

## THE NEW INDUSTRIAL REVOLUTION

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I am delighted to have an opportunity to take part in this conference on management requirements for the twenty-first century. Our nation's industrial complex lost some of its competitive edge in the late 1970s as productivity lagged, inflation soared, and U.S. producers began losing their share of world markets. We have made headway in regaining that edge during the current economic expansion but not in all areas, and challenges remain. What is the economic environment going to look like in the years ahead, and what kind of management skills will be needed to address the problems and the opportunities of tomorrow's markets? To answer these questions, I would like to talk today about the economic outlook for 1985 and beyond. In the latter context, I would like to discuss several factors that will fundamentally shape the longer term prospects for our economy and what these factors imply for managers.

### **National Scene**

The outlook for 1985 cannot be assessed without reviewing the economy's performance over the past year or so and evaluating what the underlying conditions portend for the months ahead. At the beginning of 1984 many economists had serious doubts about the recovery's strength and durability. Most were predicting rather modest GNP growth, higher inflation, and the emergence of numerous problems associated with the large federal budget deficit. On the brighter side, many economists forecast a decline in the exchange rate of the dollar and, hence, some improvement in our nation's

international trade situation. My views were generally similar to this consensus outlook. At that time, I projected that the economy was likely to slow to a growth rate of around 5 percent.

Although these projections were not far off the mark, it was my happy experience to have erred on the side of underestimating the enormous growth in GNP while overestimating both the inflation and unemployment that we actually experienced in 1984. As you all know, 1984 brought heady economic growth. GNP expanded at a rate far in excess of what many, including myself, had anticipated, while inflation remained more moderate than generally expected. The full-year growth rate was nearly 7 percent, the highest in over 30 years. Despite a sharp slowdown in the third quarter to an annual growth rate of less than two percent, we finished the year on a strong note. The annual growth rate of GNP revived to 4.3 percent in the final three months of 1984. Many factors at that time suggested that the stage was set for a continuation of this healthy expansion well into 1985. These included the continued growth of employment and personal income, renewed consumer confidence and spending, an inventory adjustment, moderate inflation, and the acceleration of monetary growth after several months of only modest increases.

Despite these favorable fundamentals, the pace of economic activity thus far in 1985 has proven sluggish. What does this intermittent growth pattern mean? Is our economy on a healthy course guided by fundamental strengths or are we beset by imbalances that are destined to become more troubling with each successive quarter? I believe the significance of the recent volatility in U.S. economic growth can best be understood by looking at the past year or so from a longer term perspective. Viewed in this manner, our recent performance can be explained as part of the continuing

transition from an inflationary economy with declining productivity to a healthier one with more moderate but sustainable growth. We simply cannot expect to grow by seven percent every year, or even during every year of an expansion. Our performance in 1984 may have raised expectations unrealistically in two respects. First, when the economy grows as rapidly as it did last year, especially in the first half, inflation usually accelerates because producers cannot respond fast enough to increases in demand. In their rush to do so, supply bottlenecks inevitably occur and with them, higher prices. Second, last year's economic performance relied heavily on foreign savings to fuel such growth. Foreign savings financed the equivalent of about one-fourth of America's investment needs in 1984. It is unrealistic to expect such an abundance of foreign funds year after year. Americans will need to save more, borrow less, or both in the future in order to sustain a reasonable growth rate.

The unusual circumstances underlying last year's phenomenal growth have not only given rise to unrealistic assumptions about the sustainability of that growth but also have masked problems and imbalances that currently exist. The usual imbalances that often arise in the third year of an expansion, such as involuntary inventory accumulation, flagging demand in housing and nonresidential construction, and rising prices, do not seem in evidence. However, imbalances of another kind are beginning to appear. The most important of these is the deficit, which is stimulating very strong expansion in some parts of the economy while stifling growth in the international sector. Because the United States has become much more integrated with the world economy in the last decade, crowding out in the international sector is having a widespread effect, causing weaknesses especially in manufacturing and agriculture. Although personal income, consumption, employment, and construction have risen, GNP grew at a mere 1.3 percent annual rate, according to the latest estimate. This figure, contrary

to widespread expectations, was even lower than the initial 2.1 percent estimate of growth. This downward revision was due primarily to a decline in net exports. The net export deficit stood at \$73 billion in the first three months of this year, up sharply from the \$50 billion incurred in the fourth quarter of 1984. Exports decreased at an 8.2 percent annual rate in the first quarter, while imports rose at a 26.1 percent yearly rate. Factoring out the decline in net exports, real domestic demand in the first quarter grew at a respectable 4.4 percent.

This deterioration of net exports is having widespread effects but in nontraditional areas of the economy. In contrast to recent business cycles in which the adverse effect of high real interest rates has been felt as "crowding out" of construction and capital investment, foreign trade has suffered the most in this business cycle. While capital spending and residential building proceeded apace, the merchandise trade deficit for 1984 totaled over \$123 billion, far higher than the previous record shortfall of \$69 billion in 1983. Weaknesses stemming from imbalances in the international sector continue to have an adverse affect not just on exports of U.S. manufactured goods and agricultural commodities but also on industrial production more broadly. Industrial output has been virtually flat since last fall, rising a mere 0.3 percent in March after a 0.2 percent decline in February. A major reason for this languor is import competition: foreign producers are satisfying much of the current demand for durable goods. New factory orders for durable goods fell 2.3 percent in March following a 2.5 percent decline in February. In addition to eroding the market share of American equipment producers, current international conditions and their effect on U.S. industrial production may be discouraging some U.S. industrialists from investing in machinery and equipment, given the stalled growth in capacity utilization in recent months.

Fortunately, other sectors of the economy are showing strength. Single-family housing has been trending upward so far this year after losing considerable strength when interest rates increased last year. Nonresidential construction has been expanding at a brisk pace. Although we may have reached bottom on the struggle against inflation, the rate of price increases has accelerated only slightly thus far in 1985. The CPI's rise to a 5.8 percent annual growth rate in March after a 4.2 percent increase in February did not reflect price increases across the board. Rather, it was due largely to a surge in gasoline and food prices, both of which are likely to prove temporary. There has also been ample growth in money and credit to support expansion. Overly rapid monetary growth marked the first months of 1985. M1 has decelerated, however, to where it is just above the upper limits of its projected growth range. I do not believe this behavior is cause for concern because the bands of minimum and maximum growth are so very narrow in the early part of the year. Interest rates have fallen since the start of 1985, and business credit demands have moderated from an unsustainably rapid expansion. Credit demand among consumers has been relatively stronger, though recent delays in income tax refunds may have helped this along. The dollar has also eased somewhat in foreign exchange markets, falling below the 3 Deutschmark level a few weeks ago after skyrocketing to 3.45 earlier this spring. Recently, the dollar has also edged back up, but it still remains well below its record-high level of early March.

Weighing these signs of strengths and weaknesses in our economy, I believe that economic growth should still be reasonably good this year. I see little evidence of any serious unintended inventory accumulation. Consequently, further weakening in the second and third quarters seems unlikely. On the contrary, the economy should do somewhat better in the months ahead. The lagged effects of healthy monetary growth and recent interest rate declines should buoy the economy as the year progresses.

Another major source of short-term strength is fiscal policy, which is highly stimulative. Defense expenditures in particular should work to maintain substantial momentum in the nation's factories, even if some cuts are applied in this area. As a result of these underlying sources of growth, consumer purchases, investment by businesses, and expenditures by the government all should contribute to making 1985 a good year, with real GNP growth probably in the neighborhood of 3 percent. Consumer spending is likely to remain healthy since personal income and employment continue to advance. Housing will probably show further gains in view of the lower interest rates we have been experiencing. However, growth in either of these areas on a par with 1984 is unlikely. Last year's sharp gains in consumer purchases and residential construction were, in large measure, the result of demand that accumulated during two, almost back-to-back recessions. Much of that deferred demand has already been met. Because of the sustained growth in final domestic demand, business investment, especially in plants and other physical structures, should continue to support expansion in 1985, even though the growth rate in business investment, like that of consumer spending, probably will be slower than in 1984.

Expected slower growth in consumer spending and business investment make it unlikely that unemployment will decline as much this year as it did in 1984. The unemployment rate has been holding steady at 7.3 percent for several months even though employment has been expanding. Still, I am quite hopeful that the jobless rate will fall further. Import competition, lower oil prices, and bountiful harvests should hold price increases close to recent trends. Overall, I look for reasonable growth consonant with this stage of an expansion.

### **Intermediate Range Problems**

I am basically optimistic about the future, but some areas remain weak and in need of change in the next few years. These problems include inflation, unemployment, the deficit, real interest rates, and international trade. The rate of price increases did decelerate dramatically in the early 1980s and has remained near a moderate four percent despite the rapid economic growth we experienced last year. Nonetheless, little more than a decade ago four percent was deemed sufficiently high to warrant the imposition of wage and price controls. Clearly, we have room for more improvement on this front.

Similarly, the progress we have made toward reducing the unemployment rate from double-digit levels is cause for enormous satisfaction with our economy's capacity to rebound. Still, the current jobless rate indicates that we are short of the full-employment level to which we as a nation have been committed since the end of World War II. Moreover, unemployment remains much higher than the national average in many industries and areas. Certainly, we must strive to lessen the human suffering and unrealized economic potential implied by these statistics.

Probably the most important problem is the very large federal budget deficit. Congressional action to reduce the deficit has been disappointing. As macroeconomic growth moderates and the deficit increases in absolute terms, the federal budget deficit, even adjusted to the level that could be expected if we had full employment, is likely to remain around 3 1/2 to 4 percent of GNP throughout 1985 compared to an average of about 1 percent since the mid-sixties. This deficit is extremely troubling for several reasons. Large federal budget deficits tend to exert upward pressure on real interest rates. High real rates increase business costs generally and discourage investment.

Consumer demand for houses, autos, appliances, and home furnishings is also dampened in such an environment. Deficit problems affect the international sector as well because high real U.S. rates make dollar-denominated investments more attractive to foreigners. The higher return from holding dollars raises our currency's exchange rate and thereby worsens our trade deficit by raising prices foreigners must pay for exported U.S. goods and lowering prices Americans pay for imports. I have already mentioned that the dollar's strength is seriously hurting American exports and sharply increasing imports.

Additionally, a continuation of the current international situation could result in a resurgence of protectionism. It is understandable that some firms would welcome protectionist measures to help them ride out what many economists view as an abnormal exchange rate situation. However, protectionism tends to adhere to Newton's Third Law in the sense that action by one country is usually followed by countermeasures in other countries. It may take years of negotiations to return to the degree of free trade that prevailed at the outset, even when protectionist policies are conceived as mere interim measures. Moreover, by curtailing the incentives for innovation, improvements, and necessary reforms, protectionism ultimately weakens the very businesses and workers it is intended to protect. Third, adverse consequence of protectionism today could be to snuff out the weak economic recovery in many developing countries by reducing their access to American markets, eliminating a major source of the limited growth they have achieved. The situation in developing nations is important for another reason. Many less developed countries are heavily indebted, and while default by a third-world nation is highly unlikely, the problem of LDC debt is a serious and long-lasting one. It requires constant surveillance and careful consideration as we fashion or modify policies intended to correct domestic economic problems and promote growth in the United States.

On the other hand, if we can bring the deficit down substantially, we will require less savings, thereby reducing the demand for money and credit and easing the upward pressure on interest rates. Improvement on the deficit and lower interest rates would tend to diminish the value of the dollar on foreign exchange markets and, thus, make it easier for American farmers and manufacturers to export their products while mitigating the pressure of foreign imports on U.S. manufacturers.

However, a decline in the dollar is not a panacea. First of all, we would not feel an immediate impact on domestic demand and production. Lags could take as long as a year. In fact, our balance of trade might initially deteriorate even further because of the weight of prior contracts. Imports governed by such contracts would cost more in dollars at the same time that previously contracted exports are raising fewer dollars. Furthermore, we could well experience an anticipatory surge in imports if businesses and consumers believe the dollar is embarking on a downward trend. Similarly, foreigners might wait to see how far the dollar is likely to fall before placing their orders. A decline in the value of the dollar could also raise prices to some extent, just as it has helped us maintain a low rate of inflation during the past two years of rapid growth.

To deal with these intermediate range problems two approaches are required. First, we must deal with the deficit now. It is imperative that some progress be made this year toward reducing the deficit before current imbalances become harder to modify. Second, we must expand our efforts to improve productivity on a broad front, ranging from capital investments in technologically advanced equipment and processes to a variety of management strategies that will raise the level of performance of white collar and service employees as well as blue collar workers. I am optimistic that this

latter objective can be attained because of several fundamental factors that I believe are gaining increasing importance and that will shape our destiny for years to come.

### **Longer Term Outlook—A New Industrial Revolution**

Looking beyond 1985, it is, of course, much harder to project accurately how the economy will fare. Nonetheless, it is possible to identify the fundamental forces of strength and weakness as well as changes that seem to be occurring in the structure of the economy. In my judgment, there are at least three critical environmental factors at work in our economy that are almost tantamount to the industrial revolution of the eighteenth and nineteenth centuries. These are technology, demographic changes, and the evolution of a global economy. I will discuss each of these in turn as well as their implications for public policymakers and for managers in the private sector.

When historians and other observers look back in another 50 years to the era of the 1980s, they will no doubt compare our technological revolution to the industrial revolution of the 1800s. Even though, in typical human fashion we are becoming used to our new technology and even taking it for granted, the fact remains that we are witnessing and living through a miraculous time in history in terms of technological breakthroughs—going into space, computerization, miniaturization, to say nothing of the advances in medical science and associated surgical procedures such as the mechanical heart. These are truly wonderful developments that will enrich the lives of people everywhere.

In economic terms, the application of new technology generally results in higher productivity and greater economic growth in the aggregate. The United States has historically been a technological leader. Experiences of the last two decades have

made us forget that terms like ingenuity and innovation are virtually synonymous with America and that technological leadership is fundamentally related to our political and economic leadership among nations. In the last recession, American businesses learned, or rather relearned, the importance of investing in technologically advanced equipment and methods in order to compete in the global marketplace. Nonetheless, we have not yet felt the full effect of that investment. Productivity grew about two percent last year, the postwar average rate for the second year of an expansion. The longer term challenge will be to find ways to foster greater productivity gains, especially in the service sector. This part of the economy is likely to provide a vast portion of the new jobs in the future, and services historically have been less amenable than manufacturing to technology-induced productivity advances.

A second environmental factor that will affect us and our policies is the demographic changes that are occurring in our society. First, we have the "graying" of the population and, second, the maturing of the postwar baby-boom generation. The aging of our population has profound implications for the way in which we structure our work force, retirement, Social Security, and our health care and health delivery systems. Learning to manage a work force that includes a larger share of older employees is a related challenge that may confront many of you in the years to come. With respect to the "baby-boomers," absorption of these men and women into the labor force is virtually complete. Consequently, finding entry-level jobs should be less difficult than over the last decade and a half. As the postwar generation passes through its peak spending period, demand for all sorts of consumer goods should be strong. Productivity should also increase as a larger proportion of the nation's work force consists of experienced workers, who tend to be more productive. Since the number of students now entering school is generally less than when the baby boomers were

moving through the educational system, the need to invest in bricks and mortar to accommodate larger student populations should abate. That will leave a larger share of public funds for improving the quality of education, a trend that should add to gains in productivity expected from other factors.

A third environmental factor is the evolution of a truly global market economy. We have come to realize, I hope, that the United States no longer buys and sells only within its own borders. With the possible exception of the Soviet bloc, the world is truly one marketplace. The obvious implication of this development is that U.S. industry and business must learn to compete more effectively with foreign producers. I do not for a moment believe that we need to berate ourselves, as we often do, about our performance relative to other economies. In the first place, our manufacturing sector is not nearly as bad off as some would have us believe, and the potential for significant advances in productivity is at hand. I firmly believe that American management is as good as, if not better than, management anywhere in the world. Nevertheless, improvement can be made, and we do need to raise our productivity and the quality of our products so as to compete more effectively in world markets.

One way to achieve these goals is to seek better relations between labor and management, whether by giving workers an equity stake in the company for which they work, by adopting and adapting some of the collaborative techniques that have worked well in Japanese and European companies, or by other innovative, uniquely American measures. Researchers at the Federal Reserve Bank of Atlanta have found that companies with outstanding financial performance tend to give employee job satisfaction a high priority among corporate goals. Other research conducted by Bank staff has discovered that gain-sharing measures like profit-sharing and employee stock ownership

can be effective, often highly remunerative benefits and can significantly reduce turnover, thereby making companies' investment in their employees more worthwhile. If ways can be found to improve our human capital through better relations on the job, the productivity advances that should occur from demographic and technological changes will be greatly augmented.

As pointed out in a recent report of the Committee for Economic Development, one way to improve our productivity and product quality and thereby enhance our global competitiveness is to remove government barriers and regulations to the greatest possible extent and to allow free market forces to work in our economy. This is a polite way of saying, let's get the government off our backs. If we need any evidence that this is the right way to go, we need only compare our nation's economic performance during the recovery to that of many developed and developing countries. Too frequently, their economic growth has been constrained and stifled by a large public sector's unintended effects on the economy and its ability to adapt to change. Cradle-to-grave welfare systems are limiting economic recovery in Europe and perpetuating high unemployment rates. In LDCs, measures such as price regulations on certain basic goods are distorting their economies, bloating their underground sectors, and generally retarding their development. If our government will retreat from the private sector, if the public sector is diminished, market forces will hone our competitive edge and, thereby, enhance our position in world markets.

Finally, let me add one other environmental factor. I believe that we are now emerging from a period of deep negativism in our country to a far healthier attitude of hope and positive thinking. During the 1970s, our nation underwent enormous changes such as the shock of oil price increases following the formation of OPEC and the

implementation of a new series of regulations designed to make our products and work places safer and our environment freer of pollution. In addition, the momentum of far-reaching social change begun in the 1960s continued into the 1970s. Once barriers to racial and sexual equality began to be removed, as a society we began to address more subtle and harder-to-remove vestiges of inequality. It is not surprising that in this environment of profound social, political, and economic change Americans began questioning and criticizing some of the fundamental aspects of our culture.

The changes that occurred exacted a considerable toll, although future generations will probably look back and thank us for making most of the decisions that we did. Fortunately, the pains of this transition are essentially behind us, and along with that, I believe people are becoming more positive about our nation's performance, economically and in other spheres. I am grateful that we are moving away from our period of malaise and that Americans are more upbeat about themselves and more adaptable to the economic realities of the 1980s, particularly the implications of global competition.

Still, we must nourish this renewed faith in our nation's institutions. We should not become misled by the bad news we often hear and read in the media. As an open and free society, we are often our own severest critic; so it is natural that bad news rather than good fills most of our headlines. At the same time, we must keep our focus on the substance of news reports and on the underlying forces at work in our economy and our nation lest we lose the competitive edge that comes with well-founded self-confidence.

### **Policy Implications**

In assessing and evaluating these forces in our economy, I would offer the following prescriptions to ensure that we have sustainable, noninflationary growth through the end of the century: (1) take advantage of new technology and improve productivity; (2) invest in human capital by well-chosen policies designed to improve the quality of education and the working environment; and, most importantly, (3) reduce the federal budget deficit over the next five years so that the mix of fiscal and monetary policies works more effectively to create an environment for stable economic growth. We cannot afford to have future generations pay the price for our failure to keep our fiscal house in order.

Let me conclude where I began. Nineteen Hundred Eighty-Five will be a year of good economic growth, with relatively low inflation and unemployment. There are and always will be dangers, problems, and uncertainties. When you add to the economic concerns I have already mentioned, other problems such as the Middle East, Central America, arms control, terrorism—and the list goes on and on—it is obvious we live in a dangerous and difficult world. But I am an optimist, and I think we optimists have proven over time to be the realists. I really believe the future holds promise. This country has always been a strong, proud, progress-oriented nation with a deep-seated belief that today is better than yesterday and tomorrow will be better than today. We are at the threshold of a new world, but we are also at a crossroads. If we can solve our problems, we have the chance to create an economy and a society that will provide unparalleled prosperity for us, our children, and our grandchildren in the years ahead. We can succeed if we have the wisdom and the will to do it. I believe we can.