

THE CONNECTICUT Economy



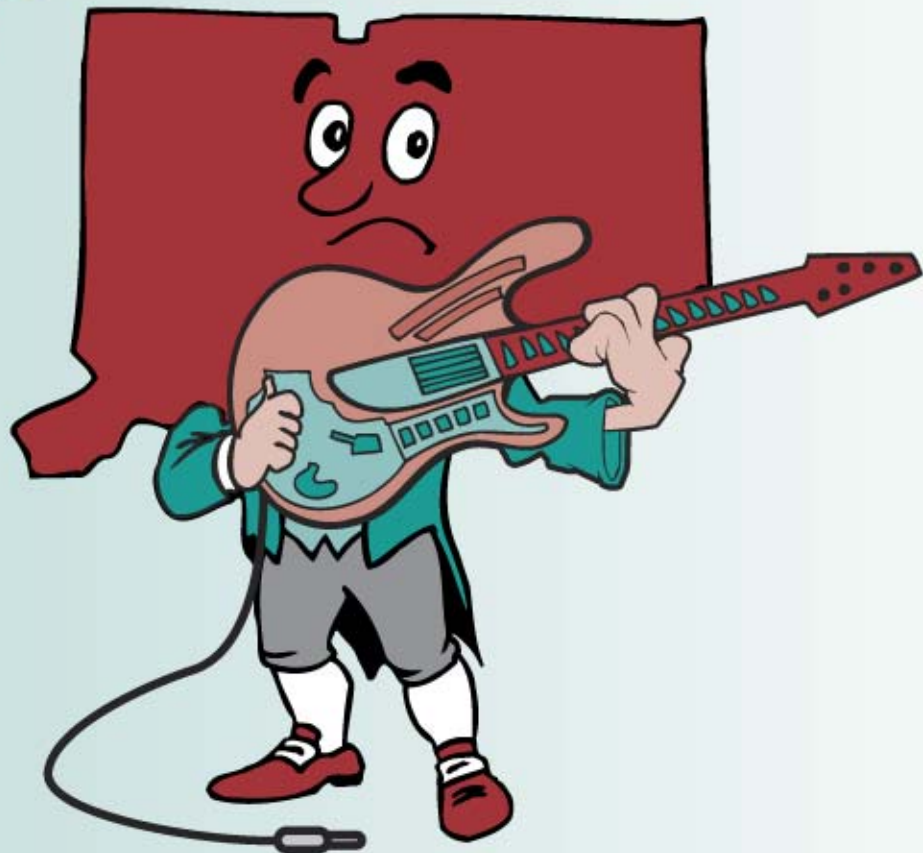
A University of Connecticut Quarterly Review

Fall 2003

Will We Restructure Electric Power Markets Before the Lights Go Out ... Again?

One of America's
Steady Habits:
Residential
Electricity Use

We're No. 1
in Energy
Efficiency, But
Also No. 7 in
Energy-Price
Sensitivity



Connecticut Unplugged: Can an Energy-Addicted State Still Make an Economic Hit?

The Editors



Steven P. Lanza, Executive Editor, coordinates the production, publication, and distribution of *The Connecticut Economy*. He has taught at several universities, including the University of Connecticut, in fields that span economics, business, government and history, and has served as an economic consultant. He has appeared on NECN and CPTV, and has been quoted in the *New York Times* and the *Wall Street Journal*.



Dennis R. Heffley is a Professor of Economics at the University of Connecticut, and has taught courses in urban, health, and mathematical economics since 1973. His research, published in the *Journal of Health Economics*, *Journal of Urban Economics*, *Journal of Regional Science* and other leading professional journals, uses microeconomics to better understand market behavior and public policy.



James R. Moor, Jr., is Associate Professor in Residence in the School of Business and teaches in the University of Connecticut's MBA Programs. He was Chief Economist of The Hartford Financial Services Group, from 1984 to 2000. He has taught at several universities and is actively involved in economic development in the Hartford area.



Arthur W. Wright is Emeritus Professor of Economics at the University of Connecticut, where he was Department Head, 1979-1989, and taught courses in industrial organization and market regulation. He was the department's Honors Advisor and taught the Honors Seminar. His research has appeared in the *American Economic Review*, *National Tax Journal*, and *Journal of Comparative Economics*, among other professional journals.

Contents

Fall 2003 - Volume 11 Number 4



- Lighting a Fire With Wet Matches** 3
Output and consumer confidence are up, but what will it take to rekindle job growth in Connecticut?
- Time's Awastin'** 4
Dilly-dallying on restructuring electric power markets threatens to put Connecticut and other states in the dark.
- Webster-UConn Survey** 6
Nutmeggers say: You can raise my rates (a bit). But don't turn my power off. And don't build a power plant in *my* backyard.
- Energy Efficiency No Insulation Against Price Spikes** 7
High energy prices can take their toll, even in energy-efficient states like Connecticut.
- Watts Up, Doc? Diagnosing Residential Electricity Use** 9
Per capita residential electricity use varies widely across states. Why? Try rational consumer responses to differences in price, income, and climate.
- Centerfold: State Aid Per Capita, FY 2002** 10
State aid per capita gets more generous, the farther east you go in Connecticut.
- Light Under a Bushel?** 12
UConn's Small Business Development Center contributes mightily by paying attention to details.
- Prices Edge Up, Led by Tuition, Fees** 13
Increases in education costs, with an assist from medical costs, yielded a modest increase in state prices.
- Forecast: GDP to Rise, But Jobs...?** 13
Galloping gains nationally portend better (though slower) output growth in Connecticut. But not yet *job* growth.
- Labor Market Areas** 14
The labor market index lost momentum across regions, but Bridgeport, Danbury, and New London still posted gains.
- Improving Electricity Infrastructure Would Bring Costs, But Also Benefits** 18
A CCEA study shows that raising electricity rates to finance improved distribution in Connecticut would actually pay.
- Power to the People!** 20
To serve modern production and household needs, Connecticut has to get with the times in distributing electric power.

The Connecticut Economy gratefully acknowledges the financial support of the following Sustaining Partners:

BankNorth
Connecticut Business & Industry Association
Connecticut Department of Economic and Community Development
The Connecticut Hospital Association
The Connecticut Light & Power Company
Connecticut Small Business Development Center
Foxwoods
Mohegan Sun
The Office of Policy Management
Office of the State Treasurer
People's Bank
The University of Connecticut's:
AAUP
Department of Economics
Center for Survey Research and Analysis
Provost's Office
School of Business Administration

Published by the University's Connecticut Center for Economic Analysis, Fred V. Carstensen, Director

Executive Editor: Steven P. Lanza
Editors: Dennis R. Heffley, James R. Moor, Jr., and Arthur W. Wright
Editors Emeritus: William A. McEachern, Raymond R. Beauregard and Edwin L. Caldwell
Research Associates: Nandika Weerasinghe and Eric Lewis

Executive Committee: Thomas G. Gutteridge, Kenneth J. Dautrich, Suman Singha, Fred V. Carstensen (Chair), Dennis R. Gruell, Peter deWilde Shapiro, and John P. O'Connor, Emeritus.
Project Development Officer: Peter deWilde Shapiro

Copyright © University of Connecticut 2003. All rights reserved. The annual subscription is \$55. Send subscription requests and change of address information to: Circulation Manager, *The Connecticut Economy*, Connecticut Center for Economic Analysis, Department of Economics, Unit 1240, University of Connecticut, Storrs, CT 06269. The phone number is: (860) 486-0263. Make checks payable to the University of Connecticut/*The Connecticut Economy*. David Frith is the designer. The views expressed by authors are theirs alone.

Thanks for the Help
The editors thank those who provided information for this issue, including Mark Prisloe, Robert Damroth, and Kolie Sun Chang of the Department of Economic and Community Development; Michael Galliner of the Department of Revenue Services; Sue Ferri and Stacey Doan of the Department of Transportation; and especially Sal DiPillo, Roger Therrien, Dan Kennedy, Charles Joo and their colleagues at the Department of Labor, who have been most helpful with labor data. We also thank Jodi Amatuili of the American Automobile Association, Jane Miller of Prudential Connecticut Realty, Cindy Ross at *The Advocate* of Stamford, John Haggerty and Bruce Blakey of Northeast Utilities, Kenneth Gordon of NERA, and Stan McMillen and the rest of the research staff at CCEA.

CONNECTICUT ECONOMIC INDICATORS

(Percent change: 2002-Q3 to 2003-Q3)

Indicators of Current Economic Activity

Total Nonfarm Jobs	-1.2%
Number Unemployed	+15.1%
Labor Force	+0.3%
Manufacturing	
Jobs	-5.1%
Avg. Weekly Hours	-1.0%
CT Mfg. Prod. Index	-2.0%
Avg. Hourly Earnings	+3.1%
New Auto Registrations	+17.8%
Travel and Tourism Index	-1.1%
Bradley Airport	
Passengers	-5.9%
Freight	-3.8%
State Tax Receipts	
Sales	+0.0%
Income	+10.1%
Real Estate Conveyance	+18.3%
Normalized Electricity Use	+8.2%
State Exports ('02-Q2 to '03-Q2)	+2.7%
Personal Income (est.)	+2.3%
Retail Sales ('02-Q2 to '03-Q2)	+0.5%
Confidence in Current Economy	-16.8%
Coincident GDI	-4.6%

Indicators of Future Economic Activity

Help-Wanted Ads	
Hartford Courant	-26.7%
Avg. Initial Unemp. Claims	-5.4%
Housing Permits	+6.4%
Net New Business Starts	-4.8%
Confidence in Future	+16.9%
Leading GDI	+1.1%



Good news

-5.1%
Average Initial
Unemployment Claims



Bad news

-1.2%
Nonfarm Jobs

Out of the Frying Pan?

Ostensibly, 2003-Q3 marked the worst quarter of the downturn for Connecticut jobs: *seasonally-adjusted* nonfarm payrolls declined by 12,500 between Q2 and Q3, or by 0.8%. In the three previous quarters, the job cuts were only in the 0.1 to 0.3% range. Has the state's economy jumped out of the frying pan but into the fire?

The *non-seasonally adjusted* data tell a different story. Compared with 2002-Q3, non-farm jobs dropped by 1.2%, about the same rate of decline in the four quarters ending 2003-Q2 (1.1%), though still slightly above the average decline of 0.9% for this three-year slump.

These job estimates come from a survey of major employers. A separate survey of households reveals little change from a year ago in the number of people with jobs—hardly an indication of improvement, but more evidence things may not be getting worse.

While job growth remains elusive, in a few sectors the cuts are slowing. In professional and business services, for example, the average four-quarter rate of decline for the downturn has been about 3%. In Q2, however, the figure was only a minus 1.9%, and in Q3 a negative 1.5%. Other sectors continue to grow, albeit at a slower pace. Through Q2, education-and-health-services had added jobs during the slump at a 2.5% four-quarter rate, but in Q3 the sector could only manage a 1.4% advance.

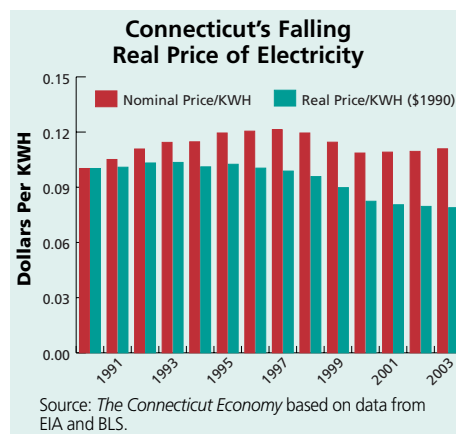
On a year to year basis, there was continued slippage in manufacturing. Jobs were down 10,700, or by 5.1%, in Q3—more than Q2's 4.1%. About the best that can be said is that the losses in some sub-sectors—aerospace, computers and electronics, and miscellaneous manufacturing—slowed a bit. Workforce reductions worsened in financial activities as well, where they declined by 800 or 0.5%, compared with 0.2% in Q2, though growth continues in property/health insurance and brokerage/securities.

More encouraging developments appeared in initial unemployment claims and employment service jobs. After topping 6,000 in May 2002 and hovering between 5,000 and 6,000 until 2003-Q1, unemployment claims remained below the 5,000 barrier, the historical divide between an expanding and contracting labor market. Jobs in employment services were up, year-over-year, for the third consecutive quarter, auguring future job growth because employers tend to enlist temporary workers before committing to permanent hires. Indeed, a recent CBIA survey found that 19% of employers plan to add jobs in Q4 compared with 14% who expect to cut them.

The sudden Q3 surge in the U.S. economy seems to have buoyed the spirits of Connecticut consumers. The *Webster Consumer Confidence Index* jumped 16% from Q2, and by a margin of 3 to 1 residents expect business conditions to improve in the next six months. Incomes continue to grow, feeding a recovery in state consumer spending: retail sales had slipped 1.3% in Q1 but grew 0.5% in Q2 (the latest figures available). New auto registrations logged a 17.8% increase in Q3, year-over-year. That Energizer bunny, the housing market, just keeps going and going—new housing permits climbed 6.4% in 2003-Q3 over a year ago. The CBIA survey cited earlier reported that 48% of businesses plan to boost capital spending next year, compared with 11% who plan cuts.

For it to really feel like a recovery, however, payrolls will have to start expanding. But jobs are under continued assault from foreign competition, outsourcing abroad, and burgeoning productivity at home—the kinds of structural forces that cost Connecticut nearly 70 thousand manufacturing positions in the 1990s. Connecticut more than recouped those losses with the addition of nearly 100 thousand jobs elsewhere in the economy, a lesson in these discouraging times about the remarkable resiliency of this state's economy.

Contributing to our ability to rebound from hard knocks in the 1990s was the declining real cost of electricity (see chart), which dropped from 14¢ per KWH in 1990 to just 11¢ in 2003, or by 20%. But a rickety energy infrastructure plugged into a volatile supply base threatens to compromise that trend in coming years. What it may mean for Connecticut is the theme of this issue.



Fiddling While Rome Goes Dark: the Meaning of 8/14 for Connecticut

By Arthur W. Wright

In the Summer 2000 issue, Brian Kench and I surveyed the incomplete “deregulation” or (better) restructuring of the Connecticut market for electric power. Today, three years on, the latest Great Northeastern Blackout this past August 14 is a stark reminder that the tortuous process still has a long ways to go in Connecticut and the rest of the country. Unless we act soon, and with resolve, 8/14 will prove an augury of the future. Next time our state may not get off so lightly, and the “next time” is not a matter of *whether* but *when*.

The proximate causes of 8/14 were dumb bad luck at two Midwestern utilities and weak governance of their rickety regional grid. But the underlying source of the outage was the still incomplete restructuring of the nation’s electric power system—in particular, continued mispricing of electric power and a lack of will to make long-overdue institutional changes. The resulting uncertainties are impeding the major investments, especially in transmission, that must be made if we are to avert further widespread blackouts.

A fix for both pricing and institutions will require leadership capable of overcoming both entrenched state or regional interests and political grandstanding about “protecting consumers.” Connecticut, a small state, is not in this alone, but state politicians must be part of the solution, not naysayers standing in the way of progress. If parochial interests and small minds prevail, we will deserve the old Louisiana epithet from the dawn of the Energy Crisis 30 years ago: “Let the bastards freeze in the dark.”

In this age of technological miracles, how could seemingly innocuous problems at a couple of Ohio electric utilities cascade into a prolonged, costly outage covering many thousands of square miles and millions of customers? It wasn’t easy.

Cooking Up a Blackout

Start with a power network linking the lower Midwest, Ontario, New York, and New England, with system capacity still trying to catch up with the vigorous demand growth of the 1990s. Add system control that relied on a merely advisory Independent System Operator (ISO), and interutility communications requiring minutes when, in a crisis, every second counts. *Voila!* Disaster.

The ISO itself is only a few years old, one of the paltry products of what is now referred to tongue-in-cheek as “electric power deregulation.” This grab bag of half- and quarter-measures cobbled together since the 1980s took its inspiration from the earlier deregulations of transportation, oil-and-gas, communication, and banking beginning in the late 1970s. Alas, “restructuring” electric power by moving from the old regulatory regime to a new one, was inherently messier than in those other sectors.

First, the technical challenges inherent in the physics of electricity are much more complex. As 8/14 demonstrated only too well, if power systems are not properly coordinated, imbalances can easily spin out of control and spread far and wide.

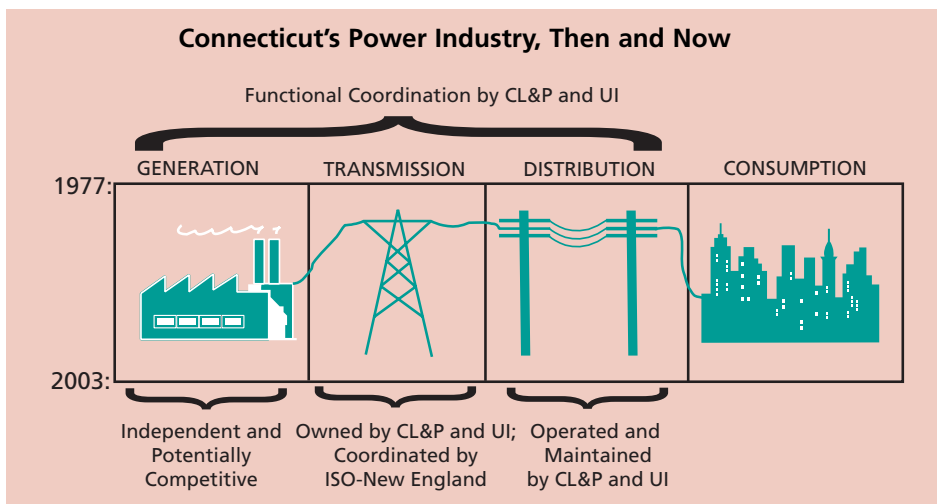
Second, the tattered tapestry that was the old system of regulation had just growed, like Topsy, for nearly a century, with responsibility fractured among the contiguous American states and Canadian provinces and the two countries’ Federal governments.

Third, state public utility commissions (PUCs) have long jealously guarded their ability to control rates and investments, which give them (and the politicians who appoint them) their political clout. Add regulated rates that favor smaller users and that respond only with a lag, if at all, to changes in costs, and you get power prices that systematically ignore demand signals throughout most of the electric power system.

Paving The Road to Hell

Well-intentioned restructurers of electricity markets tried to deal with the complexity by dismembering the integrated power companies that had long combined all three stages of production—generation, transmission and distribution—under the same roof. (See the diagram; also see Stanley McMillen’s article on page 18.) The original rationale for regulating power markets was the familiar one: economies of scale that make one supplier in a market more efficient than two or more. But significant scale economies in generation disappeared more than 30 years ago, so the existing franchise-monopoly regulation was now simply protecting incumbents against competition from new, more efficient generators. Thus, traditional utilities like United Illuminating (UI) and Connecticut Light and Power (CL&P) were told to sell off their generating plants.

At the same time, long-distance transmission systems were facing ever



increasing challenges, as regional power markets expanded. Restructuring the ownership and governance of transmission lines has proved to be a tougher nut to crack than forcing electric utilities out of the generating business. Inducing them to invest in more transmission capacity or to share their existing capacity as part of new, better-integrated regional systems has been hobbled by disputes over financing (who should pay how much for what?), and pricing (who should be able to charge how much for what?), and by mutual suspicions of the motives of neighboring utilities. The result has been added uncertainty about what the ultimate restructured systems will look like—further weakening utilities' investment incentives.

Alphabet Soup

The Federal Energy Regulatory Commission or FERC, which has jurisdiction over interstate commerce in power, has attempted to tighten up the regional grid networks by phasing in a new system. The basically advisory ISOs, like the one in the Midwest, introduced in phase one, are supposed to gradually morph into more powerful Regional Transmission Organizations or RTOs, which would have sole authority over a region's grid. The RTOs' authority would cover mainly transmission lines, but could also extend to the siting of new generating capacity where it affects system reliability.

FERC's initiative on ISOs and RTOs has of course provoked squabbling among utilities and outright opposition from state and local officials and consumer groups. If fully implemented, the initiative would wrest considerable power away from state PUCs. Making utilities sell off their generating capacity was easy for PUCs, but forging new regional transmission systems is a tortuous process of multistate negotiation and crafting of new rate schedules to finance improved power lines. Even harder will be inducing the PUCs to reform their rate-setting habits.

"It's the Price, Stupid!"

The term "demand" to any A-student in Econ 101 means an inverse relation between quantities demanded and unit prices. Not so in the regulated-electric utility business, where "demand" refers to "system load"—that is, to quantity supplied. The classic "service obligation" of regulated franchise-monopoly electric utilities means the ability at all times to meet all demand (see Leon Olivier's article on page 20). As a result, unlike most other markets, higher power prices cannot help ration use to ease the strain during rough patches.

If that sounds a lot like the wringer that California put itself through in 2001, it should. Rationing there was excruciatingly painful, with rampant rolling blackouts and brownouts (voltage reductions) that can damage equipment. Allowing rates to rise to clear the market would have been far more efficient—and much less inconvenient. Governor Arnold Schwarzenegger has vowed to lift California out of its power woes by reopening the restructuring effort abandoned by his predecessor in a pell-mell retreat into hugely expensive long-term power contracts. The former Mr.

Universe rates an A in Econ 101 for favoring more competitive pricing.

Workable technologies for rationing power by price-elasticity of demand already exist. Better methods of allowing customers to monitor varying prices and respond to them would doubtless emerge, were power rates freed up. Meanwhile, by neglecting different customers' sensitivities to electricity rates, we're raising the risk of crises like California's and 8/14, and condemning ratepayers to paying for excess capacity.

True, proposing any change that *might* raise electricity rates in the short run would elicit howls of protest from "consumer" representatives, be they state- or self-appointed. But the latest *Webster-UConn Survey* shows more than half of respondents at least willing to consider paying higher rates. And opposing short-run rate increases, especially on the heels of a half-decade of price caps, is the epitome of short-sighted behavior. In the long run, consumers' true interest lies in allowing market dynamics to work themselves out. If the end result is higher rates, suppressing rate increases will only produce underinvestment and shortages—that is, more blackouts.

Chicken Soup for the Ailing Restructuring Process

Here's my own home remedy for what ails the restructuring of the U.S. power system.

Regional problems demand interstate solutions, so the basic stock should be new Federal legislation. This bill should be broad and enabling, not narrow and detailed, so as to minimize the self-interested logrolling that too often plagues such legislative efforts.

The new legislation should scrap the hoary Public Utility Holding Company Act (PUHCA) of 1935, following the lead of other industries in throwing off the chains of old New Deal arrangements. PUHCA's limits on power-company organization, for instance, probably were never a good idea, but especially not today.

The new law should also broaden and strengthen the powers of FERC, giving it greater say in the myriad decisions required to bring what is a clear case of interstate commerce, vital to the nation's economic future, kicking and screaming into the 21st century. FERC needs more discretion in designing and managing the interstate power transmission network, including investment in new capacity, siting new generating capacity, and compelling regional oversight bodies to move to RTO status. The agency should also require state PUCs to address pricing issues, as part of approving the various regional restructuring plans. Legislators, in crafting this law, must be held to account in resisting parochial opposition to the reduction of state and local influence implicit in it.

Finally, the bill should include a directive to work with the governments of Canada and Mexico to coordinate our policies with theirs but (more) to persuade them to match our policies, thus protecting the U.S. power system from cross-border disruptions.

Connecticut Residents Want Reliable Electric Power, But ...

By James R. Moor, Jr.

Some 44% of Connecticut households lost power during August's big blackout, according to the October *Webster-UConn Survey*. Hardest hit were Fairfield and Litchfield counties, where 78% of respondents lost power. But only 20% of all state residents surveyed said their lives were meaningfully affected by the blackout; even in the state's harder-hit western counties, that figure is only one-third.

Nearly two-thirds of Nutmeggers, however, are "very" or "somewhat concerned" about serious electricity supply problems in the future. Among demographic sub-groups, higher-income households and college-educated respondents showed less concern, but even for those groups the share of "very" or "somewhat concerned" citizens hovered around 50%.

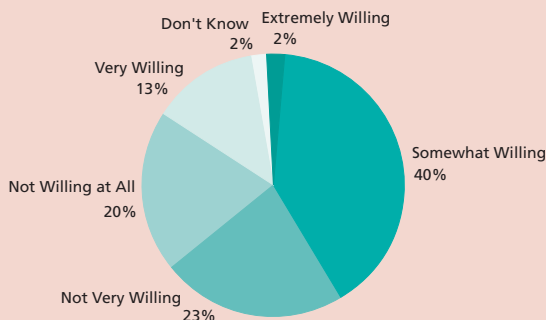
Not surprisingly, there's a correlation between power concerns and the blackout. Significantly more of those meaningfully affected by the blackout were also among the most concerned about future power problems. Even among those not affected, though, more than half show serious concern.

A preponderance of Connecticut residents in the latest *Webster-UConn Survey* saw reliable electricity as a significant issue. Fully 63% of those surveyed rated improved reliability of power supply as "extremely" or "very important," while only 6% said it was "unimportant." There was no correlation, though, between the loss of power in August and the degree of importance assigned to reliability.

More reliable electricity service may matter a lot to the people of Connecticut, but improvements will not simply drop from the sky. So we asked respondents some pointed questions about what it might take to improve reliability. Let's begin with the \$64,000 question: are you willing to put your money where your mouth is?

As Chart 1 shows, most Nutmeggers are willing to pony up for improved reliability, but a significant minority are opposed. The lukewarm response did not vary significantly by income, age, gender, educational attainment, or county of residence, nor is it correlated with the blackout impact.

Chart 1: How Willing to Pay for Improvements?



When asked how willing they were to pay higher rates to finance investments in improved reliability, 55% of residents said "extremely", "very" or "somewhat willing" while 43% were "not willing at all" or "not very willing".

Table 1: Degree of Importance vs. Willingness to Pay

Importance of Improved Reliability?	Overall Response	Willing to Pay More?		
		Extremely/Very Willing	Somewhat Willing	Not Very/Not At All Willing
Extremely/Very Important	62.7%	81.4%	64.1%	54.3%
Somewhat Important	31.1%	17.4%	33.6%	34.3%
Not Very/Not At All Important	6.2%	1.2%	2.3%	11.4%
Total	100.0%	100.0%	100.0%	100.0%

The degree of importance attached to improved reliability was not very highly correlated with the willingness to pay. On the bright side, more than 80% of the one-in-six respondents most willing to pay also thought improved reliability is quite important. The dark side? A majority of those who saw reliability as important did not appear very willing to pay for it. So, while politicians can get people's attention on the issue of reliability, solutions that hit people's wallets will not be nearly so popular! This same dichotomy shows up clearly in answers to the next two questions.

Table 2: How Effective Do You Think More Competition in Power Generation Will Be in Creating a More Stable Power Supply?

Effectiveness of Competition?	Overall Response	Willing to Pay More?		
		Extremely/Very Willing	Somewhat Willing	Not Very/Not At All Willing
Extremely/Very Effective	27.7%	55.6%	23.4%	21.8%
Somewhat Effective	35.5%	20.6%	42.8%	35.5%
Not Very/Not At All Effective	29.1%	20.5%	29.0%	31.3%
Don't Know/Refused	7.7%	3.3%	4.8%	11.4%
Total	100.0%	100.0%	100.0%	100.0%

Most economists think that increased competition in power generation would lower costs. It's the very idea behind restructuring in Connecticut and elsewhere. More competition is at the heart of Governor Schwarzenegger's plans for alleviating California's energy problems. But a central tenet of economics is that "there's no such thing as a free lunch." Happily, a majority of the few Nutmeggers most willing to pay for improved reliability also thought that more competition would be quite effective. But those less willing to pay thought much less of deregulation as well. Connecticut, it seems, leans toward a "regulatory" approach rather than relying on market forces. Indeed, in their answers to follow-up questions, a clear majority of residents favored "more stringent regulation" (59%).

Table 3: Would You Favor or Oppose Voluntary Rolling Blackouts to Prevent Larger-Scale Blackouts?

Favor or Oppose Rolling Blackouts?	Overall Response	Willing to Pay More?		
		Extremely/Very Willing	Somewhat Willing	Not Very/Not At All Willing
Strongly Favor	10.4%	23.0%	10.0%	6.1%
Somewhat Favor	27.0%	19.2%	33.8%	24.4%
Somewhat Oppose	22.0%	20.8%	21.1%	23.7%
Strongly Oppose	32.9%	30.5%	30.0%	36.6%
Don't Know/Refused	7.7%	6.5%	5.1%	9.2%
Total	100.0%	100.0%	100.0%	100.0%

Only slightly more than one-third of Nutmeggers favored a solution such as rolling blackouts to ration power when problems arise. These opinions also declined in strength in direct correlation with the respondent's willingness to pay for improvements. Six-of-ten of those unwilling to pay also opposed rolling blackouts, so those concerned about power reliability are apparently looking for a costless solution.

Energy Price Spikes Siphon High-Octane Fuel from State's Economy

By Steven P. Lanza

Production changes by oil-producing nations and a demonstrably rickety electricity grid are making energy markets as volatile as ever. But a fact of economic life in Connecticut is that energy is already expensive, and high prices have encouraged us to become the leader among states in energy efficiency. So if we're less dependent on energy, it stands to reason that we should be less vulnerable to the vagaries of energy markets, right? *Wrong*. It turns out that a spike in energy prices can really sap some juice out of the state's economy.

Unlike states with significant endowments of energy resources, or those located within easy reach of energy suppliers, Connecticut sits at the end of the proverbial energy pipeline. Thus, prices are high here compared with many other states. According to the latest data from the U.S. Energy Information Administration (EIA), Connecticut's cost in 2000 for energy from all sources—coal, natural gas, electricity, and petroleum—averaged \$12.66 per million Btu. That same year, the U.S. average was just \$9.85, so energy prices in our state exceeded the national average by about 29%. Only four other states—Vermont, Hawaii, New Hampshire, and Arizona (in that order)—faced an average energy price above ours.

High energy prices encourage conservation and discourage energy-intensive production. As the scatterplot below suggests, high prices generally mean low levels of energy expenditure. The chart compares the price of energy in 2000 to each state's spending on energy as a percentage of gross state product. A trendline drawn through the scatterplot summarizes that relationship: a 1% rise in price is associated with a 1% drop in expenditure. Connecticut is the dot at the extreme left of the chart, with spending on energy equal to just 5.1% of gross state product—the lowest of any state. In contrast, the average for all states was 8.1% of gross state product. Louisiana, with its petroleum-based economy, headed the list (at the rightmost extreme) at 14.3%.

Relative prices not only influence total energy consumption; they also affect the mix of energy sources used. In high-cost Connecticut, for example, coal is particularly pricey, while oil is relatively cheap. With the price of coal 80% above the U.S. average in 2000, Nutmeggers understandably drew just 4% of their energy from coal, compared with 22% for the U.S. Oil, by contrast, was "only" 30% more expensive than the U.S. average, so state residents met 44% of their energy needs using petroleum, as compared with 39% for the U.S.

Despite our state's relatively high dependence on oil, we've made a science out of energy efficiency. But does that mean Connecticut can easily navigate a rough road in energy prices?

Shopping for the Right Model

Energy appeared abruptly in the public's headlights back in the mid-1970s, when a succession of OPEC-induced energy crunches exacerbated the economy's woes and

exposed its addiction to fossil fuels. It was common then, as now, to think of economic output as produced with varying combinations of two factors of production: capital and labor. The energy crisis suggested that adding energy as a variable might increase the

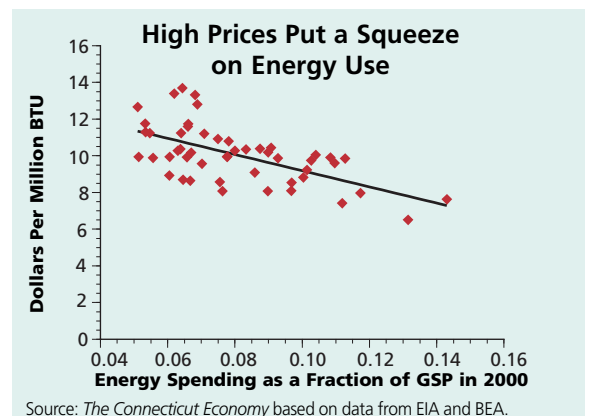
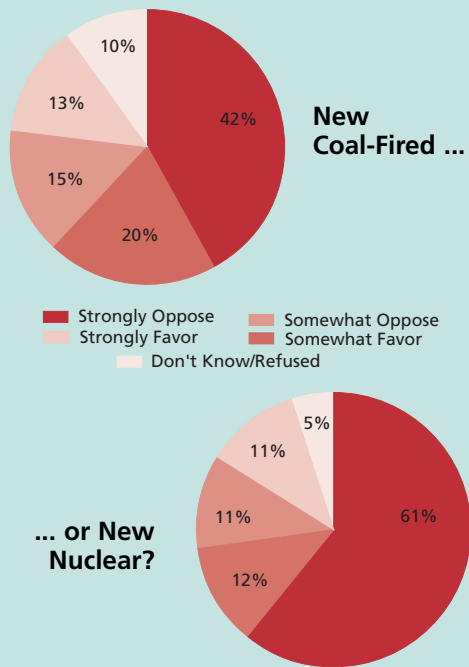
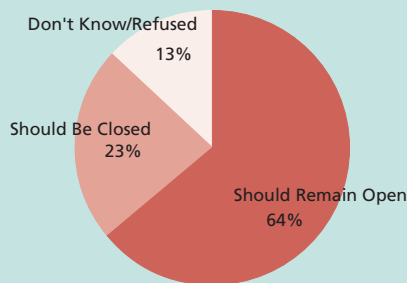


Chart 2: How About New or Existing Power Plants?



Last but definitely not least, Connecticut residents feel strongly about the subject of power plants, both new and existing. As the pie charts show, a majority opposed locating a new coal-fired plant in their own town, even if it would augment the tax base. An even greater majority opposed a new nuclear facility. NIMBY indeed!

... or Existing Oil Fired Plants?



Interestingly, a majority favored keeping the existing, high-polluting, "sooty six" plants open rather than closing them. One could speculate that it's because they're in someone else's backyard.

THE BOTTOM LINE?

Connecticut wants improved power reliability ... but don't put any new generating plants in my backyard, don't expand the role of the market, and don't ration my power. And whatever you do, remember that many of us don't want to pay for it. Maybe California will lend us Governor Schwarzenegger—but as Mr. Universe, hitched to a turbine generator.

explanatory power of such models. In a 1977 study, Robert Rasche and John Tatom at the Federal Reserve Bank of St. Louis modeled U.S. output over the period 1949 to 1975 as a function of capital and labor inputs and energy prices (“Energy Resources and Potential GNP,” June 1977 *Review*, p. 10-24). Their results pointed to a significant inverse relationship between energy prices and economic performance, and showed that including energy improved the model’s estimates of output.

The link between energy prices and performance is straightforward enough: higher prices should reduce energy use, and, with less energy being used, output should decline, too. But as we have seen, energy does not play the same role everywhere, so states may not all respond the same way to changes in the energy market.

To test the comparative effects of changing energy prices, I followed Rasche and Tatom in estimating output as a function of capital and labor inputs and energy prices. I updated the analysis to include data from the period 1977 to 2000, but also customized the model to provide separate estimates for each of the fifty states.

My measure of output is real gross state product in private industries, an inflation-adjusted measure of the value of final goods and services produced by the private sector. In 2000, for example, Vermont had the smallest state private output, \$14.8 billion in 1996 dollars, while California was largest at \$1,112.3 billion. Connecticut ranked 22nd at \$138.8 billion.

There are no reliable, readily available figures for capital stock by state. But the U.S. Bureau of Economic Analysis (BEA) does publish annual estimates of the size of the U.S. capital stock. Assuming that each state’s capital-output ratio is the same as the nation’s (about 2.8 to 1 over the period), I can guesstimate the state figures by just scaling real output by each year’s appropriate capital-output ratio.

Unlike capital, estimates of labor inputs by state are easy to find. I used BEA data on total private-sector employment by state. Predictably, California led the states in 2000 with an employment total that topped 17.1 million, but this time Wyoming ranked last, with 264,000 private-sector employees. At 1.9 million, Connecticut ranked 27th.

For energy prices, I used the state-by-state EIA data referred to above. In 2000, the price of energy was highest in Vermont at \$13.68 per million Btu, and lowest in Montana at \$6.50. In nominal terms, energy prices held fairly steady across states throughout much of the 1977-2000 period, but adjusted for inflation the trend was actually downward. And for purposes of estimating changes in *real* output, *real* prices are what matters.

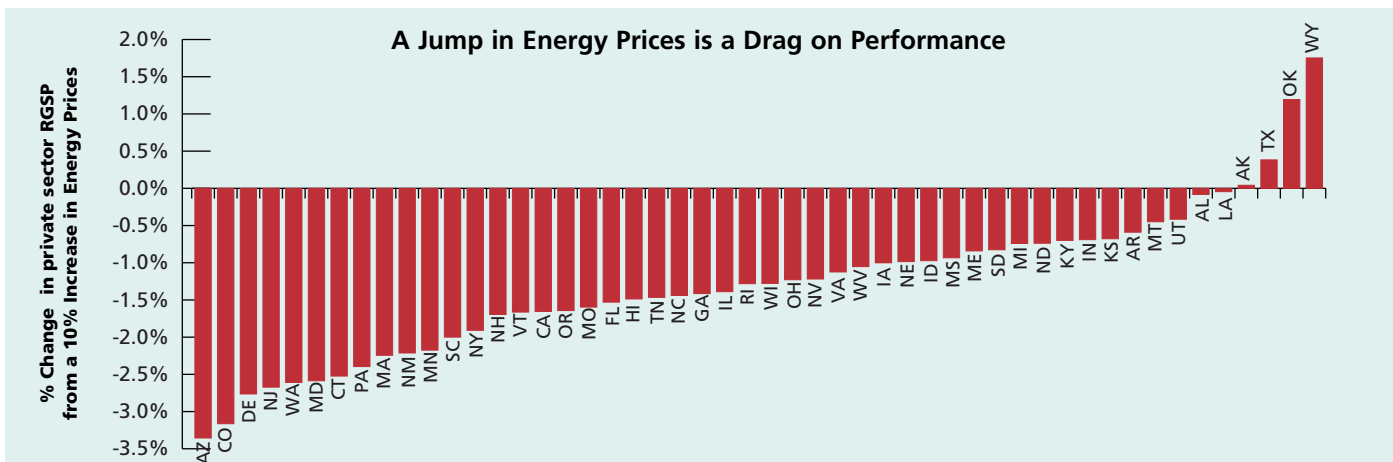
Taking the Model for a Test Drive

So how does the model perform? The bar graph below shows the range of effects on real private-sector gross state product associated with a 10% increase in real energy prices, holding constant any influences from other input variables. For the average state, a 10% increase in real energy prices is associated with a 1.3% decrease in real output, holding capital and labor constant. This result is nearly identical to the 1.4% figure for the U.S. as a whole identified by Rasche and Tatom 26 years ago. Connecticut is among the group of states (located chiefly in the Northeast and along the West Coast) for which an increase in energy prices has the biggest negative effect. Arizona’s economy would bear the greatest burden from an increase in energy prices, suffering a 3.4% fall in real output from a 10% increase in price. But Connecticut’s burden wouldn’t be much less, at 2.5% less output.

For some states—Wyoming, Oklahoma, Texas, and Alaska—an increase in energy prices would actually improve economic performance. These are big energy-producing states that gain income when energy prices go up. But for Alabama and Louisiana, the gains to their energy-producing sectors are largely offset by the losses to their energy-consuming sectors. For all other states, higher real prices mean lower real output.

What accounts for the varying responses among states to changes in energy prices? As already suggested, the mix of industries among states is important. States with industry concentrations in energy extraction are helped by rising prices. States like Arizona and Colorado, with extensive mining operations, or New Jersey and Delaware, with high concentrations in refining and petrochemicals, are hurt when energy prices go up. Although Connecticut’s energy-intensive manufacturing sector has waned over time, the state retains a higher-than-average industry concentration in this sector and in subsectors, such as chemical products, that are particularly energy-sensitive.

Why isn’t Connecticut’s sensitivity to price changes mitigated by its relative energy efficiency? After all, if we don’t use much energy to begin with, an increase in price should have fairly modest negative consequences for production. But it doesn’t, and we’re not alone. Other states, such as California, New York and Massachusetts, where energy is also a small part of total output, are also among the more sensitive to changes in energy prices. Perhaps it is precisely that sensitivity, along with relatively high energy prices, that encourage states to find ways to use energy more efficiently. This much is clear: energy prices matter everywhere, but they’re especially important in Connecticut.



Interstate Differences in Residential Electricity Use

By Dennis Heffley

That time of year again! Oil-hooked New Englanders begin their winter ritual: breaking out the tacky draft-stopper for the front door, lowering the storm windows, and making sure the boiler is burning clean. In other parts of the country, where oil is just something you put in your car, the ritual consists of a change in the electric bill. The different rituals reflect very different, though (it turns out) predictable, patterns of energy use.

By U.S. standards, electricity use in Connecticut and other New England states is modest. In 2000, Connecticut's residential use—3,415 KWHPC (kilowatt hours per capita)—ranked 35th, about half that of top-ranked Alabama (6,460). Other New England states ranked even lower—Rhode Island's 2,537 KWHPC was 47th, not much above bottom-ranked New York at 2,265.

So why do Connecticut residents and their neighbors use so little electricity? The quick answer is that they rely more heavily on other energy sources, especially fuel oil and natural gas. But why? Compared to the alternatives, electricity seems to be cleaner, safer, and lower-maintenance—at least at the household level. Other things equal, electricity ought to be the preferred source of domestic energy.

Other things aren't equal, of course. The prices of electricity and its substitutes, such as oil and gas, vary by state, as do income, climate, and other factors shaping demand for electricity.

Watts Up?

To explain the variation in state electricity use, I estimated a multivariate regression model using state-level data for 2000. Following the basics of consumer demand, I expected the measure of residential electricity use (KWHPC) to be negatively related to the price per KWH and positively related to per capita disposable income and the prices of #2 heating oil and natural gas—both substitutes for electricity.

Housing prices might indirectly affect electricity use. In economic parlance, electricity and housing are “complementary goods”—used together. If higher housing prices reduce the size of housing units, less electricity should be used, implying a negative expected relationship between electricity use and housing prices (median gross rent per room, constructed from 2000 Census data).

The spatial configuration of housing also affects electricity use. Housing clustered in metropolitan areas, often in multifamily units, is probably more energy-efficient than low-density suburban or rural housing. So, a higher percentage of the state's population living in metro areas was expected to reduce per capita electricity use.

Finally, I included two measures of climate: heating degree days for cold weather and cooling degree days for hot weather. With present technologies, electricity is better suited to cooling, while oil is better suited to heating. Thus, I expected electricity use to be negatively related to heating degree days and positively related to cooling degree days.

Findings

The regression results generally matched my expectations. For each explanatory variable, the table below gives the expected sign of the regression coefficient and the estimated elasticity—the percentage change per capita use due to a one percent increase in that variable. Of the eight variables, five were statistically significant: the price of electricity, per capita disposable income, percent metropolitan, heating degree days, and cooling degree days. After controlling for such differences, the prices of heating oil, natural gas, and housing appear to have little effect on electricity use. Jointly, the explanatory variables account for three-fourths of the interstate variation in residential use, and the model does a particularly good job of predicting (3,405) Connecticut's actual use (3,415) based on its characteristics.

The elasticity estimates show how electricity use responds to differences in the statistically significant variables as we look across states. For example, a state with 10% higher electricity prices uses about 6.1% less electricity per person than an otherwise comparable state. Similarly, a state with 10% more heating degree days uses about 2.5% fewer KWHPC, as consumers rely more heavily on fossil fuels to heat their homes.

The model also explains why neighboring states like Connecticut and Rhode Island use such different amounts of electricity. Connecticut's residential use (3,415) exceeds Rhode Island's (2,537) by nearly 35%. Much of the difference is driven by Connecticut's 33% higher income. Holding Rhode Island's other features constant but increasing its per capita disposable income (\$24,983) to the Connecticut level (\$33,142), the model predicts that an artificially “richer” Rhode Island would use 3,323 KWHPC, not much below Connecticut's figure.

Higher Rates Ahead?

The 8/14 Northeast blackout has prompted calls to upgrade the electric power network. Such investments will likely require higher rates for users, but some of them will argue that rates are already too high. The most recent federal data, for July 2003, show Connecticut residents paying 11.58 cents per KWH, 10th highest in the nation, 27 percent above the 50-state average of 9.11 cents, and almost twice the low Kentucky price of 5.92 cents. We'd need a more complete study to determine if Connecticut's relatively high prices reflect higher costs of supplying electricity, demand-side differences, industry structure, or the state's regulatory apparatus. What's clear, though, is that the price of residential electricity in Connecticut has been pretty stable since 1990, and has actually declined relative to the CPI. The bar graph on page 3 shows both the nominal price per KWH, computed from annual data, and the real price per KWH. Since 1990, the real price has declined more than 20 percent. Unless Connecticut's electric utilities are simply riddled with waste, it's difficult to see how such investments can be made without rate increases. Time to also invest in a new draft-stopper?

Sources of Interstate Differences in Residential Electricity Use

	Expected Sign	Estimated Elasticity
*Price of Electricity	-	-0.61
Price of Heating Oil	+	
Price of Natural Gas	+	
*Per Capita Disposable Income	+	0.72
Price of Housing	-	
*Percent Metro	-	-0.37
*Heating Degree Days (Cold Weather)	-	-0.25
*Cooling Degree Days (Hot Weather)	+	0.10

* Indicates statistical significance at the 10% level or better

State Aid Per Capita FY 2002 Dollar Change from FY 1993 % Change from FY 1993

State Aid Per Capita FY 2002 Dollar Change from FY 1993 % Change from FY 1993

State Aid Per Capita FY 2002 Dollar Change from FY 1993 % Change from FY 1993

Bridgeport LMA

Ansonia	\$983.88	\$408.80	71.1%
Beacon Falls	641.63	208.20	48.0
Bridgeport	1350.44	428.01	46.4
Derby	661.30	222.65	50.8
Easton	112.49	-8.24	-6.8
Fairfield	157.68	49.91	46.3
Milford	323.74	95.34	41.7
Monroe	413.25	11.95	3.0
Oxford	621.30	60.87	10.9
Seymour	633.31	163.88	34.9
Shelton	227.63	1.70	0.8
Stratford	494.98	177.00	55.7
Trumbull	140.84	43.46	44.6

Danbury LMA

Bethel	\$503.37	-\$48.84	-8.8%
Bridgewater	182.48	77.24	73.4
Brookfield	164.24	53.87	48.8
Danbury	329.91	53.98	19.6
New Fairfield	382.94	-39.24	-9.3
New Milford	616.72	138.51	29.0
Newtown	379.88	122.04	47.3
Redding	66.41	-11.99	-15.3
Ridgefield	80.60	36.01	80.7
Roxbury	209.03	95.29	83.8
Sherman	81.30	-37.48	-31.6
Washington	79.96	11.84	17.4

Danielson LMA

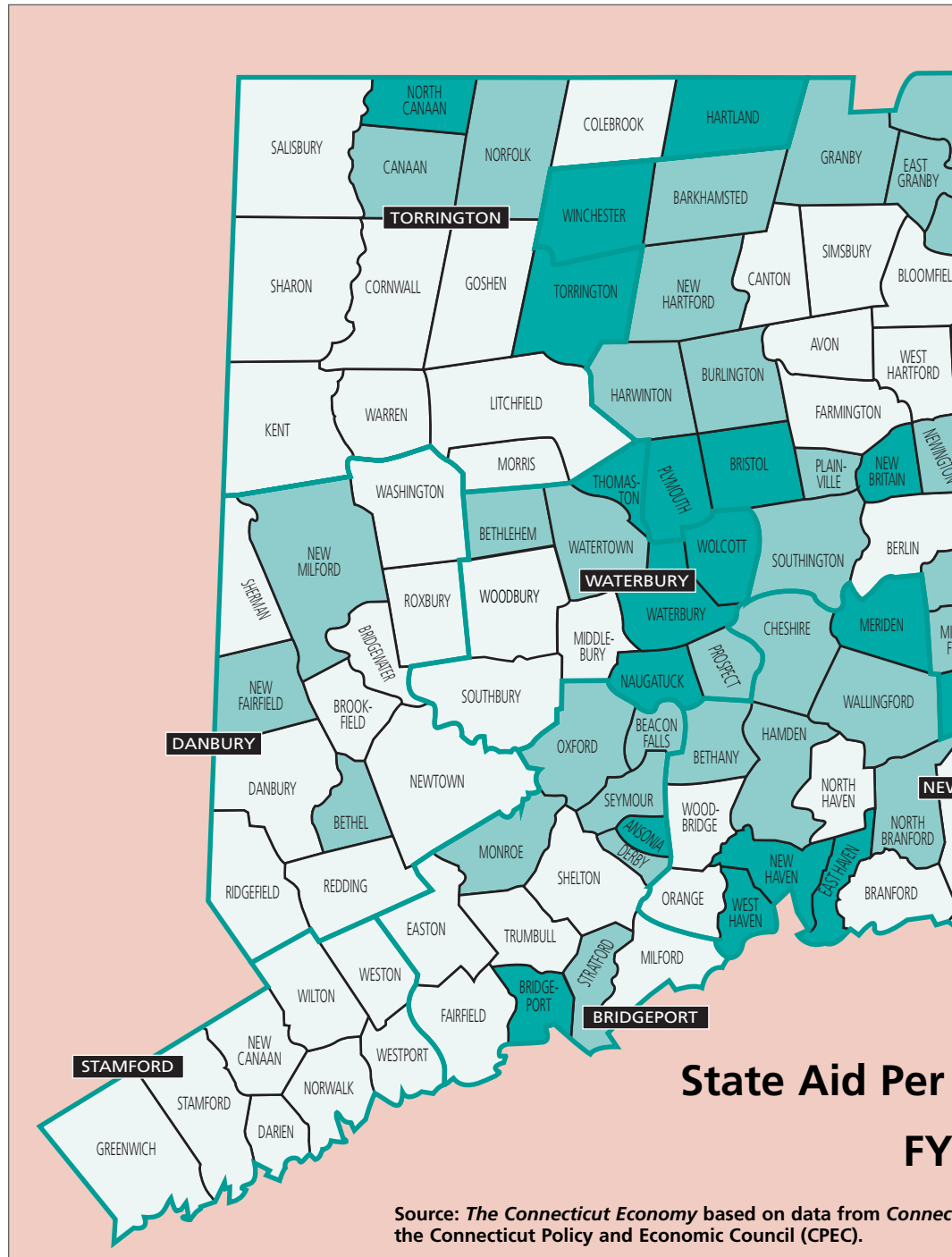
Brooklyn	\$1061.80	\$257.15	32.0%
Eastford	895.11	32.76	3.8
Hampton	1061.94	234.87	28.4
Killingly	1073.71	9.38	0.9
Pomfret	888.82	-80.93	-8.3
Putnam	995.44	132.91	15.4
Scotland	939.31	81.24	9.5
Sterling	970.07	-186.87	-16.2
Thompson	876.28	87.17	11.0
Union	619.49	124.21	25.1
Voluntown	1258.37	340.21	37.1
Woodstock	713.73	90.02	14.4

Hartford LMA

Andover	\$579.98	\$116.63	25.2%
Ashford	883.56	158.92	21.9
Avon	128.57	1.72	1.4
Barkhamsted	441.81	11.21	2.6
Berlin	364.23	75.93	26.3
Bloomfield	311.71	155.87	100.0
Bolton	637.96	141.96	28.6
Bristol	696.08	164.37	30.9
Burlington	409.91	-44.21	-9.7
Canton	324.55	14.59	4.7
Chaplin	1072.52	-1.16	-0.1
Colchester	879.16	166.59	23.4
Columbia	619.44	145.49	30.7
Coventry	735.91	36.04	5.2
Cromwell	317.44	72.16	29.4
Durham	676.12	222.95	49.2
East Granby	492.33	265.13	116.7
East Haddam	506.11	-49.28	-8.9
East Hampton	719.17	99.28	16.0

East Hartford	\$665.80	\$332.15	99.6%
East Windsor	553.13	121.38	28.1
Ellington	698.85	31.41	4.7
Enfield	651.71	106.14	19.5
Farmington	305.38	181.22	145.9
Glastonbury	162.34	64.70	66.3
Granby	469.13	24.30	5.5
Haddam	140.83	-141.05	-50.0
Hartford	1875.97	548.04	41.3
Harwinton	467.21	93.17	24.9
Hebron	630.59	-2.11	-0.3
Lebanon	855.64	2.53	0.3
Manchester	580.08	174.15	42.9
Mansfield	665.57	281.69	73.4
Marlborough	502.71	-24.21	-4.6
Middlefield	427.29	124.6	41.2

Middletown	\$575.20	\$156.86	37.5%
New Britain	1160.15	527.29	83.3
New Hartford	559.55	168.83	43.2
Newington	416.88	105.99	34.1
Plainville	632.40	145.01	29.8
Plymouth	854.76	91.91	12.0
Portland	444.08	12.40	2.9
Rocky Hill	278.53	66.68	31.5
Simsbury	130.00	-13.97	-9.7
Somers	759.54	146.47	23.9
South Windsor	478.94	112.16	30.6
Southington	483.99	-31.50	-6.1
Stafford	1019.24	176.75	21.0
Suffield	561.50	195.56	53.4
Tolland	653.77	-36.32	-5.3
Vernon	662.61	126.43	23.6



**State Aid Per
FY**

Source: *The Connecticut Economy* based on data from Connecticut the Connecticut Policy and Economic Council (CPEC).

*State Aid Per Capita FY 2002 Dollar Change from FY 1993 % Change from FY 1993

West Hartford	\$224.63	\$107.18	91.3%
Wethersfield	186.85	29.59	18.8
Willington	618.03	64.33	11.6
Winchester	870.27	158.25	22.2
Windham	1188.28	292.16	32.6
Windsor	430.51	127.98	42.3
Windsor Locks	771.34	476.56	161.7

Lower River LMA

Chester	\$481.10	\$243.79	102.7%
Deep River	485.60	194.07	66.6
Essex	133.06	15.41	13.1
Lyme	128.13	32.68	34.2
Westbrook	257.75	-22.61	-8.1

State Aid Per Capita FY 2002 Dollar Change from FY 1993 % Change from FY 1993

New Haven LMA

Bethany	\$427.68	\$61.79	16.9%
Branford	154.57	19.18	14.2
Cheshire	502.70	91.33	22.2
Clinton	583.34	-39.46	-6.3
East Haven	754.34	235.50	45.4
Guilford	232.69	9.49	4.3
Hamden	482.53	189.63	64.7
Killingworth	390.87	67.01	20.7
Madison	141.59	9.87	7.5
Meriden	979.35	342.52	53.8
New Haven	1535.48	583.47	61.3
North Branford	614.39	95.84	18.5
North Haven	242.27	53.70	28.5
Orange	122.71	13.71	12.6
Wallingford	613.24	207.93	51.3

State Aid Per Capita FY 2002 Dollar Change from FY 1993 % Change from FY 1993

West Haven	\$835.36	\$318.92	61.8%
Woodbridge	114.02	74.73	190.2

New London LMA

Bozrah	\$919.47	\$344.08	59.8%
Canterbury	1163.71	-1.72	-0.1
East Lyme	528.47	114.60	27.7
Franklin	636.96	23.49	3.8
Griswold	1204.39	187.27	18.4
Groton	913.83	354.70	63.4
Ledyard	841.89	94.49	12.6
Lisbon	921.09	-39.19	-4.1
Montville	774.42	51.11	7.1
New London	1315.14	589.32	81.2
North Stonington	860.89	243.77	39.5
Norwich	927.54	184.36	24.8
Old Lyme	107.57	40.95	61.5
Old Saybrook	199.68	53.27	36.4
Plainfield	1217.64	125.82	11.5
Preston	982.89	371.10	60.7
Salem	887.18	160.93	22.2
Sprague	1005.19	289.65	40.5
Stonington	213.56	-27.58	-11.4
Waterford	98.33	-41.06	-29.5

Stamford LMA

Darien	\$83.40	\$17.94	27.4%
Greenwich	288.43	108.79	60.6
New Canaan	52.20	29.89	134.0
Norwalk	238.06	-48.88	-17.0
Stamford	180.46	49.62	37.9
Weston	88.58	47.41	115.2
Westport	79.62	-2.83	-3.4
Wilton	179.83	92.60	106.2

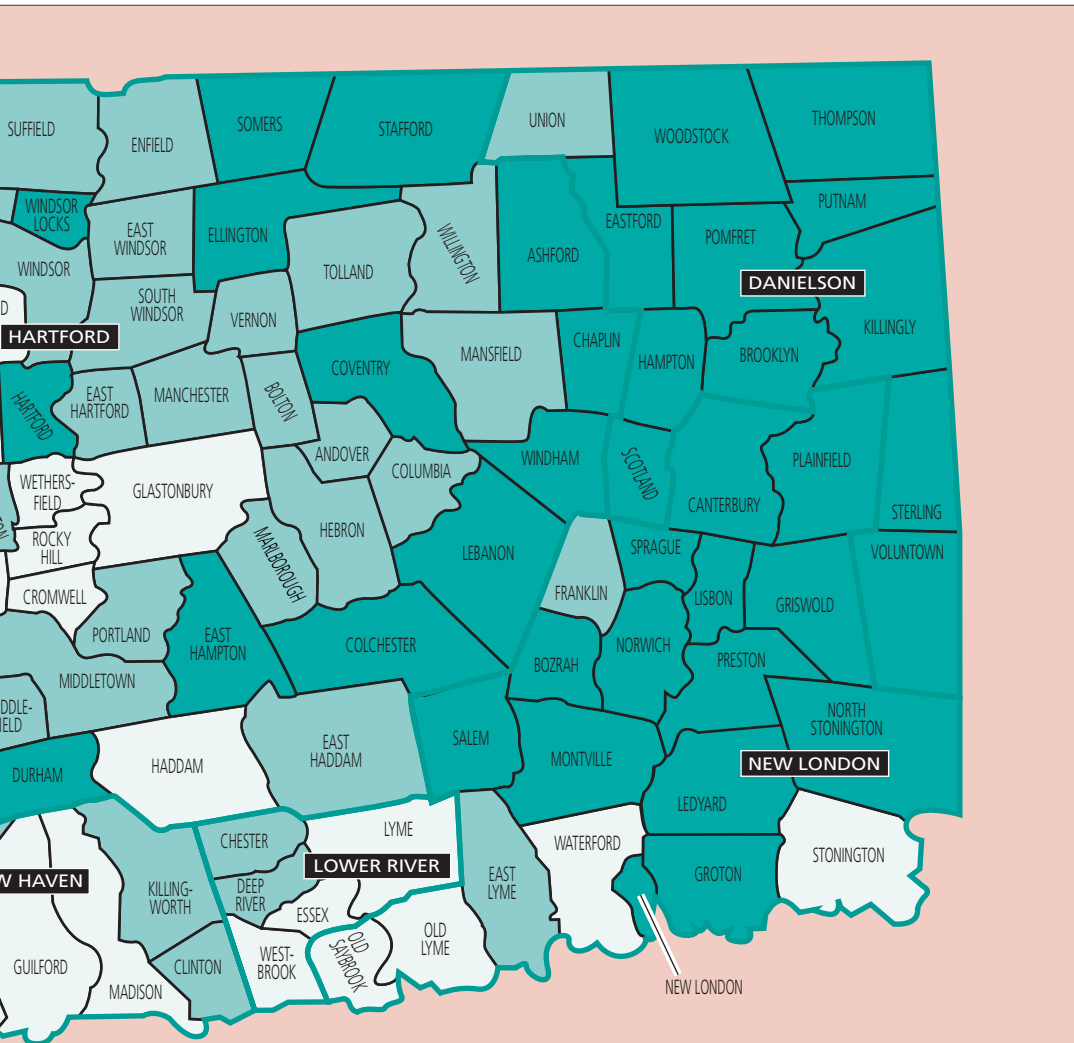
Torrington LMA

Canaan	\$444.03	\$147.60	49.8%
Colebrook	357.33	160.16	81.2
Cornwall	321.29	13.25	4.3
Goshen	153.55	107.1	230.0
Hartland	852.41	239.11	39.0
Kent	201.49	80.34	66.3
Litchfield	192.13	66.53	53.0
Morris	326.12	176.41	117.8
Norfolk	483.47	196.54	68.5
North Canaan	786.33	103.60	15.2
Salisbury	108.36	24.60	29.4
Sharon	252.15	134.71	114.7
Torrington	796.70	282.78	55.0
Warren	97.67	15.93	19.5

Waterbury LMA

Bethlehem	\$386.69	\$109.54	39.5%
Middlebury	135.83	119.52	732.8
Naugatuck	954.86	209.04	28.0
Prospect	508.58	127.20	33.4
Southbury	109.72	59.49	118.4
Thomaston	811.06	181.12	28.8
Watertown	636.38	110.06	20.9
Wolcott	823.18	74.63	10.0
Woodbury	149.90	88.58	144.4

Connecticut \$646.16 \$159.53 32.8%



\$670 to \$1880 (55 Towns)
 \$380 to \$670 (55 Towns)
 \$50 to \$380 (59 Towns)

Capita By Town, 2002

Connecticut Municipal Profiles 2001-2002, published by

Good Things Come in Small Businesses

CSBDC is helping Connecticut's economy one entrepreneur at a time.

By Richard Cheney
Associate State Director, Connecticut Small Business Development Center

If you wanted an update on the state of Connecticut's economy, you could read *The Connecticut Economy*, or you could simply ask Wendy Whelan, Jeff Lamphere, or Lorenzo Cabrera.

Wendy, who lives in Newtown, knew there was a shortage of quality child day care facilities in her area. She also realized that to start her own business she needed help in putting together a workable business and marketing plan. Jeff, of Lisbon, had years of experience making and installing custom-built cabinets. He also dreamt of owning his own business, specializing in rehabilitating furniture for use in school systems throughout New England. Lorenzo, founder and owner of Cabrera Services, Inc.—a radiological and environmental engineering firm specializing in site assessment and remediation—was honored last year as the U.S. Small Business Administration's (SBA) "Connecticut Small Business Person of the Year."

What do these three Connecticut entrepreneurs have in common? They all sought and received specialized counseling from the Connecticut Small Business Development Center (CSBDC).

The CSBDC is a statewide organization funded by a partnership between the University of Connecticut, the SBA, and private sources. It is part of a nationwide network of centers dedicated to assisting small business owners and entrepreneurs. The CSBDC's mission is to help promote economic growth in Connecticut by providing business counseling, workshops, and seminars in all aspects of starting and developing a successful business. CSBDC also provides an award-winning, twelve-week Hispanic Entrepreneurial

Certificate Program, without cost, throughout Connecticut. Since its inception in 1981, the CSBDC has counseled more than 37,200 Connecticut entrepreneurs and conducted 3,640 workshops and seminars attended by almost 89,000 people.

According to a recent study, Connecticut's SBDC earns a significant return on investment. In 2001, firms who had taken advantage of CSBDC's counseling and training efforts generated \$7.9 million in sales revenue and \$1.9 million in state and federal tax revenue. More than 600 jobs were either created or retained, and equity and debt financing exceeded \$15.9 million. In 1992, the return in tax revenues from SBDC counseling activities nationwide exceeded \$4 for every federal dollar invested. For Connecticut that ratio was nearly 8 to 1 in the late 1990s.

In 1981 the CSBDC had only one location in state: the corner of a third floor office in the old School of Business. Now housed within UConn's new School of Business, the CSBDC currently operates eleven offices throughout Connecticut: in Bridgeport, Danbury, Danielson, Enfield, Groton, Hartford, Middletown, New Haven, Stamford, Waterbury, and Willimantic.

The roots of the CSBDC program go back to the 1930s and the attempts by the federal government to help the country dig out from the Great Depression. Shortly after the 1929 stock market

crash, President Hoover created the Finance Reconstruction Corporation to lend money to businesses hurt by the Depression. In the 1940s, Congress introduced legislation to establish University-based business extension services modeled after those for agriculture. In 1953, President Eisenhower signed the Small Business Act creating the SBA, and in 1958 made it a permanent agency. In 1977 the University Business Development Center (UBDC) program was born.

Then-SBA Administrator, Mitchell Kobelinski, observed, "Much along the line of what land grant institutions have been able to do to help agriculture, the UBDC plan envisions that universities establishing these centers would make available to small business, not only the services of the various schools of business, but the full capabilities of the universities."

The UBDC started as a pilot program at several universities, funded with an initial grant of \$350,000 from the SBA. In 1977, as support for the re-named SBDC program increased on Capitol

Hill, Senator Gaylord Nelson, Chairman of the Senate Small Business Committee, introduced the Small Business Development Center Act to provide permanent funding for the program. Twenty-nine senators ultimately joined as co-sponsors and, in 1980, President Carter signed the bill into law.

The act authorized an initial funding level of \$20 million, to be matched one-for-one with non-federal funds. In 1981, Connecticut was one of the first seven states to join the program. Federal funding and state participation rates rose throughout the 1980s. By 1991 funding

had reached \$49.3 million, and every state in the union had established an SBDC. In 2000, when the SBDC's combined total of counseling and training clients had surpassed 8 million, the 58th SBDC was established in American Samoa.

Remember Wendy Whelan, Jeff Lamphere, and Lorenzo Cabrera? Working with Newtown Savings Bank and the Housatonic Industrial Investment Corporation, the CSBDC helped Wendy obtain an \$875,000 U.S. Small Business Administration loan. Today, Wendy's business, Misty Morning, is a growing, profitable operation. The CSBDC helped Jeff obtain \$110,000 in funding from People's Bank through an SBA loan program, and an additional \$50,000 through the Plainfield Revolving Loan Fund. Today, Jeff's business, Nor'easter Installations, LLC, is thriving, with estimated income projected at more than \$1.4 million for the coming year. And Cabrera Services, Inc., employs over 70 people, in offices in Connecticut, Nevada, New York, South Carolina, Missouri and Tennessee. Estimated sales for the current year exceed \$10 million. Wendy, Jeff, and Lorenzo probably think the economy is just fine and may even be getting better.

For more information about the CSBDC call 860-486-4135 or visit its website: www.sbdc.uconn.edu.

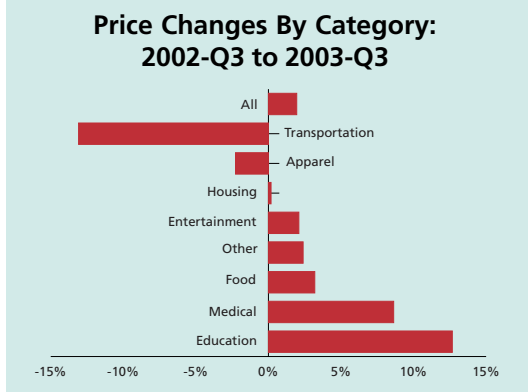
//
Between 2000 and 2001,...
CSBDC's counseling and
training efforts generated
\$7.9 million in sales revenue
and more than 600 jobs ...
//

Education Costs Led the Climb in 2003-Q3

By Philip Shaw

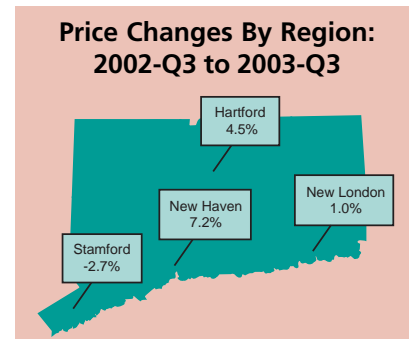
Connecticut prices rose by a modest 1.9% between 2002-Q3 and 2003-Q3. A big factor was a 12% increase in education costs, as tuition and fees rose throughout the state. An 8.6% increase in medical costs also helped to boost overall prices. The cost of a routine medical check-up climbed by 11%, but the price of a one-day hospital stay fell by 4.3%.

Compared with the same quarter in 2002, the cost of food was up 3.2%, and the cost of miscellaneous goods rose 2.4%. Entertainment prices rose 2.1%, with higher costs for bowling, movies, and newspaper subscriptions driving the increase. While gasoline prices rose by 5.5%, the cost of auto maintenance plummeted by 18.6%, dragging down the overall transportation component by 13.1%. Apparel prices fell by more than 2%.



Looking across the four regions of the state, the overall index rose 4.5% in Hartford, driven by a 31% increase in medical prices. In New London and Stamford,

medical prices rose by 19% and 6.4% respectively. In New Haven, despite a drop of 11% in medical prices, the overall index rose 7.2%. The jump in medical costs in New London pushed the overall index there up by 1%. In Stamford, however, the overall index fell by 2.7%.



The cost of entertainment increased in every region: by 4.9% in Hartford, 2.8% in New Haven, 4% in New London, and 2.4% in Stamford. Food prices soared 16.8% in New Haven, but rose only 1.8% in Hartford, while falling 1.1% in Stamford and 2.9% in New London. Housing prices fell in both New London and Stamford, by less than one percent and 7.8% respectively. In Hartford housing prices rose by less than one percent but by more than 8% in New Haven.

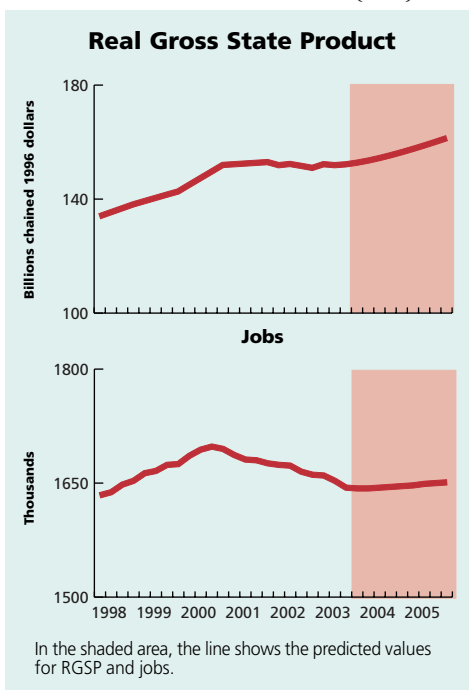
Apparel prices fell in New London (4%), New Haven (12%) and Stamford (5%), but rose 14% in Hartford. Transportation prices fell in Stamford, New Haven and New London, but rose in Hartford by 12.2%. The cost of miscellaneous goods increased in all regions except Stamford, where that component slipped a bit, by 2.6%. In Hartford, it rose nearly 8%, in New Haven nearly 4%, and in New London about 1.5%.

Improving Outlook

GSP set to rise 2.4% next year, but job growth will still be sluggish.

By Peter E. Gunther

Buoyed by stronger than expected growth in U.S. real Gross Domestic Product (GDP) in the two most recent quarters and slightly higher than expected Connecticut housing permits, real Connecticut Gross State Product (GSP) is expected to grow 2.4%



annually over the next two years—up by 0.2 percentage points over the previous eight-quarter forecast.

For all of 2003, U.S. real GDP is expected to grow by 2.9%. The figure for Connecticut real GSP is a considerably more modest 0.4%. If the state does reach a 2.4% growth rate in 2004 and 2005, it will still trail the anticipated 3.7% rate for U.S. real GDP.

The recent surge in national GDP growth reflects increases in personal consumption expenditures, equipment and software spending, residential fixed investments, and exports. Military expenditures were less of a factor in 2003-Q3 than in Q2. Inventories continued to trend downwards, a sign that restocking outlays could boost growth down the road. The strength in exports suggest that U.S. dollar depreciation has begun to open up international markets; because trade effects lag exchange rate movements, the expansionary impact of new exports should be felt well into the forecast period.

The current forecast for Connecticut is more bullish on housing permits than it has been for the last two forecast periods. State residential housing permits are expected to reach 9,470, with a value of \$1,685 million, in 2003. While that number of permits would be down 2.3% from last year, their value would be up 1.8 percent. The number of permits is forecast to reach 9,800 in 2004 and 9,900 in 2005.

The news about employment is less encouraging. Non-farm jobs registered a lower than expected total of 1.644 million in 2003-Q3. Connecticut is expected to shed another 1,000 jobs in Q4 before a gradual recovery sets in, taking the state back to 1.65 million jobs by 2005-Q4. Sluggish as that performance seems, it would be worse were real GDP growth at the lower rates previously forecasted.

An LMI "Progress" Report

By Steven P. Lanza

You call this progress? Another region slipped into the LMI loss column between 2003-Q2 and Q3, and among the remaining gainers the speed of advance slowed. Hartford, Stamford and Waterbury continued to lose jobs, though in Stamford's case more slowly than in Q2. Future job cuts should ease in Stamford, and in Waterbury too, but there are continued downside risks in the outlook for Hartford. Bridgeport and New Haven managed to hold the line on jobs in Q3, though like Hartford they could find the road ahead tougher. Danbury and New London again had the best job performances and hold the brightest growth prospects.

Where the labor force didn't shrink (as it did in Hartford, Stamford and Waterbury), its growth rate mod-

erated significantly. Only Stamford saw a drop in joblessness, but unemployment growth slowed everywhere else. Average weekly hours in manufacturing declined in all regions but two (New London and Waterbury), and real wages were up in all but three.

The LMI measures the four-quarter change in a composite index of labor activity for every labor market region for which data are available. The index includes five variables: the labor force, jobs, the number unemployed, weekly manufacturing hours, and real hourly earnings in manufacturing. (Stamford's index excludes the last two variables). The bar graphs show the recent percentage changes in the LMI. All figures discussed in the text are four-quarter changes unless otherwise indicated.



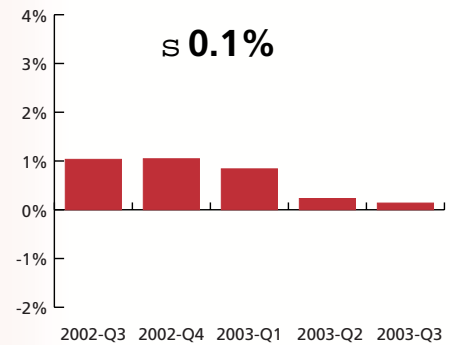
Bridgeport

Jobs essentially held steady, as gains in service industries offset losses in manufacturing and construction. Information jobs showed particular strength.

Growth in the number unemployed slowed from 2,700 in Q2 to 1,500 in Q3, but labor force gains dropped, too, from 3,900 to 800.

Manufacturing hours slipped again, but Bridgeport maintained Q2's 60¢ gain in the real wage rate.

Short on momentum, Bridgeport will do well to add a couple hundred jobs next quarter, and avoid slipping into the negative column after that.



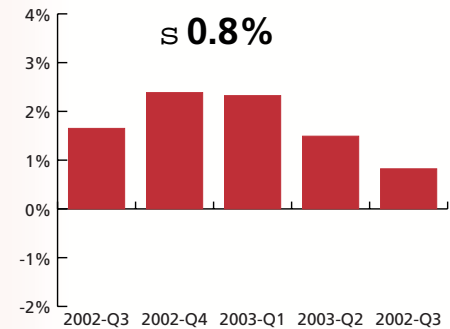
Danbury

Danbury held onto its manufacturing jobs and added workers in all the major service sectors save for professional and business services.

Labor force growth moderated from 4,100 in Q2 to 2,700 in Q3, but fewer than 100 made their way to the ranks of the unemployed.

Real manufacturing wages took a \$1.11 per hour dive, while employers pruned 46 minutes off the average workweek.

Although Danbury's job increases have slowed recently, the region should post steady gains of about 1,400 in coming quarters.



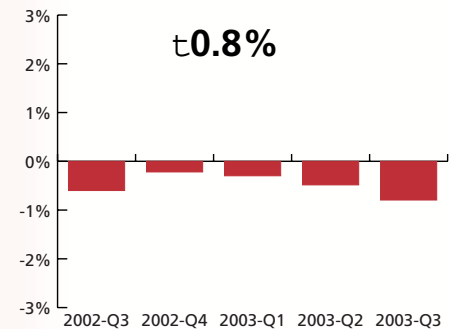
Hartford

Shrinking job totals in services combined with continued reductions in the goods industries resulted in of the worst quarters for jobs in this downturn.

A string of labor force gains ended with an abrupt 5,200-person decline, but growth in the number unemployed was nearly halved.

Manufacturers trimmed 22 minutes from the workweek while adding 26¢ to the real hourly wage.

Hartford likely won't repeat Q3's big jump in job losses, but the cuts could grow worse before getting better.



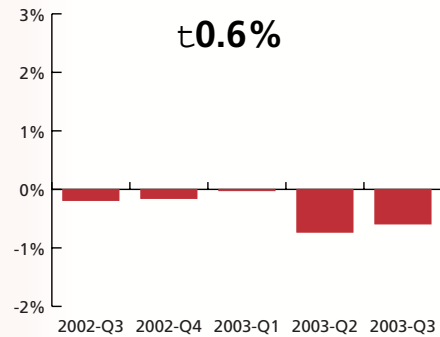
New Haven

Modest gains in service-related jobs offset net losses in the goods industries. Bucking the trend, education and government lost jobs in Q3.

Labor force growth totalled just 400—one tenth its Q2 figure—as additions to the number unemployed fell by one third, to 1,900.

The average manufacturing workweek grew shorter by an hour, and real hourly wages shrank 22¢.

Jobs are steady now but the region's ± 1000 zigzag threatens to move a little deeper into negative territory.



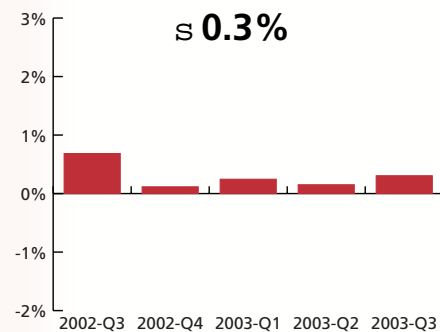
New London

Losses in manufacturing and construction were offset by modest gains in service-producing industries, particularly at the casinos.

Compared with Q2, growth in the labor force dropped by half, but so did the growth in those unemployed.

A 36-minute expansion in the average manufacturing workweek offset much of the 22¢ drop in the real wage, but real weekly earnings still slipped 0.9%.

The region's slowing momentum shouldn't preclude a return to a 2,000-job growth rate in coming quarters.



Stamford

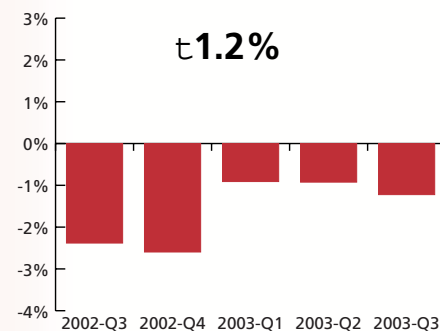
Note: Stamford's index excludes weekly hours and hourly earnings and is not directly comparable with indices for other LMAs.

Stamford's job totals dropped by 800 in the goods-producing industries, and by 1,000 in service-producing industries.

Retail trade and administrative-and-support services logged the biggest cuts, but finance-and-insurance and education-and-health posted significant increases.

Unemployment eased by 100 in the wake of a 3,400-person drop in the labor force.

Stamford's trend in job losses suggests employers will continue to pare down future payrolls at or slightly below this quarter's rate.



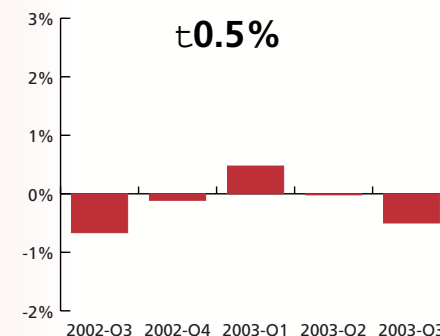
Waterbury

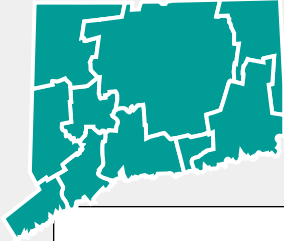
The goods-producing sectors took the hardest job hit, but the region also lost positions in the services, especially in wholesale and retail trade.

Fewer manufacturing jobs meant longer hours for the workers who remained, plus a 1.9% boost in real wages.

Despite the 1,800-person decline in the labor force, the number unemployed climbed by 400.

Waterbury's job losses accelerated in Q3, but the cuts should slow over the course of the next several quarters.





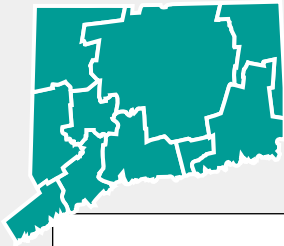
Labor Market Data

Labor Market Area	Labor Force		Nonfarm Jobs		Unemployment Rate (%)	
	2003-Q3 (000)	% Change Year Ago	2003-Q3 (000)	% Change Year Ago	2003-Q3	2002-Q3
Bridgeport	229.4	0.9	185.3	0.0	6.2	5.3
Danbury	119.4	2.5	91.6	1.9	3.4	3.2
Danielson	37.2	0.3	N/A	N/A	5.0	4.2
Hartford	606.1	-0.4	596.6	-1.3	5.4	4.5
Lower River	13.5	1.0	N/A	N/A	3.5	3.5
New Haven-Meriden	290.7	0.9	258.5	0.0	5.0	4.3
New London-Norwich	172.2	1.5	148.5	0.4	4.3	3.8
Stamford	194.9	-0.5	198.8	-0.9	3.2	3.1
Torrington	39.6	0.8	N/A	N/A	4.0	4.2
Waterbury	118.1	-0.7	82.6	-1.8	6.4	5.8
Statewide	1,800.9	0.3	1,640.9	-1.2	5.0	4.3

Labor Market Area	Housing Permits		Housing Prices		Manufacturing Jobs	
	2003-Q3	% Change Year Ago	2003-Q3 (000)	% Change Year Ago	2003-Q3 (000)	% Change Year Ago
Bridgeport	214	10.9	\$335.2	9.2	28.4	-5.3
Danbury	219	31.1	415.8	10.3	14.0	0.0
Danielson	110	12.2	N/A	N/A	N/A	N/A
Hartford	1,128	0.8	200.5	10.4	73.5	-5.5
Lower River	24	-35.1	N/A	N/A	N/A	N/A
New Haven-Meriden	256	-5.9	234.3	15.1	31.5	-3.3
New London-Norwich	309	19.8	203.3	8.8	19.7	-1.8
Stamford	161	11.0	659.4	-2.0	11.6	-5.4
Torrington	84	10.5	153.0	17.6	N/A	N/A
Waterbury	166	13.7	165.5	9.0	12.4	-7.9
Statewide	2,671	6.4	334.6	10.8	201.5	-5.1

Labor Market Area	Average Weekly Earnings		Average Weekly Hours		Average Hourly Earnings	
	2003-Q3	% Change Year Ago	2003-Q3	% Change Year Ago	2003-Q3	% Change Year Ago
Bridgeport	\$762.90	5.0	40.2	-2.6	\$18.99	7.8
Danbury	670.19	-11.6	39.4	-1.9	17.02	-9.9
Danielson	N/A	N/A	N/A	N/A	N/A	N/A
Hartford	795.13	4.8	42.0	-0.9	18.93	5.7
Lower River	N/A	N/A	N/A	N/A	N/A	N/A
New Haven-Meriden	729.62	-2.3	42.0	-2.4	17.38	0.1
New London-Norwich	744.23	1.4	41.4	1.4	17.98	0.0
Stamford	N/A	N/A	N/A	N/A	N/A	N/A
Torrington	N/A	N/A	N/A	N/A	N/A	N/A
Waterbury	663.97	10.0	38.9	5.7	17.04	4.0
Statewide	732.64	2.0	41.1	-1.0	17.84	3.1

Sources: Quarterly figures prepared by *The Connecticut Economy* based on monthly estimates from the Connecticut Department of Labor. Figures are not seasonally adjusted. Statewide totals are not necessarily the sums of individual labor market areas. Housing permits are quarterly totals based on monthly figures from the Connecticut Department of Economic and Community Development, and are not seasonally adjusted. Housing prices, from UConn's Center for Real Estate and Urban Economic Studies, are preliminary.



L a b o r M a r k e t D a t a

Labor Market Area	Construction* Jobs		TTU** Jobs		Information Jobs	
	2003-Q3 (000)	% Change Year Ago	2003-Q3 (000)	% Change Year Ago	2003-Q3 (000)	% Change Year Ago
Bridgeport	7.0	-7.5	37.7	2.2	5.1	11.6
Danbury	4.6	3.0	18.6	2.8	3.0	1.1
Danielson	N/A	N/A	N/A	N/A	N/A	N/A
Hartford	22.9	-2.8	105.6	-0.1	10.9	-9.9
Lower River	N/A	N/A	N/A	N/A	N/A	N/A
New Haven-Meriden	11.4	4.3	46.8	-0.1	10.0	4.5
New London-Norwich	4.6	-5.5	25.2	1.7	2.4	-4.0
Stamford	6.4	-1.5	33.4	-4.2	6.5	-4.9
Torrington	N/A	N/A	N/A	N/A	N/A	N/A
Waterbury	3.8	-3.4	14.5	-4.4	1.4	0.0
Statewide	63.2	-5.4	306.9	-0.2	39.8	-2.5

* Includes Natural Resources & Mining
** Trade, Transportation & Utilities

Labor Market Area	Financial Activities Jobs		Business Service* Jobs		Education & Health Jobs	
	2003-Q3 (000)	% Change Year Ago	2003-Q3 (000)	% Change Year Ago	2003-Q3 (000)	% Change Year Ago
Bridgeport	10.5	-7.6	19.4	-5.8	32.4	4.2
Danbury	4.4	2.3	10.2	-5.5	13.0	4.0
Danielson	N/A	N/A	N/A	N/A	N/A	N/A
Hartford	72.0	-1.2	61.0	-2.0	86.3	-1.3
Lower River	N/A	N/A	N/A	N/A	N/A	N/A
New Haven-Meriden	14.0	0.0	28.0	1.3	56.7	-0.1
New London-Norwich	3.8	0.9	10.9	-2.7	18.7	1.8
Stamford	28.3	0.4	44.6	-0.8	23.0	3.5
Torrington	N/A	N/A	N/A	N/A	N/A	N/A
Waterbury	3.8	1.8	8.2	1.2	15.1	-1.3
Statewide	143.3	-0.5	199.7	-1.5	259.5	1.4

* Includes Professional Jobs

Labor Market Area	Leisure & Hospitality Jobs		Other Service Jobs		Government Jobs**	
	2003-Q3 (000)	% Change Year Ago	2003-Q3 (000)	% Change Year Ago	2003-Q3 (000)	% Change Year Ago
Bridgeport	14.0	2.2	7.0	-0.5	23.9	5.8
Danbury	8.1	7.0	4.0	3.4	11.5	3.6
Danielson	N/A	N/A	N/A	N/A	N/A	N/A
Hartford	42.2	0.5	26.2	5.9	96.0	-0.1
Lower River	N/A	N/A	N/A	N/A	N/A	N/A
New Haven-Meriden	18.6	3.9	10.7	3.9	30.8	-3.5
New London-Norwich	16.6	-1.0	4.2	-0.8	42.5	2.6
Stamford	16.4	-0.2	9.4	2.2	19.3	0.5
Torrington	N/A	N/A	N/A	N/A	N/A	N/A
Waterbury	7.0	5.0	3.6	5.9	12.9	-1.0
Statewide	131.2	0.6	63.3	1.1	232.6	-2.3

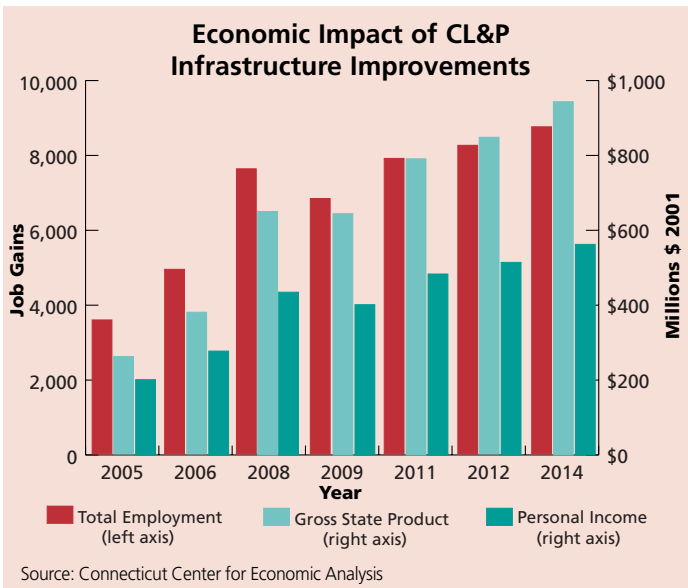
** Includes Casinos

Power Play: A Benefit-Cost Analysis of Improved Electrical Distribution

By Stanley McMillen

Connecticut Light and Power (CL&P) recently filed a request for higher rates with the Connecticut Department of Public Utility Control. CL&P proposes to devote part of the increased revenues to beefing up its local-distribution infrastructure—substations, power lines, and transformers—to improve the quality of service, especially reliability.

As part of its filing, CL&P asked CCEA to do a cost-benefit analysis of the proposed improvements, inclusive of the higher rates, compared with the status quo—doing nothing new. (The rate filing coincided with the expiration of rate caps begun in 1998, when Connecticut’s power market restructuring began. (See Art Wright’s articles in this issue and that of Summer 2000.)



A Slam Dunk

CCEA studied the net benefits of CL&P’s proposed improvements over eleven years, 2004-2014, compared with the no-action case. CCEA did not consider savings to households or government agencies, the short-term inconvenience costs during construction, or the increased attractiveness of the region due to the proposed improvements.

If CL&P maintains its current level of investment, then on average, in any given year between 2004 and 2014, business costs rise by \$300 million, and Connecticut loses more than 3,400 jobs, \$388 million in gross state product (GSP), \$189 million in personal income, \$44 million in state tax revenue, and \$16 million in municipal tax revenue (all money values are in 2001 prices).

Why?

Substations, power lines and transformers that deliver power to Connecticut’s homes and businesses are aging—some are more than 40 years old. Yet the state is counting on CL&P to provide high-quality service to increasingly high-tech manufacturing processes and to a rapidly growing stock of IT hardware in homes and offices. Arguably, Connecticut’s economic future depends as much on the state’s infrastructure for electric

distribution as on its transportation and communications systems.

If, on the other hand, CL&P makes its proposed investment, then on average in any given year between 2004 and 2014, Connecticut gains more than 6,500 jobs, \$616 million in new gross state product (GSP), \$392 million in new personal income, and \$118 million in new state and local tax revenues. Each dollar of the proposed rate increase returns \$3.40 to Connecticut in new GSP and \$2.20 in new personal income. The bar graph on the left shows these results.

How can raising everyone’s electricity rates, residential and business alike, generate such substantial gains? The answer lies in reduced production costs to Connecticut businesses. The benefits continue long after construction has ceased and considerably exceed the cost of the rate increases.

How We Get These Results

To determine the net economic benefits, we have to estimate certain other benefits (new construction, employment, production cost savings, taxes) and costs (rate increases) as inputs to the Connecticut economic model. The ripple effects of these positives and negatives provide the net economic benefits (or losses) as a result of the project.

CL&P provided CCEA with data on new employment, construction costs, the market value of property improvements, and the proposed rate increases. CL&P proposes to invest on average \$165 million per year in construction and new equipment, between 2004 and 2008, to improve its distribution facilities. Most of the construction outlays would be in Connecticut, employ in-state workers, and use Connecticut-made materials. Connecticut firms would realize production cost savings to the tune of \$621 million on average between 2004 and 2014 because of improved electric power reliability—fewer power surges, brownouts (from low voltage), and blackouts or “outages.” The sales and profits of firms operating in CL&P’s service area would increase, and they would pay more state and local taxes. These gains would cost CL&P customers an average of \$156.4 million each year for at least the next ten years in higher electricity bills.

CCEA derived net business production cost savings from a major study of such savings by the Electric Power Research Institute (EPRI, June 2001). EPRI surveyed a sample of 985 U.S. businesses in three sectors, representing a universe of about 2 million firms: digital-economy manufacturing (DE) firms, continuous process manufacturing (CPM) firms, and fabrication and essential services (F&ES) firms.

According to the EPRI study, power outages in 2001 cost U.S. firms a total of \$45.7 billion: in the DE sector \$12.8 billion; in CPM \$8.2 billion; and in F&ES \$24.7 billion. Other power quality problems—low voltage, surges, transients, harmonics, and phase voltage imbalances—cost all firms an additional \$6.7 billion. The EPRI study concluded that, across all business sectors, the U.S. loses between \$104 and \$164 billion per year because of outages,

Category	2004	2005	2006	2007	2008
Construction (millions \$ 2001)	\$153	\$164	\$167	\$132	\$132
Business Gains (millions \$ 2001)	\$152	\$304	\$456	\$608	\$760
Employment FTE (new)	46	83	84	84	84
Rate Increase (millions \$ 2001)	\$125	\$144	\$162	\$180	\$180
Commercial	\$50	\$57	\$65	\$72	\$72
Industrial	\$15	\$17	\$19	\$22	\$22
Residential	\$60	\$69	\$78	\$86	\$86
Property Tax (millions \$ 2001)	\$6	\$11	\$17	\$23	\$23

and another \$15 to \$24 billion due to quality factors.

In deriving industry-by-industry production cost savings, CCEA used the midpoint of the high and low scenario estimates for Connecticut from the EPRI report. We allocate these savings across Connecticut's commercial and industrial sectors (excluding the household and public sectors) according to their electric power usage and state share of gross receipts. The table opposite shows the gains each year during the construction phase (2004-2008) for all Connecticut businesses. We posit that those savings, in inflation-adjusted terms, continue at least until 2014, assuming that CL&P maintains the improvements for at least ten years.

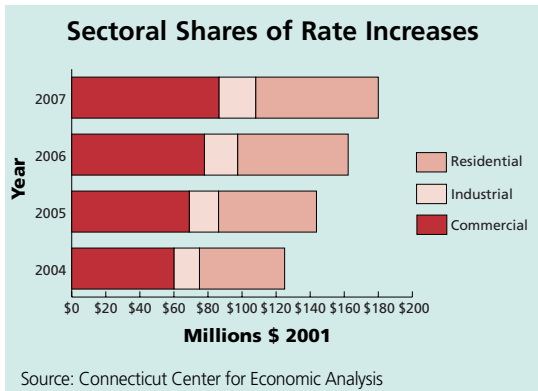
The table also reports the timeline of construction costs, employment gains, and rate increases for the proposed project during the construction phase. After 2008, construction costs cease, and other outlays

remain constant in real terms. We assume that CL&P would add 84 net new workers within the first three years of construction, 2004-2006, and then maintain that level for at least seven more years. CCEA assumes that real electricity rates and production-cost savings remain at their 2008 levels through 2014. Increased property taxes accrue to towns indefinitely on the improvements (subject to depreciation) that CL&P makes on its properties.

The bar graph below shows the yearly sectoral breakdown of the rate increases relative to the status quo. For example, the initial increase is \$125 million in 2004 and an additional \$19 million in 2005, for a total of \$144 million, and so on. The rate increase is distributed across user categories according to CL&P's forecast: 40% commercial, 12% industrial and 48% residential.

Not Pie in the Sky

These positive results arise from the vital role electric power plays in the production processes used in Connecticut's businesses. The CCEA study shows that the productivity increases associated with electric power distribution improvements overwhelm the required investment costs. These results obtain without factoring in the reduced costs to small businesses and individuals (telecommuters, consultants) operating out of their homes. All in all, CL&P's proposed investment seems well justified.

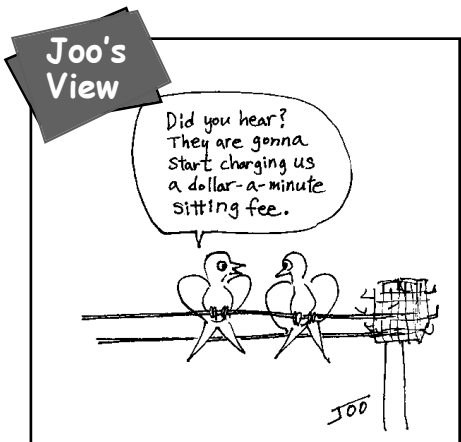


Join the UConn Alumni Association Today!

Start taking advantage of more than 20 great member benefits including discounts on your subscription to *The Connecticut Economy*, purchases at the UConn Co-op, Broadway show tickets, and much more.

Join today by calling 888-UC-ALUM-1

or go to www.uconnalumni.com. For more information on the UConn Alumni Association check the box on the attached reply card.



Don't Forget to Visit Us On The Internet - <http://ccea.uconn.edu/quarterly.htm>

The Connecticut Travel and Tourism Index

The overall index decreased 1.1% in 2003-Q3 compared with the same quarter the year before. The index consists of hotel-motel revenues, slot machine revenues, attendance at six major tourist attractions, and traffic on five tourist roads.

Hotel/Motel Rev.	t	3.0%
Slot Machine Rev.	s	5.9%
Attendance	t	6.7%
Traffic	t	0.7%
Overall	t	1.1%

FRS # 430032



NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO. 10 STORRS CT

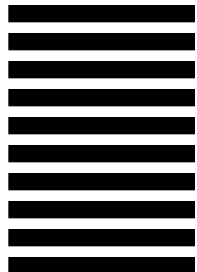
POSTAGE WILL BE PAID BY ADDRESSEE

University of Connecticut

THE CONNECTICUT Economy

A University of Connecticut Quarterly Review

Connecticut Center for Economic Analysis
Department of Economics
341 Mansfield Road Unit 1240
Storrs, CT 06268





Electricity—Powering Connecticut's Economy

By Leon Olivier
President & CEO, Connecticut Light & Power



Electricity has long been the lifeblood of economic development, across the state and around the world. To be successful in today's digital economy, businesses must be able to count on reliable, high-quality electricity. Households, with rapidly growing stocks of high-tech appliances, are no different. At Connecticut Light & Power (CL&P), it is our responsibility to provide this critical resource to more than 1.1 million customers in Connecticut at all times, around the clock and throughout the year.

In early October, CL&P filed a proposal with our regulating body, the Department of Public Utility Control (DPUC), that we believe would improve the reliability and quality of service being supplied to our customers. We propose to invest \$1 billion to substantially upgrade both the physical and human infrastructure of CL&P's distribution system. Our comprehensive plan would also implement innovative technologies to move toward a smart, self-repairing electric supply system.

CL&P's existing electrical infrastructure is not suited to the computer-driven economy we all live and work in today. Our distribution system is essentially of 1960s vintage, with much of it built during the economic boom that followed World War II. Virtually our entire system predates today's digital economy.

In recent years, CL&P has invested hundreds of millions of dollars keeping this aging infrastructure in good working order, making the necessary repairs to keep the lights on. Our new proposal is designed to strengthen and modernize our system, to meet the growing needs and expectations of our customers at home and at work.

In addition, our workforce in the field—linemen, electricians, new-service technicians—is aging as well: nearly 40 percent of these employees will be eligible to retire in the next four years.

Because it takes up to five years to fully and safely train a new utility worker, we need to revitalize our workforce as we refurbish our infrastructure.

Clearly, a proposal of this size and scope is not without impact on our customers. CL&P is requesting that electric rates return to the levels of 1996, which would represent an increase of 11.1% from today's artificially low rates mandated by the state's electric restructuring legislation enacted in 1998. Our proposal, the first across-the-board increase sought by CL&P in 11 years, would result in a \$6.25 increase in the monthly bill of a customer using 500 kilowatt-hours of electricity per month.

As the study chronicled by Stanley McMillen in this issue found, even with the proposed increase in rates, the positive economic impact of these investments on our state will be widespread and sustained. The productivity gains for Connecticut businesses from having fewer power interruptions will be substantial. Additionally, the infusion of \$1 billion into Connecticut's economy will create new jobs and tax revenues at the state and local levels. The higher income and property tax revenues will make programs and services for those in need more affordable to state and local governments.

Without the proposed investments, the Connecticut economy will suffer the effects of an outdated and inadequate distribution system, increasing the burden of an infrastructure that cannot adequately support the growing demands for reliability and power quality.

The economic vitality and future growth of our state will suffer without the investment proposed by CL&P. A strong and modernized electrical distribution system is one of the engines needed to drive Connecticut's economy in the 21st century.

Please bill me \$55.00 for 4 quarterly issues of *The Connecticut Economy*.

I have marked address corrections, if any, on the label below.

My telephone number is _____ Signature _____

Please send me more information on the UConn Alumni Association.

THE CONNECTICUT Economy

A University of Connecticut Quarterly Review

Connecticut Center for Economic Analysis

Department of Economics

341 Mansfield Road Unit 1240

Storrs, CT 06269-1240

If you have not yet subscribed to ***The Connecticut Economy*** tear out, sign and mail this convenient reply postcard.

Please make any address changes or corrections before mailing.



Printed on recycled paper using soy-based ink.