TACIR

The Tennessee Advisory Commission
on Intergovernmental Relations

Suite 508
226 Capitol Blvd. Building
Nashville, TN 37243-0760
Phone: (615) 741-3012
Fax: (615) 532-2443
www.tn.gov/tacir

MEMORANDUM

TO: TACIR Commission Members

FROM: Harry A. Green
            Executive Director

DATE: June 30, 2011

SUBJECT: Fiscal Capacity and Beyond

TACIR produced the sole fiscal capacity element to be used in calculating Basic Education Plan (BEP) funding from the inception of the program in 1992 through fiscal year 2007. Starting with fiscal year 2008, a new tax capacity model produced by the University of Tennessee began a phased replacement of the TACIR model. The TACIR model was an early effort, and subsequent suggested improvements have not been implemented because they invariably change the distribution of BEP funds, creating both winners and losers. When advantages are so evenly balanced with disadvantages, the status quo generally wins.

As TACIR has pointed out in previous publications, there is no other state quite like Tennessee in school system organization. Even the most general statement that every county has a county system that is the default provider of public education has an exception; Gibson County has only smaller subsystems and no countywide system. In the rest of the counties, some cities and special school districts have opted out of the county system and run separate systems, though many counties have just one school system.

Tennessee school boards do not have taxing authority. Cities and counties must request that their local governing bodies pass necessary increases, and special school districts require permission from the state legislature to raise taxes for education. Counties must also parcel out funds from any taxes they levy for education based on the number of students attending school in each district. Furthermore, BEP funds are provided directly to school systems. In counties with multiple systems, all of the systems in the county are credited with having the same fiscal capacity, though the tax-generating assets are likely not evenly distributed among those systems.

TACIR attempted to update the formula over the years to correct what staff see as its biggest flaws:

- measuring capacity at the county level rather than the system level
- relying on outdated tax equivalent payment data
- the exclusion of state-shared tax revenue
- weaknesses in the per capita personal income measure
- questions about the usefulness of service burden

These attempts brought attention to what others feel is the model's biggest weakness: its complexity. The TACIR model makes use of five measures to figure a county's fiscal capacity:

- sales tax base,
- property tax base,
- the percent of property assessments that are based on residential and farm property,
- per capita income, and
- the number of students as a percent of the total population.

The first two measure ability to generate tax dollars and the third is a measure of the ability to export the tax burden to non-residents of the county. Per capita income is included as a measure of ability to pay, and the percentage of population that are students is the service burden, measuring how many members of the general population support each student. The weight of each measure in the calculations is determined by its average contribution across counties to local education spending in the past.

TACIR runs these measures, along with actual local education funding, through a regression, which is a statistical tool that measures the average effect of each variable on local education funding. The TACIR model then uses that average effect to calculate the fiscal capacity for each county based on the levels of each fiscal capacity input that county has. For those who have not studied statistics, it is very much a black box process, and such processes tend to generate mistrust. So there was a will to change the method to something simpler, but very little agreement on what to change it to. Once again, counties tended to back the method that benefited them the most.

PC369, passed in 2007, required that fiscal capacity be figured in the future using an average tax rate model based only on the sales and property tax bases. The new model to replace the TACIR model is a tax capacity model calculated by the Center for Business and Economic Research (CBER) at the University of Tennessee. It measures the dollars a county would raise if it levied the average tax rate from across the state on its sales and property tax bases. It sounds simple, but Tennessee's complex school finance system has also made this approach less straightforward.

Local Sales Tax Base

The TACIR model uses measures of the local option sales tax base provided by the Tennessee Department of Revenue. This data is based on the reported local tax base entered on sales tax returns filed with the Department over a twelve-month period. The twelve-month period includes the reported tax base for the months of July through June of each fiscal year. The TACIR local tax base estimate excludes sales subject to special local sales tax rates, sales that are sitused outside the state, and collection data from local county officials that collect state and local sales taxes on certain transactions (casual and isolated sales within their jurisdiction).

The CBER procedure involves using actual July through June local sales tax collection data (by county) as reported by the Department of Revenue in its June monthly "Revenue Collections" report. CBER, using local option sales tax rates, then estimates the underlying tax base that produced the reported amount of collections.

Neither procedure is error free. Tax base data from the Department of Revenue can contain errors that reflect erroneous information reported by taxpayers on monthly tax returns. While such errors are eventually corrected, the corrected data may not be used in producing the reported data supplied to TACIR. CBER measures of the tax base are also subject to error as in cases where sales taxes erroneously sitused to one jurisdiction are later (often months later) adjusted and resitused to another jurisdiction.

Both procedures for estimating local sales tax bases are also subject to problems that arise when sales tax law changes result in changes in the situsing of sales. This occurred several years ago when the law was amended allowing communications businesses to situs their sales to an out-of-state situs rather than to each city and county where customers were served. The result was the removal of billions in sales and millions in tax collections from reported activity in the 95 counties.

CBER estimates of local tax bases are generally higher than TACIR estimates. Most of these differences result from the exclusion of local casual and isolated sales transactions from TACIR estimates. Such transactions are subject to local (and state) sales taxes but not reported on standard sales tax returns. Local officials collect sales taxes on such transactions but report only tax amounts collected and remitted. These amounts are added to reported (on standard monthly sales tax returns) local tax collections and included in the figures used by CBER to estimate local tax bases (taxes divided by tax rate).

Despite the different procedures used in calculating the local sales tax base, the differences are generally not significant. The ratios of each county's estimated TACIR sales tax base to the TACIR estimated state-wide local sales tax base were very similar to ratios generated using the CBER estimates.

Equalized County Property Assessments

CBER includes the estimated assessed total value of properties with Industrial Development Board (IDB) tax exemptions to help correct for exempted properties in the

tax base. Since 2007, the Division of Property Assessments (Comptroller's office) has produced an annual report for CBER of IDB-related property valuations. These valuations are done by local officials and have been improved over the years yielding more accurate valuations of the property leased to businesses that use property financed by industrial development bonds. These valuations differ from those reported by businesses that lease property from IDBs and file annual reports with the State Board of Equalization.

For business property, land is assessed at 40% of appraised value and personal property is assessed at 30% of appraised value. CBER and the Department of Property Assessments determined that the average distribution of land and other property for businesses suggests that 38% is the best estimate of what assessments would be on these properties if they were not exempt. CBER adds 38% of the IDB estimated property values.

Other Considerations

In order to smooth the spikes that can be caused by year-to-year changes, both models use three-year averages of each variable to determine fiscal capacity. TACIR has traditionally made its results available to the Department of Education in early March so that the department can produce BEP estimates by April 1. Because of events in the legislature the past two years, the Department has not produced those April 1 estimates. This has allowed CBER to make use of newer property tax base numbers, so that both bases used in the CBER model come from the same year. If this situation continues, TACIR may begin using the newer data in its model as well and deliver the results a month later.

Transitional Adjustments

PC369 requires that its provisions "be phased in, in accordance with funding as made available each fiscal year through the general appropriations act." During the transition from the TACIR to the CBER model, the results of both are to be used in calculating fiscal capacity. In the first year of transition, FY 2008, each model was used to calculate 50% of each county's fiscal capacity. Primarily due to the lack of necessary funds, the transition has not moved forward, and each model is still used to calculate 50% of county fiscal capacity.

Comparison of TACIR and CBER Fiscal Capacity Results for FY 2012
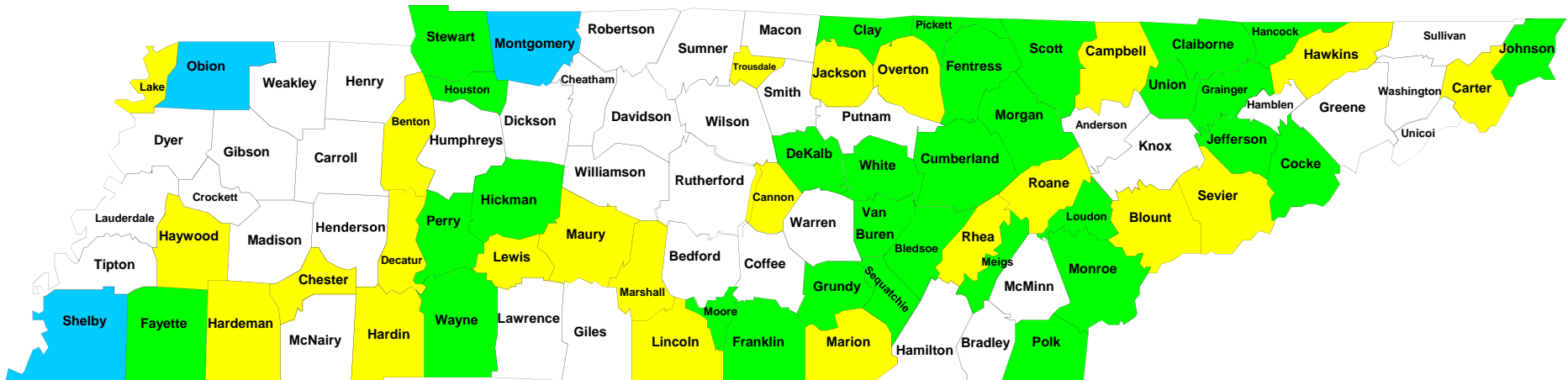
31 (green)	CBER results are more than 30% higher than TACIR results	
0 (red)	TACIR results are more than 30% higher than CBER results	
23 (yellow)	CBER results are between 10% and 30% higher than TACIR results	
3 (blue)	TACIR results are between 10% and 30% higher than CBER results	

PC369 additionally required that "no LEA's measurement of ability to raise local revenue shall be adjusted more than forty percent (40%) within the BEP formula in any single year." There was an administrative decision made within the Governor's office and the Department of Education to lower that measure to 30% in practice. In the first year of transition (FY2008), if the CBER calculation produced a percent of total fiscal capacity number that was more than a 30% change from the TACIR calculation, then the CBER percentage was adjusted such that the change was only 30%.

In FY2008, there were 27 counties that required a fiscal capacity adjustment because the CBER model assigned them a fiscal capacity that was at least 30% higher than the level produced by the TACIR model. In FY2009, the methodology used to identify counties that needed their fiscal capacities reduced to smooth the transition changed. Since the legislative requirement compared the fiscal capacity measure to that of the previous year, the average of the two models became the comparison rather than the TACIR model number alone. This calculation drastically reduced the number of counties that received a transitional adjustment to just three: Hancock, Pickett, and Union. When this methodology was repeated in FY2010 and 2011, no counties received an adjustment. The map on the previous page shows the counties with the largest differences in fiscal capacity for the two models.

TACIR's model tends to assign a higher fiscal capacity to more populous counties with larger cities. This is likely because of two elements of the TACIR model: tax exportability (measured as the percentage of the property tax base that is made up of non-residential and non-farm properties) and per capita income. These variations can make a noticeable difference to a few counties, but, when all counties are considered, the differences are actually not large. The table on the following page shows counties in the order of their fiscal capacity percentages, broken out into quintiles, for the TACIR model, the CBER model, and the combination of the two (that is actually used in BEP calculations). Few counties change order, and those that do move only a few spots in either direction.

Of far more interest in this table is the disparity in fiscal capacity between quintiles, and the question of whether or not the BEP does enough to supplement those counties with the least fiscal capacity so that they can offer adequate educational opportunities.

Beyond Fiscal Capacity: Adequacy, Equity, and Policy Options

Whether or not the BEP is adequate in ensuring an acceptable minimum level of educational opportunity across the state has been the focus of several studies. A July, 2003 study by the Comptroller's office made clear that a focus on adequacy means a focus on outcomes rather than on money spent on educational inputs.[1]

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[1] Detch, Ethel, Dan Cohen-Vogel, Emily Wilson & Richard Gurley. 2003. *Funding public schools: Is the BEP adequate?* Nashville, TN: Office of Education Accountability, Tennessee Comptroller of the Treasury.

Quintiles for TACIR, CBER & Combined FY 2012

	TACIR			CBER			Combined (50/50) Used in BEP		
	Rank	County	Result	Rank		CBER Result	Rank	County	Fiscal Capacity for BEP FY 2012
1st Quintile	1	*Shelby*	**18.27%**	1	*Shelby*	14.44%	1	*Shelby*	16.3560%
	2	Davidson	**14.50%**	2	Davidson	14.10%	2	Davidson	14.3004%
	3	Knox	**8.12%**	3	Knox	7.92%	3	Knox	8.0232%
	4	Hamilton	**6.15%**	4	Hamilton	5.99%	4	Hamilton	6.0679%
	5	*Williamson*	**5.11%**	5	*Williamson*	5.02%	5	*Williamson*	5.0641%
	6	*Rutherford*	3.98%	6	*Rutherford*	**4.06%**	6	*Rutherford*	4.0205%
	7	Montgomery	2.76%	7	Sevier	**3.09%**	7	Sevier	2.7409%
	8	*Sullivan*	**2.59%**	8	*Sullivan*	2.52%	8	*Sullivan*	2.5572%
	9	Sevier	**2.39%**	9	Sumner	2.38%	9	Montgomery	2.4886%
	10	Sumner	2.16%	10	Montgomery	**2.22%**	10	Sumner	2.2707%
	11	*Washington*	1.95%	11	*Washington*	**2.09%**	11	*Washington*	2.0188%
	12	*Wilson*	1.83%	12	*Blount*	**2.09%**	12	*Blount*	1.8991%
	13	Marshall	1.82%	13	*Wilson*	**1.89%**	13	*Wilson*	1.8590%
	14	*Blount*	**1.71%**	14	Marshall	1.69%	14	Marshall	1.7568%
	15	*Bradley*	1.35%	15	*Bradley*	**1.36%**	15	*Bradley*	1.3588%
	16	*Anderson*	1.15%	16	McNairy	**1.27%**	16	McNairy	1.1779%
	17	Putnam	1.14%	17	Putnam	**1.14%**	17	Putnam	1.1420%
	18	McNairy	1.08%	18	*Anderson*	**1.13%**	18	*Anderson*	1.1399%
	19	Hamblen	0.95%	19	Hamblen	**0.99%**	19	Hamblen	0.9721%
Total			79.04%			75.38%			77.21%
2nd Quintile	20	*Greene*	0.83%	20	*Loudon*	**0.92%**	20	*Greene*	0.8408%
	21	*Coffee*	0.83%	21	Cumberland	**0.90%**	21	Robertson	0.8290%
	22	Robertson	0.81%	22	*Greene*	**0.85%**	22	*Coffee*	0.7976%
	23	Roane	0.70%	23	Robertson	**0.85%**	23	*Loudon*	0.7871%
	24	Macon	0.70%	24	Roane	**0.82%**	24	Cumberland	0.7733%
	25	Dickson	0.67%	25	*Coffee*	**0.77%**	25	Roane	0.7647%
	26	*Loudon*	0.66%	26	Macon	**0.75%**	26	Macon	0.7255%
	27	Cumberland	0.64%	27	Dickson	**0.69%**	27	Dickson	0.6819%
	28	Tipton	0.55%	28	Jefferson	**0.68%**	28	Jefferson	0.5829%
	29	*Dyer*	0.54%	29	*Monroe*	**0.59%**	29	Tipton	0.5647%
	30	Bedford	0.52%	30	Tipton	**0.58%**	30	Bedford	0.5304%
	31	*Gibson*	0.51%	31	*Hawkins*	**0.56%**	31	*Dyer*	0.5142%
	32	Jefferson	0.48%	32	*Carter*	**0.55%**	32	*Monroe*	0.5138%
	33	*Hawkins*	0.47%	33	Franklin	**0.54%**	33	*Hawkins*	0.5119%
	34	*Carter*	0.46%	34	Bedford	**0.54%**	34	*Carter*	0.5034%
	35	*Obion*	0.44%	35	Fayette	**0.50%**	35	*Gibson*	0.4990%
	36	*Monroe*	0.43%	36	*Dyer*	**0.49%**	36	Franklin	0.4596%
	37	Warren	0.42%	37	*Gibson*	**0.49%**	37	Warren	0.4369%
	38	Lawrence	0.39%	38	Campbell	**0.48%**	38	Campbell	0.4279%
Total			11.05%			12.56%			11.74%
3rd Quintile	39	Cheatham	0.38%	39	Warren	**0.45%**	39	Fayette	0.4186%
	40	Franklin	0.38%	40	Cheatham	**0.42%**	40	*Obion*	0.4124%
	41	*Henry*	0.38%	41	Hardin	**0.41%**	41	Cheatham	0.4030%
	42	Campbell	0.38%	42	*Cocke*	**0.41%**	42	Lawrence	0.3978%
	43	Maury	0.34%	43	Lawrence	**0.40%**	43	*Henry*	0.3894%
	44	Fayette	0.34%	44	Maury	**0.40%**	44	Maury	0.3720%
	45	*McMinn*	0.34%	45	*Henry*	**0.40%**	45	Hardin	0.3682%
	46	*Lincoln*	0.33%	46	*Obion*	**0.39%**	46	*Cocke*	0.3590%
	47	Hardin	0.32%	47	*McMinn*	**0.37%**	47	*McMinn*	0.3549%
	48	Giles	0.32%	48	*Lincoln*	**0.37%**	48	*Lincoln*	0.3503%
	49	Weakley	0.32%	49	*Rhea*	**0.37%**	49	Giles	0.3337%

		TACIR			CBER			Combined (50/50) Used in BEP	
	Rank	County	Result	Rank		CBER Result	Rank	County	Fiscal Capacity for BEP FY 2012
	50	*Cocke*	0.31%	50	Giles	**0.35%**	50	*Rhea*	0.3310%
	51	*Rhea*	0.29%	51	Claiborne	**0.32%**	51	Weakley	0.3099%
	52	*Henderson*	0.28%	52	Weakley	**0.30%**	52	Claiborne	0.2829%
	53	Madison	0.25%	53	*Henderson*	**0.28%**	53	*Henderson*	0.2787%
	54	Claiborne	0.24%	54	White	**0.26%**	54	*Carroll*	0.2478%
	55	*Carroll*	0.24%	55	*Carroll*	**0.26%**	55	Madison	0.2439%
	56	Humphreys	0.23%	56	DeKalb	**0.26%**	56	Humphreys	0.2314%
	57	*Marion*	0.20%	57	Madison	**0.24%**	57	White	0.2277%
Total			5.86%			6.67%			6.31%
4th Quintile	58	Hardeman	0.20%	58	Humphreys	**0.23%**	58	DeKalb	0.2187%
	59	Lauderdale	0.20%	59	Hardeman	**0.23%**	59	Hardeman	0.2125%
	60	White	0.20%	60	Haywood	**0.22%**	60	*Marion*	0.2070%
	61	Haywood	0.19%	61	*Scott*	**0.22%**	61	Haywood	0.2055%
	62	Smith	0.19%	62	*Marion*	**0.21%**	62	Lauderdale	0.2028%
	63	Unicoi	0.18%	63	Lauderdale	**0.21%**	63	Smith	0.1962%
	64	DeKalb	0.18%	64	Smith	**0.20%**	64	Unicoi	0.1920%
	65	*Scott*	0.16%	65	Unicoi	**0.20%**	65	*Scott*	0.1900%
	66	Overton	0.14%	66	Johnson	**0.19%**	66	Fentress	0.1667%
	67	Fentress	0.14%	67	Hickman	**0.19%**	67	Overton	0.1662%
	68	Benton	0.14%	68	Fentress	**0.19%**	68	Hickman	0.1550%
	69	Sequatchie	0.12%	69	Overton	**0.19%**	69	Johnson	0.1511%
	70	Hickman	0.12%	70	Polk	**0.18%**	70	Benton	0.1494%
	71	Polk	0.12%	71	Grainger	**0.18%**	71	Polk	0.1471%
	72	Chester	0.12%	72	Union	**0.18%**	72	Sequatchie	0.1452%
	73	Johnson	0.11%	73	Sequatchie	**0.17%**	73	Grainger	0.1391%
	74	Decatur	0.11%	74	Benton	**0.16%**	74	Union	0.1326%
	75	*Crockett*	0.11%	75	Morgan	**0.15%**	75	Chester	0.1225%
	76	Grainger	0.10%	76	Stewart	**0.14%**	76	Decatur	0.1175%
Total			2.83%			3.61%			3.22%
5th Quintile	77	Stewart	0.10%	77	Wayne	**0.13%**	77	Stewart	0.1156%
	78	Cannon	0.09%	78	Chester	**0.13%**	78	Morgan	0.1141%
	79	Union	0.09%	79	Decatur	**0.13%**	79	*Crockett*	0.1095%
	80	Lewis	0.09%	80	Meigs	**0.12%**	80	Wayne	0.1074%
	81	Morgan	0.08%	81	Grundy	**0.12%**	81	Cannon	0.1054%
	82	Wayne	0.08%	82	Cannon	**0.12%**	82	Lewis	0.0993%
	83	Grundy	0.08%	83	*Crockett*	**0.11%**	83	Grundy	0.0970%
	84	Moore	0.07%	84	Lewis	**0.11%**	84	Meigs	0.0913%
	85	Jackson	0.07%	85	Bledsoe	**0.10%**	85	Moore	0.0832%
	86	Meigs	0.06%	86	Moore	**0.10%**	86	Bledsoe	0.0800%
	87	Perry	0.06%	87	Jackson	**0.09%**	87	Jackson	0.0762%
	88	Trousdale	0.06%	88	Perry	**0.08%**	88	Perry	0.0721%
	89	Bledsoe	0.06%	89	Van Buren	**0.07%**	89	Trousdale	0.0638%
	90	Houston	0.05%	90	Houston	**0.07%**	90	Houston	0.0606%
	91	Clay	0.05%	91	Trousdale	**0.07%**	91	Clay	0.0579%
	92	Lake	0.04%	92	Clay	**0.07%**	92	Van Buren	0.0507%
	93	Pickett	0.03%	93	Pickett	**0.06%**	93	Pickett	0.0493%
	94	Van Buren	0.03%	94	Hancock	**0.05%**	94	Lake	0.0421%
	95	Hancock	0.02%	95	Lake	**0.05%**	95	Hancock	0.0355%
Total			1.21%			1.77%			1.51%

The bold number represents the higher fiscal capacity calculated between the two models.
Italicized counties have more than one school system

The report suggested several areas of the BEP formula that might be modified in order to address adequacy issues: from the fiscal capacity formula to instructional salaries to capital outlay. Augenblick, Palaich and Associates (APA) prepared two reports on adequacy for the Coalition for Tennessee's Future in 2003 and 2004.[2] These reports outlined how one might measure the cost of implementing and adequate basic education funding system and then applied those cost measures to Tennessee. That report concluded that an additional $1.114 billion in spending would have been required in the 2002-2003 to ensure that all districts had enough revenues to provide an adequate education based on state and federal standards.

PC369 (also known as "BEP 2.0") was mentioned earlier in this memo, as it changed the method of calculating fiscal capacity beginning in FY 2008. BEP 2.0 also addressed several of the adequacy recommendations from the 2003 Comptroller's report. Unfortunately, the funding necessary to fully implement BEP 2.0 is not available, so BEP adequacy remains a concern.

Meanwhile, the state continues to work to address the equity issues that initially drove the passage of the BEP. Per-pupil spending remains quite disparate among counties. With no funding to raise the basic level of education spending to one that might be adequate for all systems, choices for reducing disparity are limited. The only other option for the state would be to put more education components within the BEP and raise the local match requirements on those components. Since local match levels are determined by the percent of state fiscal capacity in each county, this policy would effectively shift education funds from wealthier counties to poorer ones. While this would reduce disparity and improve the base adequacy level of the program, it would be politically difficult.

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[2] Augenblick, John and Justin Silverstein. 2004. *An estimation of the total cost in 2002-03 of implementing the results of the school finance adequacy study undertaken by Augenblick, Palaich and Associates, Inc.* Denver, CO: Augenblick, Palaich and Associates.