



*Averting the Doldrums:
Will Connecticut Avoid Recession?*

The Connecticut Economic Outlook: December 2012

Peter E Gunther, Senior Research Fellow

William E. Waite, Manager Research Projects

Fred Carstensen, Director

Connecticut Center of Economic Analysis

University of Connecticut

Executive Summary

The Connecticut economy is in trouble. Deep trouble. Federal statistics released in August revealed that Connecticut went into recession much earlier than previously known and, critically, the contraction was dramatically worse. And then recovery in both output and jobs has been weak, and now appears to be weakening relative to the national pattern. Indeed, Connecticut is one of the very few states whose recovery measured in output (or household income) is still below its peak in 2007.

Job recovery has been equally as anemic, barely recovering a quarter of the jobs lost while the quality of jobs deteriorates. The unavoidable outcome has been tax revenues falling below projections, driving the current state budget into a significant deficit and confronting the Governor and Legislature with billion dollar deficits in each of the next two years' biennial budgets, to be adopted next Spring. With the state's economy still struggling to recover, the cuts in public sector expenditure will weaken the economy further, and may even put the state back into recession—measured in terms of contracting output for at least two quarters. The November 2010 *Outlook* assessed the potential impact of addressing the massive deficit the state then faced; without offsetting policies and initiatives, the analysis projected that meeting the deficit only through budget cuts would impact as many as 35,000 additional job losses, making the contraction the worst since World War II.

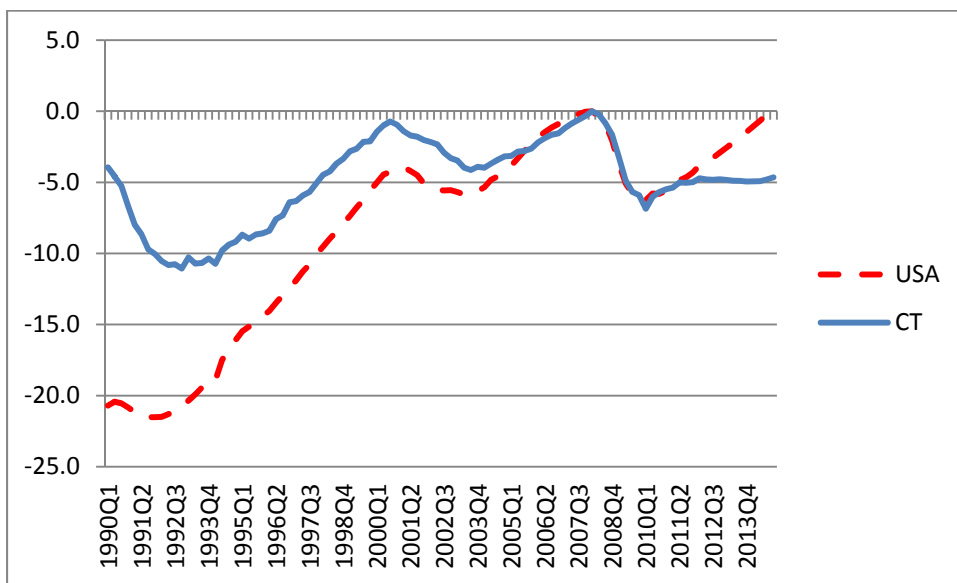
This *Outlook* again looks at the impact that significant cuts in the state budget may inflict on the state's economy by modeling \$200 million cuts in each year of the biennium. Such cuts would cost more than 5,000 jobs each year; if cuts rose to a billion dollars, the result would be a loss of about 25,000 jobs each year, eliminating essentially all jobs created since the recovery began. The current forecast anticipates little capacity of the private sector to offset the impact of public sector contraction. Ironically, Super Storm Sandy may help improve conditions as the region rebuilds; this *Outlook* devotes a section below to this question.

Even as the state cuts its current services budget it still has the capacity to push forward with capital projects, funded through bonding. This *Outlook* then evaluates the degree to which public sector investments of the same scale as the cuts could offset the economic damage the impending reductions will inflict. While the public sector will lose significant jobs, the private sector would gain significantly, partially mitigating the overall impact on the state's economy and potentially hastening its recovery as these investments both reduce long-term costs and strengthen Connecticut's competitive position.

Introduction

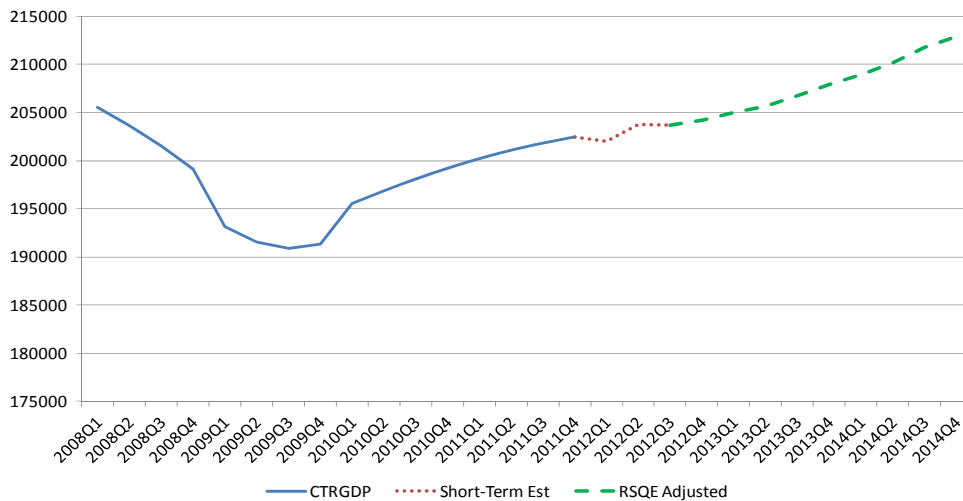
Connecticut's economy is performing poorly and its recovery lags the national pattern. Chart 1 shows the pattern since 1990. Even as the nation enjoyed a jobs boom in the 1990s, Connecticut barely crept back to its pre-recession peak. Then Connecticut suffered losses proportionately larger than the nation, and—unlike the long established pattern of lagging the nation—at the same time. But unlike the nation, Connecticut has seen miniscule jobs recovery recently.

Chart 1: Employment Percentage Differences from Pre-Recession Peaks (%)



National output (GDP) recovered by the end of 2010, but Connecticut has not yet returned to its output (RGDP) of 2007. The CCEA projection for recovery in chart 2 anticipates the state climbing back to its pre-recession peak only in 2014. Yet that may be optimistic, given what may come out of the “fiscal cliff” negotiations in Washington. Federal funds, which are a vital part of state finances, will almost certainly shrink, shifting more burdens to state and local governments. Moreover, Connecticut's own performance seems to be weakening, as weekly Real Manufacturing Earnings (RME) and Real Personal Income (RPI) have slowed. One of the few brighter spots is housing, where growth in the number of residential housing permits for the first three quarters of 2012 was 50% above those in 2011. But that is offset to a degree as the average value has generally been lower. And there is still a long way to go before declaring full recovery in the housing market.

Chart 2: CT Real Gross Domestic Product (Millions 2005 \$)



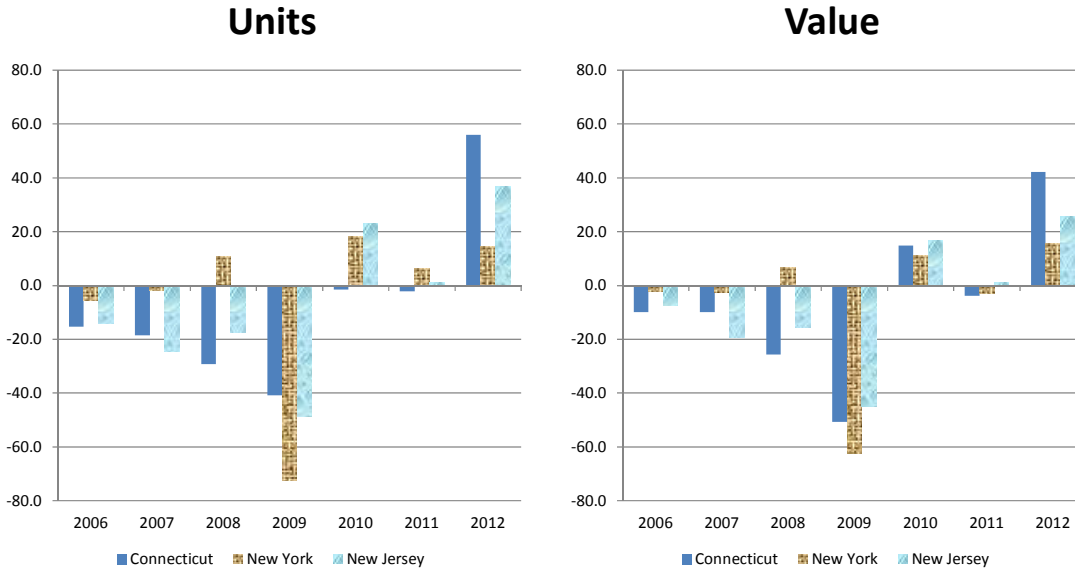
Macroeconomic Drivers

CCEA’s leading indicators that normally drive its Connecticut forecast have underperformed in the last few quarters. Seasonally adjusted at annual rates, 2012 Q3 weekly RMEs in Connecticut were 7.1% below a year earlier while State RPI gained only a modest 0.6%. Sluggish growth in RPI for this year resulted in low expectations for future growth in CTRGDP at a modest 0.9% relative to the same quarter a year ago. Poor to weak overall performance of these indicators dampens projections based on such statistics. For this reason national RGDP for this forecast comes from very recent University of Michigan’s Regional Seminar on Quantitative Economics (RSQE)¹ forecasts which anticipate RGDP growth of 2.14% RGDP this year followed by 2.02% next year and 2.62% in 2014, sufficient to grow national employment and marginally lower national unemployment rate but insufficient to initiate inflationary threats.

As part of the forecasting process, CCEA looks at quarterly numbers of residential building permits issued in Connecticut because it reveals the dynamics of household income and consumer demand. Permits have been 55.9% higher for the first three quarters in 2012 compared to a year ago. Less encouraging, the value of permits this year is up more modestly at 42.2%. The good news is that these growth rates far outpace the rest of the tri-state area as noted in Chart 3. The bad news is that it will take similar high rates of growth for a couple of years to return to the halcyon days of 2,500 to 3,000 units per quarter during the first half decade of the 2000’s. The current overall impetus is an insufficient basis for a recovery, especially in incomes.

¹ Joan P. Cary, Manaenkov, D. Hall, M.G. The U.S. Economic Outlook for 2012-2014, Regional Seminar on Quantitative Economics University of Michigan, Nov 15, 2012.

Chart 3: Growth Rates in Residential Housing Permits (%)



Base Outlook

Connecticut RGDP

CCEA's resulting CTRGDP outlook is illustrated in Chart 2, shown above. Modeled initially by techniques based on retrospective interactions among variables, it includes national RGDP, CT employment, real manufacturing earnings, and Connecticut residential housing permits. Despite relatively rapid recovery in Connecticut housing compared with the Tristate and after adjusting for national growth CTRGDP growth is now revised to 1.00% for this year, 1.44% next year and 2.24% in 2014.

Employment

The expected national payroll employment recovery predicted by RSQE is 1.5% annually through to 2014Q4. It indicates that the nation is expected to exceed its prerecession employment peak of 138.0 million by 2014Q4. In contrast, slow economic growth in Connecticut fails to generate employment growth which remains flat in the range of 1,628.9 to 1,628.5 thousand annually, 2012-2014, inclusive of Connecticut's drift to lower paying jobs. Since the 1990's, employment growth in Connecticut has been abnormally low relative to the nation. Chart 1, above, tracks employment relative to the pre-recession highs in both the state and the country. The more rapid rise in national employment prior to 2008Q1 indicates that employment growth in the nation was relatively robust compared to Connecticut, especially after Connecticut's previous high at the turn of the century. By 2010Q1, Connecticut employment had fallen by 6.9 percent below its pre-recession peak. In contrast seasonally adjusted national employment

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never fell below 6.2 percent below its pre-recession peak. While both the nation and the state appeared to be moving together until mid 2011, national recovery has continued while the state's recovery has flat-lined.

Connecticut employment has been becoming more concentrated in lower paying service industries, which in CCEA sectors includes Retail, Wholesales, Education and Health Care. Continuing at recent rates, those shifts of employment account for growth of 22.4 thousand relative to estimates that do not take the sector shifts into account, partially offset by shrinking employment in manufacturing (-2,500) FIRE (-2,000) and trade and utilities (-1,500), resulting in 18,400 growth. Total employment will also be impacted by employment changes by national, state, and local governments as well as by tribal enterprises inclusive of both casino operations and, separately, recovery from hurricane Sandy.

Recovery from Sandy

Sandy has obviously wreaked devastation on coastal communities, but is there a silver lining? Reconstruction needs to be undertaken with forethought and planning not just to recover the past but also to better protect the future. As Brian Williams, the NBC anchor, put it so bluntly, reporting every second year on the "Storm of the Century," is becoming the rule rather than the exception. This section constitutes a preliminary cut at what the economic impacts of reconstruction in Connecticut may generate to the end of 2014. It is based on reasonable assumptions although readers may want to adjust them in shaping their own thoughts. It is simply too early for engineering cost estimates to be available.

The primary assumption is that of the total regional damage of \$60 billion, 16% or \$9.6 billion occurred in Connecticut. At best, the federal government will deliver three-quarters of the recovery funds. Seawalls will need not just to be rebuilt but also strengthened to counteract documented issues on the likelihood of raising ocean waters and changing wind patterns to say nothing of hydrological changes from shifting sandbars above and below the water's surface. The electricity grid obviously needs upgrading and additional safety equipment installed. CCEA's economic modeling treats federal funds as new to Connecticut, while locally funded activities are treated as expenditures diverted from alternative expenditures and left aside from the analysis. In short, the CCEA envisages federal assistance as a \$7.2 billion shock to the economy, of which two-thirds is put in non-residential structures and the remainder in residential rehabilitation. Annual expenditures occur over the next three years at 60%, 30%, and 10%. While these investments are replacing ruined infrastructure they will also be renewing and improving that infrastructure and associated equipment. For those reasons 50% of the non-residential capital is modeled as an investment, as are 30% of the residential expenditures. Direct expenditures are rather arbitrarily allocated at the county level with 50% in New Haven and 25% in each of New London and Middlesex.

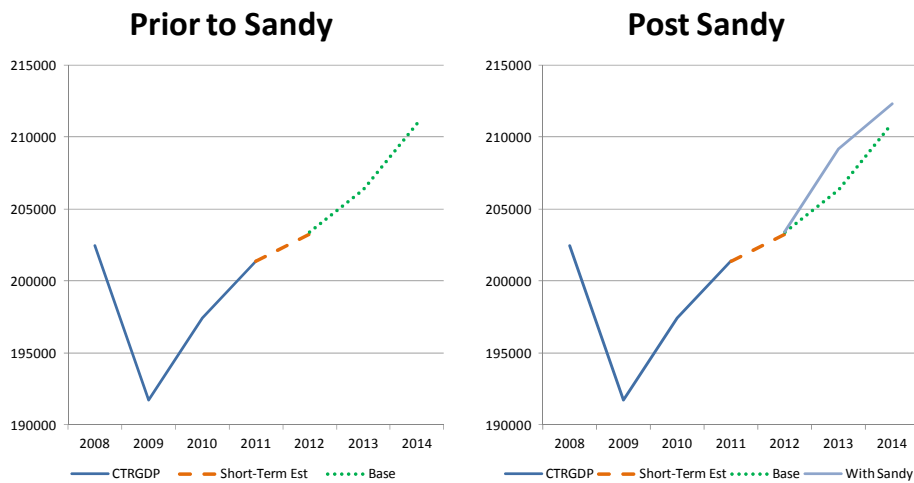
Deploying Regional Economic Modeling Inc's (REMI's) dynamic equilibrium model at the county level, CCEA is able to assess preliminary annual impacts of reconstruction on the Connecticut economy. In keeping with the timeframe of the Outlook, results are reported here for 2013 and 2014 as being additional to the earlier pre-Sandy results. Expenditure impacts on the last quarter for 2013 are assumed to be nil since curtailed incomes in early November, on average, will be wholly or partially offset by recovery expenditures in December.

Post Sandy

CTRGDP

Annual CTRGDP estimates for pre and post Sandy scenarios appear in Chart 4. Short term recovery efforts stimulate growth in an otherwise modest outlook. The impact in 2005 \$ in 2013 is expected to reach \$2.9 billion with a continuing impact of \$1.4 billion a year later. These increases are depicted as being over and above base case estimates. These impacts are sufficient to nudge CTRGDP growth rates above the nation in 2013 but growth in below national expected rates in the following year.

Chart 4: CT Real Gross Domestic Product (Millions 2005 \$)



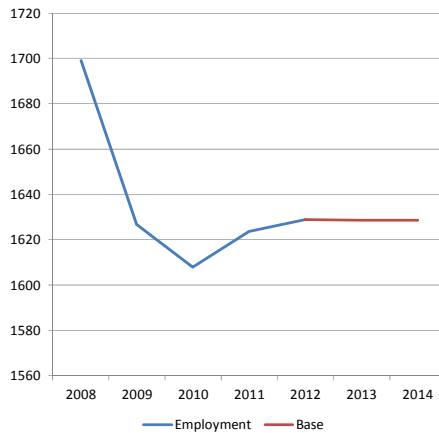
Employment

In line with the Bureau of Labor Statistics data used throughout these quarterly *Outlooks*, employment estimates are in full-time equivalents (FTEs).² The employment data presented here are consistent with the CTRGDP adjustments made to match the RQSE RGDP views and include adjustments among Connecticut economic sectors. As Chart 5 illustrates, post-Sandy activities sponsored by the Federal government should add about 29.2 thousand FTEs in 2013 and 14.9 thousand the following year, thereby, substantially improving Connecticut employment prospects.

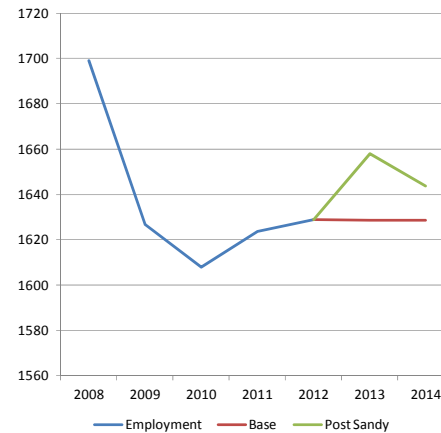
² REMI estimates jobs, not FTEs. REMI job estimates are converted to using May 2011 data for FTEs by occupation in Connecticut and REMI number of jobs by the same occupations for the year 2011.

Chart 5: Employment Outlook

Excluding Recovery Operations



Including Recovery Operations



Possible Adjustments

It is clear that the adjustments to post-Sandy may be larger than suggested if the Federal government spends more, the State spending emergency funds that would otherwise have remained in reserves, and by residents spending more supported by insurance companies, in-turn backed by increases in more geographically broadly distributed new premiums. Downward adjustments could result from the opposite of the above. Homeowners more than offsetting repair expenditures with severe cutbacks in other expenditures and governments squabbling instead of getting on with planned recoveries.

Increased employment post-Sandy is concentrated in construction and related industries led by construction per se. Construction occupations are followed by sales and management etc, appearing clockwise in Chart 6.

Chart 6a: Occupational Shares of Employment 2013
(1,000's Incremental, Total 29.2 thousand)

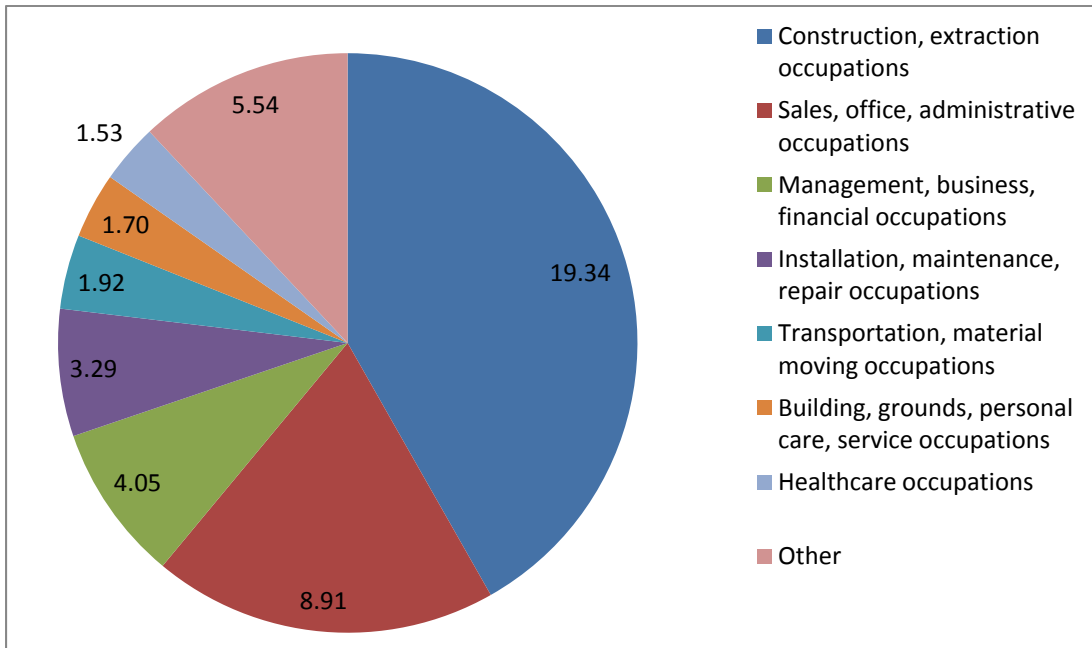
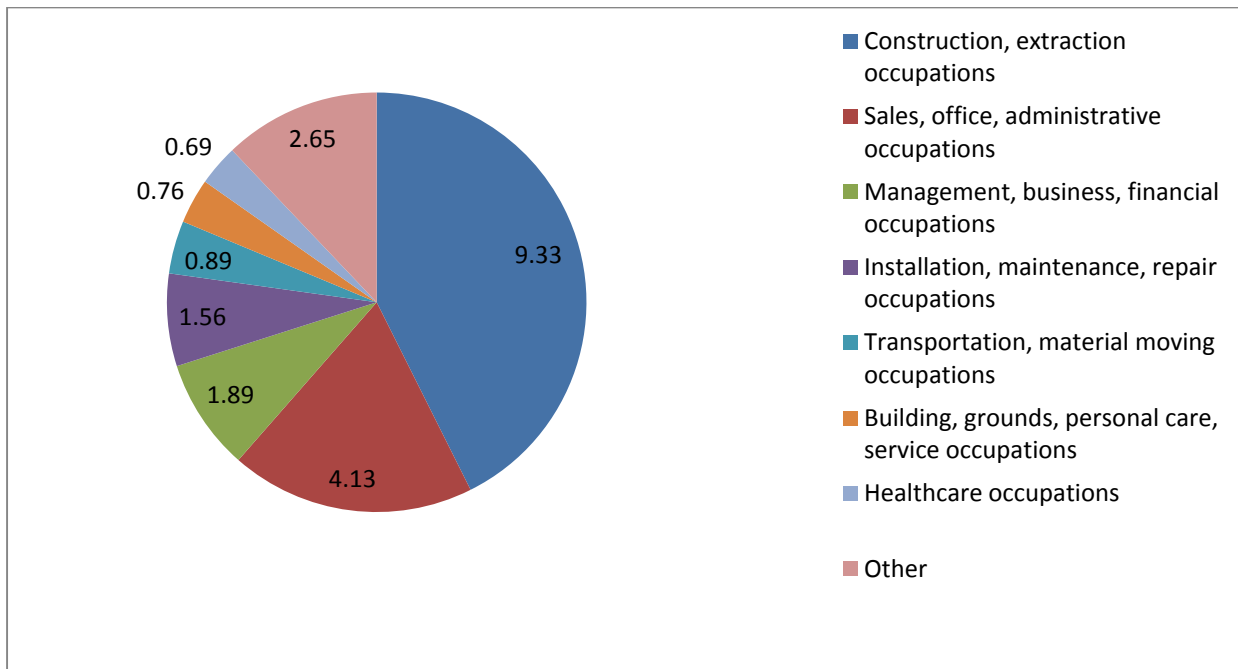


Chart 6b: Occupational Shares of Employment 2014
(1,000's Incremental, Total 14.9 thousand)



Other Major Projects

While early stages of construction are already underway on the UCHC's Biosciences Center, employment impacts will only strengthen over time as new employees are added in both teaching and research positions. In addition, parallel developments with Jackson Laboratories expansion should add further impetus to growth. Both these facilities are expected to extend Connecticut's growth over and above even the post-Sandy case, particularly in and after 2014. Other major projects, such as the Hartford-New Britain Bus Way, will also add employment. But this assumes these projects are in addition to the regular flow to public sector capital projects—yet the indications are that this flow will contract significantly as a result of the Rell administration putting far fewer projects into the pipeline. Unfortunately, there does not seem to be any comprehensive state data on the dynamics of these activities.

State Fiscal Issues

Slower than expected growth in CTRGDP is forcing the Governor and Legislature to cut state expenditures; the Governor has already announced significant reductions for the current fiscal year; the Legislature in meeting in emergency session to consider more, and the next biennial budget is looking at a cumulative deficit of more than \$2 billion. While it is too earlier to delve into the specifics in detail, it is critical to evaluate the macroeconomic implications and consider how to mitigate the negative impacts. In particular, CCEA looks at expanding capital expenditures to offset the loss in services expenditures of \$200 million in each of 2013 and in 2014 as a framework for understanding impacts.

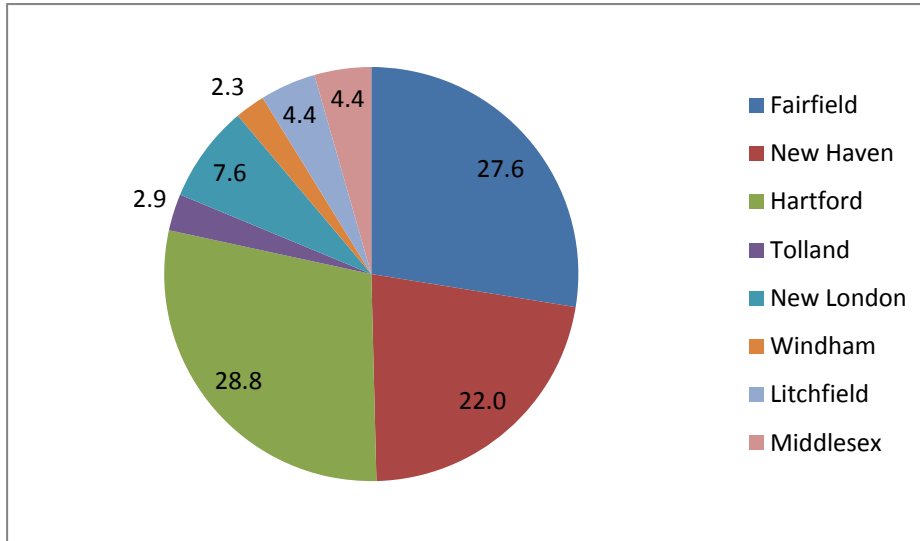
Capital expenditures chosen may involve future government services expenditures or save them. For example, constructing office towers to house government operations may require new future employees to occupy them. Alternatively, capital expenditures to install energy saving devices may accelerate longer-term cost savings in both electricity and personnel to replace bulbs. Given that context, the choice of capital projects can influence future expenditures.

CCEA has modeled a simple two-step evaluation. The first step is to curtail state services expenditures broadly by \$200 million in each of 2013 and 2014. The second step is to partially offset the impacts of these cuts by expanding capital expenditures by the same amount. Using REMI dynamic equilibrium model, the first step indicates the direct, indirect, and induced impacts of state expenditure cuts. The second step indicates the extent to which switching from services to capital expenditures can partially offset adverse impacts. At current interest rates the additional interest rate charges on \$200 million are relative low. To the extent to which the capital projects can generate fees or other operating cost savings – e.g. low energy costs – future operating costs may also be offset.

State Expenditure Cuts

State service cuts have been fashioned in proportion to employment in each county with Hartford, followed closely by Fairfield and New Haven bearing the brunt of the cutbacks, Chart 7 shows.

Chart 7: County Incidence of Government Cutbacks (%)



Job impacts are felt primarily in the public sector, but the private sector does not escape, as Table 1 shows.

Table 1: Job Impacts of \$200 M Services Cuts 2013 and 2014

	2013	2014
Total Employment (Jobs)	-5,380	-5,427
Private Non-Farm Employment (Jobs)	-2,248	-2,308
Government Employment (Jobs)	-3,132	-3,119

Service cuts will not wholly offset the positive impacts of recovery activities arising from Sandy, but they nevertheless impose real costs on the economy and employment. While the basic case and Sandy describe employment in FTEs, REMI runs yield jobs, not FTEs, as noted and used in this section³.

Commensurate with job losses, cuts in government services hits personal income (PI). As noted in Table 2. Income shortfalls, in-turn, squeeze government revenues. While the shortfall from personal tax revenues is distributed between the federal and state governments, it is clear that the policy nets somewhat less than the \$200 million annually in balancing the books.

³ A rough conversion ratio of FTEs per job is .70.

Table 2: Personal Income and Tax Impacts of \$200 M Services Cuts 2013 and 2014

(Millions Current \$)

	2013	2014
Personal Income	-346	-389
Disposable Personal Income	-275	-313
Tax Revenues	-71	-76

Matching Capital Expenditures

A matching capital expenditure is capable of wholly or partially offsetting the above impacts. Capital projects are not a-one-for-one substitute for services because their macroeconomic impacts are different. As above CCEA tested both job and income impacts. The following results are for impacts inclusive of both the services cuts and matching amounts of capital expenditures.

Job impacts are captured in Table 3. Its first three columns are the same as in Table 1. The combined impacts of the services cuts matched by the capital expenditures are smaller.

Table 3: Job Impacts of \$200 M Services Cuts and Capital Expenditures

2013 and 2014

	State Service Cuts		Service Cuts Offset by Capital Expenditures		Job Losses Avoided by Capital Expenditures	
	2013	2014	2013	2014	2013	2014
Total Employment (Jobs)	-5,380	-5,427	-3328	-3363	2052	2064
Private Non-Farm Employment (Jobs)	-2,248	-2,308	-325	-382	1923	1926
Government Employment (Jobs)	-3,132	-3,119	-3003	-2981	129	138

The job losses avoided by the matching capital expenditures are concentrated in the private sector so that the remaining private sector layoffs are in the 325-382 range compared with 2,248-2,308 with only state service cuts. There is little relief for state jobs losses from the capital expenditures with only 129-138 jobs losses being avoided. While it might be possible to adjust the capital expenditures upward by 19.8% to reach parity in Private non-farm Jobs, it would require a much larger multiplier of 2.6 times to gain complete jobs parity; that would involve the private sector offsetting government lay-offs.

Parallel personal income results are more interesting. In particular the capital expenditures generate sufficient net revenues for government to more than cover the interest on the debt incurred to undertake the capital expenditures during construction.

Table 4: Personal Income and Tax Impacts of \$200 M Services Cuts and Capital Expenditures 2013 and 2014

	State Service Cuts		Service Cuts Offset by Capital Expenditures		Income Losses Avoided by Capital Expenditures	
	2013	2014	2013	2014	2013	2014
Personal Income	-346	-389	-225	-252	121	137
Disposable Personal Income	-275	-313	-178	-203	97	110
Tax Revenues	-71	-76	-47	-49	24	27

Under normal government operations, the government would need to increase its capital expenditures by 2.8 times that of curtailed services to fully offset the PI losses. These ratios would of course be reduced for leveraged situations in which private partners who would not otherwise have participated in an in-state project could expand investments.

There are other ways in which the government may be more selective and strategic with increased capital expenditures. Where it can make investments that increase its own efficiency, cost reductions may be achieved. Areas of interest include in energy conservation related to:

- HVAC systems;
- Modern lighting;
- Vehicle fleets; and,
- Communication cost savings.

Conclusions

The methodologies by which CCEA normally estimates the *Outlook* yield abnormally pessimistic views. These have been adjusted by sector shifts in job to lower-paid employment which maintain relative flat employment midst slight declines in CTRGDP. When those projections are adjusted for federal funds committed to the recovery, modest growth in CTRGDP occurs relative to the base case as does a jump in FTEs of 29.2 thousand in 2013 and 14.9 thousand in 2014⁴. The employment is concentrated in occupations such as construction that have been bearing the brunt of the recession. Proceeding with the major projects such as UCHC’s Biosciences and Jackson Labs cluster will stimulate Connecticut’s economy. State employment growth was relatively sluggish going into the recession and has flat-lined since mid 2011, in contrast with national employment which is expected to recover to pre-recession levels by 2014Q4.

While recovering from Sandy will provide some short-term stimulus, the impending budget cuts can be only partially offset by capital expenditures. They may be sufficient to avoid the worst of private non-farm employment impacts, but insufficient to overcome state and local government employment cuts. It

⁴ It is assumed that the Federal government can and will meet its commitments.

remains important for the state to make strategic investments in the efficient delivery of its services. But what remains truly critical is the State pursue policies and investments that will change the economic (and resulting demographic) trajectory of the last two decades. If that trajectory is not changed, driving significant growth in employment and raising the quality of jobs in the state, the current fiscal crisis may become a recurring event.