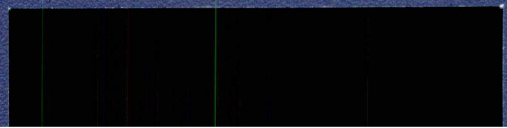
AMERICA IN TRANSITION

The International Frontier

Report of the Task Force on Domestic Markets



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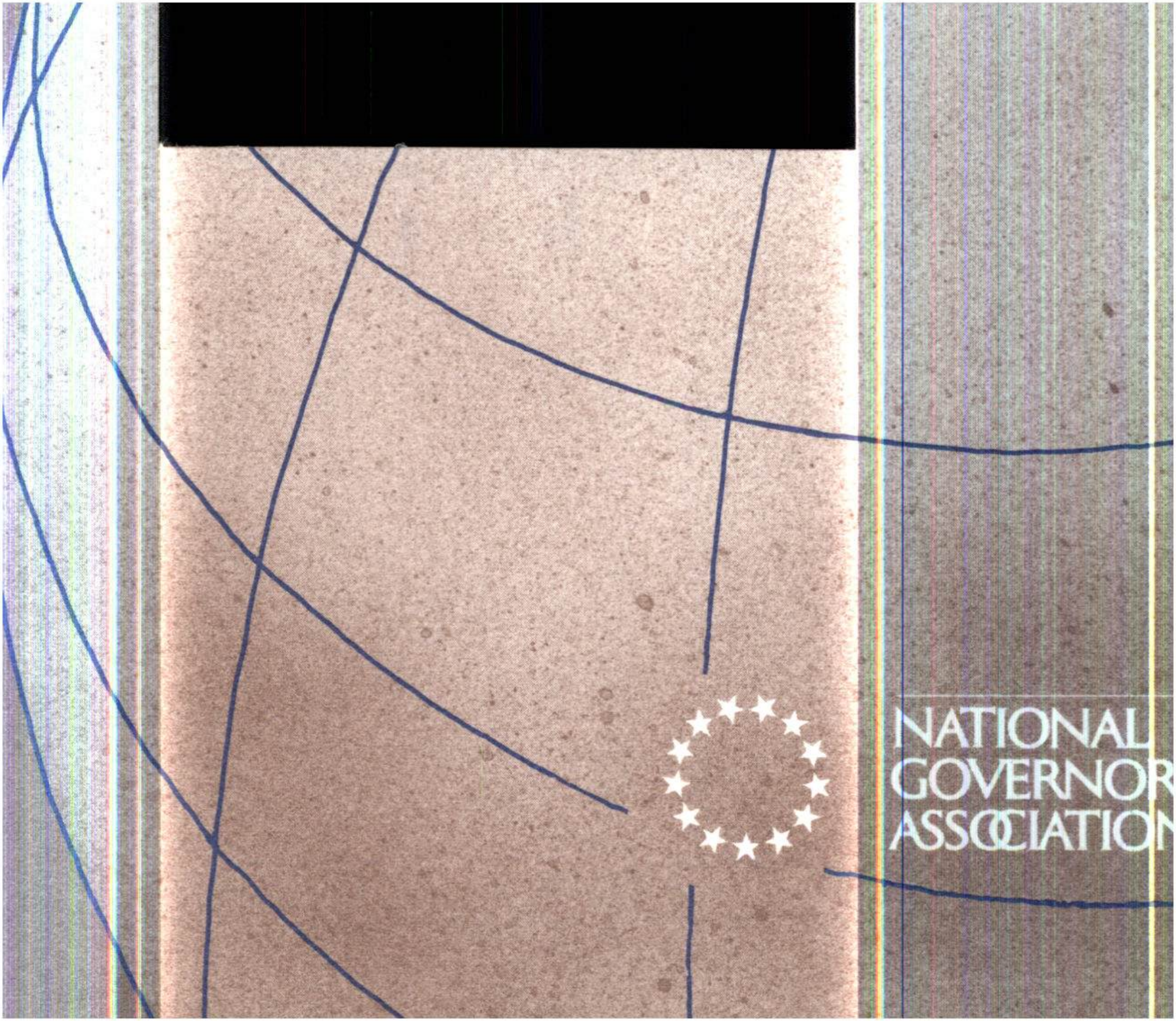
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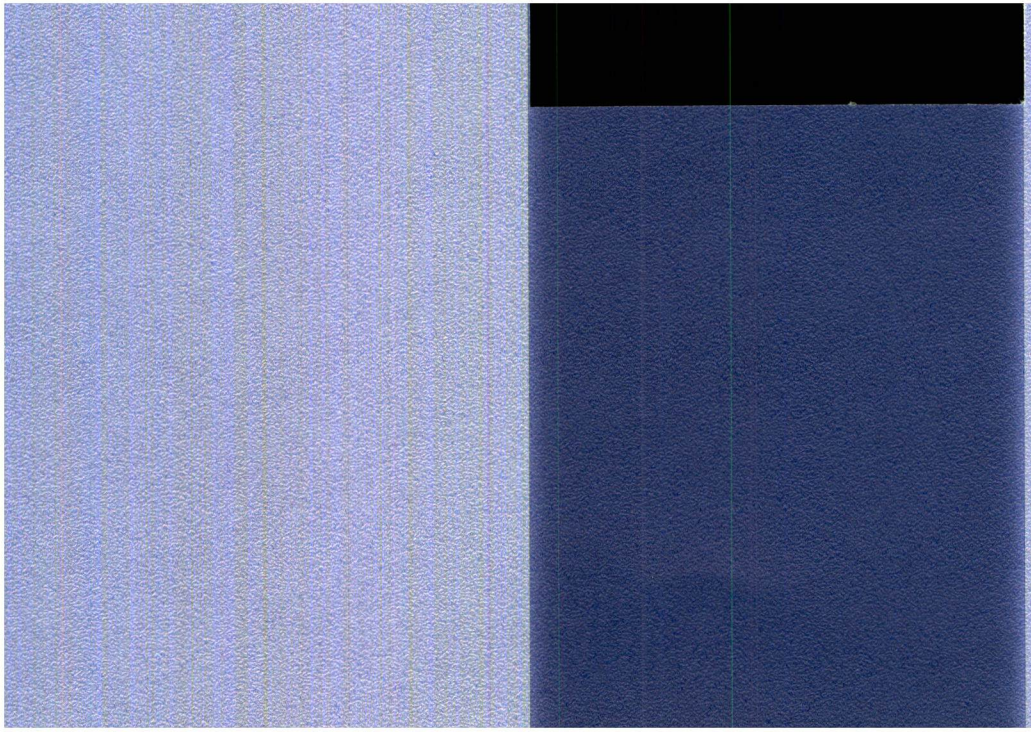

The association serves as a vehicle for sharing knowledge of innovative programs among the states and provides technical assistance and consultant services to Governors on a wide range of management and policy issues. The Center for Policy Research serves the Governors by undertaking demonstration projects and providing anticipatory research on important policy issues.

AMERICA IN TRANSITION

The International Frontier

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Chairman's Overview
Foreword

"Whether we welcome it or not, our domestic market is now part of the global market, and the central question is whether our businesses and people will be able to compete in those markets successfully."

Governor Gerald L. Baliles
Virginia

Chairman's Overview

The world is growing smaller. Fiber optic networks span the continents, linking remote corners of the globe. Billions of dollars move in seconds from Milan to Tokyo to New York. Goods move across continents in a single day. An individual product may contain parts manufactured in five different countries and be assembled in a sixth. New markets and opportunities emerge almost overnight. In this highly competitive and rapidly changing environment, success belongs to those who most quickly anticipate, adapt, and respond.

The international frontier is no longer the future—a new age has arrived. The evidence abounds. A common market in Western Europe will be finalized in 1992. The United States and Canada are on a ten-year path toward free trade. World output is shifting dramatically to Japan and the Pacific Rim. By the beginning of the twenty-first century, the global economic terrain will be one of large trading blocs, instead of individual countries, trying to maximize their growth through trade.

As the global marketplace has emerged, the United States' role as an economic decisionmaker has changed. During the 1960s, when the U.S. economy was partially insulated from global influence, it was possible to influence the economy by then-traditional fiscal and monetary policies. With the development of the Eurodollar market, foreign ownership of a large portion of the federal debt, and huge increases in foreign trade, the economic sovereignty once enjoyed by the United States has been reduced.

Twenty years ago, states were bystanders as international events changed the economic landscape. That, too, has changed. Our boundaries are no longer the borders of our states, but every corner of the globe. As Governors, we are challenged to confront this new reality.

State government is well-positioned to meet the challenges of the next century. But we must begin preparing for this transition. Our agenda includes a six-point offensive. Specifically, we must:

- Discover new and emerging markets abroad for American products, to become again the Yankee traders we once were.
- Bring an international perspective to our daily living—to understand foreign nations and the people beyond our borders . . . to learn the international languages of business.
- Expand our research, and use our technology, to create both new products and new processes to maintain America's competitive position.
- Capitalize on the natural advantages of American manufacturers and regain competitiveness in our domestic markets.
- Improve our highways, airports, airways, and ports so we can effectively move our people across town and our products around the globe.
- Invest in the health, education, and training of our children so they can live healthier and more productive lives.

This year, I have created six NGA task forces to examine these issues that together form the foundation for the nation's future:

foreign markets, international education, research and technology, domestic markets, transportation infrastructure, and children.

This is the fifth of the six reports. It arose from a general concern that the proud tradition of the "Yankee trader" was slipping unnoticed and unremarked into history. America seemed to be losing its ability to sell to itself. While it is critical to America's economic future to remain competitive in foreign markets, it is at the same time essential that we do not irretrievably lose a significant share of our own markets.

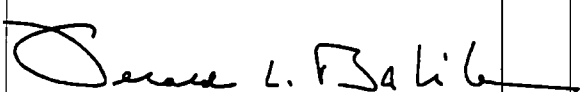
As this report points out, when the American marketplace was virtually the only game in town, it did not matter if capital financing was expensive or if the domestic workforce was not the best trained. For the most part, no domestic industry had to concern itself with alternative sources of financing or labor.

But as America has entered the global marketplace, the "domestic" labor pool has come to include the workers of Korea, Brazil, Italy, and Egypt, for example. Financing can be secured from banks in Japan, England, or West Germany as easily as it can from New York, Los Angeles, or St. Louis. So the domestic labor force and our working conditions must compare favorably with training and conditions around the world. If the cost of capital is too high in Pittsburgh, Little Rock, or Tacoma, local entrepreneurs may find their firms bought out by banks in Singapore or Amsterdam.

What the states must do to help domestic companies retain and then retake a large share of the American markets has changed as the conditions of the marketplace have changed. Now, in many cases, lower priced labor is not as important as better trained labor. The availability of capital financing for firms competing for domestic markets may depend increasingly upon innovative brokering arrangements undertaken by states. A commitment to quality, innovation, productivity, and flexibility are the marks of the new Yankee traders. The states must enhance what the task force calls their "competitive capacity" if these traders are going to compete effectively, especially in their own markets.

The nation's Governors are continuing their work, releasing recommendations on topics ranging from how to finance our aging infrastructure to how to help our children live healthier and more productive lives. Governors may not agree on every recommendation made in the reports, but we have reached some clear conclusions.

Together, these reports should serve as a guide, outlining the steps Governors and their states can take to lead the nation into the twenty-first century. . . a road map for an America in Transition.



Gerald L. Baliles
Governor of Virginia
Chairman, National Governors' Association

"The most effective way to create competitive capacity is through investments which improve the amount and quality of the resources which businesses need to succeed."

Governor James J. Blanchard
Michigan

Foreword

America is now part of a global economy so pervasive that U.S. firms must compete with the goods and services of foreign nations even for its domestic marketplace. The loss of 29 percent of domestic auto sales to imports, the nearly total domination of our consumer electronics market by foreign companies, and the growing penetration of foreign financial and real estate interests in the United States represents a direct challenge to our standard of living. Indeed, calls for a coherent national strategy to counter this international invasion of our domestic marketplace have become commonplace.

While the debate continues over how America can restore its position of world economic leadership, the nation's Governors have acted. Confronted with factory closings and mounting economic dislocation and turbulence, Governors have looked beyond political ideologies to find new ways to compete successfully both at home and abroad.

Over the past decade, the experiences of the states, especially those with industries hardest hit by foreign competition, have led to three broad conclusions on American efforts to regain lost economic leadership and the role of government in such efforts.

- First, in an international economy, industries in which we have a comparative advantage are key to achieving a rising standard of living. With new transportation and communication technologies linking remote corners of the world, nearly all goods and services can be produced wherever in the world they can be made best at the lowest cost. For the United States, this has meant the loss of markets both at home and abroad to nations that can produce the same goods, using existing manufacturing technology, at a fraction of the cost. Only by using the latest technology and skilled workers to create new products or by improving the quality and lowering the costs of existing products can a developed nation like the United States reclaim old markets and build new ones.

The state strategies discussed in this report center on the need for the United States to be a high-tech, high-skill producer to create the areas of comparative advantage that can fuel a rising standard of living.

- Second, the recent experience of the states has demonstrated that our businesses require a "competitive enterprise system" to succeed in an era of growing foreign competition. An enterprise system includes the full set of factors or inputs that a business requires to produce globally competitive goods and services. Available technologies, productive capacities of the local workforce, access to competitively priced capital, adequate public infrastructure, and appropriate governmental regulations are key components of the enterprise system.

These factors of production mattered when American industry dominated our domestic market, but they didn't affect market share. Then, industry did not have to be as concerned about these factors because the principal competitors were American, and all had to operate from the same enterprise system. The competitive playing field was at least level.

All that changed with the rapid internationalization of the economy during the 1980s. For the first time, the quality of the enterprise system could alter a firm's com-

petitive prospects. Indeed, if basic community resources—workforce, technology, and capital—were sufficiently inferior to those of competitors elsewhere in the world, a firm might find itself out of the race.

As a result, the economic strategies of Governors have focused on strengthening the elements of the enterprise system that are especially important to local industries. These initiatives will continue to be the cornerstone of state economic development strategies into the 1990s. What is urgently needed now is a federal strategy to deal with the deficiencies in the American enterprise system that can best be addressed at the national level.

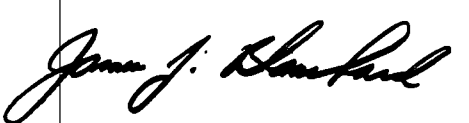
- Third, the role of government in business development has been changing as states have moved to ensure the existence of an enterprise system that allows companies and people to use new technologies and skills to compete. Instead, up until the last decade, when the continental market was the nearly exclusive domain of U.S. enterprises, political debate focused on the size of government. Some argued for letting the markets work their magic with minimal government interference. Others called for a more active government role to fill market gaps. In a domestic economy unchallenged by outsiders, both approaches could work if practiced in moderation.

However, in a world economy where business requires a competitive enterprise system for success, and an individual's economic security demands access to education and skills, Governors have found that neither of the traditional government models quite fit. While excessive government interference in markets must be avoided, a laissez faire philosophy of government robs the community of a valuable instrument that could organize the resources necessary for competitive success. At the same time, a competitive enterprise system is too expensive to be "bought" and administered through the traditional government command of resources.

State economic initiatives highlighted in this report demonstrate that Governors have moved to cast state government in a new role as broker and catalyst. Instead of ignoring the lack of technology and research capacities in their states or trying to remedy the problem exclusively with massive infusions of public funds, states are trying to promote new relationships between businesses and research universities. Instead of disregarding growing skill gaps that threaten the ability of local industries to introduce new technology or trying to remedy the problem with huge public subsidies to business to cover retraining costs, states are encouraging partnerships among businesses, community colleges, and public schools to develop new curricula and teaching techniques to better prepare current and future workers. Instead of accepting the lack of innovation capital in many states or trying to remedy the problem by funding public agencies to make direct loans to high-risk business enterprises, states are trying to increase the flow of private capital into higher risk niches by sharing risks and returns.

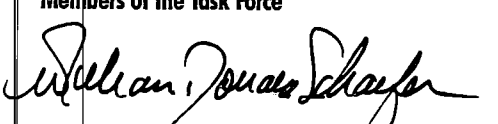
In summary, the United States is under competitive duress in the new world economy. Our businesses and people are demanding a new set of resources and opportunities from the community so they can survive and succeed in this new economic environment. This means new roles for government seeking to respond to these demands.

These are the new realities and challenges Governors have struggled to meet over the past decade. Much has been learned and much more will have to be done if America is to defend its domestic markets and its place as a world economic leader in the decade ahead. This is a report on what we have learned. We hope it will inform debate and policy development as the United States meets the challenges of the new international frontier.

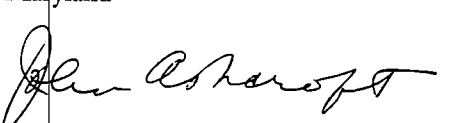


Governor James J. Blanchard, Michigan
Chairman, NGA Task Force on Domestic Markets

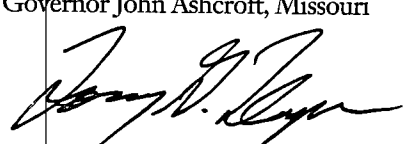
Members of the Task Force



Governor William Donald Schaefer, Maryland



Governor John Ashcroft, Missouri



Governor Tommy Thompson, Wisconsin

"For two decades, the 'Made in America' label has been vanishing as overseas manufacturers dominate entire industries."

Timothy Schellhardt and Carol Hymowitz, *The Wall Street Journal,* May 2, 1989

The Challenge

"While states cannot do much to control the world economy, they can do a great deal to ensure that American firms are adaptable, technologically innovative, and competitive with the firms of any other nation."

Governor John Ashcroft
Missouri

The Challenge

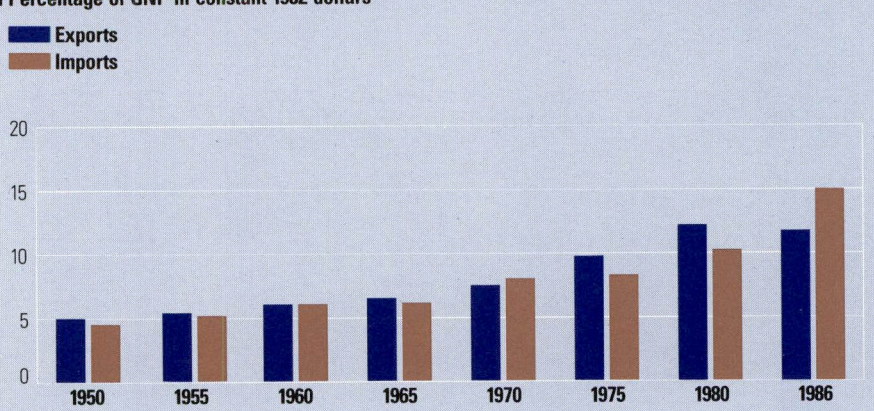
The United States has lost its competitive edge. U.S. business has suffered a major loss in market share at home as well as abroad. The enormous U.S. market is a major prize in a global economic contest, a prize that nations all over the world strive to win. Too often uncompetitive with our rivals in productivity, price, and sometimes even quality, U.S. business has ceded much home ground to overseas producers. The trend must be reversed. Recapturing a significant share of the domestic market is a critical step to improving the long-term health of the U.S. economy.

U.S. consumers make up the world's largest unified market. Valued at $5 trillion annually, it is an attractive target for any nation's exports. The developed and newly industrialized nations of the world have taken aim at this bull's-eye, choosing export strategies that are widely varied and frequently successful. Consider the following statistics:

- Of every dollar they spend, Americans spend 27 cents on imports.
- U.S. merchandise imports have soared from $257 billion in 1980 to $460 billion in 1988—a 179 percent increase.
- Foreign nations supply 29 percent of our automobiles and 95 percent of our consumer electronic goods.
- Japanese and European firms supply 18 percent of U.S. banking and insurance industry services.

The obvious success of foreign importers raises basic questions about the competitiveness of U.S. industry in U.S. markets. Notwithstanding the sharp drop in the value of the dollar, many foreign producers are still marketing products at competitive prices. Further, these same foreign competitors often get new goods to market faster than U.S. firms, giving them an edge in the race for U.S. markets.

Figure 1 **U.S. Exports and Imports as a Percentage of GNP, 1950-1986**



Source: Congressional Office of Technology Assessment, *Technology and the American Economic Transition: Choices for the Future*, p. 18.

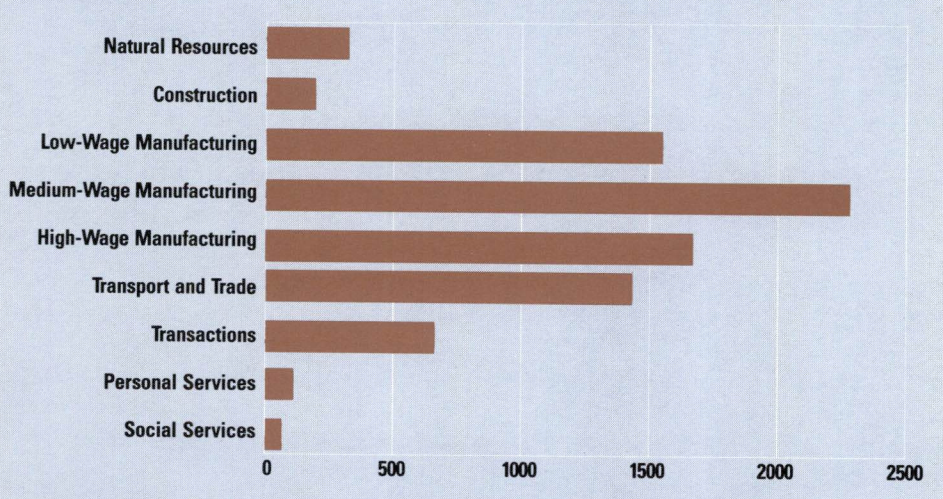
The eroding domestic strength of U.S. business highlights several problems in the relationship between business, government, and labor. On the whole, U.S. business has been paying more attention to short-term profits than long-term investments. Not enough time or capital has been invested in increasing productivity or improving design and quality. For its part, the federal government has been slow to act on the budget deficit and to invest more money in commercial applications of research and technology or in public investment. From 1980 to 1987, per capita federal spending on education and training (in constant dollars) fell 42 percent; on civilian research and development, 30 percent; and on transportation systems, 17 percent. And according to the National Assessment of Educational Progress, the skill level of new entrants to the American workforce has been declining. Too few Americans have the educational and technical skills they need.

Productivity and investment in new technologies and processes have been growing slowly. As a result, U.S. products too often fall behind imports in terms of quality and cost. A shocking statistic dramatizes the problem. According to "The Push for Quality," a 1987 report by *Business Week* magazine, 25 percent of all labor expended in American factories goes to fixing mistakes made earlier in the production process. This reduces our efficiency compared to our competitors. The average Japanese auto assembly plant turns out about half as many defects as do plants in either North America or Europe. Reorganizing U.S. industrial processes to eliminate mistakes would improve quality *and* reduce costs.

Our economy cannot prosper if we continue to be overwhelmed by imports. A key challenge is to regain a significant share of our current markets while responding quickly to emerging markets.

Figure 2 Number of Jobs Foregone Because of Imports of Manufactured Products in 1984

In Thousands of Jobs



Source: Congressional Office of Technology Assessment, *Technology and the American Economic Transition: Choices for the Future*, p. 32.

The payoff could be dramatic. Between 1982 and 1987 the import share of total U.S. consumption (excluding oil) rose from 14 percent to about 27 percent. More than 5 million additional jobs would exist in the United States today if import penetration had been kept to the 1982 level.

Meeting this challenge requires a joint partnership between government and the private sector. State government can and must play a critical role. States are uniquely situated to build "competitive capacity" by fostering a better educated workforce, more responsive capital, and a strong program of applied research. These resources are the foundation for business efforts to increase productivity and to improve the quality and design of goods and services. Restoring competitiveness to America's businesses, workers, and communities requires more than managing exchange rates or negotiating trade agreements. Although they are important, these traditional tools must be linked to ground-floor developments in schools and community colleges, in research laboratories and universities, and in financial institutions and other community resources.

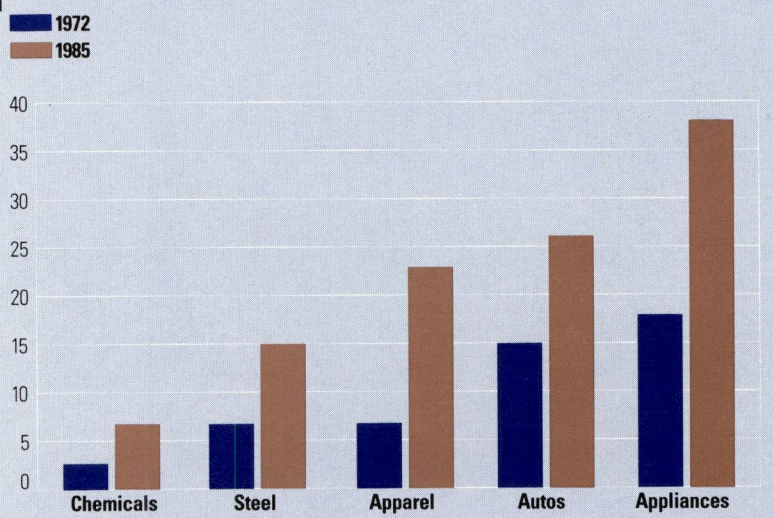
Increasing competitive capacity means raising the quality of our educational system to raise the skills of our workforce; moving capital to firms and new goods to market; and translating research into technology and technology into goods. In some instances, such as improving basic education, a state can act directly. In others, such as encouraging the flow of risk capital or more commercial research at universities, the state must create incentives or opportunities for private action. But competitiveness must begin at the ground level.

The nation's Governors are keenly aware of the threat to state, regional, and

"The U.S. trade deficit is mostly a deficit in the trade in manufactured goods. Of the $161 billion current account deficit in 1987, 85 percent was in manufacturing trade. The growing U.S. service sector cannot generate sufficient trade to offset continuing deficits in manufactured goods trade."

Congressional Office of Technology Assessment, *Paying the Bill: Manufacturing and America's Trade Deficit*, 1988

Figure 3 **Imports as a Percentage of Sales in the U.S. for Selected Major Industries, 1972 and 1985**



Note: Appliances include domestic appliances, radios, and TV sets.

Source: U.S. Department of Commerce. Reprinted from *The Technological Dimensions of International Competitiveness: A Report to the Council of the National Academy of Engineering*, 1988, p. 17.

national economic prosperity. During the past decade, many have used innovative approaches to economic development, working hand in hand with state leaders in business, labor, education, and local government to respond to economic opportunities and problems.

Promoting and nurturing economic growth is an area where state and local governments have experience and can continue to make progress. In the 1990s, the primary economic challenge for states will be to develop the new competitive capacity their businesses require and encourage a more cooperative and interactive relationship between business and the public and private resources that will generate such capacity. Harvard Professor Robert B. Reich notes that, "States have led the way in reforming basic education, devising methods of retraining older and disadvantaged workers, designing ways to finance start-up businesses that may be too risky for venture capitalists but promise large social returns, 'incubating' small business, pushing technology out from research laboratories, and creating a range of partnerships between public, private, and not-for-profit sectors aimed at stimulating local and regional economic development." The challenge is to more fully pursue these and other new strategies to enhance the ability of U.S. businesses to compete and win the domestic market and markets beyond our borders.

"The governments of other major industrialized countries place greater emphasis on focusing R&D efforts in areas believed to be important to economic development. One estimate suggests that, at most, only about 10 percent of federal R&D is relevant to the technical needs of industry."

Council on Competitiveness, *Picking Up the Pace,* 1988

The Context

"Our ability to compete internationally faces unprecedented challenge from abroad. Our world leadership is at stake and so is our ability to provide for our people the standard of living and opportunities to which they aspire."

President's Commission of Industrial Competitiveness, *Global Competition: The New Reality,* 1985

The Context

Large-scale international competition in the U.S. domestic market became a fact of life during the 1980s and will remain so as we approach the twenty-first century. In fact, 70 percent of all American-made products now compete with imports. On one hand, foreign producers target the U.S. market because it is both attractive and accessible. On the other hand, slower U.S. productivity growth compared with a number of our trading partners has undermined our capacity to compete. At the same time, international developments ensure continued strong competition from foreign firms in the years ahead.

Table 1 **U.S. Merchandise Exports and Imports, 1987**

In millions of 1987 dollars

Industry	Exports	Imports
Agricultural Products	$ 18,985	$ 16,033
Raw Materials	5,613	37,081
Construction	0	0
Light Manufacturing I	13,281	58,887
Light Manufacturing II	25,737	33,621
Chemicals and Related Products	32,717	30,916
Machinery and Heavy Manufactures	72,324	103,062
Electronics and Telecommunications	39,490	56,057
Transportation Equipment	44,719	88,426
Total Manufacturing	**228,268**	**370,968**
Total	**252,866**	**424,082**

Note: Sum of entries may not equal totals due to rounding.
Source: Faye Duchin and Glenn-Marie Lange, Economic Policy Institute, *Trading Away Jobs: The Effects of the U.S. Merchandise Trade Deficit on Employment,* p. 16.

The U.S. Market

With more than 200 million consumers, the United States is one of the largest unified markets in the world. Our people share a common language and enjoy modern and efficient transportation and communications systems, which facilitate the movement of goods to market. Moreover, the nation is one of the world's most affluent. It is small wonder, then, that businesses from around the globe have taken aim at the U.S. market. Foreign businesses have taken advantage of opportunities and amenities offered by the United States and have shrewdly adapted their marketing practices to maximize sales here. They have learned our language, studied our habits, and conducted polls to identify tastes and preferences. They have anticipated and adapted to change. As a result, they have succeeded.

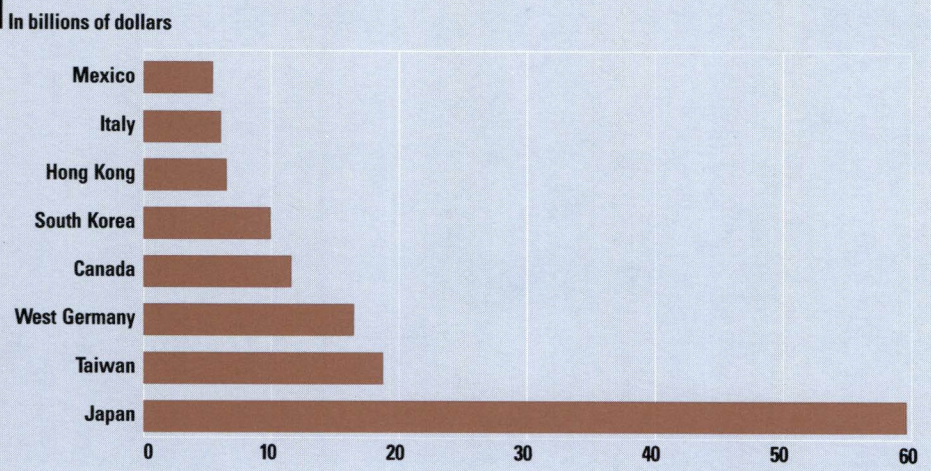
International Competitors

To compete successfully, U.S. industry must learn to adapt quickly to changes in the international sphere. Developments now underway promise to significantly alter competition in our markets at home and abroad.

In the years ahead, our traditional trading partners—Canada, Europe, and Japan—will compete more fiercely for the U.S. market. Recently, the United States and Canada signed a free trade agreement that phases out tariffs and many other trade barriers over the next ten years. This will promote and intensify competition between the two countries.

In 1992, the European Economic Community (EEC) will become a single, unified market, removing many barriers that once existed among European countries. The EEC will begin trading as a bloc and facilitate the intra-European flow of capital and technology, making Europe an even stronger competitor in the U.S. market. Japan is and will likely remain our toughest competitor in the foreseeable future. The Japanese have become famous for their ability to quickly turn technological advances into profitable commodities and anticipate rather than react to

Fig. 4 Largest U.S. Trade Deficits by Country, 1987



Source: Congressional Office of Technology Assessment, *Paying the Bill: Manufacturing and America's Trade Deficit*, p. 3.

changing consumer demands. For example, they have emerged as strong competitors in the field of supercomputers, an area once dominated by the United States.

Newly industrializing countries (NICs) are driving their economies with exports and have emerged as new competitors for U.S. industry. The "Four Tigers" of Asia—Hong Kong, Singapore, South Korea, and Taiwan—have been particularly successful with their strategy of producing high-quality, technologically advanced products at low cost to gain a competitive advantage in several industries. U.S. imports from these and other NICs such as Brazil, Malaysia, and Mexico have grown an average of 11 percent per year since 1960. Forecasts indicate an acceleration of this trend; U.S. imports from NICs may represent 29 percent of total imports in 1995, up from 19 percent in 1988.

Raising Productivity

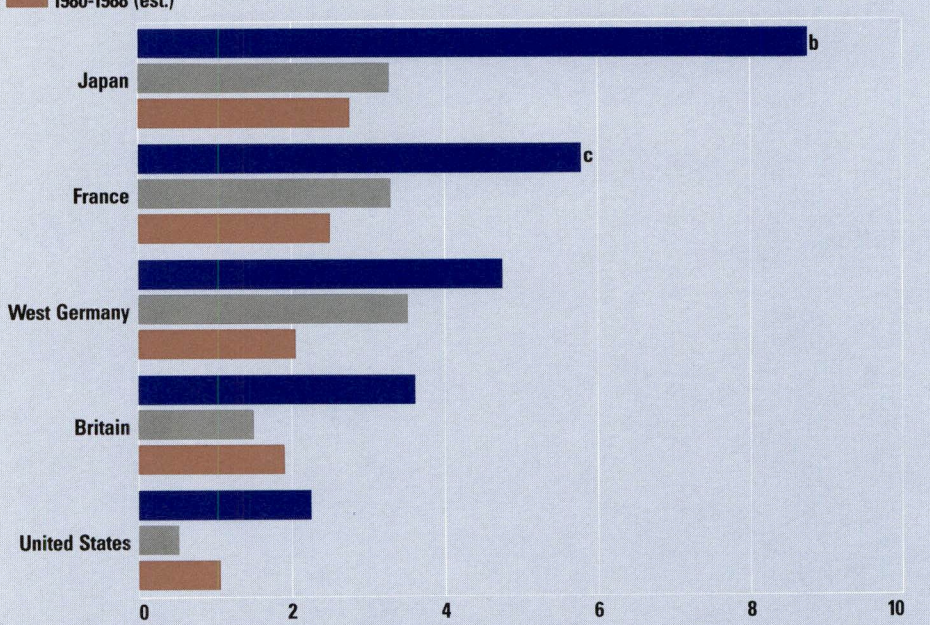
Imports from newly industrializing countries might not have as great an advantage if U.S. productivity grew more quickly. U.S. productivity is growing more slowly than that of many of our competitors, reflecting to some extent a lower rate of capital investment and a declining skill level in the workforce. From 1977 to 1987, for example, Japanese productivity increased by more than 70 percent, while U.S. productivity increased 32 percent.

Quality and New Product Development

Quality and the ability to develop new, well-designed products are other areas in which the United States is lagging behind other countries. A recent Gallup poll showed that only 48 percent of consumers rate American-made products highly, down from 51 percent three years ago. Although 66 percent of the respondents indicated they prefer American-made products, compared with 61 percent in the

Figure 5

Average Annual Increase in Manufacturing Labor Productivity[a]



Notes: a. Private sector employment, including self-employed. b. Figures are for 1966-1973. c. Figures are for 1964-1973.
Source: Organization for Economic Cooperation and Development, 1989.

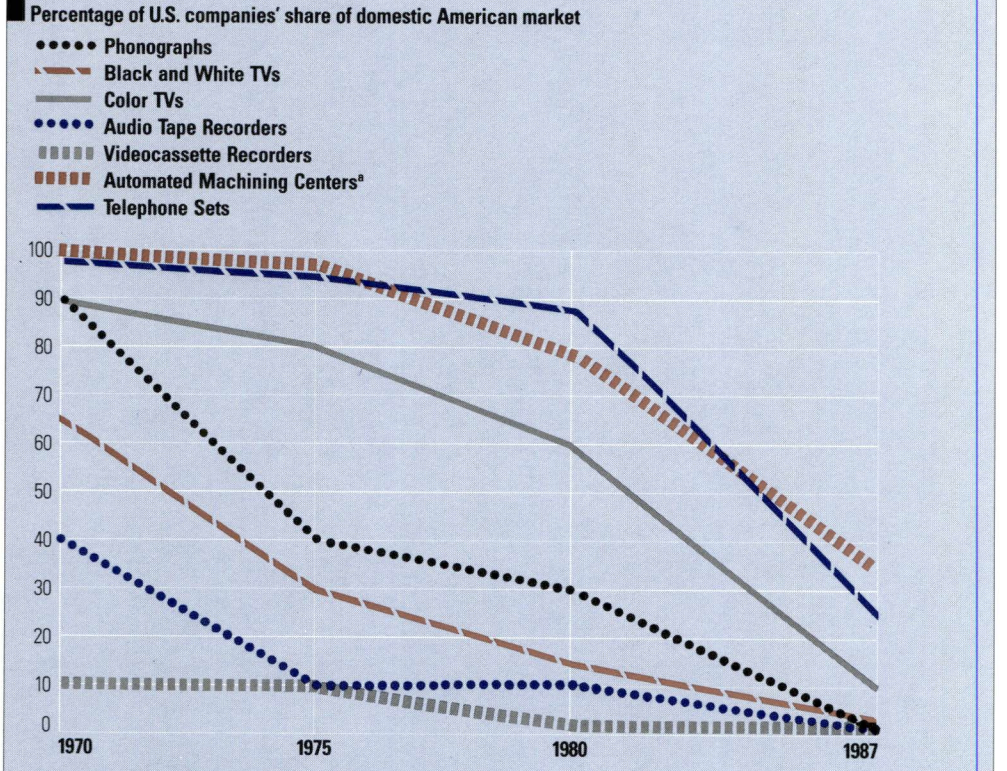
earlier survey, the increase reflected a rise in the number of consumers who prefer goods made in the United States by foreign-owned firms. While American firms are devoting new attention to quality, still more needs to be done.

U.S. firms also have lost their advantage in the design and introduction of new goods and services. American consumers are often attracted to foreign products because they offer more innovative and functional design. Moreover, foreign firms often are able to develop and market new products more quickly than their American competitors.

Quality and new product development are both related to research and the continued development of new technology. New manufacturing processes are vital to improved quality, which often depends on adoption of new technologies. In addition, technology is a major factor in developing new products, yet the U.S. lead in research and development is declining, contributing to a slower rate of innovation. A study by the Brookings Institution underscored the need for expanding "middle ground" research—research that applies to commercial product development.

Figure 6

U.S. Share of Technology Markets, 1970-1987



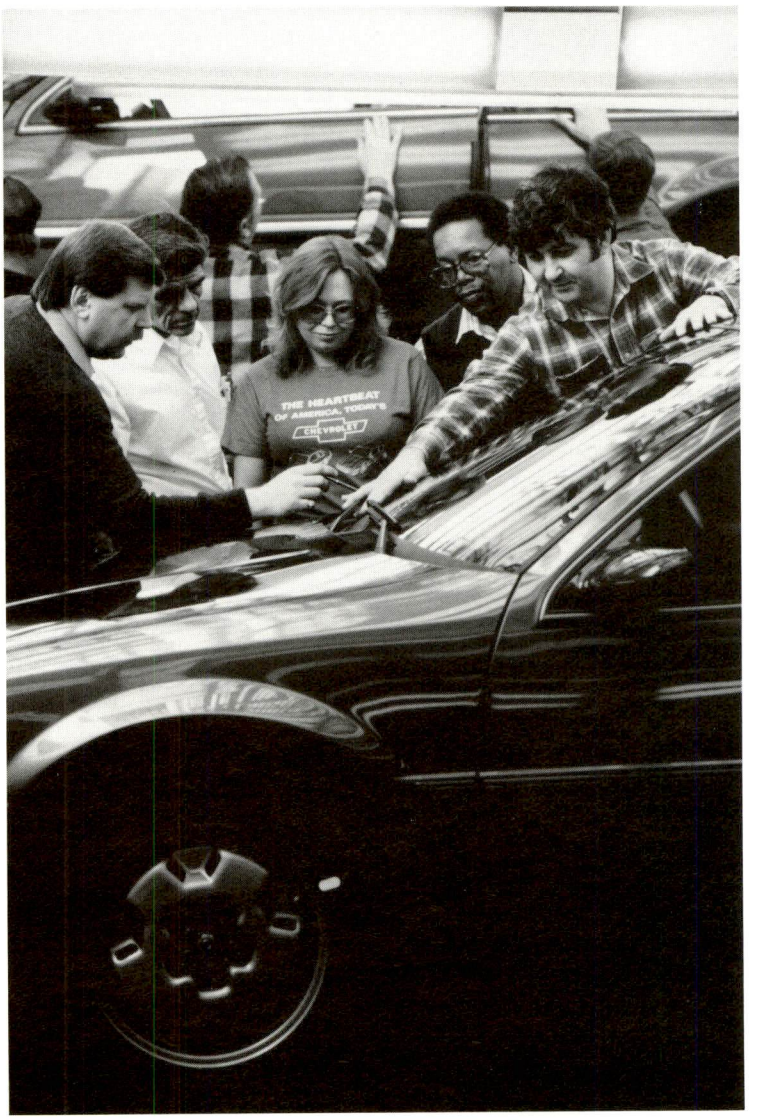
Note: a. Figures for 1970 and 1975 are estimates.
Source: Council on Competitiveness, *Picking Up the Pace: The Commercial Challenge to American Innovation*, p. 15.

Although government in the United States continues to invest heavily in research on defense, health, and space exploration, the U.S. share of total investment in research is declining. Equally important, while the development and application of new commercial technologies in the United States have traditionally been left to the private sector, the governments of other industrial nations often are playing an important role in the commercial application of technology.

As long as America lags behind its competitors in productivity growth, workforce skills, and the application of technology, it will continue to lose ground in the domestic market.

"Comparative economic advantage has taken on new meaning. It means human creative power, a highly educated workforce, organizational talent, the ability to adapt. Moreover, these attributes are not conceived of as natural endowments but as qualities achieved through public policies such as education, organized research, and investment in social overhead capital."

David Osborne, *Laboratories of Democracy,* 1988



"The prime source of the U.S. economy is neither its great stock of money, plant, equipment, and technology nor its abundant natural resources and rich cropland. Rather, it is the knowledge, skills, wisdom, enthusiasm, and versatility of the American people."

Pat Choate, *The High-Flex Society,* 1986

Critical Issues

"Whether it is building stronger educational systems, developing technological innovations, or responding to changes in the workplace, we must never forget that helping people is our highest priority."

Governor William Donald Schaefer
Maryland

Critical Issues

The happy marriage between U.S. consumers and imported products may enjoy an extended honeymoon. A combination of factors, including increased worker productivity and the rapid application of new technologies, contribute to the attraction of Americans to foreign goods and services. It is likely that foreign governments and businesses will continue to devote time and resources to maintain and expand their share of the lucrative U.S. market. U.S. industry, in contrast, faces the task of wooing back a once-captive market.

For the U.S. economy to grow and remain strong, it is vital that our businesses reverse recent trends and regain a larger segment of our own markets. To do so, government and the private sector must work together to increase our competitive capacity.

National and International Concerns

A number of critical issues must be addressed. At the international level, the federal government must ensure that foreign businesses compete in the U.S. market on a level playing field. Trade agreements must be designed so foreign governments are not allowed to subsidize the production of goods for U.S. markets. Maintaining economic stability, favorable exchange rates, and an environment conducive to competition is the province of the federal government. Developing competitive capacity in the United States depends, in part, on efforts to address the budget deficit and establish a fiscal and monetary policy that discourages inflation and maintains reasonable interest rates.

The federal government must ensure continued investment in human and capital infrastructure as well as federal support for research and technology. A sound transportation system is vital for the efficient manufacture and movement of goods. Federal transportation revenues must be used now to repair the nation's decaying infrastructure. Moreover, federal support for research and development provides a foundation for complementary efforts at the state level. This support must be maintained and focused better for research and development programs to grow and be more closely linked to the needs of business.

The Capacity to Compete

While the national government will continue to play a critical role in encouraging and assisting economic development, states must be prepared to play a new and more aggressive role in addressing the factors that enhance actual capacity to compete. Building competitive capacity requires states to address four important issues—technology, the workforce, capital, and government services.

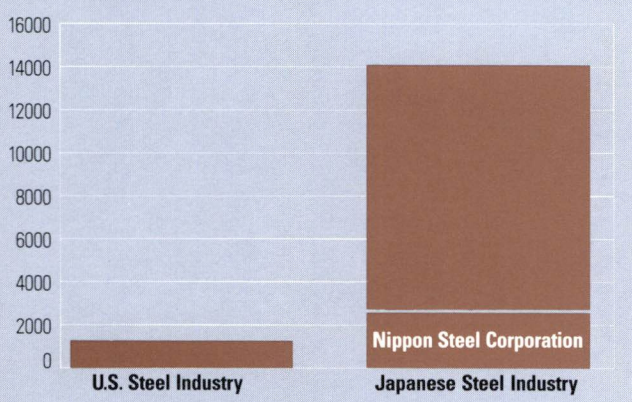
Technology Development and Application

The pace and productivity of applied research devoted to the development of new technologies with commercial applications must be increased. Such efforts are crucial not only in markets still dominated by U.S. products, but also in markets such as consumer electronics where American firms have largely been supplanted by foreign competition. New technologies create new markets and provide an opportunity to improve the design and efficiency of existing products. The United States cannot afford to concede future development in any area of consumer demand.

In the short term, public universities must be encouraged to give a higher priority to applied research and to strengthen the ties between business and research uni-

Figure 7

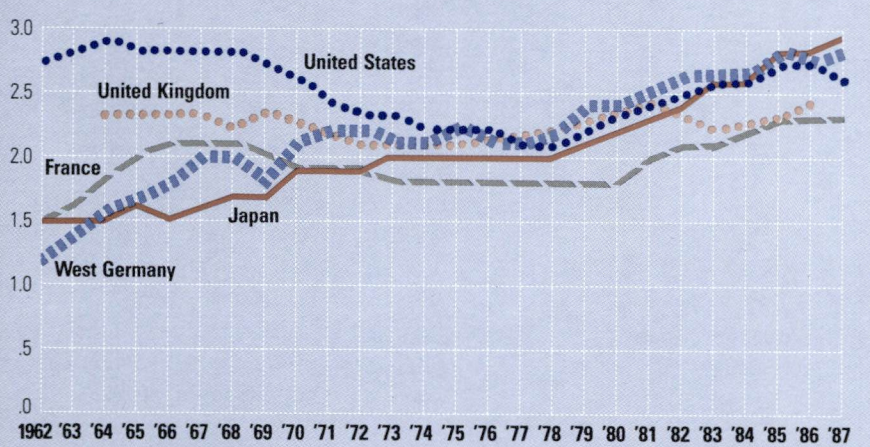
Number of Employees Engaged in Research and Development, 1987



Note: Employees include managers, professionals, and technical and support staff.
Sources: U.S. Steel Corporation and Japan Steel Information Center.

Figure 8

Total R&D Spending as a Percentage of GNP



Source: National Science Foundation, *Science Indicators.*

versities. The rapid dissemination of new technologies must be encouraged and new mechanisms must be established to encourage closer ties between academic research and product and process development.

In the longer term, the supply of engineers, mathematicians, and scientists who will devote their careers to applied research must be increased, and the pool of researchers who are fluent in foreign languages must be expanded and encouraged to participate in international research.

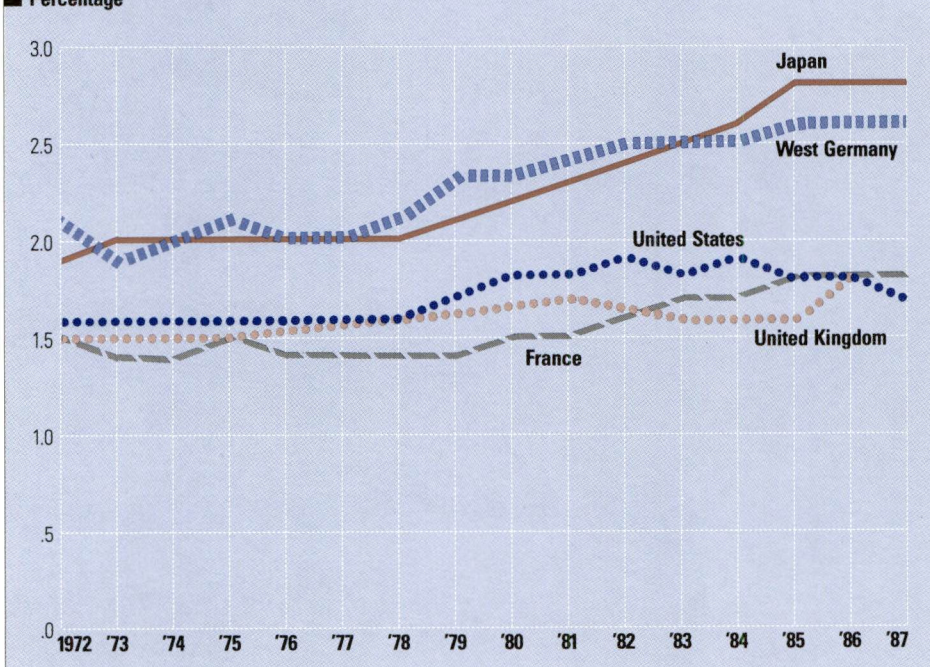
Stronger Workforce Skills

The quality of the U.S. workforce must be improved if American business is to improve quality and productivity. Too many American workers are deficient in basic literacy and computational skills. Twenty percent of the entire American workforce may be functionally illiterate, compared with only 1 percent of Japanese workers. Current trends do not bode well for the future. Too many young people are dropping out of school or graduating without the skills needed for increasingly complex entry-level jobs. The National Assessment of Educational Progress estimates that 43 percent of Americans between the ages of twenty-one and twenty-five are unsuited to high-technology occupations because of their inability to master directions, communicate ideas, or calculate at a level sophisticated enough to perform well in these areas.

Rapid changes in the international market and in technology require a flexible workforce that can be retrained quickly to meet emerging demands. The increasing productivity of our international competitors also means we need to establish a cadre of skilled managers who can develop new approaches to designing and managing work in U.S. businesses.

Figure 9

Nondefense R&D Spending as a Percentage of GNP

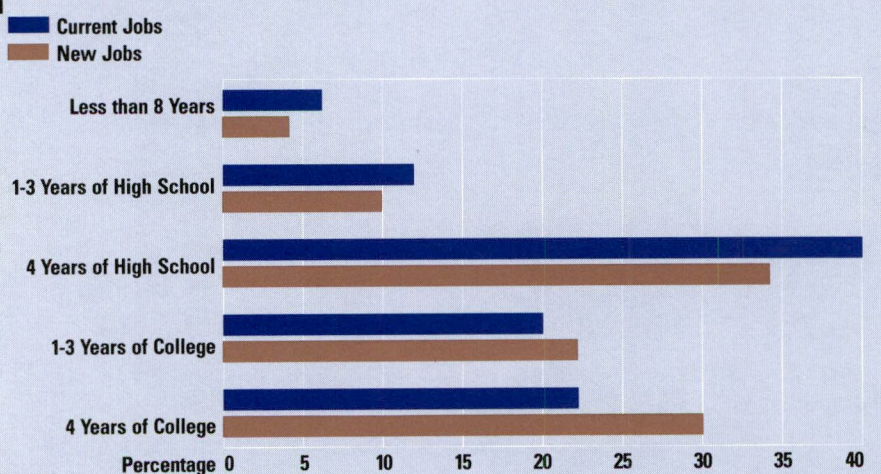


Note: Figures reflect national R&D expenditures, excluding government funds for defense.

Source: National Science Foundation, *Science Indicators.*

Figure 10

Level of Education Required: Current Jobs vs. New Jobs



Source: U.S. Department of Labor, *Workforce 2000: Work and Workers for the 21st Century,* June 1987.

The history of the United States as an industrial nation typically is written from the two alternative perspectives of management and labor. Today the line between the two is less distinct, and the need for partnership is becoming clearer. As New York's Cuomo Commission on Trade and Competitiveness noted, "The way Americans work is changing, and none too soon. In many workplaces, the hierarchy, chain of command, and division of labor have been replaced by a more collaborative approach. Experiments in new ways of organizing work, both manufacturing and services, have blurred the lines between the managers, supervisors, workers, unions, and shareholders."

Efforts to improve the workforce will need to proceed simultaneously on several levels to increase cooperation between labor and management, improve management training, and encourage participatory management. Building a stronger workforce means teaching people both basic and managerial skills. Training programs must be able to adjust rapidly to the emerging needs of employers. Their success can be measured through the assessment of worker skills.

More cooperation between management and labor is needed. As production processes become more varied and complex, workers need to act as managers at the most basic level, making decisions that affect quality and productivity on a daily and hourly basis. New approaches to management training would foster both the flexibility and the teamwork required to improve quality. Training workers and offering them incentives to assume greater responsibility for the finished product would maximize productivity.

Moreover, as the growth in the workforce slows, a larger portion of the population will be called on to participate more fully in the job market. School dropouts, mothers on welfare, and other discouraged job seekers must be given an opportunity to receive the basic education and skills training that will make them attractive and productive employees.

Improved Access to Capital

U.S. firms will need capital to invest in the modernization of production facilities and the rapid introduction of new products and services. Increasingly, the demands of international competition require the modification of production capacity to develop more individualized products. Similarly emerging technologies, such as fiber optics, require a substantial investment in new forms of infrastructure.

Although large businesses will continue to play a vital role in the growth of the U.S. economy, small and newly developed businesses often are the incubators of new products, processes, and services. The availability of capital is critical to the continued development and expansion of these small or emerging businesses. Steps must be taken to increase the flexibility of the capital market and to encourage new investment in higher risk enterprises.

More Effective Government Services

U.S. firms need a supportive government environment to facilitate necessary regulatory compliance and to provide access to services not readily available to individual firms. Where possible, complex business regulations and permit requirements must be streamlined and made more flexible. For example, state laws that affect interstate trucking must be better coordinated, and costly administrative procedures must be simplified. And state regulations concerning quality and consumer safety should be examined to reduce inadvertent barriers to the interstate flow of goods and services.

Too often small firms are unable to make the investment needed to analyze imports or to identify local markets for components or assembly services. Without such information, important business opportunities may continue to be lost to foreign firms. States can take a more aggressive role in brokering information and services designed to identify market opportunities for domestic firms.

Streamlining government assistance can help increase the state's competitive capacity. When government services are fragmented or spread across many agencies, businesses have to work harder just to make use of what is available. By ensuring effective coordination at the state level, states open the way to smaller firms seeking to obtain training, capital, and other services, making them more efficient producers.

In summary, the U.S. market will continue to attract strong competition from foreign businesses throughout the world. Success will belong to those firms that produce high quality products at competitive prices and take the lead in developing new products and services.

To regain and retain a larger share of the domestic market, business and government must work together to establish a stable economic climate and increase the competitive capacity of the resources available to U.S. producers. Public/private partnerships must be developed to provide well-trained and flexible workers; ensure a more effective process for the development, commercialization, and application of research and technology; and make capital more readily available. Finally, government regulations and services must have the flexibility to help U.S. firms produce more marketable goods and services.

"Capital investment is critical to productivity, but so is investment in people."

Business Roundtable on International Competitiveness, *American Excellence in a World Economy,* 1987

The State Role
State Action Agenda

"The cooperation among government, business, labor, universities, and community groups that can influence economic growth in many cases is best undertaken at the state level."

R. Scott Fosler, *The New Economic Role of American States,* 1988

The State Role

Much of what occurs in the domestic market is determined at the federal level. For example, trade policy and the value of the dollar are federal responsibilities. But states also have a large role to play in helping business recapture home territory. State and local governments directly provide or influence a wide variety of services that are critical to business efforts to increase productivity and quality.

Laying the physical foundation for economic success—highways, railroads, utilities—is traditionally the responsibility of government in the United States. When America's economic dominance was unchallenged, governments could focus on physical infrastructure for commerce. Now, however, governments must focus on providing an even broader foundation—one that includes a better educated workforce, more flexible capital, and a broader base of applied research. Most states are already active in these areas. But it is now necessary to recast and reorient traditional programs to focus on creating competitive capacity.

To help American business develop greater capacity to produce well-designed, high-quality, low-cost goods without sacrificing worker income or well-being, many states have adopted a strategy of economic activism. They are taking a more aggressive approach to building technology, capital, and skills, and are creating new avenues of assistance to business. States have begun to focus on processes such as technological innovation, capital and business formation, commercialization of research, and adoption of new manufacturing technologies.

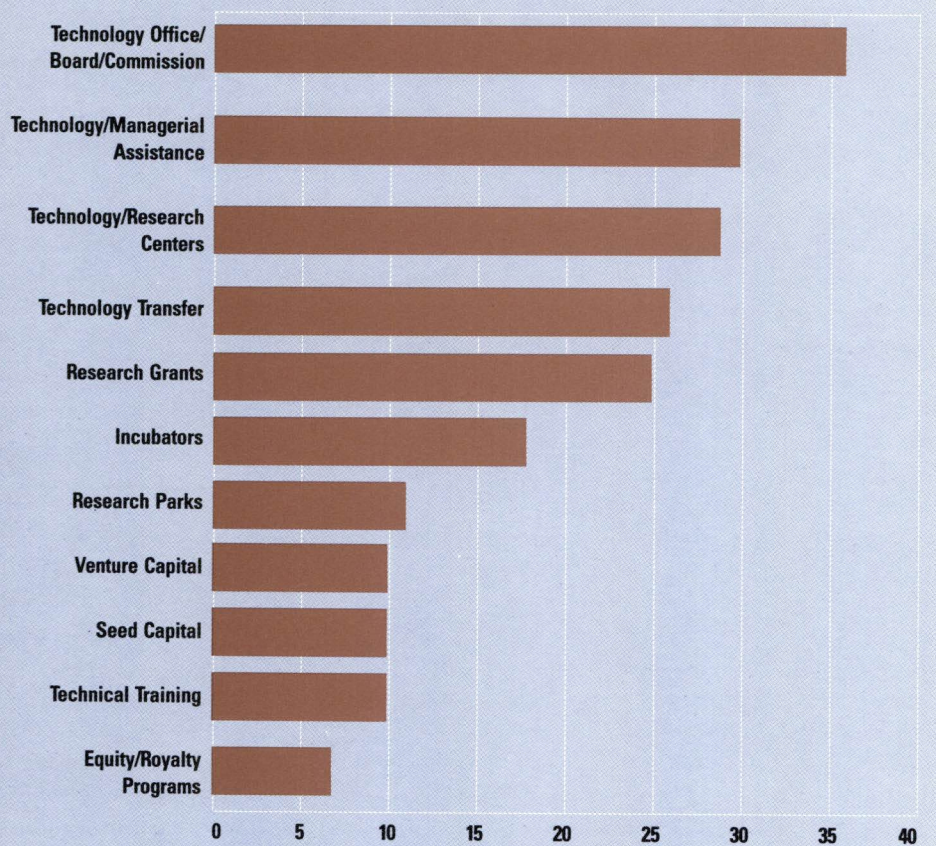
In the area of technology, states have begun to augment federal and private research development efforts with state-funded research in universities. Many have encouraged partnerships between universities and businesses. Perhaps most important, states are serving as conduits for dispersing technologies among businesses, particularly to small entrepreneurs. Roughly half the states have created programs to link academic research with entrepreneurial efforts.

To fill gaps in capital markets, some states have changed their regulations to encourage banks to take moderate investment risks. Others have authorized the creation of new private financial institutions that specialize in lending to small and medium-sized businesses. Incentives to banks for small-business lending and partial state funding for private venture capital firms are among the strategies employed. Between 1983 and 1984, about thirty-one new public development funds were created by state governments.

States have the lion's share of responsibility for developing the labor force. In addition to funding education in public schools, state and local governments provide technical training through vocational schools and professional education through state universities. They maintain job banks to match workers with potential employers and compensation systems for displaced workers.

State governments are entering a new era in which success in creating competitive capacity is vital for business efforts to recapture and retain important markets, both domestically and internationally. In essence, the state strategies outlined above build competitive capacity in the development and application of technologies, capital markets, and workforce skills—the keys to winning back the domestic market.

11 Number of States Supporting Science & Technology Initiatives, Fiscal 1988



Source: Minnesota Department of Trade and Economic Development, *State Technology Programs in the United States,* 1988.

"We must create a climate in which our firms can more easily adopt new manufacturing technologies and more rapidly move innovations into the marketplace."

Governor Tommy Thompson
Wisconsin

State Action Agenda

A strategy to regain and retain a larger share of the U.S. market for domestic producers requires action on numerous fronts. Both the federal government and the states have roles to play. At the federal level, care must be taken to secure and maintain equitable trading terms. Trade agreements must ensure that foreign producers do not unfairly subsidize the production of goods for the U.S. market. Foreign-made and domestic goods must be subject to the same quality and safety standards. These measures will ensure that U.S. firms are not placed at unfair disadvantage either here or abroad.

Moreover, the federal government must ensure a stable economic environment. Business development requires a fiscal and monetary climate that encourages investment and reduces excessive interest, inflation, and fluctuation in the value of the dollar.

The states, for their part, are prepared to develop a new partnership with the private sector that enhances our capacity to compete—to create the foundation that will enable U.S. businesses to develop and produce attractive, high-quality products at reasonable cost and in response to the needs and preferences of the American market. This "competitive capacity" consists of four elements: technology development and application, stronger workforce skills, improved access to capital, and more effective government services.

Technology Development and Application

Both the manufacturing and service industries are being revolutionized by technological advances, and the pace of such change is quickening. To be fully competitive, many U.S. firms must be more technologically innovative and quicker to adopt new manufacturing and business practices. They also must move new products to market more quickly. States can create a research climate and capacity that encourages and helps firms to stay on the cutting edge of emerging technologies.

OBJECTIVE: Expand the capacity for applied research and development.

American businesses that have competed most successfully in domestic and world markets often attribute their success to having stayed at the leading edge of technology. Future success demands that the United States continue to develop and encourage applied research that results in new products, services, and markets.

States can:

- Be a catalyst for new kinds of relationships between universities and the private sector.

For example, states can fund additional research centers, encourage state research institutions to establish consortia with the federal government and the private sector to fund applied research, or offer tax incentives or matching grants for joint research projects. In 1984, Virginia established the Center for Innovative Technology (CIT), a private, nonprofit corporation created by the General Assembly. The CIT invests in high-quality research with market potential at state colleges and universities, assists in commercializing that research, and aids in the creation and support of technology firms through its four research institutes and seven technology development centers.

Michigan has established a Research Excellence Fund, a competitive grant program that awards research funds to the state's universities. Awards are made annually by the state in an application process that

identifies the university's long-term strategy in specific technology areas and its plan to meet technical and economic development benchmarks for the coming year. Benchmarks include external funding, technical milestones, progress in the commercialization of research, and problem solving with business.

Wisconsin has established the Technology Development Fund to finance technical research. The program provides grants to consortia of businesses and higher education institutions embarking on research and product development that will provide economic benefits for the state. Since 1984 the program has awarded nearly $7 million to approximately fifty consortia, leveraging more than $18 million in private investment and creating more than 5,300 jobs in the process.

The Engineering Research Center (ERC) at the University of Maryland encourages cooperative efforts between industry and University of Maryland researchers. ERC's programs—which include the provision of on-site technical assistance, matching grants for joint research projects, and the operation of an incubator facility—help industry gain access to the expertise and research facilities needed to remain competitive.

- Increase the supply of research scientists and engineers available to business by expanding research and engineering faculties, expanding graduate programs, and establishing incentives to retain highly competent faculty.

Missouri's Higher Education Applied Projects (HEAP) program provides funding for challenge grants to state colleges and universities for research and applied projects expected to stimulate private investment and job creation in advanced technology businesses. State funds match private sector money in funding research projects.

In Oklahoma, the Most Eminent Scholars Program provides challenge funding to help organizations raise funds for basic and applied research. Available to colleges and universities, it provides two dollars for every dollar of interest income on endowments and provides five-year awards with a minimum of $50,000 per year.

The Ohio Board of Regents administers five programs designed to expand the state's pool of talent in advanced technological fields. These include an Eminent Scholars Program that has established endowed chairs; one-time enrichment grants for undergraduate programs in technological sciences; Productivity Improvement Challenge grants aimed at recruiting more students into science and technology; and two grant programs designed to improve research capacity at Ohio's colleges and universities.

OBJECTIVE: Encourage technological innovation.

Several studies have described the relationship between centers of technological excellence and competitive business. Such centers are often the engines that drive economic development, job creation, and successful competition in state and regional economies.

States can:

- Establish grant programs to award research funds on a competitive basis to those innovative projects that have commercial potential.

The state of Minnesota has created a public corporation, the Greater Minnesota Corporation, to promote jobs and economic growth through applied research, technology transfer, and product development. The corporation will finance applied research in partnership with private businesses, colleges, and universities; establish regional research institutes; and make direct investments in new products and enterprises.

In New Jersey, the Innovation Partnership Grants Program has been designed to encourage academic researchers and industry to work together on immediate and specific industrial problems. Colleges and universities and their faculty are eligible to receive the awards, which range from $25,000 to $250,000. In 1988, twenty-five projects were sponsored.

Institutions of higher education in Texas have access to two programs run by the Higher Education Coordinating Board. The advanced research program is designed to develop basic research capabilities, while the advanced technology program encourages applied research projects that have a potential for commercialization. Proposals are reviewed by external experts, and support is awarded on a competitive basis.

- Allow research scientists and engineers at state institutions leeway to indulge in a certain amount of experimentation to explore new avenues of inquiry.

- Provide support services for technological innovators and entrepreneurs.

In Illinois, a statewide electronic network directory provides the names, addresses, research activities, and educational backgrounds of registered faculty, scientists,

and engineers. The Illinois Resource Network enables business, industry, and government officials to tap the expertise of approximately 6,000 people from more than thirteen universities and state-based national laboratories.

OBJECTIVE: Assist in the transfer of research technology to firms producing goods and services.

A critical element in competitiveness is the ability to quickly translate new research into goods and services that will meet a consumer need. Too often U.S. competitors take advantage of technological innovations and develop and market new products before U.S. firms are able to do so.

States can:

- Encourage the development of technology incubator facilities.

Iowa's state incubator programs provide business consulting, information on management techniques, computer facilities, and direct access to the expertise of university researchers.

- Link businesses with specific needs to state research-oriented institutions.

Pennsylvania helps firms remain stable and competitive through the Pennsylvania Technical Assistance Program (PENNTAP). Available to any state business, industry, municipality, or government agency, PENNTAP services help business and industry overcome operational setbacks due to engineering, scientific, and technical problems.

- Establish technical assistance, "business extension" services, and facilitator organizations to help firms identify and use appropriate technology.

Ohio's Technology Transfer Organization provides Ohio businesses with direct access to new technology and research through a statewide network of technology transfer agents based at two-year colleges.

- Create or encourage the creation of flexible manufacturing centers, which provide a single location for manufacturing different products, depending on market needs, using state-of-the-art processes.

OBJECTIVE: Encourage the use of technology to improve the design and quality of American products.

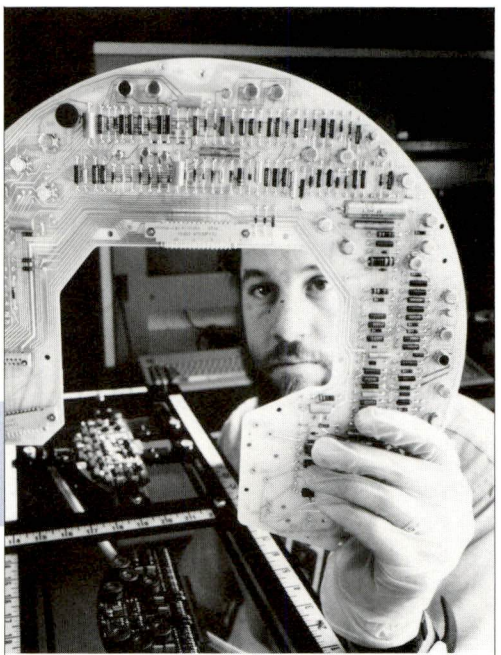
The use of technology can significantly affect the design and quality of manufactured goods and services. The best technology must be used to produce high-quality, low-cost goods for domestic and international markets.

States can:

- Encourage the development and use of computer-assisted design and computer-assisted manufacturing facilities.

- Use technology extension and other programs to make computer-assisted services available to smaller businesses and entrepreneurs who might not otherwise have opportunities for computer-assisted design and manufacturing.

In Kentucky, the Bluegrass State Skills Corporation provides assistance to the industrial technology departments of two universities to improve their curricula and to help industries in such areas as robotics, computer-assisted design or manufacturing, and flexible manufacturing.



- Create Governors' awards for excellence in design and manufacturing to help raise the visibility and importance of these issues.

In Connecticut, a private group has instituted the Connecticut Quality Improvement Award. Modeled after the Malcolm Baldridge Award, the award recognizes excellence in service and manufacturing firms doing business in the state.

Stronger Workforce Skills

If America's competitiveness lies in the better use of technology, it is imperative that its workforce—including its managers—be highly skilled and adaptable. As the quality of the primary factors of production—technology and labor—increase, so does productivity. As product quality increases, the costs will decrease. Also, computer-assisted design, automated processing, and flexible manufacturing

require greater literacy, mathematical skills, and computer skills than more traditional methods.

OBJECTIVE: Improve literacy, quantitative ability, and computer skills.

The first step to improving productivity is to ensure that U.S. workers have the necessary skills. The United States trails its major competitors in scientific literacy, mathematics, and computer skills.

States can:

- Raise achievement in math, science, and computer skills at all levels of education.

States are well-positioned to influence the educational establishment to increase standards for these critical skills and to adopt other approaches, such as increasing the amount of time spent in school by lengthening either the school day or the school year.

- Develop community-based programs to encourage adult literacy.

Virginia has launched the Virginia Literacy Initiative, which utilizes regional literacy coordinating committees and the Virginia Literacy Foundation to offer grants and services to other community agencies and organizations. The initiative is aimed at improving adult literacy in the state.

- Expand efforts to retain potential school dropouts in elementary and secondary school programs.

The Maryland Tomorrow program is a partnership of the private industry councils and the local education agencies. The goal of the program is to provide students at risk of dropping out of high school skills remediation, work experience, motivation and leadership development, support systems, and transition to work or school activities. This program has served more than 2,500 students this past year and will expand to more than 4,500 students in the next academic year.

- Ensure that vocational programs prepare workers who are well-educated, have the ability to reason and adapt, and are trained to perform specific work tasks.

West Virginia has developed new enrollment and placement criteria for vocational education and has instituted a system to certify that competency has been attained.

- Develop targeted programs to address the remedial needs of school dropouts and special populations such as young mothers on welfare.

Virginia established the Reducing Dependency Through Training Program to offer assessment, education, occupational skills training, employability development, job development, and supportive services to welfare recipients. The program is targeted at preventing the long-term welfare dependency of teen mothers and enhancing the self-sufficiency of other long-term welfare recipients.

In Missouri, four state agencies cooperate in the LearnFare Program for recipients of Aid to Families with Dependent Children. The program provides educational opportunities for General Educational Development (GED), adult basic education, skill training, on-the-job training, and counseling.

OBJECTIVE: Assist in the development of new job skills by workers and managers.

The skills required in the workforce are changing rapidly. Men and women who are currently in the workforce can expect to change jobs several times during their careers. For most employees, each change will demand new training and new skills. In addition, as new management techniques are developed, it is likely that managers and workers will also need training in team building and other skills designed to encourage independent work.

States can:

- Use state resources to better target and leverage private sector training programs responsive to market needs.

For example, the Bay State Skills Corporation in Massachusetts provides grants-in-aid to education and training institutions, matched by private sector support, to fund skill training programs in growth occupations.

- Target training resources to firms with a potential for increased growth.

In Hawaii, the Aloha State Specialized Training Program (ASSET) is available to new and expanding businesses, particularly those in high technology and growth industries.

Maryland is beginning a program called Partnership for Workforce Quality coordinated by its Department of Economic and Employment Development. The program offers assistance to business in the evaluation of training needs, the design of an appropriate curriculum, and the delivery of training. The program also offers grants of up to 50 percent of the cost of training, which may be given to the business or directly to the training institution.

Wisconsin has established the Customized Labor Training Fund to meet the critical manpower needs of specific businesses when the training is not available through existing federal, state, and local resources. The focus is on upgrading labor skills in new technologies. The goal of the fund is to stimulate the expansion of existing business, to attract and create new businesses, and to retool Wisconsin's industrial base by introducing new products and processes.

- Develop new approaches to training designed to develop the skills needed for more independent work.

In Arkansas, the Industrial Coordinator program provides customized training programs specially developed for the needs of state business and industry.

- Establish business assistance centers to provide technical and managerial assistance to entrepreneurs and small firms.

North Dakota established its Center for Innovation and Business Development to assist entrepreneurs, small manufacturers, and investors in bringing new products to market or in starting new firms. University resources are utilized to provide assistance with patent applications, product testing, and development of business plans.

- Target retraining resources to firms applying new technology to the manufacturing process.

Missouri has established the Missouri Customized Training Program to provide funding for the retraining of existing workers made necessary by the application of new technology to the manufacturing process. This provides workers with new training and new skills and companies with an improved productive capability, without having to add new jobs. The program annually receives approximately $6 million in state funds to carry out its training activities.

OBJECTIVE: Develop educational programs with economic linkages.

As the labor supply tightens and the number of unskilled jobs continues to decline, it is critical that educational programs be more directly tied to the needs of business. State and local programs should respond to emerging needs on a timely basis.

States can:

- Improve the accuracy and availability of labor market statistics.

Many states now operate sophisticated, computerized data banks that can rapidly match an applicant's skills, education, and experience with the specific needs of employers.

- Develop assessment models that measure outcomes relevant to the needs and requirements of potential employers.

In Michigan, the Governor's Commission on Jobs and Economic Development designed an employability skills profile—a composite of the worker needed to meet the challenges of the changing Michigan workplace—as the first step in assessing the state's job training and adult training programs.

- Require the development of substate training plans in consultation with expanding or developing firms.

Improved Access to Capital

Capital will not always be available where it is most needed. Many new and small businesses have difficulty attracting the capital they need to get started, to adopt modern manufacturing techniques, or to move new products to market competitively. States can respond with a variety of strategies to increase the supply of capital and help target that capital to fill these gaps.

OBJECTIVE: Identify specific business finance needs in the state economy.

Concentrating capital in large institutions with rigid policies constrains the availability of capital to smaller, riskier businesses. Many business investment opportunities fall between the low-risk investments preferred by banks and the higher return investments called for by venture capitalists. The result is the loss of many sound opportunities for business development and technological advancement in the domestic market.

States can:

- Identify specific start-up and seed capital needs in the state to better understand the nature and magnitude of these needs.

The Michigan Strategic Fund, a state agency guided by a private sector board, was established to increase the availability of primary financing for emerging small businesses and entrepreneurs using state resources. The fund has pioneered the creation of a new financial services industry through its seed capital program, which provides up to $2 million when matched with at least $1 million in private equity for financing business development costs.

- Identify the specific needs of established businesses for moderate- and higher risk capital too risky for bank lending, but without the promise of returns high enough to satisfy venture capital firms.

Colorado has created nineteen small business assistance centers throughout the state that work to improve access to capital for small businesses. These centers pay special attention to the needs of businesses owned by women and minorities.

- Identify distressed communities or other areas of the state where even the most promising business opportunities may have great difficulty attracting capital.

Connecticut established a special financing program targeted to businesses in its enterprise zones. The program provided financing for start-up and established businesses with sales not exceeding $1.5 million. The program was recently combined with other state financing programs to create a single fund targeted to distressed communities and disadvantaged entrepreneurs.

OBJECTIVE: Use state programs and resources to change the behavior of private capital.

States can:

- Use public investments, regulations, and incentives to encourage private capital institutions to be more creative, open-minded, and responsive to unmet capital needs in the state or community.

Massachusetts offered lower taxation to insurance companies that invested in the Massachusetts Capital Resources Program,

and attracted more than $100 million from the industry for investment in state companies.

- Use public investments to target specific capital needs identified in the state.

For example, states can use their employee retirement system to make investment capital available to small businesses in the state.

- Use public investments to leverage private capital.

- Use public resources to reduce the risks of investment that holds the promise of substantial economic and social benefits.

OBJECTIVE: Use state resources "wholesale" to close remaining capital gaps.

State resources may be used as a catalyst for developing financial institutions oriented toward serving specific capital needs in the state economy.

States can:

- Serve as the lead investor to encourage the development of institutions that provide seed or start-up capital to projects meeting market tests for risk and profitability.

The Michigan Business and Industrial Development Company Investment Program makes equity investments of up to $2 million in each Business and Industrial Development Company (BIDCO)—a new class of private financial institutions. It is estimated that the $10.25 million the program has committed to the first six BIDCOs will produce nearly $500 million in business financing during the next decade.

- Act as a magnet to attract capital aimed at business opportunities that require subsidies.

Michigan offers a premium based on a percentage of the loan amount, matched by the lender and the loan recipient, which serves as a reserve fund available to cover losses incurred by banks on loans made under its Capital Access Program.

More Effective Government Services

State government must be sensitive to the needs of business and willing to establish an ongoing relationship designed to facilitate the interaction of business and government. In addition, state government can assist in business development, helping those searching for other firms with requirements matching their own.

OBJECTIVE: Achieve fair, flexible implementation of regulations.

Business development can be affected by state and local regulations. Offering spe-

cial tax breaks or lowering environmental standards can be counterproductive and should not normally be necessary. However, overly complex procedures can discourage or delay business decisions.

States can:

- Work cooperatively to address interstate regulatory issues.

Already states have taken the lead on the interstate regulation of trucking. Forty states have simplified interstate truck registration by joining the International Registration Plan; twelve states have reduced fuel tax compliance difficulties by participating in interstate agreements, and almost all states have motor carrier advisory committees to further streamline interstate and intrastate requirements.

- Improve business-customer service through business ombudsmen, one-stop permit services, and state business information centers.

Wisconsin has established a Permit Information Center to assist businesses by acting as a one-stop center for information on permits, licenses, and other authorizations required to conduct business in the state. In addition, the center works with regulatory agencies and businesses to facilitate the permit process, resolve and avoid disputes, and mediate differences. Rhode Island's Business Action Center is a one-stop service center for small businesses. All state forms and applications relating to business are available from the center, which also provides information on business and industry financing, technical services, marketing and training.

OBJECTIVE: Increase the capacity of the state to serve as a broker.

As production becomes more international, the provision of components and production services also becomes increasingly subject to international competition. The expansion of the domestic market can be enhanced by identifying opportunities to replace foreign-made components with domestically made parts.

States can:

- Work to expand the availability and analysis of foreign import data to determine potential markets for domestic substitution.

- Link domestic firms that currently import large components with domestic firms that may be able to supply those components at a competitive rate.

Arkansas operates a "business yellow pages" to encourage such connections.

- Participate with other states in regional markets that link businesses with other firms with unique inputs or outputs that match their own needs.

A number of southern states support a waste exchange that helps firms advertise chemical waste products other firms may be able to use.

Conclusion

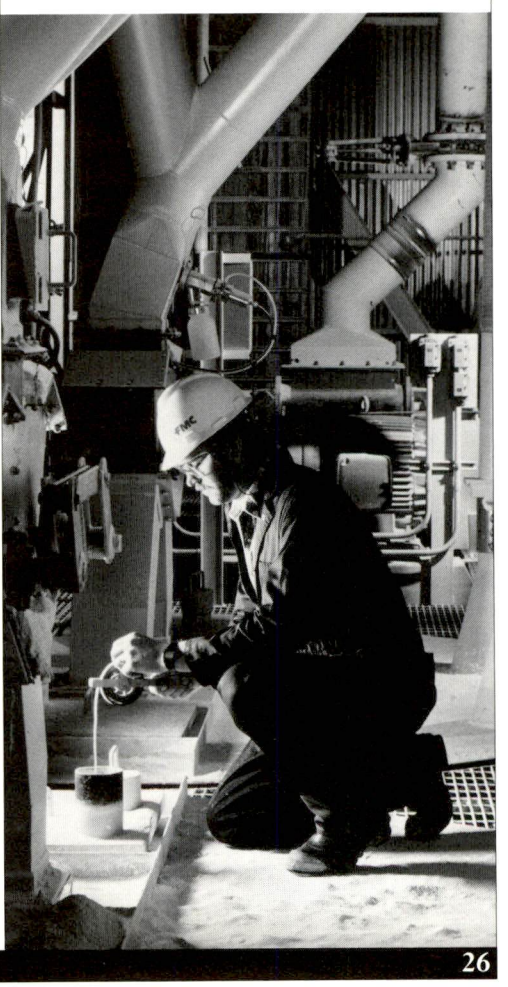
For American business, success in the domestic market is increasingly determined by several variables that can be strongly influenced by active, innovative governments:

- the development and deployment of technology;

- the availability and use of skilled workers; and

- access to capital for innovation.

Businesses also rely upon government to provide a regulatory climate conducive to a productive economy. While government cannot do the job alone, it can make a critical difference. To win back its own market, the United States must develop a playing strategy. Governors are taking the lead to ensure that states respond to this challenge, and to encourage the federal government to respond as well. The decisions made and the steps taken may well determine the economic viability of U.S. industry in the next decade and beyond.



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