Issue 37 29 June 2009

## Statistics, Damned Statistics, and Lies

There is a curious sort of civic self-loathing among Rhode Islanders that seems to leave us perpetually ready to believe the worst about our state. We are the smallest state, for sure, but are we also the weakest, dumbest, most expensive, and most corrupt? Those who believe this sort of claptrap don't get out much, really. After all, Connecticut, right next door, sent one governor, one treasurer and three mayors to prison in recent years. And Illinois Governor Rod Blagojevich's national self-immolation this past winter was another welcome purgative for Rhode Island's feelings of inadequacy.

Still, as absurd as this low self-esteem is, it's foolish to deny it exists. In our public discourse, it acts like a puddle of gasoline, waiting for a match, an apt opening simile for an article about the cost of fire protection.

The Rhode Island Public Expenditure Council (RIPEC) is, of course, always ready to supply that match. They publish an annual accounting "How Rhode Island Compares" that presents a collection of state rankings of various spending categories compared to each state's total personal income, and to its population. From these reports, politicians at the state and local level learn that we pay too much for fire protection and education and not enough for roads, and so on, according to comparisons with other states.

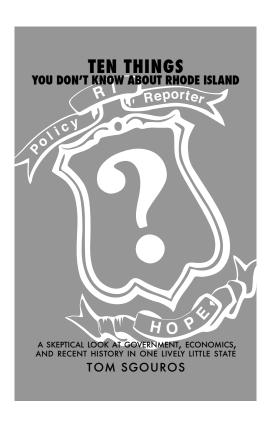
But is there only one explanation for numbers like these? If there are other explanations, don't we need more information to judge between them? And if we do, why is it not in this report?

The answers are no, yes, and you'll have to ask RIPEC. Take the education numbers as an example. Apart from the lists themselves, the report text largely confines itself to capsule histories of those comparisons. For example, we learn from the 2007 report that:

"...since FY 1995, the Ocean State has increased elementary and secondary education expenditures from \$46.23 per \$1,000 of personal income [to \$50.15] and has risen in the rankings from 28th highest to 19th highest in FY 2005." <sup>1</sup>

Following that, there is a quick mention of where Connecticut and Massachusetts fall in these rankings (lower than RI), and then we move on to a discussion of Medicaid and welfare payments. There is no discussion of what this statistic means to the state, how it came to pass, what manner of policy changes it might suggest, or whether it's even a valid comparison. It's just a factoid, waiting to be interpreted.

So let's interpret it. The Census bureau tracks government payrolls in their census of government. In 1995, they counted 18,513 elementary and secondary education employees in Rhode Island (14,701 teachers). In 2005,



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 $<sup>^{1}</sup>$ "How Rhode Island Compares," 2007 edition, page 13, also see Tables 14 and 15, ripec.org.

there were 20,663 (16,157 teachers). So the decade saw us gain 10% more teachers and 18.5% more administrators. Why? Partly because the growth was not even. Between 1998<sup>2</sup> and 2005, Providence (2%), Pawtucket (7%), Warwick (5%) and other urban districts lost a small percentage of students, while districts like Barrington, Portsmouth, Cumberland, and East Greenwich all gained around 10%.

Because of limitations on the number of kids in a classroom, losing a few percent of your students seldom means you can lose an equal percentage of teachers. If you have a hundred fourth-graders, that's four classrooms. If ten of them go away, that's still four classrooms. If you get 110, you have to hire another teacher.

Obviously, the details depend on how the districting and numbers work out, and sometimes a district can get lucky and have it work the other way. But the general rule stands: a small percentage change will likely have no effect on the cost of managing a district, and a large one will. So districts that lost a few students will likely have the same number of teachers, but districts that gained a lot for their size will have had to hire.

What's more, we created around a half-dozen charter schools in that period. Counting the whole state, we weren't educating any more children (actually about 2% less), but we spread them among more school districts in a less concentrated way. So there are more teachers and more administrators.

What about teacher pay? The mean teacher's pay did go up during that period, from \$3,485 per month to \$4,877 per month. This works out to about 0.8% faster than inflation. So you can blame teacher contracts, too, if you like, but the big issue is our collective "decision" to educate more of our children in the suburbs and in charter schools.

**Fire protection alarm** The same series of RIPEC reports tell us that Rhode Island spends proportionally far more on fire protection than any other state in the union. According to the 2006 rankings, Rhode Island spent \$228 per citizen on fire protection, a huge amount ahead of next-place California at \$170, Alaska at \$164 and Nevada

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editor & author of unsigned articles: Tom Sgouros

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and Massachusetts right behind. The US average was \$114, exactly half Rhode Island's sum.

This is a colossal amount compared to other states, and this statistic has gone far, doing much to shape the public discourse about fire protection and municipal spending in general.<sup>4</sup> Even more than the education number, this demands some kind of interpretation, but there isn't any text at all about it in the RIPEC report.

Trying to understand this figure, I read some of the Census Bureau government finance classification manual.<sup>5</sup> This document describes what belongs in which categories and what doesn't. For example, you learn here that employee ben-

efits like health insurance are only reported here if they are allocable to a fire department. If they are not (if they are paid as a lump sum, or in cer-

People are always ready to believe the worst about Rhode Island, but is that really what the data says?

tain cases of self-insurance), they belong in another category, called "Other and Unallocable." So I looked at the ranking for that category. The range there is huge, from \$707 per person in DC and \$626 in New York, down to \$33 in Delaware. Rhode Island, at \$191 per person, wasn't particularly low on the list (10th, well behind Massachusetts and Connecticut), but the dollar difference between states is enough to suggest that you can't discount classification issues as a cause for Rhode Island's standing in the fire protection list.

We don't have to leave it there, though. Again, the payroll report is available, and it has both "Fire Protection Total" and a "Firefighters Only" categories. What you learn from that is that we have a lot of firefighters here (2d on the list, behind only DC), but that we don't pay them particularly well (23d on the list, about 10% behind the US average). Note that this counts only monthly payroll costs, not benefits, including pension and health insurance premiums. By this measure, we're on the high side only in the total number of firefighters.

One possible reason for that is that locally, ambulances are thought of as part of the fire department, whereas in much of the country they are an adjunct to it. Emergency medical technicians here are usually part of the fire department, while in most states they are classified under "Health" for purposes of the Census. I called a researcher at the Census Bureau, and she confirmed for me that EMTs could be placed in either category, but also told me there was no way to know from their data how many EMTs had wound up in one category or the other. That said, it's worth noting that in the "Health" cate-

<sup>&</sup>lt;sup>2</sup>The first year in the RI Department of Education statistics web site, see www.ride.ri.gov/Applications/statistics.aspx.

<sup>&</sup>lt;sup>3</sup>From the 2008 RIPEC report, see table 29

<sup>&</sup>lt;sup>4</sup>And, of course, it surfaced in the ongoing labor dispute between Providence Mayor Cicilline and the firefighter union.

 $<sup>^5</sup> ftp 2. census. gov/govs/class 06/2006\_classification\_manual.pdf$ 

<sup>&</sup>lt;sup>6</sup>See the Classification guide above, page 5-30.

Table 1: The overall cost of our state and local governments, in dollars per person per year and per \$1,000 of personal income, according to my calculations with the Census data mentioned in the article. This counts only current expenses, and excludes capital costs and welfare payments. (Object code E, for the technically inclined.) Tenth on the list is nothing to crow about, but it's not worth hysterics, either.

\$ per capita		\$ per \$1,000	
DC	12,939	Alaska	281
Alaska	11,263	New Mexico	210
New York	9,024	Mississippi	209
Wyoming	8,562	DC	207
Delaware	7,384	New York	194
California	7,222	Maine	194
New Jersey	7,215	Vermont	190
Massachusetts	7,171	South Carolina	187
Vermont	7,133	Nebraska	186
Rhode Island	6,951	West Virginia	185
Nebraska	6,785	Delaware	184
Hawaii	6,781	Wyoming	181
Connecticut	6,769	Alabama	179
Maine	6,602	Ohio	177
New Mexico	6,459	Utah	174
Minnesota	6,341	Rhode Island	174
Pennsylvania	6,325	Tennessee	174
US Average	6,183	Arkansas	173
Washington	6,162	Hawaii	172
Wisconsin	6,104	California	172
Ohio	6,101	Michigan	171
Maryland	6,065	Iowa	168
Mississippi	5,990	Louisiana	168
Oregon	5,911	Wisconsin	168
Louisiana	5,910	Oregon	168
Iowa	5,898	Kentucky	166
Michigan	5,889	Indiana	166
North Dakota	5,835	Pennsylvania	163
South Carolina	5,833	Montana	162
Tennessee	5,828	North Dakota	161
Alabama	5,818	North Carolina	161
Florida	5,773	US Average	160
Illinois	5,712	Minnesota	154
Virginia	5,602	Idaho	153
Kansas	5,553	Kansas	152
Indiana	5,523	Georgia	150
West Virginia	5,455	Arizona	150
North Carolina	5,448	Florida	150
Colorado	5,419	Washington	149
Montana	5,392	Missouri	149
New Hampshire	5,363	Massachusetts	146
Nevada	5,300	New Jersey	145
Arkansas	5,229	Oklahoma	145
Utah	5,207	Illinois	139
Kentucky	5,137	South Dakota	135
Oklahoma	5,096	Virginia	134
Missouri	5,061	Nevada	132
Georgia	5,056	Texas	131
Arizona	4,942	Colorado	131
Idaho	4,883	Maryland	130
Texas	4,881	New Hampshire	128
South Dakota	4,860	Connecticut	123

gory, Rhode Island is 51st in the number of employees per capita and 50th in the amount of money we spend in that category, as a fraction of personal income. In other words, though we may be tops in the firefighter category, we're at the very bottom of spending in municipal health services, a fact that—curiously—seldom makes it onto lists like RIPEC's. When you add the health and firefighters category, Rhode Island falls down around eighth.

Why do we have a lot of firefighters? It's beyond certain that minimum-staffing provisions of union contracts are relevant to the issue. However, it's also undoubtedly true that the same dynamic described above for teachers also applies to fire departments. When houses are spread thinly across the landscape, it isn't cheap to provide urban-level response times.

The lesson once again: it's worth being very skeptical when you see us atop those lists of inter-state comparisons. After all, what are Wyoming and Alaska doing on the same list with Rhode Island? Is there anything we can learn from largely rural states where it's as far from one town to the next as it is from our eastern to our western border? Even apart from that question, there are a hundred thorny issues usually hiding in the underbrush of comparisons like this. If you really want to learn from a statistic—as opposed to just using it to score debate points—you have to hunt down every one. That's what honesty demands.

# Natural energy

JUDITH REILLY

As we grapple with the current economic crisis, many eyes have turned to the "green economy" as a source of new jobs, new revenues, and a revitalized state. The potential benefits of renewable energy are enticing: environmental, geopolitical, and economic (if renewable energy prices can be made competitive with non-renewables). Add to these benefits the possibility of creating new jobs and increasing the tax base, and you get an attractive package. The problem is making the theoretical real, which requires an enormous investment in new infrastructure.

To help things along, the General Assembly has created two consumer-funded programs to encourage investment in renewable energy. Under the Renewable Energy Standard, electricity suppliers must ratchet up the percentage of renewables in the power they sell to RI customers from a minimum of 3% in 2007 to 16% in 2019. Suppliers are allowed to pass their costs on to the consumer with a "Renewable Energy Charge" that currently stands at \$0.00093 per kilowatt-hour (kWh), around thirty cents for the average monthly household bill.

As always, the devil is in the details. As National Grid puts it, "electricity customers in New England are served by an integrated power grid, not particular generating (plants)." Your electricity comes from a "pool" of power generated in many states. Your supplier purchases "certificates" from this pool as evidence of the theoretical sources of your power. For 2007, the 3% goal was met with a mix of power from hydroelectric, wood, and

How do we persuade the market to let us buy renewable energy?

landfill gas-burning plants. Unfortunately, only about 4% of that energy was generated in RI, with the rest coming from

nearby states. Clearly, ratepayers might want more renewable energy production here in Rhode Island in order to generate jobs and tax revenues.

This is where the state's second program comes in. The Renewable Energy Development Fund<sup>7</sup> has two funding mechanisms. If an electricity supplier is not able to purchase enough certificates from the regional energy pool, it can make an Alternative Compliance Payment (ACP) to the Fund. For 2007, these payments amounted to \$217,000.

The Fund also receives another surcharge on consumers. For a ten-year period commencing January 1, 2003, the General Assembly directed electric distribution companies to collect \$.0003 per kWh of energy purchased by consumers. The Fund is currently receiving \$200,000 per month, according to the RI Economic Development Corporation (EDC), which took control of it in July 2008. As of November 2008, the Fund had a balance of \$4.1 million and two EDC full-time staffers.

For the most part, the renewable energy (RE) technologies supported by the Fund are those used to produce electricity and not heat: solar, wind, wave and tide, geothermal, ocean thermal, biomass, and small hydro. Biodiesel is not covered. The Fund is supposed to prioritize projects actually located in Rhode Island, and can be used not only for construction of power-producing facilities, but to fund R&D and other activities "directly related" to in-state RE projects.

As of November 2008, \$3.2 million of the Fund has been committed to support the development of the RI Ocean Special Area Management Plan (SAMP). The SAMP, slated for completion in 2010, is basically a zoning process for off-shore waters, which will create zones for commercial fishing, wildlife, shipping, and energy production. According to the state, having a SAMP will enable the planned Deepwater Wind LLC off-shore wind farm to proceed on the basis of a simpler environmental assessment in lieu of the usually time-consuming environmental impact statement process. The governor's office

says the Deepwater development, if completed on schedule, will be the first off-shore wind farm in North America and will provide 1.3 million megawatt hours per year of renewable energy—15% of all electricity used in the state. Deepwater Wind is supposed to repay the SAMP money.

Beyond the SAMP, starting in 2009, the General Assembly has mandated that the lesser of 50% of the annual surcharges collected or \$1 million be spent on municipal renewable energy projects, and the lesser of 10% or \$200,000 be spent on renewable energy in non-profit affordable housing projects. Additionally, the EDC has put in place a Pre-Development Consultant and Technical Feasibility Program which will be allocated the lesser of 10% or \$200,000 per year. Anything above the \$1.4 million maximum per year directed to those three programs goes to the "Renewable Energy Development Program." Both the feasibility program and development program are open to non-profit and for-profit organizations, in addition to municipalities and affordable housing developers. These programs make both loans and grants, depending on the situation.

This program has brought us the Town of Portsmouth's new wind turbine, which came on-line early this year. The first municipal wind turbine in RI, it was partially funded by a \$400,000 15-year loan from the RE Fund. In an interview with the Providence Journal, town finance director David P. Faucher said the turbine will lower the town's electricity bill by 25%. Additionally, credits for the electricity produced will help pay off the financing bonds and loan, as Portsmouth generates and sells the Renewable Energy Certificates mentioned above.

EDC Interim Director J. Michael Saul sees the RE Fund as just one tool in a strategic plan to make RI a green economy hub. EDC stresses job creation in assessing projects funded through the Fund's development program. For instance, the construction and installation of Deepwater Wind's 100 turbines

promises to bring 800 jobs to Quonset. The Fund also complements other EDC initiatives, such

A renewable energy fund shows a possible way to shape the market.

as workforce training and an on-going study to see which manufacturers could re-tool to participate in the green economy, such an industrial plater moving from servicing the moribund auto industry to supplying solar panel manufacturers.

Occasionally the RE Fund's relationship to economic development gets a bit muddled. For instance, the EDC's decision to award \$700,000 over 10 years to United Natural Foods Inc. (UNFI) seems a bit of a stretch. That money is to pay the natural and organic food wholesaler's portion of the installation costs of solar panels at its new headquarters in Providence. This grant seems to have

<sup>&</sup>lt;sup>7</sup>RI General Laws §39-2-1.2. The RES is from §39–26

been less about increasing renewable energy production in RI than about adding a sweetener to the pot of tax-breaks offered to UNFI to relocate 150 jobs from Connecticut to Providence, with hopes that the company would add 90 more jobs within 3 years. The EDC believed that the good publicity generated by the grant would help "rebrand" Rhode Island as a center for green business. However, the publicity turned sour when UNFI had to delay its relocation due to the financial implosion of Struever Bros., the developer of the new location. A recent report in the Providence Business News says UNFI's new digs will be completed by September, a four month delay.

In general, it is wise for cities and states to avoid trying to hitch their economic development wagons to the next hot thing, because identifying such trends on time is difficult. However, it seems hard to believe that renewable energy will not become an important part of the national economy in the near future. Is it too much to hope that Rhode Island could regain its long-lost industrial might via green industry? With our coastal location, universities, and a trained and educated workforce, it is possible. With about \$2.6 million flowing into the Renewable Energy Development fund each year, plus repayment of previous loans, the Fund has the capital to finance projects that could seriously improve Rhode Island's future. The Fund comes mostly from ratepayers, including those just scraping by. Hopefully, the EDC's leadership will have the insight to identify the projects that will lead us all to a brighter, greener tomorrow.

#### **BOOK REVIEW**

# **Taming Markets**

#### **Animal Spirits**

George A. Akerlof and Robert J.Shiller, Princeton University Press, 2009, 230 pages

Why are people unemployed, anyway? According to the standard economic models, an oversupply of something (like people who want to work) will see its price "adjust" until every willing seller can find a buyer. That is, wages will decline until everyone is employed.

Of course, it never works that way, and the standard answer why is that the labor market isn't free, and is distorted somehow, by minimum wage laws, by unions, or by people's unaccountable desire to eat. But for those details, all would be well, and unemployment mythical.

This is the perspective that has made so many economists into implacable foes of organized labor, but in truth, only free-market ideologues were ever satisfied with it. Over the past 25 years, a better answer has emerged, called the "efficiency wage" theory. This says an employer not only wants an employee to work, but to work well. If the wages violate some standard of fairness, you'll get a resentful employee who won't work well, and might even sabotage your business. The usual result is that wages tend to remain above the level where the market would "clear," and some people remain unemployed.

But where did this "fairness" business sneak in, and what right does it have to mess up the tidy abstractions of supply and demand?

George Akerlof and Robert Shiller step in here with their new book to say that fairness is one of the five important "animal spirits" that cause our economy to diverge from the predictions of orthodox mathematical economics. Their perspective is that these effects are every bit as real as the supply and demand curves economists so often sketch, perhaps even more so.

The authors speak from some authority. Both have made their names as thoughtful critics of free markets, committed to capitalism, but aware of how often markets seem to run off the rails when left to themselves. Akerlof won the 2001 Nobel Prize in economics for his work on "asymmetric information," the situation where sellers know far more about the goods on offer than buyers. He wrote that a high degree of asymmetry leads inevitably to a market failure, even for quality goods, because no buyer can know what they're buying. He originally found his corroboration in the used car market, but it's hard to imagine a more dramatic confirmation than the financial market upheavals of the past year.

Shiller is best known for his work in showing how the stock market is not "efficient" in the technical economics sense. His findings are that investor confidence and the prevailing wisdom (such as it is) have much more to do

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with a stock's price movements than petty details like price-to-earnings ratios.

So what are these animal spirits? Along with fairness, they list confidence, corruption, stories and money illusion. We've already seen the effect of fairness, and confidence need little explanation—confidence in the economy makes people invest, and a lack of confidence makes people divest—but the others do. Take corruption. Its effect on investor confidence is pretty easy

An economics that incorporates human nature and not just mathematical models is long overdue.

to see, but what isn't so obvious is what a large role it plays. Yet it has played a major part in each of the past three economic contractions the US economy has under-

gone, with the Savings and Loan crisis in the early 1990's, the Enron debacle of 2001, and the failure of the bond rating agencies like Moody's and Standard & Poor's in the current crisis. The authors gently point out that the coincidence of these scandals with financial rout is hardly a coincidence. Each made significant contributions to the loss of confidence that resulted in that rout. Ignoring the corruption creates needless mystery.

What's money illusion? A college friend told me once about taking a summer job in an Alaska cannery. Lured by wages twice as high as she could earn in Seattle, she went only to discover that all the groceries cost twice as much. Money illusion is what brought her to Alaska, and the loss of it is what happened when she arrived.

In the 1970's, after noticing that many labor contracts have cost of living adjustments (COLAs), Milton Fried-

man declared that money illusion was a thing of the past, and built his monetarist economics on that foundation. You don't have to be a naïve sophomore to fall for this. Most discussions of COLAs run aground on these shoals, too. Is a 3% COLA a raise or not? Are you happy when you get one, or just relieved? What's more, corporate accounting is not done with inflation-adjusted dollars, so money illusion is built into corporations' books. In other words, Friedman seriously overstated the case, leaving his grand monetarist edifice with a foundation of Jell-O.9

The authors also spend some time on the economic effects of the stories we tell each other about the economy and how to succeed. But the best part of the book follows the introduction of these animal spirits. This is where they take these insights, and other findings from behavioral economics, and apply them to the important questions, like why unemployment persists, why real estate markets boom and bust, and why poverty persists among some minorities. What they show is that a number of phenomena that remain poorly understood using the standard economic models, become fairly easy to account for when you incorporate some basic insights about human nature.

In many ways, this is the economics that John Maynard Keynes envisioned in his *General Theory*, was championed by John Kenneth Galbraith later, but was sidetracked by the mathematization of the field in the postwar years. People hope and fear as well as think and spend, and an economics that takes that into account is long overdue. Welcome it by checking out this book.

Coming out July 20: "Ten Things You Don't Know About Rhode Island?" Reserve your copy today!

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 $<sup>^8\</sup>mathrm{Not}$  to mention Bernie Madoff's own gargantuan chicanery.

<sup>&</sup>lt;sup>9</sup>As a bonus, the book gives the best putdown of Milton Friedman's monetarism I've run across. In pointing out that Friedman had some good insights but made far too much of them, Paul Samuelson said of him that he was like the boy who learned how to spell banana, but didn't know when to stop.