University of New Haven

COLLEGE OF BUSINESS

CONNECTICUT ECONOMIC ACTIVITY REPORT

Winter 2018

NEW HAVEN ECONOMIC PERFORMANCE LABORATORY

Prepared by

New Haven Economic Performance Laboratory

in association with

Department of Economics and Business Analytics
Entrepreneurship and Innovation Program

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January, 2018

The Winter 2018 edition of the Economic Activity Report, published by the New Haven Economic Performance Laboratory, represents a collaborative and pedagogical effort by faculty and students of the Department of Economics and Business Analytics in association with the Entrepreneurship and Innovation Program. It contains socioeconomic information and analysis that focuses on the economic conditions of the broader New Haven Region and Connecticut. This report (and previous reports) can also be found on the Laboratory's website (**www.nhepl.org**).

This issue contains a set of economic data series analyzed by Department of Economics and Business Analytics capstone students. Students were asked to appraise and evaluate regional data series. This was intended to further their understanding of the regional economic climate and conditions but also to provide clear, understandable interpretations of such climate and conditions. The University of New Haven student analysts of today are the analysts on which our future turns. Their names and email addresses are included in this report. Please do not hesitate to contact them.

Also included in this report are several short pieces jointly prepared by faculty and students. Especially noteworthy are the New Haven Region Economic Performance Index, and a look at the reasons for the varying performance in post-Great Recession employment recovery. In addition, a provocative piece by invited contributors identifies the state's seeming inability to foster economic development and growth by failing to attract talent because it has failed to leverage its comparative advantage vis-à-vis other states.

The purpose of this report and future reports is to identify Connecticut's strengths and weaknesses and to provide insights and guidance so as to foster economic development and growth, and a revitalization of the state's economy, such as the need to spur entrepreneurship and innovation. As this report continues to evolve in its scope, so does its name — now, the Connecticut Economic Activity Report.

In addition to visiting the Laboratory's website, I invite you to visit another student initiative that involves posts, commentary and noteworthy contributions from students, faculty, alumni, and members of the broader community: The University of New Haven Economics Collective (**http://unheconomicscollective.ning.com**). The Collective, as it is affectionately known, is a thought-leadership and learning space that fosters the integration of theory, technical competencies, real-life learning, and communication skills.

Kind regards,

Brian T. Kench, Ph.D.
Dean, College of Business

Executive Summary

The GE-Xit (announced 2016), General Electric Corporation's departure from Fairfield, Connecticut, a punch to the gut! The A-Xit (announced 2017), AETNA Corporation's departure from Hartford, Connecticut, a blow to the head! Adding further insult to injury, Alexion's (announced 2017) departure from New Haven, Connecticut. The departures are characterized as *de minimus*; in each instance, the job transfers (losses to Connecticut) amount to less than 300 jobs, albeit high paying jobs. In the case of GE-Xit, Rodriguez and Marks estimated (as previously reported) the impact of GE's departure to be approximately 70,000 jobs. While further examination is required, the loss in jobs as well as prestige for the State of Connecticut cannot be ignored. Notwithstanding the foregoing and bucking the apparent trend of larger firm exits are certain small, entrepreneurial technology companies.

The Winter 2018 Report suggests Connecticut's economic state of affairs, while improving, still lags the nation and weaknesses still exist. More specifically, according to the forecast of the New Haven Region Economic Performance Index (constructed by Professor Esin Cakan, Ph.D., and Diane Soto '18), the near-term prediction suggests a continued, steady state of modest month-to-month ups and downs. A study by the students and faculty of the Department of Economics and Business Analytics sought to explain the reason for the observed disparity across the states in recovering from the Great Recession. The findings suggest, in addition to the typical mantra of Connecticut's high tax rates, that the quality of government and its institutions are significant factors in explaining employment performance, or lack thereof. Institutions matter!

The venture capital investment trend in the State of Connecticut remains essentially the same. Connecticut still lags the nation and the New England region. A fundamental question exits, however: Given the rise of alternative investment vehicles, including crowdfunding and the recent rise of Initial Coin Offerings, which leverages cryptocurrency notions and blockchain technology, should Connecticut look to such alternative vehicles to foster its economic development and growth via entrepreneurial enterprises?

In an invited contribution to this Economic Activity Report, John Rosen and David Sacco, who run New Tech Haven, an incubator with a special focus on students, including University of New Haven students, offer a provocative look at Connecticut's once-storied history and tradition of entrepreneurship and innovation. Rosen and Sacco assert that Connecticut can regain its position by leveraging its best features, its comparative advantages vis-à-vis other states. They emphasize, not necessarily to the exclusion of other policy prescriptions (such as grants supporting innovation places), that Connecticut should not ignore (i) its proximity to New York City and Boston, Massachusetts, (ii) its history of light manufacturing, and (iii) its lifestyle, along with its public school system and higher education institutions.

The Spring 2017 Report called for a re-examination of the State regulatory environment in which entrepreneurs operate; it is not simply about taxes. This report echoes that call. Government alone is not the answer; all constituent interests must contribute to foster entrepreneurship and innovation in the State of Connecticut. At its core, an increase in employment will foster economic development and growth. Opportunities must be created as companies and individuals are not necessarily leaving Connecticut for sunny and warm environs. Further complicating matters is tax reform, a major focus of the Trump Administration. It should be noted as this report went to print, the U.S. House of Representatives and the U.S. Senate passed tax reform, which President Trump signed. This legislation, among other things, limits the home mortgage deduction and eliminates the state and local tax deduction.These adjustments could cause Connecticut's recovery, which still lags the nation and the region, to stall.

New Haven Region Economic Performance Index

*Comments should be directed to Esin Cakan, Ph.D., at **eCakan@newhaven.edu** and Diane Soto at **dsoto3@unh.newhaven.edu**.*

The New Haven Region Economic Performance Index (NHREP Index), as constructed in November 2017, measures the performance of the economy for the southern part of the State of Connecticut, specifically New Haven County and the surrounding region. The figure below reflects data as of January 2010 to September 2017. The NHREP Index decreased .02% from the previous month and increased 2.8% from the previous year. The Index was 95.2 as of September 2017.

The NHREP Index is comprised of five components as mentioned in Table 1: Education and health services for all employees – New Haven, CT; Building Permits CT; Average Weekly Hours – New Haven; Average Weekly Earnings – New Haven; Unemployment Rate – New Haven (reversed).[1] Since the Spring 2017 report, the FED Leading Index and Connecticut initial claims for Unemployment Benefits have been replaced with Education and Health Services for all employees – New Haven, CT and Unemployment Rate – New Haven. Building permits decreased 20.4% from the previous year. The reversed unemployment rate increased by 25% from the previous year. This indicates that the rate of employment has dropped since last year. With the current NHREP Index at 95.2, the forecast for the Index will decrease slightly for the months of October and November. The Index is forecasted to bounce back for the months of December and January 2018. Table 1 below reflects data as of January 2017 to September 2017. The NHREP Index decreased .02% from the previous month and increased 2.8% from the previous year. The Index was 95.2 as of September 2017.

Figure 1

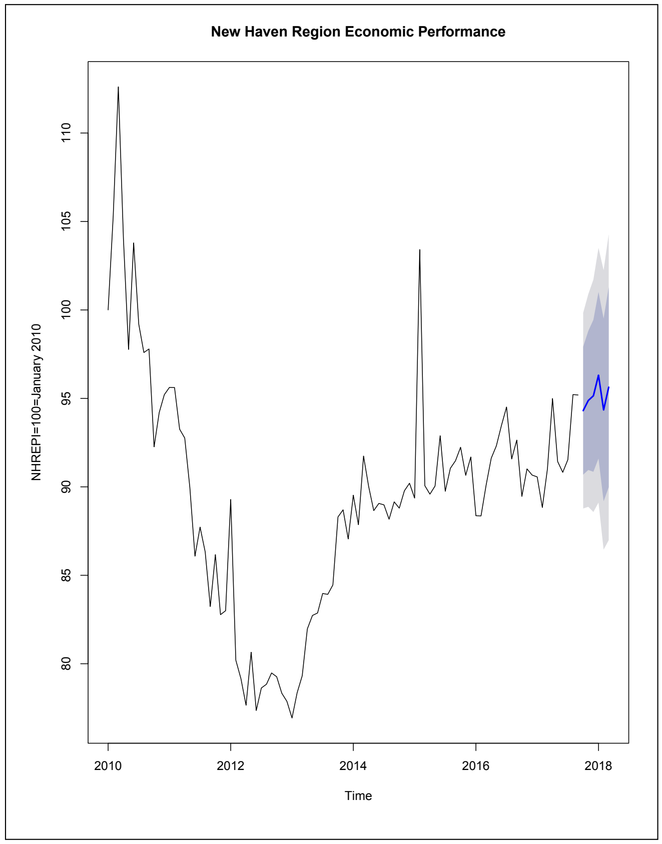


Table 1. NHREP Index components

	Percent Change from Previous Month	Percent Change from Previous Year
NHREP Index	-0.02%	2.8%
Eds and Meds – New Haven	0.2%	-1.7%
Building Permits – CT	-15.3%	-20.4%
Average Weekly Hours – New Haven	0%	0.9%
Average Weekly Earnings – New Haven	2.9%	3.9%
Unemployment Rate – New Haven (reversed)	4.2%	25%

While the Index reflects a decline from the previous month, it shows improvement from the previous year. The components reflect, as in previous reports, mixed results. Of particular note, building permits take a significant hit, with the New Haven region experiencing a modicum increase in average weekly earnings, which suggests a small, but weak, improvement in economic performance. To that end, the forecast as shown in Table 2 reflects continued weakness as reflected in the Spring 2017 Report.

[1] The Unemployment Rate for the New Haven region has been reversed so that it tracks positive.

Table 2. NHREP Forecast Values

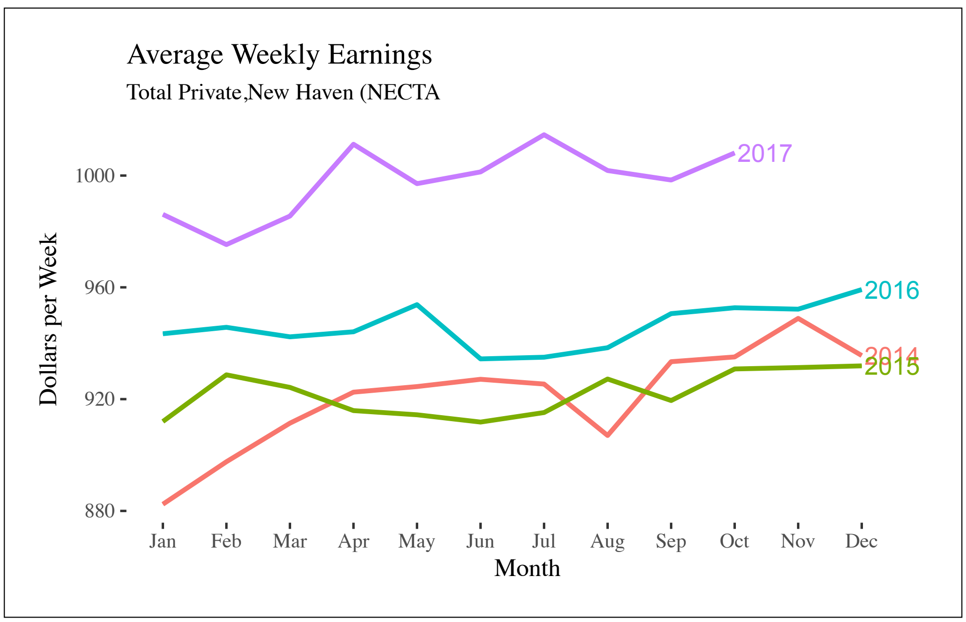
NEW HAVEN ECONOMIC PERFORMANCE INDEX FORECAST					
	Forecast	Lo.80	Hi.80	Lo.95	Hi.95
10/1/2017	94.31	90.69	97.92	88.78	99.84
11/1/2017	94.88	90.95	98.81	88.87	100.89
12/1/2017	95.15	90.85	99.44	88.58	101.71
1/1/2018	96.31	91.60	101.02	89.11	103.51
2/1/2018	94.35	89.18	99.51	86.45	102.24
3/1/2018	95.63	89.98	101.29	86.98	104.28

Note: Average Weekly Wages for Employees

Comments should be directed to Christopher Giangrave at ***cgian1@unh.newhaven.edu****.*

As shown in Figure 2, Average Weekly Wages for Employees generally increased since the beginning of 2017 despite some variability, continuing the slight increase in the trend of 2016, after a mid-year 2016 decline in wages. While average weekly earnings have increased, average weekly hours per week for 2017 have been flat; hours per week returned to their January 2017 levels after declines in February and March, but since September 2017, hours per week bypassed the same period for 2016. The number of hours per week still lags 2015 as well as 2014.

Figure 2



About the Average Weekly Wages for Employees in Private Establishments in New Haven-Milford, CT (MSA): Data are from the Federal Reserve Bank of St. Louis FRED data (**https://research.stlouisfed.org/fred2/**) for the New Haven-Milford region of Connecticut for those working in Private Establishments for 2014, 2015, 2016, and 2017 (YTD).

In sum, the NHREP Index suggests nominal expansion in the region's economy, at least in the near term. The longer-term regional forecast, however, continues to suggest weaknesses.

About the Performance Index: *All data are seasonally adjusted and modified for differences in price levels where appropriate. Data are from the Federal Reserve Bank of St. Louis FRED data (**https://research.stlouisfed.org/fred2/**). This forecast is based on an ARIMA model and coded in R; the script and data are available upon request.*

Connecticut and BREXIT: A Social Media Analysis

Comments should be directed to Joshua Lutts at ***jlutt1@unh.newhaven.edu****.*

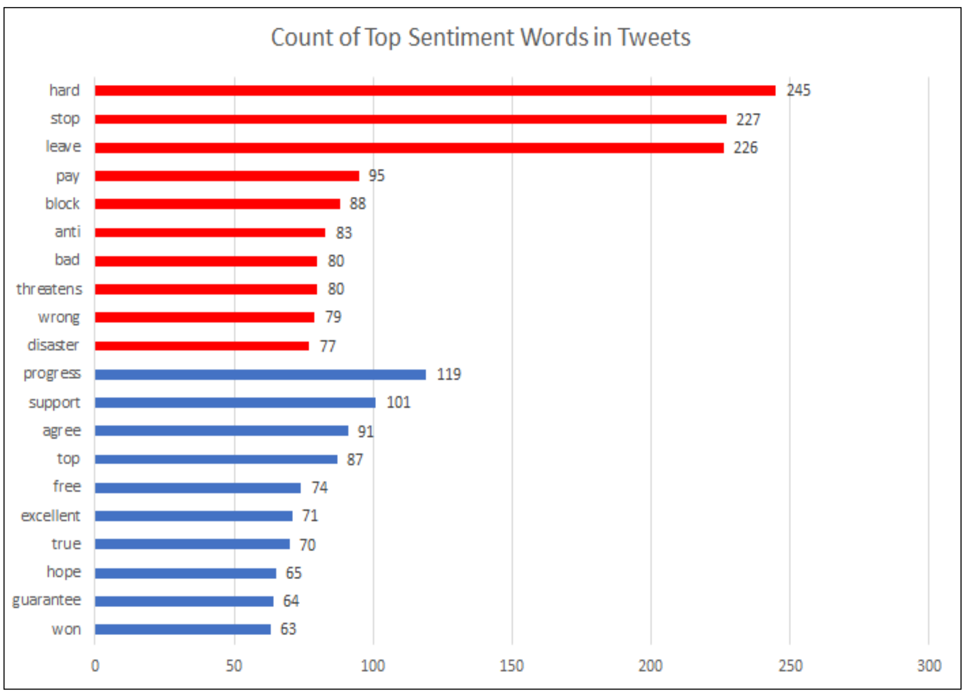
The New Haven Region Economic Performance Index indicates a general improvement in conditions from the same period for the previous year. A potential impact on that Index and Connecticut economic performance in general is BREXIT. A first step in such analysis is a determination of "sentiment" in the state vis-à-vis BREXIT.[2] A potential avenue for this type of analysis is "Twitter," which remains a popular social media expression of sentiment.

To that end, we extracted data about "Tweets" (user posts) surrounding BREXIT and determined public perspectives through sentiment analysis. Sentiment analysis is the act of analyzing text to determine whether the text contains a certain tone, or "sentiment," revealing the opinion of the author. Different lexicons can be used for different methods and analysis, but each has a series of sentiments attached to a collection of words.

Over 45,000 tweets were collected, all containing either "Brexit" or "#Brexit" in the text. Then, the tweets were modified to remove inconsequential words such as "the" and "a," special characters, and URLs. Of the remaining words, each was individually compared to the AFINN-111 sentiment lexicon, a list of 2,477 words and phrases that rates words on an integer scale from -5 to 5, with -5 being words with severe negative sentiments and 5 being words with extreme positive sentiments.

The results show 5,892 words with a negative sentiment as opposed to 3,747 positive words. In the chart below, we see the most popular negative sentiment words (indicated by the red bars) and the most popular positive sentiment words (indicated by the blue bars).

Chart 1



As illustrated above, for negative sentiment words, we see phrases such as "anti" and "disaster," which would infer opposition to BREXIT. Positive sentiment words are just the opposite, with "support" and "agree" among the most used terms. From this sample of data, it can be inferred that those who are vocal online in the State of Connecticut are mostly against BREXIT.

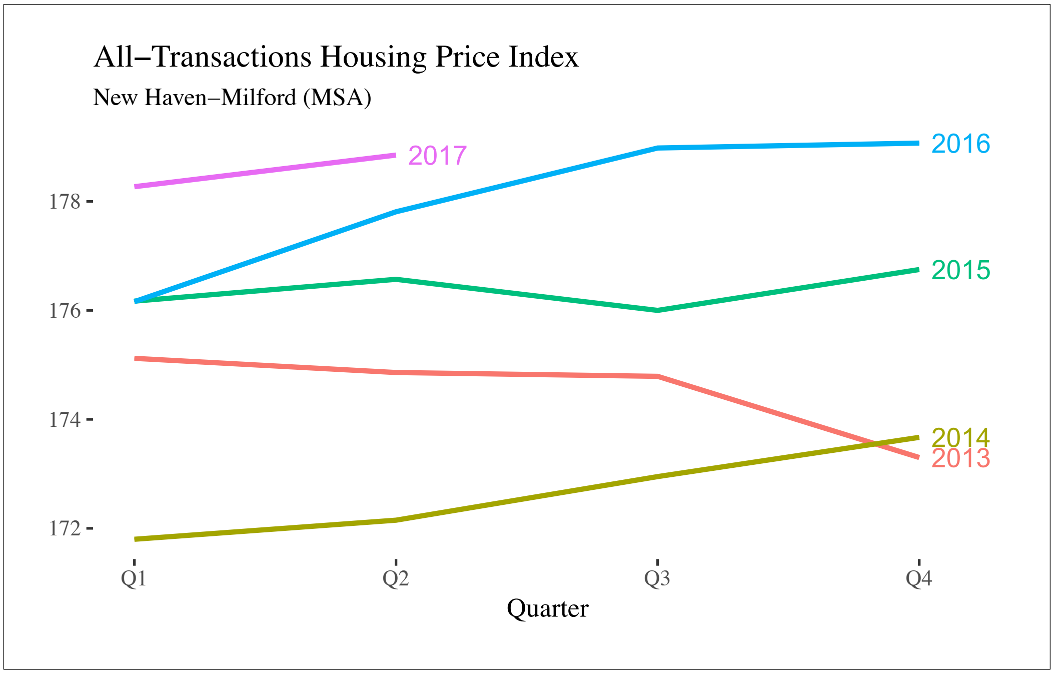
[2] The results reported here are part of a larger research agenda. Further research will entail a comparison of Connecticut sentiment vis-à-vis the nation, as a whole.

Housing

Comments should be directed to Mia Sumra at ***msumr1@unh.newhaven.edu***.

As previously noted in the Spring 2017 Report, housing prices remained flat as 2016 ended. At the time of that report, such data was unavailable for the first part of 2017. The current data notes that housing prices in the New Haven-Milford (MSA) region increased in 2017 and exceed those of 2016 as well as 2013, 2014, and 2015, as depicted in Figure 3. Notwithstanding this trend, New Haven County housing price increases appear to lag that of the state and New England. The medium to long-term view on housing prices is uncertain, especially given regional financial issues and state budget issues, all of which may be complicated by revision of the U.S. Tax Code. It has been suggested that housing prices in the region could take a hit of at least 10% with the elimination of taxpayer deductibility of mortgage interest and state and local government taxes.

Figure 3



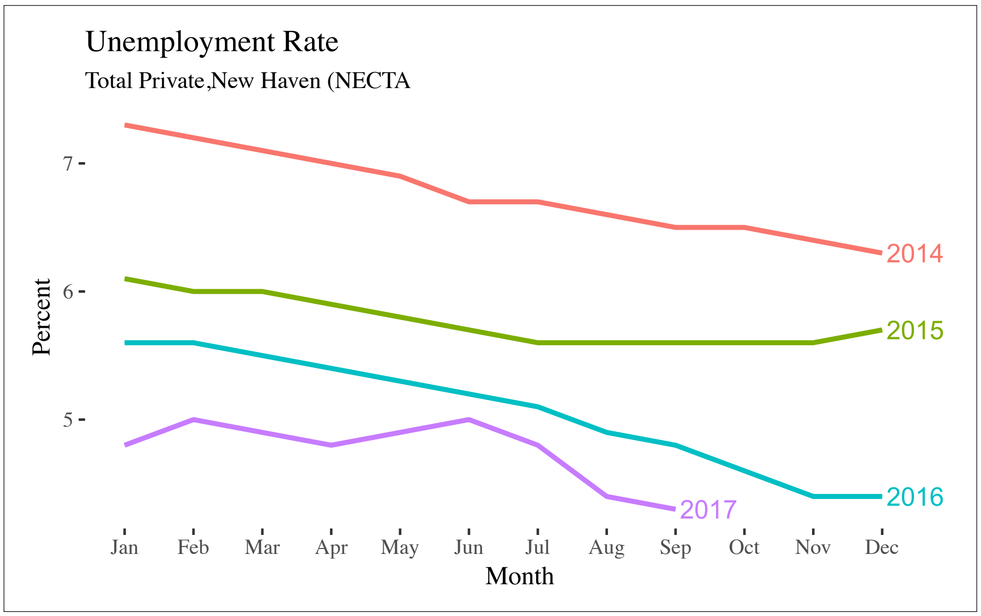
The medium to long-term view on housing prices is uncertain, especially given regional financial issues, including the exit of major businesses from the state and state budget issues, all of which may be complicated by revision of the U.S. Tax Code. It has been suggested that housing prices in the region could take a hit of at least 10% with the elimination of taxpayer deductibility of mortgage interest and state and local government taxes.

About the All-Transactions Housing Price Index New Haven – Milford, CT (MSA): *Data are from the Federal Reserve Bank of St. Louis FRED data (**https://research.stlouisfed.org/fred2/**) for the New Haven-Milford region of Connecticut for 2014, 2015, 2016, and 2017 (to the extent available).*

Comments should be directed to Benjamin M. Guimont at ***bguim1@unh.newhaven.edu*** *and Michael R. Iafrate at* ***miafr1@unh.newhaven.edu***.

The unemployment rate in New Haven County has seen an overall decrease throughout the past four years. When compared to the previous three years, the decline in unemployment during 2017 has been less consistent. This included a gradual increase between April and June and a steep decline between June and August. When compared to the rest of Connecticut, the unemployment rate in New Haven County has lagged the state's average until 2016; however, in 2017, the unemployment rate of New Haven County had caught up and fluctuated around the state's average. In August of 2017, the unemployment rate in New Haven County dropped below the state's average.

Figure 4



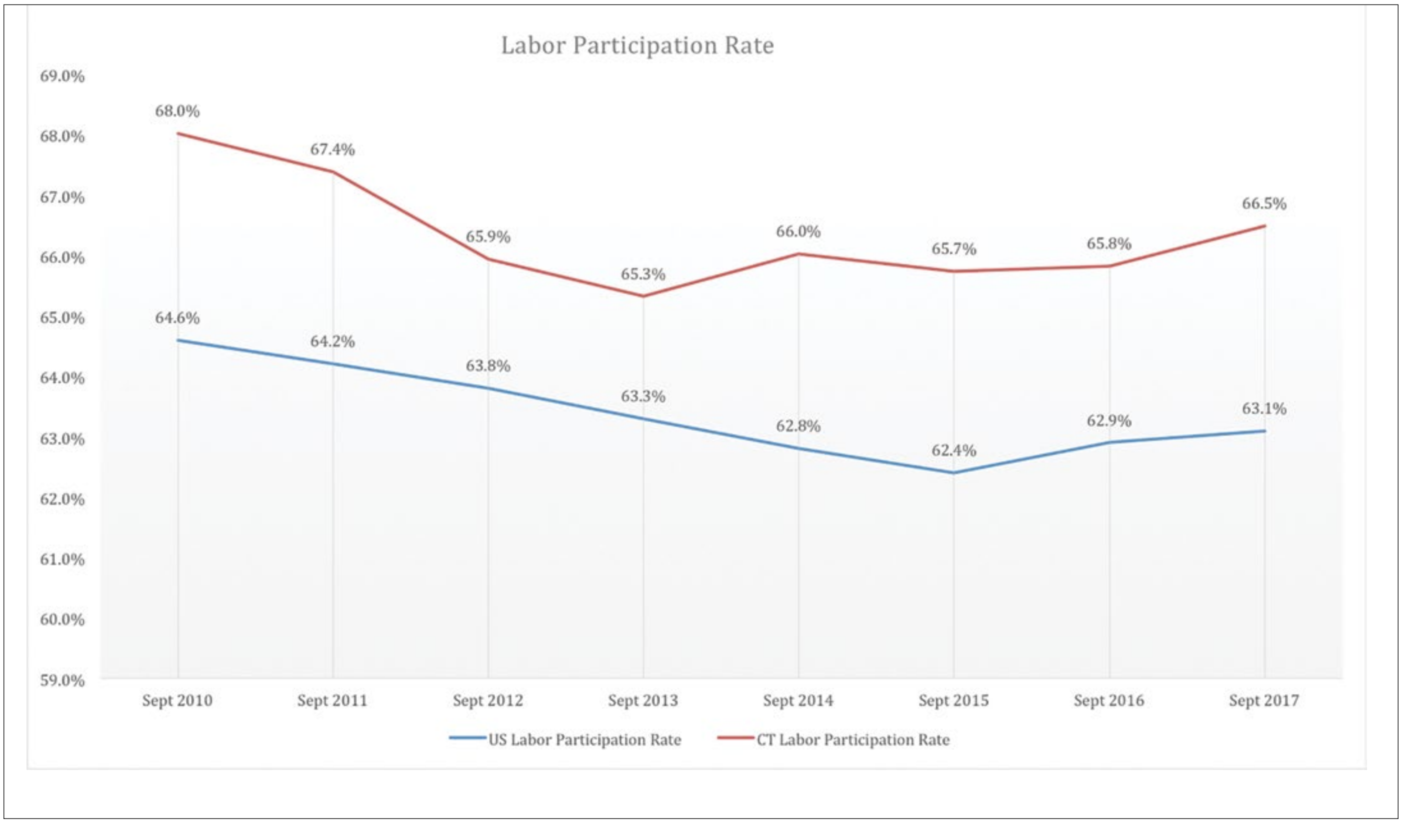
One cannot ignore that, despite improvement, the unemployment rate in New Haven County has been greater than the New England region. As shown in Table 3 a potential positive signal is that New Haven County is trailing the New England average by its lowest margin in recent years.

Table 3

	NEW HAVEN COUNTY				NEW ENGLAND REGION				VARIANCE			
	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017
JAN	7.3	6.1	5.6	4.8	6.4	5.3	4.5	3.6	0.9	0.8	1.1	1.2
FEB	7.2	6.0	5.6	5.0	6.3	5.2	4.5	3.7	0.9	0.8	1.1	1.3
MAR	7.1	6.0	5.5	4.9	6.2	5.2	4.4	3.8	0.9	0.8	1.1	1.1
APR	7.0	5.9	5.4	4.8	6.1	5.1	4.3	3.9	0.9	0.8	1.1	0.9
MAY	6.9	5.8	5.3	4.8	6.0	5.0	4.3	4.1	0.9	0.8	1.0	0.7
JUN	6.7	5.7	5.2	5.0	5.9	4.9	4.2	4.1	0.8	0.8	1.0	0.9
JUL	6.7	5.6	5.1	4.8	5.8	4.8	4.0	4.1	0.9	0.8	1.1	0.7
AUG	6.6	5.6	4.9	4.4	5.8	4.8	3.9	4.0	0.8	0.8	1.0	0.4
SEP	6.5	5.6	4.8		5.7	4.7	3.8		0.8	0.9	1.0	
OCT	6.5	5.6	4.6		5.6	4.7	3.7		0.9	0.9	0.9	
NOV	6.4	5.6	4.4		5.6	4.6	3.6		0.9	1.0	0.8	
DEC	6.3	5.7	4.4		4.6	4.6	3.6		0.9	1.1	0.8	

The labor participation rate for Connecticut is significantly higher than the U.S. average over the past eight years. It should be noted that, after years of decline, the national labor participation rate improved in 2014 while Connecticut's rate improved in 2013. More specifically, for ages 16–24, the labor participation rate increased from 54.5% to 55.2%, for ages 25–54, it increased from 80.6% to 81.2%, and for ages 55 and older, it increased from 39.7% to 40.1%. Labor participation rates also increased for female and males.

Figure 5



Gross Domestic Product By Industry and Consumer Price Index

*Comments should be directed to Alexandra Proteau at **aprot1@unh.newhaven.edu** and Colin McFarlane at **cmcfa3@unh.newhaven.edu**.*

The U.S. Bureau of Economic Analysis reported that Real Gross Domestic Product increased at an annual rate of 0.7% in the third quarter of 2017. Since the end of the Great Recession, Real Gross Domestic Product for Connecticut and New Haven-Milford MSA improved, but not to the extent of the nation. In 2016, however, Connecticut's Real Gross Domestic Product remained flat compared to the nation, which increased 2.86%. It should be noted for the period 2015–2016 that the Greater New Haven region outperformed the State of Connecticut; Connecticut at a growth rate of 1%, with Greater New Haven at a growth rate of 1.8%.

Figure 6

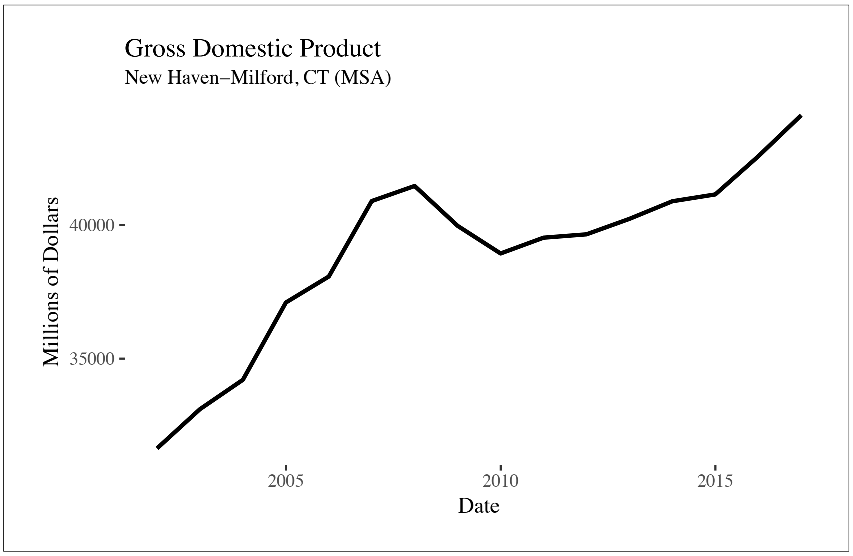
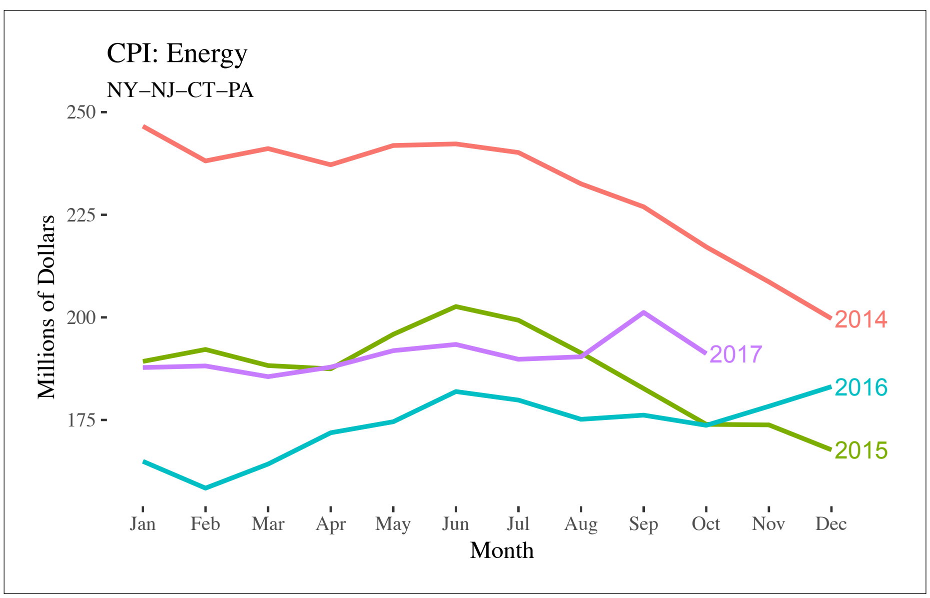


Figure 7



The Consumer Price Index for Energy for New York, New Jersey, Connecticut, and Pennsylvania continued the general increase trend in energy prices since the beginning of 2016. Such prices have yet to reach the lowest price of 2014.

About the Consumer Price Index: *Energy: Data are from the Federal Reserve Bank of St. Louis FRED data (**https://research.stlouisfed.org/fred2/**) for the State of Connecticut for 2014, 2015, 2016, 2017 (through March).*

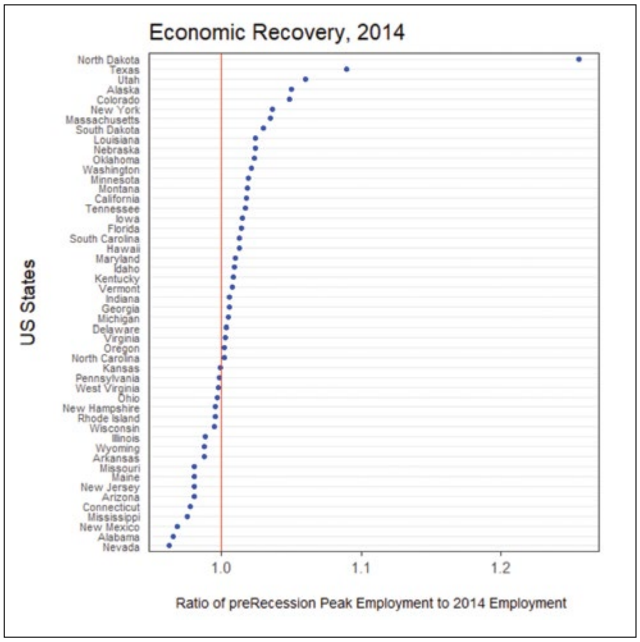
About the Gross Domestic Product Growth by Industry: *Data are from the Federal Reserve Bank of St. Louis FRED data (**https://research.stlouisfed.org/fred2/**) for the State of Connecticut for 2014, 2015, 2016 and 2017 (year-to-date).*

Employment Recovery and the Quality of a State's Formal and Informal Institutions[3]

Comments should be directed to A.E. Rodriguez, Ph.D., at ***arodriguez@newhaven.edu*** *and B.A. Marks, J.D., Ph.D., at* ***bmarks@newhaven.edu***.

The recovery has been kind to some states. It has been less generous with others. The disparity in economic performance was apparent early on. By 2014, many states reached and substantially exceeded their pre-recession employment levels. The observed variation in performance, however, was considerable. The employment performance difference between the maximum (North Dakota) and the minimum (Nevada) amounted to approximately seven standard deviations in 2014. Chart 2, depicts the realized differences in employment performance by state, as of 2014. The performance measure is the ratio of employment in 2014 to employment levels in 2008. The vertical red line — identifying the proportion of 2014 employment equal to pre-recession employment distinguishes the states that have recovered from the laggards. Those to the left of the red line struggle to catch up.

Chart 2



In 2014, Connecticut was a laggard and it continues to be so. Peter Goia, Vice President & Economist, Connecticut Business and Industry Association, noted in the CT News Junkie, a local media outlet: "Connecticut has recovered just 73 percent of all jobs lost during the recession. While the private sector is performing better, regaining 92 percent, it has shrunk since crossing the 100 percent milestone in June [2014]." It means that Connecticut has now added just 86,400 jobs on a cumulative basis since early 2010, an average monthly gain of about 940 jobs per month.

What prolongs the recovery? Several factors are responsible for the apparent differences in performance. William Baumol, for instance, persuasively argued that there exists a link between a region's or state's institutions and the success of its economic agents. More specifically, the payoffs to economic activity are set by the institutional environment — rules that "change dramatically from one time and place to another." Thus, the duration of the recovery period — the time it takes a state to regain its pre-recession levels of employment – is influenced by the operational effectiveness of its economic institutions.

Stronger, higher quality government institutions are capable of ensuring higher levels of productive entrepreneurship, innovation, economic growth, productivity of resource use, and correspondingly less rent-seeking and influence-peddling. In fact, considerable empirical research within and across countries supports the proposed claim of an association between the quality of institutions and economic performance. Thus, it would appear that states with higher-quality government institutions are more likely to fare better in its job-recovery efforts.

The incentives and constraints set by culture, religion, and social norms understood to be informal institutions also impact economic activity. Social capital, "those features of social organizations, such as trust, norms, and networks that can improve the efficiency of society by facilitating coordinated actions," retains a place of pride in the literature on informal institutions. For a number of reasons, informal institutions such as social capital are considered a beneficial attribute, one that enhances economic performance. First, trust among actors reduces information and transaction costs (Fukuyama 1995). Second, trust and involvement in the social community enable the achievement of collective action through cooperation, solidarity, and public-spiritedness. Third, the social infrastructure and network relations associated with formation and nurture of high levels of social capital make it easier to mobilize local resources. This is particularly true for knowledge that circulates more easily when actors are embedded in flexible social networks.

A notable refinement in studies linking quality of government and economic performance emerged with increasing evidence and understanding of the regional influence of agglomeration and dispersion forces on economic performance. Recognizing this spatial dependence has enhanced analytical insights drawn from empirical studies. Several authors find evidence linking states' economic performance (various variables) and institutional quality. Economic behavior is equally susceptible to quality of life variables such as amenities, health, safety considerations impacting employment levels, and employment growth. These quality of life variables influence the intensity, variation, and net effect of the various agglomeration and dispersion forces driving employment availability and employment growth that distinguish particular states and regions.

A clear understanding of the forces underscoring employment agglomeration invites speculation as to level of spatial dependence in employment performance levels across states. Allowing for the possibility of these employment spillovers is important and interesting for at least two reasons. First, uncontrolled-for spatial dependence can result in inconsistent or otherwise biased estimates of the relationship between employment performance and institutional quality. Second, there are compelling reasons to believe that changes in a state's formal and informal institutions can affect employment levels in neighboring states. For example, a reduction in a state's commercial effective tax rates may increase commercial activity in at least two ways. It may draw customers away from neighboring states. The resulting growth may increase employment. And it may invite startups actively seeking to capitalize in a more attractive business environment — again, resulting in enhanced employment growth. A similar narrative can be associated with lower income tax rates. A reduction in income taxes by one state can lead to increases in disposable income that are partially spent at businesses in neighboring states, where employment growth is likely to follow the increased business activity. Obviously, unfavorable spillovers also have employment consequences. Business unfriendly developments or fiscal mismanagement by a state government may push businesses to relocate — reducing employment. The much-publicized departure from Connecticut of General Electric and Alexion to Massachusetts and Aetna to New York are recent examples of these dynamics.

The New Haven Economic Performance Laboratory conducted a study seeking to explain the observed disparity in post-recovery employment performance by examining the relevance of the quality of formal and informal institutions. And because employment performance is unevenly distributed across space the analysis incorporated regional interactions. The explained variable gauging recovery performance is the ratio of realized employment level in 2014 relative to employment levels in 2008. Explanatory variables are the following: homicide rate as a proxy for a state's quality of life, the Economic Freedom of North American Index to control for the quality of government, a measure of life satisfaction, and a measure of startup density.[4] The variables constitute simple renditions of formal and informal institutions.[5]

Results indicate that the quality of a state's institutions, the homicide rate, and its startup density are significant in explaining the observed variation in employment performance. No significance is attached to life satisfaction. And there is no statistical evidence of regional spillovers.[6] These findings suggest that the capacity of each state to foster employment and employment growth cannot be divorced from the quality and capability of its own institutions.

[3] The full version of this study found on **www.universityofnewhaveneconlab.org/nhepl-economic-studies**. To conserve space, we have omitted formal references; these are available in the longer version of this study.

[4] The Economic Freedom of North America Index is published by the Fraser Institute, homicide rates (number of homicides per 100,000 people) are from the U.S. Federal Bureau of Investigation, life assessment data is drawn from a Gallup World poll published by the OECD, and startup density data are from the Kauffman Foundation.

[5] The model is a Generalized Spatial Two-Stage Least Squares model (GS2SLS). The model accounts for both the problem of endogeneity and the problem of spatial correlation among the stochastic disturbances. The model uses a first-order queen contiguity spatial weights matrix to define the neighborhood structure. Queen contiguity considers neighbors of a particular state or polygon to be any other state that shares a common boundary or single point of contact in any direction. For this reason, only the 48 contiguous states within the continental U.S. were utilized.

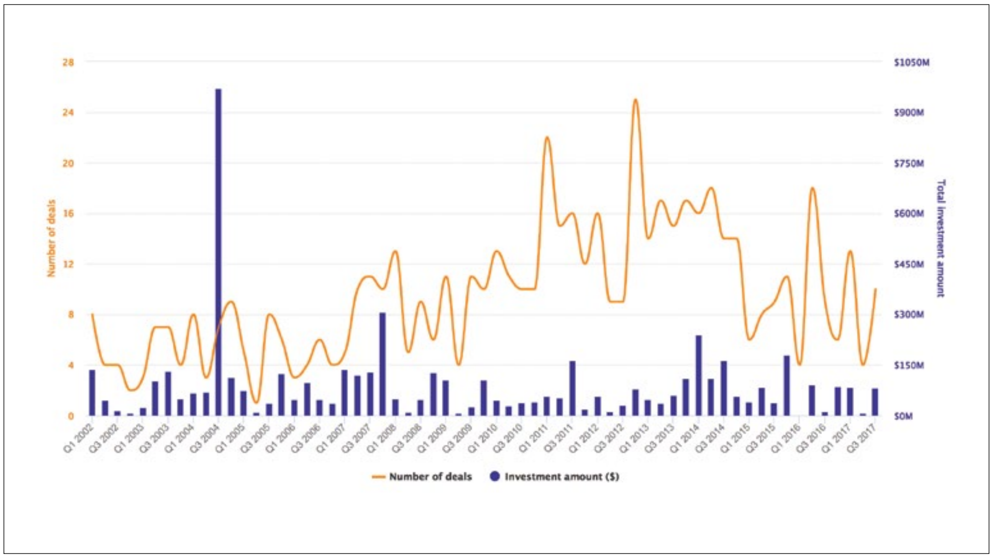
[6] The quality of government variable is significant at the 5 percent level; startup density and the homicide rate are significant at the 10 percent level.

Venture Capital Economics: Connecticut State of Affairs *(Update)*

Comments should be directed to Ethan McGee at ***emcgee@newhaven.edu****.*

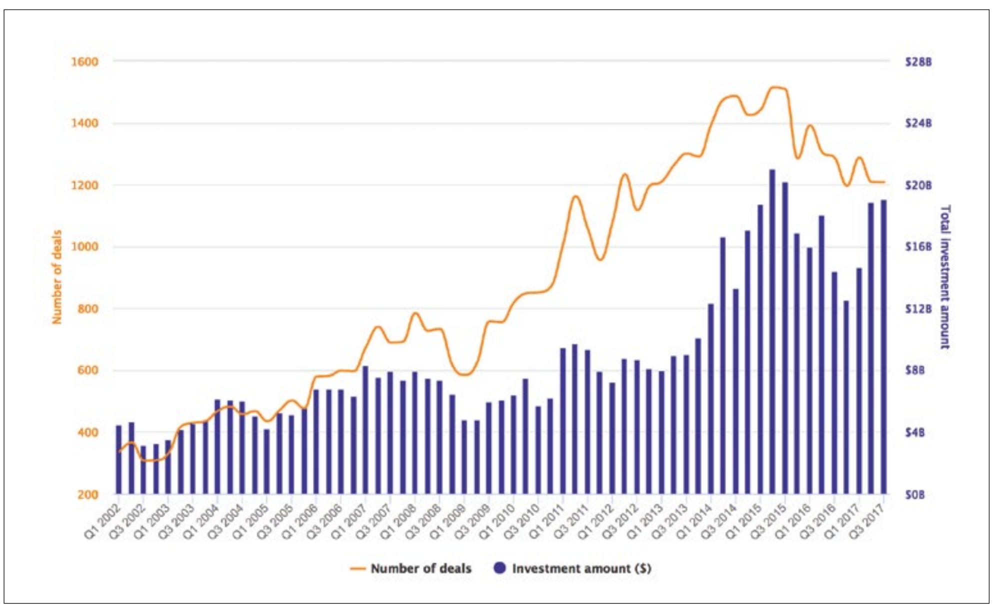
The Spring 2017 Report stated that Connecticut needs to reverse the venture capital investment trend; such investment is lacking in robustness in dollar amounts and number of deals in comparison to its historical experience and vis-à-vis the nation and New England. In fact, Connecticut has yet to fully recover from its pre-Great Recession state of amount invested (while deal numbers have been highly variable).

Figure 8



The above Connecticut trends appear to mirror the national trends. Though investment amount and number of deals have significantly increased since their most recent low point in deals (the first quarter of 2013) national data shows a slow decline in number of deals beginning in the third quarter of 2015, up to its current level at around 1,200 deals throughout the first two quarters of 2017. National investment amounts, though significantly higher relative to their most recent low in 2009, have also begun to plateau from 2014 to present.

Figure 9



About the Venture Capital Data: *Data are from PWC/CBInsights MoneyTree data explorer (****www.pwc.com/moneytree****); dollar amounts adjusted by the U.S. Consumer Price Index — ALL Urban Consumers.*

Policy Prescription: Attracting Entrepreneurial Talent by Leveraging Connecticut's Comparative Advantage

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Connecticut is a basket case. A recent article in *The Atlantic* entitled, "What on Earth is Wrong with Connecticut?" reviewed the history of the state's economy from a center of light manufacturing, through the decline of manufacturing, followed by the rise of Connecticut's great wealth-producing industry: serving as a tax haven and lifestyle location for the wealthy of Manhattan. Connecticut was a leafy haven where America's titans of finance could move. Now, however, Connecticut is experiencing a business exodus of monumental portions, e.g., General Electric Corporation, AETNA, and Alexion, which has been attributed to its lackluster economic performance, high personal income and corporate taxes, absence of human capital, and government finances ranking between Illinois and Venezuela. According to *The Atlantic*, "[Connecticut] will have to build cities where middle-class Americans actually want to stay."

We posit three reasons for middle-class people staying or moving to a particular location:

1. **Weather:** Global warming has simply failed to make Mystic, Connecticut, a realistic competitor to Ft. Lauderdale, Florida;
2. **Jobs:** Big established companies, longtime employers, are leaving Connecticut at an alarming rate; and
3. **Opportunity:** The absence of a universal high-tech startup mentality and community throughout Connecticut along with a weakness in venture capital investment (as reflected in the Spring 2017 Report). There has been much talk in Connecticut, but competition is fierce throughout the country. Every mayor or department of economic development aims to create "the next Silicon Valley." But, possibly, no place can be the next Silicon Valley. Google "next Silicon Valley" and one finds 73,300,000 entries.

Perhaps the objective should be creating an energetic, job-building entrepreneurial environment, regardless of whether the resulting startup companies have anything whatsoever to do with smartphone apps. Connecticut should pursue entrepreneurial energy by concentrating on whatever Connecticut has that is unique, economically differentiating, and leverageable; it should exploit and nurture its comparative advantage. Connecticut's comparative advantages are:

1. **Proximity to New York and Boston.**
2. **History of light manufacturing.**
3. **Lower taxes.** Of course, this is no longer a comparative or competitive advantage.
4. **Lifestyle.** Connecticut has forever had a reputation as the location of country clubs, boats, fancy dinner parties adorned by cut flowers, travel, country homes, a great university...and a great university town which spawned both a great franchising corporation (Subway) and a (still) world-renowned pizza culture.

We examined two databases of Connecticut-based companies, formed since 1980 and registering $1 million or more in annual gross revenue. The key findings are organized into two categories: Larger, Older Firms; and Smaller, Newer Firms.

LARGER, OLDER FIRMS

1. Some of the companies were not truly startups, but the result of longstanding members of the Connecticut business community who had undergone restructurings, such as People's United Financial, which remains a big, stable, Connecticut-headquartered bank. This is non-trivial and may merit being declared a comparative advantage all its own. Not every state is the home to headquarters of a seriously large commercial bank.
2. Some of the companies that became very large fit our contention that some version of a Connecticut lifestyle is a factor. Largest among these is Priceline, along with its recently acquired subsidiary, Kayak. Both started, and stayed, in Connecticut. Both are the creations of exuberant entrepreneurs, leveraging brilliantly-conceived software and algorithms, exploiting the pervasiveness of the internet, to provide AI-driven services to travelers and massively disrupting long-established, labor-intensive industries. Perhaps they are in Connecticut because they are not really about software, technology, mobile apps, etc. Perhaps Priceline and Kayak are about TRAVEL.

   Another "lifestyle" example, Edible Arrangements, with revenue approaching half a billion dollars, now employs thousands, remains headquartered in Wallingford, and claims over 1200 franchises.

3. Like Edible Arrangements, Connecticut's other huge, global, world-beating, privately-owned corporation is a franchisor: Doctor's Associates, better known as Subway.

If Delaware can become the world headquarters of world headquarters, might Connecticut become the world headquarters of franchising? With People's providing the private-side financing while Subway and Edible Arrangements provide intellectual capital, would it be possible to create multiple nationwide franchise networks?

SMALLER, NEWER FIRMS

Drilling down on the subset of $1 million-plus Connecticut companies founded since 2002 (170 enterprises), we found that:

1. 21 (12%) are engaged in some sort of manufacturing. There seems to be little to tie these manufacturers together, other than the fact that they are in "manufacturing." They are geographically dispersed and engaged in multiple categories.
2. 10 of the firms are classified as "Asset Management," with another seven noted as "Investment Firms," and five as "Banks & Credit Unions."
3. 12 are engaged in some sort of "wholesaling."
4. Only four are classified as "Data Processing," with another two as "Computer Services."

These "smaller, newer firm" findings suggest some interesting areas for further study. For instance, there was little evidence that these firms were leveraging our hypothesized comparative advantage of "Connecticut Lifestyle." Either that lifestyle factor is not a leverageable advantage or it has not been leveraged by this set of startup firms.

The sizeable number of manufacturing startups in the list suggests that the desire on the part of Nutmeggers to build manufacturing companies remains. There must be some expertise driving these startups and growing that intellectual capital. "History of Light Manufacturing" may represent a genuine advantage. If this is "where the action is" for Connecticut, it implies an entire range of policies regarding taxes, regulations, labor force training, minimum wage requirements, infrastructure spending, etc.: To focus not on becoming the next Silicon Valley, but on becoming the next Cleveland — or Guangzhou.

The substantial listing of "Asset Managers" and related classifications indicates that many firms have been started to address the first listed comparative advantage — proximity to New York. Fairfield County remains the location of choice for many wealthy refugees from New York... and those people need their assets managed.

Rigorous analysis of these and similar data are needed before any real policy prescriptions are pursued. This rigorous analysis should, at minimum, fall into two categories:

1. Dispassionate economic assessment of the suggested comparative advantages. Is "History of Light Manufacturing" a genuine comparative advantage for the State of Connecticut... or is it simply a romantic description of a time gone by, when unions were strong, real men bent metal and built things for a living, etc.?
2. Qualitative and quantitative input from the founders and managers of the 170 recently founded Connecticut companies: Why did they start their company in [city name]? Why have they kept it there? Have they ever entertained or received offers to relocate? What, besides lower taxes, do they need from the Connecticut government? On a company-specific basis, are they really in the [manufacturing, distribution, data processing, etc.] business? How does being in Connecticut help or hurt them in pursuing that business?

In conclusion, we see no evidence, in this admittedly preliminary assessment, that, for Connecticut, the objective of becoming "the next Silicon Valley" is either affordable, advisable, or achievable. We do see some evidence that leveraging certain historical comparative advantages — proximity to New York, light manufacturing, lifestyle, franchising — may provide significantly greater return on any "job creation" efforts initiated by a (very) cash-strapped Connecticut government.

A Collection from the Collective

The University of New Haven Economics Collective is an online space for faculty, students, and business industry leaders to connect and network by sharing content, whether it be report analysis, political commentary, or anything else on their minds. Members can comment on each other's posts, creating a meaningful and enriching dialogue that extends beyond the traditional classroom educational experience. On the Collective, all members are economists, whether the poster is a first-year student or Nobel Prize winner. The lines of stature are blurred through the medium of the internet, lending to a more thoughtful and genuine discussion. These moments of connectivity construct social capital, which helps build up the Economics Department as more than an office of the University of New Haven, but rather a community that cares for one another beyond the academic setting. The Collective has already been used as a method of surveying, and will be in the future to further employ the method of using the wisdom of crowds. The following selections are just a glimpse of content shared on the Collective. Economics minor Benjamin Atwater serves as the Executive Director of the Collective; please refer all questions to **batwa1@unh.newhaven.edu**.

Euro: Good or Bad? "The Euro was made to give higher growth to the economy due to greater efficiently, better equality between rich and poor countries in EU, with more free capital market. Unfortunately, many economists have seen the opposite of the Euro effect and we can see that the Euro is not increasing the way it should. The currency has failed to achieve its main two principal goals of prosperity and political integration. Instead of peace between the countries, a lot of countries have anger and want to leave the Euro and EU, e.g., Brexit, Grexit and Frexit. The French election is probably the biggest thread to the Euro, EU, and its investors right now." — VK

http://unheconomicscollective.ning.com/blog/europe-and-euro

CT (GSP) A general focus on Connecticut compared to other States: "[W]hile Connecticut is not at its lowest possible point, it may feel awkward to some as Connecticut is a state that formerly hosted corporate titan General Electric. So why is Connecticut not higher? Economically speaking, it appears to be due to an abundance of spending, high corporate taxes, and generally higher income taxes. Upon reading this, you may question "If higher taxes are a deciding factor in why Connecticut is not growing exponentially, how could it be that California is a leading contender?". While, sure, California has higher taxation rates, it is unquestionable that the state has always harbored innovation and technology." — NP

http://unheconomicscollective.ning.com/blog/ct-gsp-a-general-focus-of-connecticut-compared-to-other-states

Oscars 2017-Machine vs. Expert Contest: "And here are the predictions of the Machine. I ran two models and both gave up the same result. I present the results graphically...the first model, a logistic regression, predicts Moonlight in a three-way horse race with La La Land and Hacksaw Ridge. Admittedly, the differences among and between the three are not statistically significant. But I will stick with Moonlight...the second result came from a Naïve Bayes classifier; and it predicts Moonlight as well, nipped at the heels by La La Land... so there you have it. The Machine predicts Moonlight; the Expert unanimously picks La La Land." — AR

http://unheconomicscollective.ning.com/blog/best-picture-prediction-experts-vs-the-machine

After Brexit, Nexit?: "The Netherlands hold its parliamentary elections on March 16. Currently, the populist Freedom Party (PVV) headed by Geert Wilders leads in the polls. As a quick reminder, the Netherlands is a constitutional monarchy governed by a parliamentary democracy. The parliament holds 150 seats. It is run by a coalition between the conservative-liberal People's Party for Freedom and Democracy (VVD) headed by Mark Rutte (Prime Minister since 2010) and the Labour Party (PvdA). Both parties are expected to lose seats in the next election." — CC

http://unheconomicscollective.ning.com/blog/after-brexit-nexit

Logan: Sci-fi Meets Western Meets Superhero: "One of the best parts of Logan is Mangold subtly putting in elements that suggest a very realistic sci-fi future that is not too farfetched. Set in 2029, the landscape is not too unlike the real world, yet [it has] components like automated trucking containers on wheels with no drivers, as well as commentary on the corporate farming industry. An entire subplot is a family farmer defending his corn farm from the muscle of a large corn syrup producer that neighbors and shares the water supply, leading to unethical cut offs that are very reminiscent of the Monsanto phenomena to monopolize the market. Even drones are heavily utilized for surveillance, as well as Google Glass like glasses. These subtle elements represent the best of sci-fi: saying something meaningful about modern society while adding in the fantastic sense, yet Logan is not too over the top, making it more believable, in an analogous way, to the subtle sci-fi elements of Children of Men." — BA

http://unheconomicscollective.ning.com/blog/logan-superhero-meets-western-meets-sci-fi

About the New Haven Economic Performance Laboratory

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The Research Staff are upperclass-men and -women in the Department of Economics. Although each student works under the auspices of the Supervising Faculty and Research Directors, each student is individually responsible for interpreting and analyzing the data. The Laboratory is a teaching space, and this Report reflects a product of that space. In addition, staff work closely with the University of New Haven Economic Collective (**http://unheconomicscollective.ning.com**), which brings together students, faculty, alumni, and members of the broader community, to foster a meaningful and relevant exchange of ideas. A fundamental focus of the Laboratory is to formulate, construct, and examine non-traditional socio-economic metrics applicable to the Greater New Haven Region of Connecticut by employing traditional empirical methods as well as data and text mining methods.

The New Haven Economic Performance Laboratory is affiliated with the University of New Haven Department of Economics and the Entrepreneurship and Innovation Program. Any opinions contained herein do not reflect the opinion of the University of New Haven, its College of Business, or the Entrepreneurship and Innovation Program. The funding of the Laboratory and the printing of the Report are funded by the College of Business, the College of Business Advisory Board, and other sponsors of the Laboratory. Should you be interested in supporting this student initiative in collaboration with faculty, please contact Ms. Mary F. Murphy, Director of Development, University of New Haven at **mfmurphy@newhaven.edu** or 203.932.7174.

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