A Systems Thinking Perspective on A Manufacturing Base Restoration Initiative - Part II

Bob Powell, Continuous Improvement Associates, 12/01/02[1] (Revised 6/22/03)

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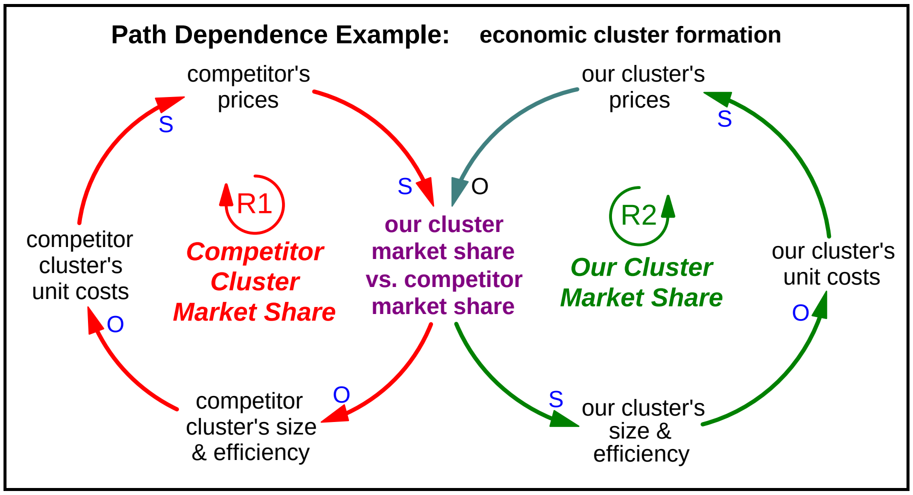
Issue: Focus on high value-added products

On the recommendation: Analyze data to look at "*what we've got*" as a way to identify our key economic clusters and focus on those with the highest value-added and wages.

Comment: A continued investment in the kind of analysis done by Paul Carson in analyzing data in the NBER-CES Manufacturing Industry Database should be very worthwhile.

Focusing on cluster development can help Colorado Springs get on the growth side of the path dependence structure shown in Figure 1, which is also known as the systems thinking "Success to the Successful" archetype.

Figure 1. Once an economic cluster gets ahead, usually by some economic "accident," it tends to stay ahead because larger clusters are more efficient. Lower transportation costs promote cluster growth.



The recommendation to ***focus on high value-added products*** and cultural change to create them is included in a 1994 "Labor Market Economics" report for the EDC.[2] In the report Summary:

- To promote industry and job growth, **support technology transfer and cultural change to assist companies in producing high-value-added goods using the most**

[1] This paper (original filename: Competitiveness01C) revises & reformats comments from a systems thinking perspective on issues in Paul Carson's 10/15/02 letter to Rocky Scott on the Manufacturing Base Restoration Initiative. Because the manufacturing base continues to contract this continues to be an important problem (see appended "Manufacturing Contracts for Third Month" by Reuters in the *New York Times*, 12/2/02). This supplements my first paper of this title from 6/14/2002.

[2] "Report for The Greater Colorado Springs Economic Development Corporation Workforce Study Group on Labor Market Economics," 11/28/94, Continuous Improvement Associates

modern manufacturing processes while emphasizing continuous improvement. (M.I.T. Commission on Industrial Productivity, Scientific American, 6/89, p. 39; *The Decline and Fall of the American Programmer*, p. 17; *Lean and Mean,* p. 212; A*merica and the New Economy*, p. 54).

Within the body of the report:

- *The Economist* describes current government policy to stimulate growth by encouraging companies to use the most modern manufacturing processes....
  - The Clinton administration sees "the role of industrial policy … [as] not to protect declining industries, but to goad business into producing high-value-added goods using the most modern manufacturing processes." *The Economist*, 3/12/94, p. 19-20
- Using this "high road" to competitiveness is extremely important for workers and for company survival ....
  - "[T]he "low road" is outsourcing work to companies that use temporary and part-time workers who get low wages and little/no benefits … what British economists Deakin and Wilkinson refer to as a "low productivity trap" where companies' "dependence upon undervalued labor provides a way by which inefficient producers and obsolete technologies can survive and compete. … and the process may become viciously circular … ." *Lean and Mean,*[3] p. 212

Issue: Manufacturing base restoration initiative focus? On "feasible initiatives" vs. "reversing national trends."

On the recommendation: *"At the end of our first meeting you emphasized the need for us to focus our scope on feasible initiatives, and not on reversing national trends."*

Comment: Because many of our problems are of national origin, in some cases we can bring attention to the need to reverse national trends or at least not go along with the national trend. This does not have to be an "either-or" choice ... it can be "both-and."

Example 1: Because entire industries can be "out of wack," following national trends and benchmarking can limit success.

Reversing national trends is indeed difficult. That said, there are ways to **buck some national trends** that don't depend on changing the national economy. Indeed, all that stands in the way of taking the path to long-term improvement is the decision to do so, the discipline to stick to it, and the patience to wait for the improvements to appear. (Gee, is that all? ☺)

Though bucking national trends is difficult, the competitive advantage and financial returns can be enormous for organizations and the communities in which they reside.

As an example, organizations often use benchmarking to gauge their performance, but we must recognize that **benchmarking, untempered by in-depth analysis and systems thinking, can lead to imitation, herd behavior, and hypercompetition based on price. Entire industries can be "out of wack."** Senge and Sterman give an example in the insurance industry.[4]

> The claims vice president wondered aloud if perhaps "We may have half the adjusting capacity that we actually need for our current case load, from the standpoint of high service quality and low total costs." One of us (Senge) responded that it seemed quite possible. The VP said, "You don't understand what a crazy thing I am saying. We already have a lower case load per adjuster than almost all of our competitors." When all firms suffer similar quality erosion none serve as role models to demonstrate the potential leverage of increased adjuster capacity. Entire industries can thus experience eroding quality standards, as exemplified by many U.S. firms in the 1960s and 70s.

I would maintain that another national / industry trend that need not be imitated is underinvestment in improving the quality (efficiency, effectiveness, and adaptability) of engineering processes. Corporations tend to "pick the low-hanging fruit" by focusing on easier-to-improve manufacturing processes,[5] easier because they have lower organizational and technical complexity and thus a shorter "half-life." The path dependence structure in Figure 2 shows that this leads to less emphasis on engineering process improvement, excess production capacity, and downsizing. It creates what Sterman calls a "quality improvement paradox" where successful quality initiatives

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[3] Bennett Harrison, *Lean and Mean, The Changing Landscape of Corporate Power in the Age of Flexibility* (New York: BasicBooks, 1994)

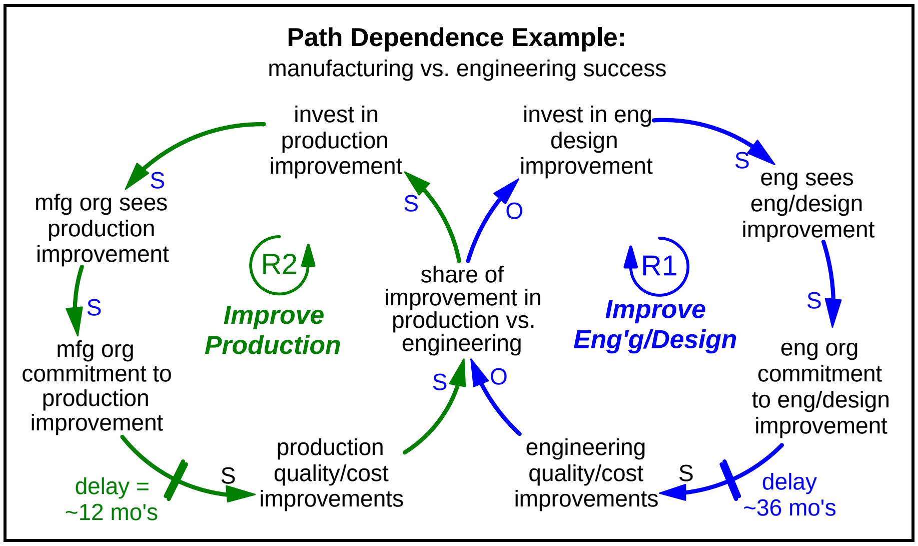
[4] Senge, P. M. and Sterman, J. D., "Systems Thinking and Organizational Learning: Acting Locally and Thinking Globally in the Organization of the Future." In Morecroft, J. D. W., and Sterman, J. D., (eds.) *Modeling for Learning Organizations*. Portland, OR: Productivity Press, 1994.

[5] For a detailed description see: Bob Powell, "A Systems Thinking Perspective on a Manufacturing Base Restoration Initiative," June 14, 2002 (revised 7/23/02), that references J., N. Repenning, and F. Kofman (1997), "Unanticipated Side Effects of Successful Quality Programs: Exploring a Paradox of Organizational Improvement," Management Science, 43, 4: 503-521.

can cause severe organizational stress and even company failure.[6]

Such effects are also described in the appended “Excerpt A” from *Competing for the Future* by Hamel & Prahalad (1994). They note that excess emphasis on cost reduction leads to “productivitying” companies out of business **(A1).** They note, as does Sterman, the **“lose-lose” choice** employees face when new products are not developed to “fill the factory” and use the excess capacity: **“If you don’t become more efficient, you’ll lose your job. By the way, if you do become more efficient, you’ll lose your job.” (A2)**

Figure 2. Because loop R2 has shorter delays than R1, faster and easier production improvements get more resources and emphasis than engineering improvements.



While this structure has led to a national trend, there’s no reason relatively strong companies can’t take the long view and improve longer half-life engineering processes as well.[7]

<u>Example 2</u>: There’s high leverage in training top management in continuous improvement, TQM, systems thinking, learning organizations, marketing, etc.

This is another point from the Labor Market Economics report:

- **Training for top management** of companies to reduce poor management and misguided product strategies (identified in *The Economist,* 3/12/94, p. 20, as problems training cannot overcome) **could give the greatest leverage of all**. Effective top management training would be in the areas of continuous improvement, TQM, learning organizations, marketing, etc.

Hamel & Prahalad make similar points **(A3)** and point to the importance of a systems perspective **(B1, B2, B4)**.

Such mindset changes are indeed challenging. Donella Meadows, systems dynamicist, observed that paradigm shifts are about the highest leverage we have in systems. It was number one on in her top 10 list of places to intervene in a system.[8]

> 1. The mindset or paradigm out of which the system arises.
>
> You could say paradigms are harder to change than anything else about a system, and therefore this item should be lowest on the list, not the highest. But there’s nothing physical or expensive or even slow about paradigm change. In a single individual it can happen in a millisecond. All it takes is a click in the mind, a new way of seeing. Of course individuals and societies do resist challenges to their paradigm harder than they resist any other kind of change.
>
> So how do you change paradigms? Thomas Kuhn, who wrote the seminal book about the great paradigm shifts of science, has a lot to say about that. In a nutshell, you keep pointing at the anomalies and failures in the old paradigm, you come yourself, loudly, with assurance, from the new one, you insert people with the new paradigm in places of public visibility and power. You don’t waste time with reactionaries; rather you work with active change agents and with the vast middle ground of people who are open-minded.

Can we identify local leaders who are, or are willing to be, “born again?”

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[6] The structure is described in detail in “A Systems Thinking Perspective on A Manufacturing Base Restoration Initiative” in the section on “Interactions between Manufacturing and Engineering” that describes the “quality improvement paradox.” Bob Powell, 6/14/02

[7] See Keating, E., R. Oliva, N. Repenning, S. Rockart and J. Sterman (1999), “Overcoming the Improvement Paradox,” *European Management Journal*, 17, 12: 120-134.

[8] Donella H. Meadows, “Places to Intervene in a System,” *Whole Earth*, Winter 1997

<u>Example 3</u>: Add a voice to those who are, at a national level, pointing to the negative impact of a strong dollar due to high real interest rates.

Jerry Jasinowski, President of the National Association of Manufacturers, notes:[9]

> The overvalued dollar is … perhaps the single most serious economic problem facing manufacturing in this country," Jasinowski said. "It is decimating U.S. manufactured goods exports, artificially stimulating imports and putting hundreds of thousands of Americans out of work.

<u>Example 4</u>: Add a voice to those who are, at a national level, pointing to the need for economic policies that focus on increasing demand at this point in the "long wave cycle." Oppose counterproductive policies that attempt to increase investment.

Some realize that we are in a part of the long wave economic cycle where there is an overcapacity to produce almost everything (steel, autos, semiconductors, laid optical fiber, ...). We are now in the trough of the 50 to 60 year long wave economic cycle. Relative to the state of the economy in the long wave cycle Sterman wrote:[10]

> Structural unemployment, on the other hand, remains a serious problem. As discussed above, the contraction of the economy in the downturn as firms seek to reduce excess capacity generates persistent unemployment. The vicious cycle described above, whereby downsizing caused by firms seeking to gain competitive advantage erodes employment, incomes and confidence, leading to more downsizing and still more unemployment, is intensified as households and businesses reduce their debts. The responses to the persistence of such structural unemployment are inherently slow: migration, retraining, retirement all take time and are disruptive to family and community.
>
> What, then, can we expect during the remainder of the long wave trough? On average, real economic growth will continue below the long term historic trend. Growth will likely be erratic due to the business cycle. In fact, inventory levels and other short-term cyclical indicators generally suggest the economy should be in the recovery phase of the business cycle. The recovery has been very weak, however, because it is dominated by the downturn and trough of the long wave.

Figure 3. Individual, rational company decisions to downsize reduce company expenses and their excess capacity, but the sum of all the downsizing decision have an overall industry side-effect of causing overall economic collapse.

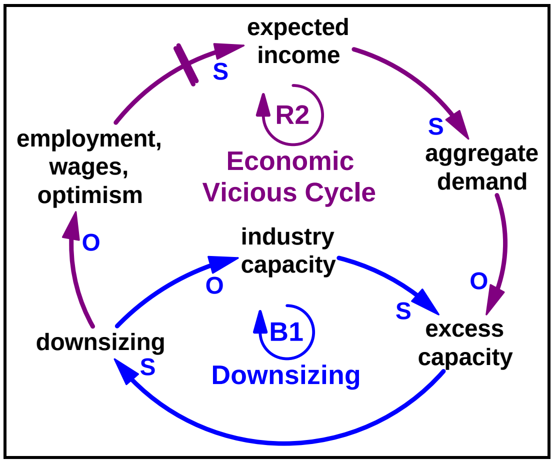

Figure 3 shows the structure in Sterman describes. The intent of the balancing loop **B1, Downsizing**, is that individual companies downsize to reduce their "excess capacity" in order that "industry capacity" not exceed current "aggregate demand".[11] The problem is that this creates a "side-effect" loop **R2, Economic Vicious Cycle**; after some delay the downsizing itself reduces "aggregate demand" as "expected income" (i.e., consumer confidence) erodes. This is a classic systems thinking archetype, a "Fix that Fails," brought on by individual, boundedly-rational decisions.[12]

For more on the long wave, see Excerpt D. It's likely that we're now witnessing such an **Economic Vicious Cycle (R2)**:

> **Employee Confidence, Job Security Drop**
> http://www.rismedia.com/index.php/article/articleview/1592/1/1/
> Publishing date: 08/06/02
>
> RISMEDIA, Aug. 6 — Employee confidence decreased in July as employees expressed concerns over the current and future prospects for the companies they work for, according to The Gallup/UBS Employee Outlook Index, a joint venture of The Gallup Organization and UBS.
>
> Now at 61, the Employee Outlook Index slipped 5 points this month from 66 in June, and reflects a significant drop in job security. The Index had a baseline of 71 when it was launched in April 2002.
>
> "These results reflect the general state of uncertainty that is prevalent in today's economy," Gallup Chief Economist Dr. Dennis Jacobe says. "Employees appear to be feeling the effects of the daily business news reports that are of concern to all Americans, from the boardrooms of Wall Street to the halls of Congress and the White House."
>
> Over the past three months, employee confidence in their firm's "present company conditions" has steadily declined, sinking 12 points 77 in July from 89 in April. Moreover, confidence in their firm's "future company conditions" fell 10 points from 74 in April to 64 this month.

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9 Quoted in the AP story, "Treasury Secretary Defends Strong Dollar Policy to Lawmakers" in "A Systems Thinking Perspective on a Manufacturing Base Restoration Initiative," June 14, 2002 (revised 7/23/02).

10 John Sterman, "The Long Wave Decline and the Politics of Depression" by John Sterman, presentation to the Bank Credit Analyst Conference, 1992. The paper provides a system dynamics explanation of the origin of the long wave cycle caused by capital stock expansion & contraction and business cycles from inventory expansion & contraction. It also describes the characteristic politics at each phase. See additional excerpts appended to this document.

11 excess capacity = industry capacity - aggregate demand

12 How the long wave arises is explained in the excerpt from "The Long Wave Decline …" appended below.

<u>Example 5</u>. Current "output per hour worked" productivity measures are misleading; instead promote overall measures of "national productivity."

Downsizing has the perverse effect of making publicized measures of "productivity" increase; that is, economic output per hour worked increases. A better indicator of economic health would be "national productivity," which would measure "economic output per hour available for work," a measure that wouldn't look so good.

<u>Example 6</u>. To control speculative bubbles the Federal Reserve should increase margin requirements, not interest rates.

While we might have been pulling out of the long wave trough by now, the speculative investment bubble of the 90s created even more capital expansion, which it appears will prolong the bumpy ride along the trough. Rather than steadily raising interest rates throughout 2000, the Federal Reserve should have increased margin requirements. When speculators look for 20% returns in 6 months, they are not deterred by a few percentage points increase in interest rates; only a lessened ability to borrow to fuel their speculation will be effective. In addition, when the speculative bubble did finally burst, the higher interest rates made the collapse even worse. The Fed did abruptly reverse course, but to little effect in the face of such great production overcapacity.

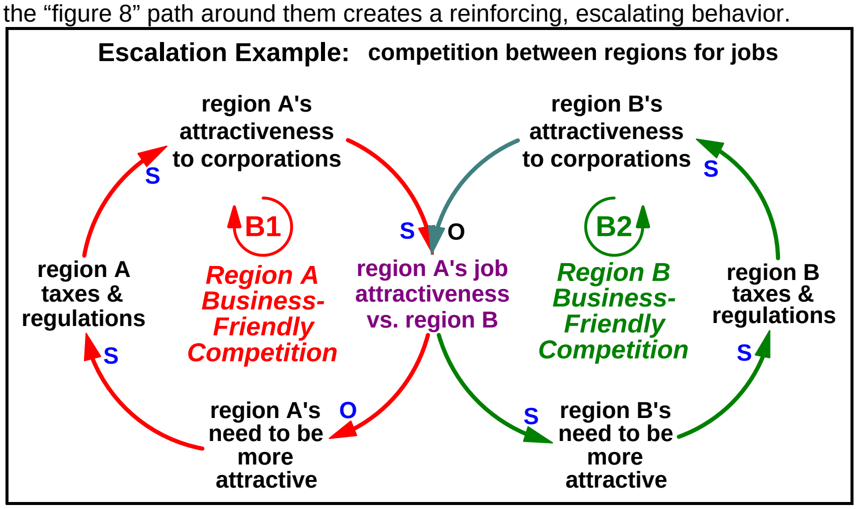
Given the excess of supply over demand at this stage in the long wave, cutting taxes on corporations and the wealthy to promote investment is counterproductive. There will be no investment without demand and more demand will be generated by cutting taxes for low and middle incomes than for the wealthy, the economic class that has fared best throughout the 90s. Tax cuts for Enron-type execs and stock analysts who misled investors are particularly egregious. Some realize this; they can be and should be supported to promote a faster recovery.[13]

Issue: Cutting taxes to meet global competition

On the recommendation: *"This means matching and beating tax deals on a global basis, not just within the state or USA."* and *"I'm quite confident that our tax and regulatory structure makes it cost prohibitive."*

Comment: An unfortunate consequence of competition between regions for industry and jobs is an escalating "race to the bottom" in taxes and regulations.[14] This is the same structure as in price wars and arms races.

Figure 4. Though the individual loops are balancing (i.e., limiting or regulating), the "figure 8" path around them creates a reinforcing, escalating behavior.



Though both loops in Figure 4 are balancing (i.e., limiting or regulating), taking a "figure 8" path around them is reinforcing. It leads regions throughout the country to collect less taxes than are required to finance long-term infrastructure needs for schools and roads. Quality of life declines over the long term. Taxes to compensate eventually provoke taxpayer revolts (Proposition 13 in CA, TABOR in CO).

Instead of competing on the basis of lower taxes, highly attractive regions like Colorado Springs can take the "high road": compete based on quality of life, investing taxes in schools and higher education to maintain the attractiveness of the region.[15] While competition based on cost is easier and faster, it is the "low road" and is not a winning strategy in the long run.

See the appended Excerpt C from *The Future of Capitalism* by Lester Thurow (1996) on the vital importance of

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[13] See appended article: "Split in Ranks of Business and G.O.P. on Tax Cuts" By EDMUND L. ANDREWS, http://www.nytimes.com/2002/11/29/business/29TAX.html, .

[14] A game theory explanation of why this effect is so pronounced is explained in *The Tangle of Growth*, Bob Powell, 2001. It's related to Paul's point that "In many of these industries we have a huge amount of underemployment and skilled workers from which to draw." To download the Introduction and Summary in Adobe Acrobat PDF format at no charge, go to www.exponentialimprovement.com or e-mail scuba@usa.net.

[15] The reality is, however, that there is always something that will make the region "unattractive." See the section on "Issue: Attracting high wage jobs." See *The Tangle of Growth*.

government investment in infrastructure. If taxes are too low, such investments aren't possible.

Issue: Government incentives for R&D and employing Americans

On the recommendation: *"We should reward companies that employ Americans. Exchange tax revenues on property for guarantees on employment and training. Another strategy might be to encourage more R&D in Colorado Springs by providing targeted R&D tax incentives."*

Comment: This is an important point to reinforce.

An excerpt from the earlier paper on "A Systems Thinking Perspective on A Manufacturing Base Restoration Initiative":[16]

> As described in the section on "Profiting from Innovation", manufacturing is important. Just as manufacturing is often necessary for innovating companies to profit from innovation, so too it is necessary for innovating countries. It may best serve the U.S. to reserve investment tax credits for companies that keep manufacturing in the U.S.

Issue: Attracting high wage jobs

On the recommendation: *"I assume that higher wage jobs are better for the local economy."*

Comment: Agreed. Higher wages make the region more attractive.

However, compensating (balancing) feedbacks always arise. One is that higher wages raise costs and, because of the low wages for many service industry workers, this creates less affordable housing. This compensating reaction makes the region less attractive.

This is an example of "The Attractiveness Principle" systems thinking archetype in action: no company or region can be all things to all people and, given free migration, no place can long remain more attractive than any other place. Our only choice is *how* we'll become unattractive. As Forrester wrote,[17]

> There are no utopias in social systems. There appear to be no sustainable modes of behavior that are free of pressures and stresses. But many modes of behavior are possible and some are more desirable than others. The more attractive behaviors in social systems seem possible only if we act on a good understanding of the dynamic behavior of systems and are willing to endure the self-discipline and short-term pressures that will accompany the route to a desirable future.

Again, this reinforces the need to take actions for the long term.

As to the problem with low wages for those at the bottom, see the second of the two comments below. This problem will be difficult to correct, if not impossible, given current national policy.

Issue: Artificially high wages due to unionization

On the recommendation: *"Other factors not in this data set contribute to high hourly wages. For example the automotive industry and others have large unionization and some protections from competition that have kept wages artificially higher."*

Comment: First, "High wages" aren't the problem. The problem is that management does not invest in long term improvement.[18]

In *Competing for the Future* Hamel & Prahalad recall **(more at B3):**

> We consulted at one company where top management was beseeching workers to ameliorate their wage demands to help close a wage-cost gap with a foreign competitor. It turned out that the foreign competitor actually had higher wage rates, but was getting a higher output with a similarly sized employee base.

From my experience there is much room for improvement, much more than could possibly be achieved by paying lower wages. In my ASIC product engineering group, we reduced the average time required for product engineers to take designs from incoming tape to prototype delivery and production approval from 168 hours to 32 hours in 3 ½ years by a combination of manufacturing and engineering improvements.[19] And this was only

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[16] Bob Powell, "A Systems Thinking Perspective on A Manufacturing Base Restoration Initiative," June 14, 2002, p. 28. Send e-mail to scuba@usa.net for a copy in Adobe Acrobat PDF format.

[17] Jay W. Forrester, "The Counterintuitive Behavior of Social Systems," Updated March, 1995. Based on testimony for the Subcommittee on Urban Growth of the Committee on Banking and Currency, U.S. House of Representatives, on October 7, 1970. Original text: January, 1971, *Technology Review*. Download at: http://sysdyn.mit.edu/road-maps/rm-toc.html.

[18] An American Society for Quality group rated "inadequate training & support capacity due to management allocation" as the #1 barrier to long term improvement; #2 was "excess pressure from Wall Street", and #3 was "excess emphasis on reactive, rather than on preventive maintenance." For a copy of our paper on Long Term Improvement, which examines the barriers, send e-mail to scuba@usa.net.

[19] The half-life was 7 months for each 50% improvement over the first 3 years. For more on this, see our paper on Exponential Improvement at http://www.exponentialimprovement.com/cms/expimp.shtml

product engineering time; time and cost savings in other parts of the company had to far exceed that. Wages are a relatively minor factor compared to these kinds of gains, which are possible in almost every organization.

Comment: Second, unions only partially compensate for a Federal Reserve policy that depresses wages for all workers, especially for those at the bottom.[20]

Though it's not politically correct to mention it, the United States has a national policy, enforced by the Federal Reserve, that assures there are always more people than jobs. Whenever "official" unemployment goes below whatever is considered to be NAIRU (Non-Accelerating Inflation Rate of Unemployment, nominally 5 or 6%), the Federal Reserve raises interest rates to "cool" the economy and increase unemployment.

Ostensibly, this is to avoid an inflationary wage-price spiral. However, as noted earlier, inflationary bubbles created by speculation are not effectively addressed by raising interest rates.

In an interview following his 1996 book, *The Future of Capitalism*, Lester Thurow noted that the way we count severely underestimates unemployment (see Table 1). Actual unemployment is effectively more on the order of 20%, not 6%.

Table 1. Unemployment only counts a fraction of those needing or wanting more work or better work.

Category	Millions of people	Percent of workforce
• officially counted	7.5	5.7
• don't meet test	6.0	4.5
• part-time	4.5	3.4
• self-employed	8.0	6.1
• temporary	8.0	6.1
• on-call	2.0	1.5
• disappeared	6.0	4.5
Total	42	**31.8**
Total Workforce	132	100.0
The last 6 categories above, total 34.5 M. Adding only ½ of these, as wanting more or better work, to the "officially counted gives 24.75 M		**18.7**

These numbers do not count illegal aliens (which at this time number approximately 8 million).

These numbers also do not include the over one-half million L-1 and H-1B highly skilled foreign workers imported into the United States. There are 325,000 L-1 visa holders and 195,000 H-1B visa holders.[21]

Unions are generally viewed as an interference in the free market. However, the Fed's action is a higher-level interference that keeps wages artificially low.[22]

[20] Again, a game theory explanation of why this effect is so pronounced that it would drive net wages to zero at the bottom, and an explanation of why a minimum wage is necessary, can be found in *The Tangle of Growth*, Bob Powell, 2001.

[21] "Special Visa's Use for Tech Workers Is Challenged," NY Times, 5/30/03 By KATIE HAFNER and DANIEL PREYSMAN (appended below).

[22] Again for a complete explanation see *The Tangle of Growth*, Bob Powell, 2001. Send e-mail to scuba@usa.net for a copy in Adobe Acrobat PDF format.

Excerpt A: On downsizing reengineering and restructuring from *Competing for the Future* by Hamel & Prahalad[23]

This excerpt examines strategy formulation for building competitive advantage. The comments about Britain under Thatcher parallel what's happened in the U.S. since Reagan.

"Masquerading under names like refocusing, delayering, decluttering, and right-sizing (one is tempted to ask why the "right" size is always smaller), restructuring always has the same result: fewer employees. …

Despite the excuses about global competition and the job-destroying impact of productivity-enhancing technology, the fact was that most of the employment contraction in large U.S. companies was caused not by distant foreign competitors intent on "stealing U.S. jobs," but by U.S. senior managers who had fallen asleep at the switch. … (p. 7)

Although perhaps inescapable and in many cases commendable, the resulting restructuring has destroyed lives, homes, and communities — to what end? For efficiency and productivity. Although arguing with these objectives is impossible, their single-minded — and sometimes simple-minded — pursuit has often done as much harm as good. Let us explain.

Imagine a chief executive who … launches a tough program to improve return on investment. Now, ROI has two components: a numerator — net income — and a denominator — investment, net assets or capital employed. (In a service industry, … headcount.) Managers … know that raising net income is likely to be a harder slog than cutting assets and headcount. To grow the numerator, top management must have a point of view about where the new opportunities lie, must be able to anticipate changing customer needs, must have invested preemptively in building new competencies, and so on. So under intense pressure for a quick ROI improvement, executives reach for the lever that will bring the quickest, surest improvement in ROI — the denominator. To cut the denominator, top management doesn't need much more than a red pencil. Thus the obsession with denominators.

In fact, the U.S. and Britain have produced an entire generation of denominator managers. … Even before the current wave of downsizing, U.S. and British companies had, on average, the highest asset productivity ratios of any companies in the world. Denominator management is an accountant's shortcut to asset productivity.

Don't misunderstand. We have nothing against efficiency and productivity. … Yet there is more than one route to productivity improvement. Just as any firm that cuts the denominator and holds up revenue will reap productivity gains, so too will any company that succeeds in growing its revenue stream atop a slower growing or constant capital and employment base. Although the first approach may sometimes be necessary, we believe that the second approach is usually more desirable.

… aggressive denominator reduction, under a flat revenue stream, is simply a way to sell market share profitably. Marketing strategists term this a "harvest strategy" and consider it a no-brainer. Take a national example. Between 1969 and 1991, Britain's manufacturing output (the numerator) went up by a scant 10% in real terms. Yet over this same period, the number of people employed in British manufacturing (the denominator) declined by 37%. The result was that during the early and mid 1980s — the Thatcher years — U.K. manufacturing productivity increased faster than any other major industrialized country except Japan. Though Britain's financial press and Conservative ministers trumpeted this "success," it was, of course, bittersweet. … In fact, with scarcely any net gain in real manufacturing output over the period, British companies were, in effect, surrendering global market share. One half expected to arrive at Heathrow one morning, pick up the Financial Times, and find that Britain had finally matched Japanese manufacturing productivity — and that the last remaining person at work in U.K. manufacturing was the most productive son-of-a-gun on the planet. **A1**

The social costs of restructuring are high. And though an individual firm may be able to avoid some of these costs, society cannot. …

One of the inevitable results of downsizing is plummeting employee morale. Employees have a hard time squaring all the talk about the importance of human capital with seemingly indiscriminate cutting. They are too often confronted with a lose-lose proposition: "If you don't become more efficient, you'll lose your job. By the way, if you do become more efficient, you'll lose your job." What employees hear is that they're the firm's most valuable assets; what they know is that they're the most expendable assets. **A2**

Many middle managers and first-line employees must feel like the laborers who built the pharaohs' tombs. … Think of the laborers as middle managers in the midst of corporate restructuring. All the workers knew that when the tomb was finished they would be put to death — this was how the pharaoh destroyed any memory of how to find the wealth. Imagine what would happen when the pharaoh showed up on the work site and inquired of a

[23] *Competing for the Future* by Hamel & Prahalad (1994), pp. 7 - 23.

supervisor, “How’s it going, are you about done yet?” “Not yet boss, it’ll be a few more years, I’m afraid.” No wonder tombs were seldom finished within the pharaoh’s lifetime! And no wonder so few first-level and mid-level employees bring their full emotional and intellectual energies to the task of restructuring.

Restructuring seldom results in fundamental improvement in the business. At best it buys time. One study of 16 large U.S. companies with at least 3 years of restructuring experience found that although restructuring usually did improve a firm’s share price, the improvement was almost always temporary. Three years into restructuring, the share prices of the companies survey were, on the average, lagging even farther behind index growth rates than they had been when the restructuring began. The study concluded that a savvy investor should look at a restructuring announcement as a signal to sell rather than buy. (Stocks of Companies Announcing Layoffs Fire Up Investors, but Prices Often Wilt,” The Wall Street Journal, 10 Dec 91, p. C1) …

Any company that is better at denominator management than numerator management … shouldn’t expect Wall Street to cut it much slack. What Wall Street says to such companies is, “Go ahead, squeeze the lemon, get the inefficiencies out, but give us the juice (i.e., the dividends). We’ll take that juice and give it to companies that are better at making lemonade.” … Look at how IBM’s share price tanked when the company finally cut its dividend. Investors obviously didn’t believe that IBM was likely to redeploy the cash saved in a way that would ultimately produce more shareholder wealth. (p. 12)

… it is not totally by accident that the world’s best denominator managers — U.S. and British managers — pay back more of their firm’s earnings to shareholders than do Japanese and German managers. Again and again Wall Street has shown itself quite content to watch a firm profitably restructure itself out of business, when top management seems incapable of profitably creating the future. … (p. 12)

Sure Detroit is catching up on cost and quality, but what was lost in terms of employment and global market share? The answer: hundreds of thousands of jobs, about 25 % points of market share in the U.S., and any near-term hope of U.S. automakers’ beating Japanese rivals in the booming markets of Asia. … (p. 14)

In a recent survey, nearly 80% of U.S. managers polled believed that quality would be a fundamental source of competitive advantage in the year 2000. Yet, barely half of Japanese managers predicted quality to be a source of advantage in the year 2000, though 82% believed it was currently an important advantage. Rated first as a source of competitive advantage in the year 2000 by Japanese managers was a capacity to create fundamentally new products and businesses. Does this mean that Japanese managers are going to turn their backs on quality? Of course not. It merely indicates that by the year 2000 quality will no longer be a competitive differentiator; it will simply be the price of market entry. … (p. 15)

A reengineering program is adopted with the objective of shaping up sloppy processes. But as we have argued, restructuring and reengineering may ultimately be too little, too late if a company’s industry is changing in a profound way and if the company has fallen far behind that change curve. Too often, profound thinking about the future and how to shape it occurs only when present success has been substantially eroded. To get ahead of the industry change curve, to have the chance of conducting a bloodless revolution, top management must recognize that the company may be blind as well as fat and lazy. It must attack the strategy regeneration and industry reinvention agenda in concert with, or better yet, in anticipation of, the restructuring and reengineering agenda. (p. 23) **A3**

Excerpt B. On management vs. high wages being the source of the competitiveness challenge[24] from *Competing for the Future* by Hamel & Prahalad

We are acquainted with one multinational that, for years, watched its market share decline against more efficient and fleet-footed Japanese competitors. Employees regularly received videotapes from senior management, entreating them to do better, and berating them for substandard performance. But few first-line employees and middle managers had any job-related evidence of the exact nature and magnitude of the firm’s competitive deficit. There was indeed a general consensus that the firm’s costs were a bit inflated, and the product development times could probably be shortened a bit, but without specific data there was no highly focused sense of urgency about the improvement task.

For its part, top management was, at first, reluctant to acknowledge the enormity of the competitive problem. Few corporate staff members or divisional managers were impudent enough to present top management with painful and unequivocal data on competitive decline. How could the head of corporate R&D admit that his company spent 2½ times its major Japanese rival on development and yet launched many fewer successful new products, or that his firm had more development engineers yet took twice as long to bring new product ideas to the market? How could the director of worldwide manufacturing admit that his firm’s defect rate was a dozen times higher than the world standard, or that a

[24] *Competing for the Future* by Hamel & Prahalad p. 154 - 158

Japanese competitor could manufacture in Europe, at low scale, more cheaply than his firm could source from a plant in Taiwan? How could the head of corporate sales and marketing admit that selling expenses per dollar of revenue were half again as high as competitors with just half the revenue?

When such disturbing data did land in top management's lap, they were explained away by the "fact" that Japanese rivals obviously had some unique advantages that couldn't be duplicated in a European context. Yet even as this defense became less and less plausible (with Japanese competitors sourcing from European factories and with U.S. firms like Hewlett-Packard and Motorola successfully defending their turf against Japanese rivals), it was still difficult for the top brass to admit that their firm had fallen so far behind on a broad range of competitive parameters. Nobody at the top wanted to be the first to stand up and say *mea culpa*.

Nevertheless, every employee, of whatever rank, could easily see the dwindling shelf space commanded by the firm's products in local retail outlets. As the evidence of decline became more inescapable, confidence in top management throughout the company waned. "Why doesn't top management do something?" became the collective cry of the organization. Knowing this was a problem it couldn't fix on its own, yet too proud to go to the organization and ask for help, top management stonewalled

A way out of the impasse emerged only when the chairman was unceremoniously dumped, a new top team put in place, and a thorough and soul-searching review of the firm's competitive problems launched. With these data in hand, top management was in a position to set out precise improvement challenges for the company. Much additional work was done to give every employee a personal improvement goal, and with a deep sigh of relief, the organization set out to recapture the company's former glory. But the denial and the lost time cost tens of thousands of employees their livelihoods.

The lesson here is that setting corporate challenges requires great honesty and humility on the part of top management: honesty in portraying the magnitude of the task ahead; humility in admitting that it must bear its share of the responsibility for poor performance. Motorola is one of the most self-critical firms we know.

Motorola's refusal to ever be satisfied with "good enough" shows up in its results. Unfortunately, in some companies, honest criticism is, particularly when it comes from subordinates, more likely to raise hackles than standards.

Corporate challenges will engender more frustration than fresh thinking if employees don't have the right to challenge corporate orthodoxies in their pursuit of better performance. We find it paradoxical that the empowerment that counts the most — the freedom to challenge standard operating procedures, workflow design, and bureaucratic procedures — is the freedom that is most often denied to first-level employees. Although it is one thing to let a production employee bring the manufacturing line to a halt when a defect is found, it is quite another to let that factory worker have a significant say in task design and factory layout. It is sometimes said that the pursuit of total quality is the key to management innovation. To the uninitiated this must sound strange indeed. What has quality got to do with innovation in management methods? The connection is simple. The foundation of a quality program is a willingness to trace every quality problem back to its roots. The fact is that those roots usually reach far beyond the immediate vicinity of the problem. They reach into areas like supplier relationships, process design, information systems, physical infrastructure, and the like. And it is those closest to the quality problems who are best placed to offer real insight into how corporate processes and systems could be improved. Marginally enlarging the scope of authority for a first-level employee is not enough; every employee must be given the freedom to challenge anything that interferes with the pursuit of a company's strategic intent. **B1**

One of the salutary benefits of corporate challenges is that they focus the organization, top to bottom, on the same capability-building task. No single organizational level working alone can construct a new advantage or overcome a competitive deficit. Advantages like quality, cycle time, customer care, and flexible manufacturing are won by the efforts of every function at every level. Divisional presidents can no more build a competitive advantage in isolation than can front-line employees. Each level and function must understand the totality of the challenge, the interdependence of different roles, and the dimensions of their own responsibility. **B2**

Employees are unlikely to rise to a particular challenge if they don't believe they will benefit proportionately from the firm's success. For challenges to take root, an atmosphere of "shared pain, ,hared gain" must prevail. Such an atmosphere is not easily created when top management pays itself 75 or 100 times as much as frontline employees. Employees may be told that "you are the company's most valuable asset," or "you are responsible for our competitiveness," but such compensation levels send a more powerful and contradictory message. One can well imagine a low-level employee thinking, "If those guys at the top are so well paid, they darn well better have all the answers."

We believe that workers in many companies have been asked to take a disproportionate share of the blame for competitive failure. We consulted at one company where top management was beseeching workers to ameliorate their wage demands to help close a wage-cost gap with a foreign competitor. It turned out that the **B3** foreign competitor actually had higher wage rates, but was getting a higher output with a similarly sized employee base. The rival's productivity advantage came almost entirely from worker-inspired process improvements. You can imagine how eager the put-upon employees were to make similar contributions after finally yielding to a pay freeze. Contrast this situation with what often happens when a leading Japanese company runs into unexpected financial difficulties: Top management takes the biggest pay cut, and first-line employees take the smallest. This approach more accurately represents who really is at fault for failing to anticipate and respond to changed circumstances.

B4

Finally, all employees must be given the tools they need to contribute to advantage-building efforts. The tool kit may include statistical analysis, general problem-solving techniques, benchmarking methods, systems modeling, and teamwork disciplines. Motorola established what was, in essence, a corporate university to embed these skills in its workforce. It realized that it was no help asking employees to build new advantages with their bare hands. Bare-handed empowerment is really no empowerment at all.

Excerpt C: from *The Future of Capitalism* by Lester Thurow (1996)

On community coming first.

"The conservative view of government sees men in a violent state of nature submitting to central authority in exchange for security and stability. Chaos, the lack of private property rights, essentially leads to the need for government. But historically it wasn't so. Capitalism's conception of government is precisely backward. Groups came long before individuals. Social support and social pressure is what makes humans human. (p. 275)

No significant group of human beings has ever lived in an individualistic state of nature. No set of individual savages ever got together to decide to form a government in their own self-interest. Government or social organization has existed as long as humankind has existed. Instead of existing first and being subordinated to obtain social order, individuality is a direct product of social order. Over time individuals have gradually gained rights vis-a-vis the community rather than giving up some of their individual rights in order to gain the benefits of community. Social values informed individual values and not the reverse. Individuality is a product of community rather than something that must be sacrificed to community.

What is missing in this negative view of government is an understanding that free markets require a supportive physical, social, mental, educational, and organizational infrastructure. More important, they require some form of social glue if individuals are not to be constantly battling each other.

Biologically, some species are solitary animals living alone except when they mate. Other species are herd or pack animals. Man is clearly the latter. Any successful human society has to recognize this reality, but capitalism does not. Successful societies need to keep the two sides of humankind in balance. … (p. 276)

Theoretically, capitalism does not claim that it will arrive at some glorious destination — that it will maximize growth rates or generate the highest incomes. It simply claims that no system can do better when it comes to maximizing individual personal preferences just as fast as it does altruistic humanitarian preferences. … Capitalism … is about letting everyone maximize their utility by exercising their own individual personal preferences. Wanting to be a criminal is just as legitimate as wanting to be a priest.

On government support of infrastructure.

Infrastructure can be bought and sold in private markets. With modern electronic sensors, user tolls could be collected on almost everything. By putting bar codes on cars, spreading sensors around the city, drivers could be sent a monthly bill depending upon where they drive, when they drive, and how much they drive. But there is still a reason for public involvement. In many cases to spread and accelerate economic development, infrastructure (transportation, communication, electrification) has to be built ahead of the market — but that means a long period of time before capitalistic profits are earned. Capitalists won't, and probably shouldn't, wait for those profits to appear. Capitalistic infrastructure can only be built behind, with or slightly ahead of the market. Historically, private money built America's railroads east of the Mississippi, where markets already existed; public money was necessary to build them west of the Mississippi where markets were to be built. p 289 …

In the U.S., public infrastructure investment has been cut in half over the past twenty-five years and has fallen to the point where the stock of public capital is now declining relative to the GDP — falling from 55% to 40% of GDP in the last decade. p 291 …

As the Roman Empire slid into the depths of the Dark Ages, the private gradually squeezed out the public until effectively the private sector swallowed everything and the public sector disappeared. The intense devotion of the Romans to the "res publica" was lost. p. 265 (reference: Blakely & Snyder, "Fortress America: Gated and Walled Communities in the United States," Lincoln Institute of Land Policy, 6/10/96, p.11) …

People quit building and maintaining. … Roman water and sewer systems were abandoned and had to be reinvented more than a thousand years later. In our society public infrastructure spending has been cut in half in two decades. p. 266 …

Communism fell because it could not solve its internal contradictions. Communism's ideology of radical equality and its belief that there was not need for individual incentives proved to be incompatible with the productive realities of modern human beings in an industrial age. p 304 …

In some profound sense capitalistic values are also at war with capitalism. Capitalism will succeed or fail based on investments that it makes, yet it preaches a theology of consumption. Good physical infrastructure (roads, airports, water, sewage, electricity, etc.) and good social infrastructure (public safety, educational opportunities, research and development) are necessary if economic progress is to occur, yet none of these investments is called for in the theology of capitalism. p 304

Historically, capitalism has solved its internal contradictions by using the public sector to make many of the investments in infrastructure, R&D, and education that it would not make. Private capitalism counted on public "spinoffs." Instead of admitting that it needs help to function efficiently, however, capitalism's usual excuse for government activity has been some military threat. But none now exists. p 305 …

When government is asked to make these long-run social investments for capitalism, the requests are all ad hoc flying buttresses — essential to hold up the cathedral of capitalism, but officially unrecognized. Being unrecognized they are not maintained and supported by capitalism. But when the public sector atrophies beyond some point, the flying buttresses fall, and the private cathedral falls with them. p 305

… Looking back, Americans are quick to note that flourishing societies such as the Incas in Peru or the Moors in southern Spain went into rapid decline when the Spanish stopped maintaining the irrigation systems that had allowed them to exist. p 306 …

Without social organization everyone has an incentive to be a free rider — enjoying whatever benefits exist without putting in any effort to preserve the system that makes the benefits exist. Without organization everyone uses as much water as possible and no one puts any effort into repairing the canals. With a short period of time there is no irrigation system from which water can be taken and everyone's standard of living falls below where it previously had been. Everyone is individually rational but the net result is collective irrationality. p 306

A similar test lies ahead for us. Can capitalism invest in the human capital, infrastructure, and R&D that will allow it to flourish, or will it, like the Christian Spaniards, get rich in the short run and refuse to make the social investments upon which its long-run success depends? p 306

If capitalism is to work in the long run, it must make investments that are not in any particular individual's immediate self-interest but are in the human community's long-run self-interest. How does a doctrine of radical short-run individualism emphasize long-run communal interests? … Put simply, who represents the interests of the future to the present? p 308 …

History shows us that very different balances between public and private and between consumption and investment are possible, but it also shows us that it is not possible to run a good society without a balance in both areas. p 309

Excerpt D: "The Long Wave Decline and the Politics of Depression" by John Sterman presentation to the Bank Credit Analyst Conference, 1992

On the origin of the long wave, pp. 6 - 12

How does the long wave arise? It is important to stress that the long wave is not some mystical, external force. The long wave has nothing to do with astrology, or the quantum mechanical states of the molecules in our bodies. Nothing supernatural or mystical is involved. Our research at MIT over the past fifteen years shows that the long wave is an endogenous (internal) consequence of ordinary, everyday decision making by folks like you and me. Households, businesses and governments make decisions from their own perspective, decisions that seem to make sense, decisions that are locally rational: but decisions that interact in unanticipated ways. Among the unanticipated consequences of individually rational decisions is the long wave. Here, in a nutshell, is how it works.

The end of the last downturn period or trough was roughly the end of World War II. The United States, and the world as a whole, didn't have enough civilian-oriented goods or services: there were not enough consumer goods to satisfy the needs of a population that had experienced a decade of depression and nearly another decade of war. Worse, there were insufficient capital goods and investment capability to produce the civilian consumer goods that we needed. The economy had to go into an extensive period of rebuilding.

The process of rebuilding necessarily causes the economy to overshoot the long-run needs of replacement of depreciated assets and long-term growth. The only way to fill up a bathtub is to pour water into it faster than water flows out. The only way to refill the depleted stocks of consumer goods and provide for long-run growth and depreciation is to produce consumer goods faster than is needed in the long run, at least for a time. And the only way to produce goods above the long-term need is to build up the capacity of the goods producing sector above those long-term needs. Therefore production of capital plant and equipment must also overshoot: the economy must be able to produce the plant and equipment required to grow the goods producing capacity, which in turn must rise above the long-term need. Thus the capital-producing sector of the economy — the factories, mines, steel mills, railroads, and manufacturers of the other inputs used to produce plant and equipment — had to rise, at least temporarily, above the balanced growth path. To fill the bathtub with consumer goods necessarily meant building up an entire sector of the economy above the sustainable long-term need. Of course, once the tub fills, the need for capital goods can drop back to normal, but by that time these industries will have overexpanded substantially.

The rebuilding process took quite a while because of the severely depleted capital base and obsolete infrastructure. Before we could even begin production of the automobiles, toasters and other consumer goods we needed, we first had to produce the machine tools, factories, rolling stock and barges required to produce those goods. This took time. More important, the rebuilding process was self-stimulating. When the demand for capital goods increases it generates the need for additional capital. If I am in the steel industry and the demand for steel increases substantially, I have to build a new mill, rail facilities, barge terminals and ore carriers. All of those require further steel. The economy is tightly connected in a web of input/output relationships which create a very powerful self-reinforcing feedback process that further stimulates expansion.[25]

Employment increases dramatically during the expansion period as producers seek to meet the rising demand for plant, equipment, and goods. Labor markets tighten as the unemployment rate falls, and wage rates rise. Consumer incomes climb at above normal rates and thus, consumer demand is stimulated, a further self- reinforcing feedback that stimulates the growth of demand.

During the 1950s and 1960s the expansion process was vigorous. By the mid 1960s, high capacity utilization and low unemployment were leading to inflationary pressure. The high demand for credit to fund the expansion in capacity industry desired, combined with upward price and wage pressure, led to faster expansion of the money supply, fueling more rapid inflation. Given interest rates, an increase in inflation lowers the effective or real interest rate. Nominal interest rates began to rise during this period, but lagged behind the accelerating rate of inflation, so real interest rates fell. During the 1970s, as inflation accelerated further, real interest rates were often significantly negative. Obviously, a situation where the bank pays you to borrow creates a powerful incentive for increased debt-fueled spending and investment in capacity and assets of all types, further stimulating the expansion.

Thus even as firms seek to expand capacity to meet demand, their actions create macroeconomic side-effects that further increase the demand. What begins as a simple rebuilding of capital stocks and consumer goods is strengthened and prolonged by a wide range of self-reinforcing feedbacks to become a decades-long boom.

Capacity eventually catches up with demand, however. In the present long wave cycle this began to happen in the 1970s. The balance point was not reached all at once nor was it uniform across all industries. The same self-reinforcing feedbacks that powered the upswing reverse, and the downswing gathers momentum. Capital producers find they no longer need to build as much new plant and equipment. As they scale back their own investment plans, they further reduce the demand for plant and equipment, leading to further cutbacks in orders and still more excess capacity. Unemployment starts to radiate out from the capital goods industries into the durable goods industries and then moves into services, including the financial and government sectors. This further undercuts consumer incomes and aggregate demand and leads to further excess capacity which reinforces the downward cycle. Unemployment and excess capacity lead to stagnating or falling wages and prices, further accelerating demand reductions. Individual companies faced with excess capacity and a flat or falling market will seek market share advantage leading to price wars and low margins which reduce inflation and raise real interest rates, further deterring investment. The debt accumulated during the growth period to fuel the expansion becomes an increasingly heavy burden, with high interest rates that cannot be sustained. High debt loads and high real interest rates lead to high rates of business failures, defaults and rescheduling, which further undercut demand, and cause even more cutbacks. Once the long wave peaks the same processes that powered the upswing work in reverse to drag the economy into the downswing.

When we first formulated this theory at MIT in the early 1970s there was little empirical evidence to support it, and it was quite controversial. Fifteen years later there is more than ample data documenting the feedback processes just described and their painful consequences for the economy. There is little doubt now about the existence of the long wave. What remains is to understand how the economy might evolve through the remainder of the downturn period (the theory and evidence for the long wave are laid out in a series of papers listed in the bibliography

[25] Readers trained in economics will recognize these feedbacks as the investment accelerator and multiplier processes. See Sterman (1985, A Behavioral Model of the Economic Long Wave, *Journal of Economic Behavior and Organization*, 6, pp. 17-53) and (1986, The Economic Long Wave: Theory and Evidence, *System Dynamics Review*, 2(2), pp. 87-125) for more detailed discussion.

at the end of this paper).

Timing the Long Wave

Where are we now in the long wave? Has the long wave peaked? Have we reached the trough? When will the next long wave expansion begin? Before turning to an assessment of long wave timing, it is important to account for variability. There are many uncertainties that can alter the timing of the long wave. For example, in the U.S. the average business cycle is about 48 months long. However, the variation in the length of any individual business cycle can be a factor of 2. The business cycle has been as short as 19 months and as long as 96 months. Similarly, the timing of the long wave also varies from cycle to cycle. The period of the long wave is between about 45 and 60 years. It is not clockwork, but rather an internally generated dynamic subject to the influence of other forces in the world. The dates I suggest are best guesses given present knowledge. Subsequent events might cause us in to revise the dates, just as the National Bureau of Economic Research revises its estimates of business cycle timing after all the data are in.

The world economy has been in the decline phase of the long wave since the 1970s. The peak of real GNP against trend was in 1973. Though the US economy grew in real terms during the 1970s, compared to the historic long-term trend the economy was declining. And if you look at how well we are doing by such measures as real wages, we are worse off today than we were twenty years ago. Real wages have been flat since 1973. In addition, the increased duration of unemployment and growing numbers of permanent job reductions in large firms indicate that the deterioration is not cyclical (a manifestation of the business cycle), but is of a much more structural nature.

Such persistent unemployment is a typical symptom of long wave decline. The decline is not the end of the long wave, however. The end of the long wave occurs when the economy has navigated its way through the trough. The trough period is characterized by an economy that is no longer imploding at a significant rate but that isn't improving either. During the trough the economy is going sideways, which is very much the current situation.

Even in the trough, however, there are blips and dips. After the Great Crash in 1929 and the long collapse of the economy from 1929-1933, the economy bottomed out with unemployment at a debilitating 25%. The economy then began to recover. The recovery, though painfully slow, lasted through 1937, when there was another downturn. Even during the trough, the business cycle can continue, causing the trough to be somewhat irregular. If the current trough began with the current recession in 1990-91, how long is it going to last and when will the next long wave expansion begin?

There is still great uncertainty about the answer The fundamentals clearly suggest the next long wave expansion cannot occur within the next couple of years, at the earliest, and might be delayed until the latter part of the 1990s. The outcome depends very much on the quality of leadership in the United States and abroad during the next few years. During the trough, we may very well have a business cycle recovery, but, as has occurred since 1991, the rate of real economic growth will likely be anemic compared to typical post-war recoveries: unemployment will remain high, real incomes will not grow significantly, and social and political pressures for change will intensify.

Stresses in the Long Wave Downturn, pp. 34-39

While the political realignment of society may be intrinsically unpredictable, there are identifiable economic stresses as the economy moves into the trough phase of the long wave. Some of the more important stresses that arise during the downturn and trough of the long wave are excess capacity, excess debt, deflation in asset prices, and high real interest rates as a result of the deflation in those asset prices. Though these problems remain serious, progress has been made in each of these four areas. Excess capacity, in particular, is gradually declining in some industries, particularly the heavy capital industries that, as described above, entered the depression phase earlier than the consumer goods and services sectors. In most cases the decline in excess capacity is the result of capacity reduction rather than demand growth. And the adjustment process takes considerable time because of the side-effects of the feedback loops described above that reduce the demand for goods and services each time a company sheds a worker or doses a plant.

Asset prices, bid up to unsustainable levels during the speculative frenzy of the 1980s, are now declining worldwide. The world economy is now working its way through the process of deflating the debt bubble. Debt relative to GDP, or personal disposable income, peaked about 1990, as consumers and businesses suddenly found their debts consuming a greater and greater fraction of their income. The upswing of the next long wave cannot begin while the balance sheets of households and corporations are bloated with debts acquired to fuel the now-deflating speculative bubble. However, liquidating these debts is contractionary, as households spend less than their income, businesses retire debt rather than spending for new plant and equipment, and taxpayers cough up to cover the liabilities of the Savings and Loan industry and banking system. As asset prices have fallen, real interest rates have skyrocketed. Though still quite high, real interest rates have been dropping gradually since the early 1980s as excess capacity and unemployment have forced inflation down. There are some reasons for optimism.

Structural unemployment, on the other hand, remains a serious problem. As discussed above, the contraction of the economy in the downturn as firms seek to reduce excess capacity generates persistent unemployment. The vicious cycle described above, whereby downsizing caused by firms seeking to gain competitive advantage erodes employment, incomes and confidence, leading to more downsizing and still more unemployment, is intensified as households and businesses reduce their debts. The responses to the persistence of such structural unemployment are inherently slow: migration, retraining, retirement all take time and are disruptive to family and community.

What, then, can we expect during the remainder of the long wave trough? On average, real economic growth will continue below the long term historic trend. Growth will likely be erratic due to the business cycle. In fact, inventory levels and other short-term cyclical indicators generally suggest the economy should be in the recovery phase of the business cycle. The recovery has been very weak, however, because it is dominated by the downturn and trough of the long wave.

The same is true for unemployment. Unemployment will remain a serious problem, and likely will worsen. Real interest rates will remain high, debts will continue to be retired, defaulted or forgiven. There will be experimentation with new technologies, new management practices, and new political parties.

Growth will resume when the next expansion begins. Unemployment will fall, but only gradually. Real interest rates will drop. Debt will rebuild slowly but around an entirely new set of financial institutions with new managers and newly stiffened standards for credit extension. We will see the diffusion of innovations in unpredictable combinations, dramatic regulatory reform and political realignment. Our attention will gradually turn from economic affairs to more pressing problems of the environment, population growth, and the creation of a sustainable and just society.

Possible Policy Errors

The scenario above is inherently uncertain. Pessimism, fear and the narrowness of perspective that people tend to develop during such a protracted period of disappointment are still on the upswing, as is befuddlement on the part of leaders. We might be lucky enough to muddle through, but there are always wild cards that cannot be predicted. More important, there are a number of possible policy errors that we should be guarding against.

The first relates to fighting inflation. There is an inappropriate focus by some central banks on fighting inflation rather than providing liquidity to fight deflation and unemployment. The Federal Reserve has finally seen the light since the start of the recession, and pushed down (short-term) interest rates by hundreds of basis points. The most serious threat to the world economy comes now from the misguided tight money policies of the Bundesbank. Though at the time of this writing the Bundesbank has made some modest cuts in its discount and Lombard rate, these are too little, and perhaps too late. Real interest rates remain high as asset prices fall. Nominal rates need to fall sharply and quickly. Attempts by nations such as (but not limited to) Germany to prevent current account and budget deficits and fight inflation by maintaining high rates run the risk of deepening the crisis through higher real interest rates, weak investment abroad, protectionist retaliation, and the type of instability observed in the collapse of the ERM.

Inflation is simply not the dominant problem during the long wave trough. Inflation will become a serious threat as the next long-wave expansion gets underway, but that time is not yet here. What we need to do for now is to make sure there is adequate liquidity in the world's financial system so that real interest rates can drop to tolerable levels.

A second possible policy error has to do with the US fiscal deficit. A tragic error was made in 1982 when President Reagan cut taxes without comparable spending cuts. The resulting stimulus, coming during the peak of the long wave, allowed the economy to grow even further, to generate even more excess capacity, and build up even more unsustainable debt in even more overpriced assets. The consequence: a more severe long wave downturn. Having made that blunder, it would now be a disaster to compound it with aggressive deficit reduction during a time of depression. Eliminating the deficit now, either by taxes or spending cuts, would be extremely contractionary. Further taxation will further reduce consumer incomes and force aggregate demand down, leading to still more excess capacity and further intensifying unemployment and pessimism among households and consumers. Spending cuts likewise directly reduce employment and lower household income, leading to comparable effects. We should not minimize the seriousness of the explosion in Federal debt. The issue is the timing. Attempts to cut the deficit now will be self-defeating as the resulting unemployment and contraction in the tax base will further erode revenues and boost spending on social programs such as unemployment compensation so that the deficit will not in fact fall.

While the deficit cannot now be cut, I do believe much Federal spending could be shifted away from relatively unproductive Federal expenditures in both military and social programs into more productive, investment-oriented areas. There is a lot of room for reallocation of funds to rebuild the social fabric of our society and improve the quality of our lives. The federal government should adopt a capital budget, in which investments in infrastructure, including human capital (e.g. education, preventive medicine) are separated from operating funds. Such programs should be counted as investments in the future of the nation, not expenditures contributing to an operating deficit.

A third policy error is protectionism. The long wave is synchronized globally. The linkages among nations through trade and capital flows are strong enough to synchronize the long wave across national boundaries, although there are some variations in the timing of the short-term business cycle. The US downturn started in 1990, Germany's is underway, Britain and Canada started to slide a year before the US. Currently, the entire industrialized world is in decline. Obviously, all nations cannot simultaneously buoy up their domestic economies by boosting exports at the expense of their trading partners. The experience of the Depression shows clearly that beggar-thy-neighbor trade policies lead to trade wars that shrink aggregate demand for all nations and intensify the downturn. Despite the free trade rhetoric, the past decade was the most protectionist since the Great Depression — even though the world economy was growing. As the long-wave trough continues, protectionist pressures will surely intensify.

The most important possible policy errors have to do with the political shifts discussed above. During a time of growing parochialism, the forces of demagoguery and division that threaten our society must be opposed. Over the past twenty years, since the long wave peaked and began to decline, real incomes have fallen. Income inequality has increased. Social tensions among racial and ethnic groups have risen. Further erosion of the social safety net would be extremely divisive. Social policies that increase inequities would have very damaging effects. The depression is a time to pull together, to build bonds of community, to reach out to others. It is the right thing to do. If we fail, if we shrink from our neighbors, if we allow government to abandon the powerless, the social fabric might tear beyond repair.

If we avoid these policy errors then there is considerable reason for optimism for the long term. The long wave, after all, is a cycle. Eventually, as excess capacity falls, debt is liquidated, prices fall, and interest rates decline, the stage will be set for the next upswing. However, that time is not yet upon us. First the stresses and imbalances described above must be resolved. And this takes time. While it is too late to avoid the overbuilding and excesses that lead to the retrenchment, there is still considerable leverage available to cushion the impact of the downturn. Denial and avoidance, weak leadership and the politics of blame, will only deepen and prolong the crisis. Facing up to the dynamic character of our economy, recognizing that no one is to blame, that the long wave arises from fundamental structures in the economy and from policies everyone supported during the expansion, is a first step towards rebuilding confidence and building the consensus we need to move forward. It is a challenge to our leaders and ourselves from which we must not shrink.

Article: Split in Ranks of Business and G.O.P. on Tax Cuts, 11/29/02

By EDMUND L. ANDREWS http://www.nytimes.com/2002/11/29/business/29TAX.html

WASHINGTON, Nov. 28 — Even as President Bush hones plans to stimulate the economy with $150 billion or more in new tax cuts, business groups and many Republicans are split about where the money should go.

Many business lobbyists insist that a top priority must be tax breaks aimed directly at corporations, because business spending is the weakest segment of the economy.

But a growing number of business and political leaders, including at least one influential industry group, want to funnel more money to lower- and middle-income taxpayers in an effort to generate more demand for goods and services.

White House officials have stepped up their work on a major tax-cut package, and some lobbyists say Mr. Bush could announce it within the next few weeks.

But even among Republicans, there is enormous debate about how to persuade companies to invest in new factories and expand hiring.

"I am genuinely concerned that Republicans not be chastised for only helping business and the wealthy," said Senator Charles E. Grassley, Republican of Iowa, who will become chairman of the Senate Finance Committee in January. "There has to be a balance between incentives for consumers and for investment."

The Business Roundtable, an organization of chief executives from large corporations, startled many of its normal allies last week by arguing that tax breaks for individuals would be more helpful than tax breaks for business.

Indeed, the Roundtable's top recommendation was one favored by many Democrats: bolstering tax relief for low- and middle-income families by temporarily cutting payroll tax contributions for Social Security and Medicare.

"There is substantial overcapacity in the economy, so we don't need more capacity right now," said John J. Castellani, the president of the Business Roundtable. "We felt it would be more prudent and effective to stimulate consumption."

Those words sent shivers through rival business groups — like the National Association of Manufacturers — which are pressing for big new write-offs on investments.

But they also reflected the murkiness of the current economic picture. Economists note that neither low interest rates nor last year's tax cuts did much to stimulate business spending.

White House officials appear to be divided as well.

Lawrence B. Lindsey, the director of the president's National Economic Council, has spoken broadly about the need to put more money in the hands of both companies and taxpayers.

Paul H. O'Neill, the Treasury secretary, has argued in favor of carefully delineated tax measures for industries in genuine distress.

Those differences reflect the baffling mix of growth and stagnation in the economy, which grew at a healthy annual rate of 4 percent in the third quarter but is expected to slow down to just over 1 percent in this quarter.

Consumer spending remains fairly strong, but manufacturing remains depressed and business investment is anemic. The nation's factories are running at only about 75 percent of capacity, and companies continue to delay big investments.

Some White House officials say they do not even like the word "stimulus" because it smacks of Keynesian pump priming.

Regardless of what one calls it — "near-term growth package" is the favored White House phrase — President Bush is determined to propose more tax cuts and the main issue will be who benefits from them.

A surprising range of people are pressing for measures aimed at ordinary taxpayers.

"The stimulus bill this year will be focused on helping workers rather than corporations," predicted Stephen Moore, the president of the Club for Growth, a conservative group that advocates deep tax reduction. "The problem the business community faces is that most people don't care about business taxes, whereas they usually do have an unpleasant relationship with individual taxes."

President Bush has already said he wants to make last year's tax cuts permanent, and he is likely to call for speeding up tax cuts that were supposed to be phased in over several years.

White House officials are juggling plans for a stimulus package with their longer-term goal of overhauling the tax code. Many would love to eliminate the so-called "double-taxation" of corporate dividends — the taxation of dividends as both corporate profits and as income to shareholders.

But it remains unclear whether the White House will try to cut dividend taxes as part of a stimulus bill. The move would be expensive — last year, corporations paid out about $210 billion in dividends. It would also be opposed by most Democrats.

Representative Michael G. Oxley, Republican of Ohio and chairman of the House Financial Services Committee, said House Republicans were ready to be aggressive in the wake of their election victories on Nov. 5.

"We can pass damn near anything in the House," Mr. Oxley told Bloomberg News on Thursday.

But the picture is quite different in the Senate, where Republicans have a two-vote majority and do not have the 60 votes they need to end a filibuster.

Partly for that reason, Senator Grassley vowed to seek out compromises with Senate Democrats and has spoken out strongly in favor of tax relief for middle-income families rather than for business.

Among the possibilities, he said, are speeding up an increase in the Child Tax Credit, to $1,000 from $600; speeding up relief for two-income couples who are pushed into higher tax brackets; and perhaps expanding the number of people who would be taxed at the lowest rate of 15 percent.

Support for tax cuts to lower- and middle-income workers is apparent on other fronts. To the astonishment of some Republicans, support is growing for a temporary cut in the 15-percent payroll tax for Social Security, possibly by excluding the first $10,000 of a person's earnings from the tax.

The idea has long been popular with many Democrats, because it would benefit low- and middle-income families.

"It gets money to people who need it and will spend it," said Senator Jon S. Corzine, Democrat of New Jersey, who pressed unsuccessfully for a payroll tax holiday last year and is proposing a six-month cut now.

But the idea received a new dose of support when the Business Roundtable listed a one-year exemption from payroll taxes on the first $10,000 a person earns.

Some business lobbyists were openly angry about the Business Roundtable, accusing it of undermining goals like lower corporate tax rates and more generous write-offs for plants and equipment.

"It's misguided," said Mark A. Bloomfield, the president of the American Council for Capital Formation, a Washington group that lobbies for lower corporate taxes. "Given where the weakness in the economy is, and given the weaknesses in the current tax system, there are places where the money could be used much better."

Article: Manufacturing Contracts for Third Month, 12/2/02

By REUTERS Filed at 1:07 p.m. ET New York Times
http://www.nytimes.com/reuters/business/business-economy-manufacturing.html

NEW YORK (Reuters) - U.S. manufacturing contracted for a third straight month in November, and with businesses still reluctant to invest heavily in an uncertain economy, factory sluggishness is showing no signs of ending soon, a report said on Monday.

The Institute for Supply Management said its index of manufacturing business conditions was at 49.2 in November, below forecasts of a reading of 51.3 and under the 50 mark that separates expansion from contraction. The manufacturing sector comprises about a fifth of the economy. But it has inordinate importance because so much business investment in heavy-duty capital goods is related to factories.

"The manufacturing sector remains stagnant,'' said Stephen Stanley, senior market economist at RBS Greenwich Capital Markets. "The new orders decline and employment declines were not a good sign.''

Monday's contractional reading was above ISM's October figure of 48.5, but below the 49.5 reading in September.

While ISM said the overall economy grew in November for the 13th straight month, the weak factory index reading caused stocks to erase most of their early gains while bonds cut three-quarters of their early losses. The news was out of sync with a recent batch of more upbeat reports on the economy.

Signs of weakness in the economy tend to help bond prices because investors prefer the safe haven of Treasuries when stocks are declining.

"The trend is well established that the overall economy is holding up, but the manufacturing sector is feeling the brunt of the downturn,'' said Norbert Ore, director of ISM's survey. He added that "there are not really any signs of potential change, either upward or downward.''

The ISM new orders index fell in November to 49.9 from 50.9 in October and 50.2 in September. A barometer of future production, the new orders index is down sharply from a recent peak of 65.3 in March and signals further sluggishness ahead.

"We don't have a major driver in manufacturing at this point, something that's going to help us through the next few months anyway,'' Ore said in a teleconference following the release of the index.

Manufacturing employment continued to decline in November as the index remained below the 50 level for the 26th consecutive month. The employment index was 43.8, down from 45.0 in October.

"The new orders decline and employment declines were not a good sign,'' Stanley said.

The ISM report upset a recent pattern of more positive government economic reports. Last week, those included a sharper-than-expected rise in durable goods orders and a drop in new jobless claims during the week ended Nov. 23. The National Association of Purchasing Management's index of manufacturing activity in the Chicago area rose to 54.3 in November, up sharply from 45.9 in October.

In addition, consumer confidence measures perked up in November as consumers appeared to see some stabilization in the job market and an improvement in the stock market, helped by another Federal Reserve rate cut early in the month.

"After the Chicago and Philadelphia Fed indexes there was hope in the markets you would see a rebound in November to well over 50,'' said Stanley. "That obviously did not happen.''

"The U.S. economy is still slogging along,'' said Astrid Adolfson, economist at MCM Moneywatch. "Manufacturers are still having problems given that business spending is slow. And manufacturers are not hiring. It's not a major setback, but it does keep the U.S. economy in slow growth mode.''

In its most recent "beige book,'' an anecdotal survey of the nation's economic and business conditions, the Fed said manufacturing activity "remained soft'' in most areas, and that spending for new facilities and equipment was also limited.

"In general, manufacturers have been producing below capacity, and they have been implementing cost-reduction measures to maintain profitability,'' the Fed said.

Article: Special Visa's Use for Tech Workers Is Challenged, 5/30/03

By KATIE HAFNER and DANIEL PREYSMAN, http://www.nytimes.com/2003/05/30/technology/30VISA.html

With the economy in a slump, a growing number of American technology workers say their jobs are going not only to lower-cost foreign workers abroad, but also increasingly to workers who enter the United States under a little-known visa category known as L-1.

In the nearly three years since the technology bubble burst, the use of L-1 visas to bring in workers — with a large percentage from India — has become a popular strategy among firms seeking to cut labor costs. The number of these temporary visas granted rose nearly 40 percent to 57,700 in 2002 from 41,739 in 1999.

The visas are intended to allow companies to transfer employees from a foreign branch or subsidiary to company offices in the United States. But they are now routinely used by companies based in India and elsewhere to bring their workers into the United States and then contract them out to American companies — in many instances to be replacements for American workers. The number of Americans who have been replaced by foreign contract workers is unknown. American companies that use contract workers have said that the decision to do so is based on factors like skills, and not on cost alone.

Some immigration experts are questioning the legality of this use of the visa. Officials at the Bureau of Citizenship and Immigration Services, or B.C.I.S., a division of the Department of Homeland Security that oversees the granting of L-1 and other work visas, say the bureau is conducting an assessment of the L-1 visa to determine whether there is misuse.

"If this is a company offering the services of their employee to go work for another company, it sounds dubious," said Bill Strassberger, a spokesman for B.C.I.S.

"To bring someone in ostensibly as an intracompany transfer and then put him to work for somebody else and then to say that we're paying him still, that just sounds like someone's trying to really stretch the envelope on that visa category," Mr. Strassberger said.

The legal questions, however, remain murky. Steve Yale-Loehr, who teaches immigration law at Cornell, said that strictly speaking, what these companies are doing is legal, though perhaps not what Congress intended. However, Mr. Yale-Loehr added, "If Congress is upset about this, then Congress will act on it."

In response to the controversy, Rep. John L. Mica, a Republican from Florida, introduced a bill this month to prevent companies from hiring foreigners with L-1 visas.

"When you have people using this to bring in lower-cost labor to displace Americans, it's something we need to address," Mr. Mica said in a telephone interview.

During the boom years, the technology industries successfully lobbied Congress to expand the number of foreign software engineers who could be permitted to fill programming needs in the United States. In 2000, Congress increased the annual cap on more restrictive temporary visas — known as H-1B visas — for highly skilled foreign workers to 195,000 from 115,000. That quota will drop automatically to 65,000 on Oct. 1 unless Congress approves an extension, a move that is considered unlikely.

In the last two years, the trend in the use of H-1B visas has declined sharply. Many experts say the use of L-1 visas will grow.

Unlike the H-1B visa, the L-1 does not require employers to pay workers prevailing wages. In addition, there is no cap on the number of L-1 visas.

This has ignited an outcry among technology workers who have lost jobs and say that foreign contract workers are paid substantially less than prevailing wages in the industry.

Over the last three years, William O'Neill has seen his small computer consulting firm in East Granby, Conn., dwindle from six contract workers to none. The work itself has not disappeared, said Mr. O'Neill, but his clients, most of them large insurance companies in Connecticut and western Massachusetts, are turning to foreign companies, some with workers who are in the United States on temporary visas. Satyam Computer Services, a consulting firm based in India, for example, now has a contract with the Cigna Corporation that has around 100 Satyam employees working on computer applications management in Cigna offices.

And as others have claimed, Mr. O'Neill said that in many cases, existing technology employees are asked to train their replacements. The L-1 visa requires that the foreign workers possess specialized knowledge of the work to be done.

Mr. O'Neill said that the people he knows who are currently training their replacements will not talk about their situation for fear of losing what is left of their jobs. "They're scared to death they're going to lose their jobs instantly versus six or eight or nine months down the road," he said.

Once the replacement workers are trained, Mr. O'Neill said, the foreign workers are often sent back to India to do programming and computer work there for the American companies.

Wipro, InfoSys and Tata Consultancy Services, all of them based in India, are other companies that are using L-1 visas to get workers into the United States.

Girish Surendran, a human resources manager who oversees immigration issues at Tata, said his company "is committed in letter and spirit to all the requirements and regulations of all visa categories." He added: "If workers are replaced, it's not that T.C.S. comes in and employees get let go." Mr. Surendran said he could not comment on a company's reason for laying workers off.

Wipro plans to lobby against Mr. Mica's bill. If it becomes law, said Sridhar Ramasubbu, investor relations manager at Wipro, the company will simply turn back to H1-B visas. "We will not be affected financially because our compensation is the same whether somebody comes in under an H-1 or an L-1," Mr. Ramasubbu said.

But trade groups representing American workers say the foreign workers are paid considerably less. "I have friends that were told in the last three months that they must take a $30,000 pay cut to keep their job," said John Bauman, president of the Organization for the Rights of American Workers, a nonprofit group based in Meriden, Conn.

Gary Burns, the legislative director for Mr. Mica, said there were about 325,000 L-1 visa holders in the United States. Those who stay in this country can remain for up to five or seven years, depending on the category of L-1 they hold.

Some experts say that the use of L-1 visas for contract workers is not widespread and that fears of losing jobs to foreign workers are exaggerated.

"Even if this brouhaha is about a real problem, I think when you look at the number of workers involved, it is a totally insignificant drop in a massive labor market," said Daryl Buffenstein, a immigration lawyer in Atlanta who has corporate clients and is general counsel for the American Immigration Lawyers Association.

Mr. Buffenstein said that those who oppose the L-1 visa do not understand how important it is for American industry. "It will hurt employment in the United States if we impede the ability of legitimate users to transfer managers and specialists between different affiliates of international organizations," said Mr. Buffenstein, a lawyer who advised legislators on the law governing L-1 visas.

Mr. Buffenstein said he was also worried that public overreaction would result in measures like the Mica bill, which he contended would go too far in restricting international companies from using L-1 visa holders to do on-site client work.

Controversy over the visa, which has been in existence for 33 years, is not entirely new. Three years ago, the General Accounting Office reported that the Immigration and Naturalization Services, the precursor to B.C.I.S., had found a high incidence of fraudulent use of L-1 visas and had called abuse of the visas "the new wave in alien smuggling."

But protest over the use of temporary foreign workers has become more vocal in a rocky economy. One 57-year-old computer consultant in Avon, Conn., who has been out of work for five months said, "This isn't just an I.T. issue," referring to the information technology industry.

"It's a big issue with multiple professions, and has a serious effect on the economy," said the consultant, who asked that his name not be used for fear of jeopardizing his chances to find work. "A lot of this is about the economy and the L-1 issue is just exacerbating the problem."