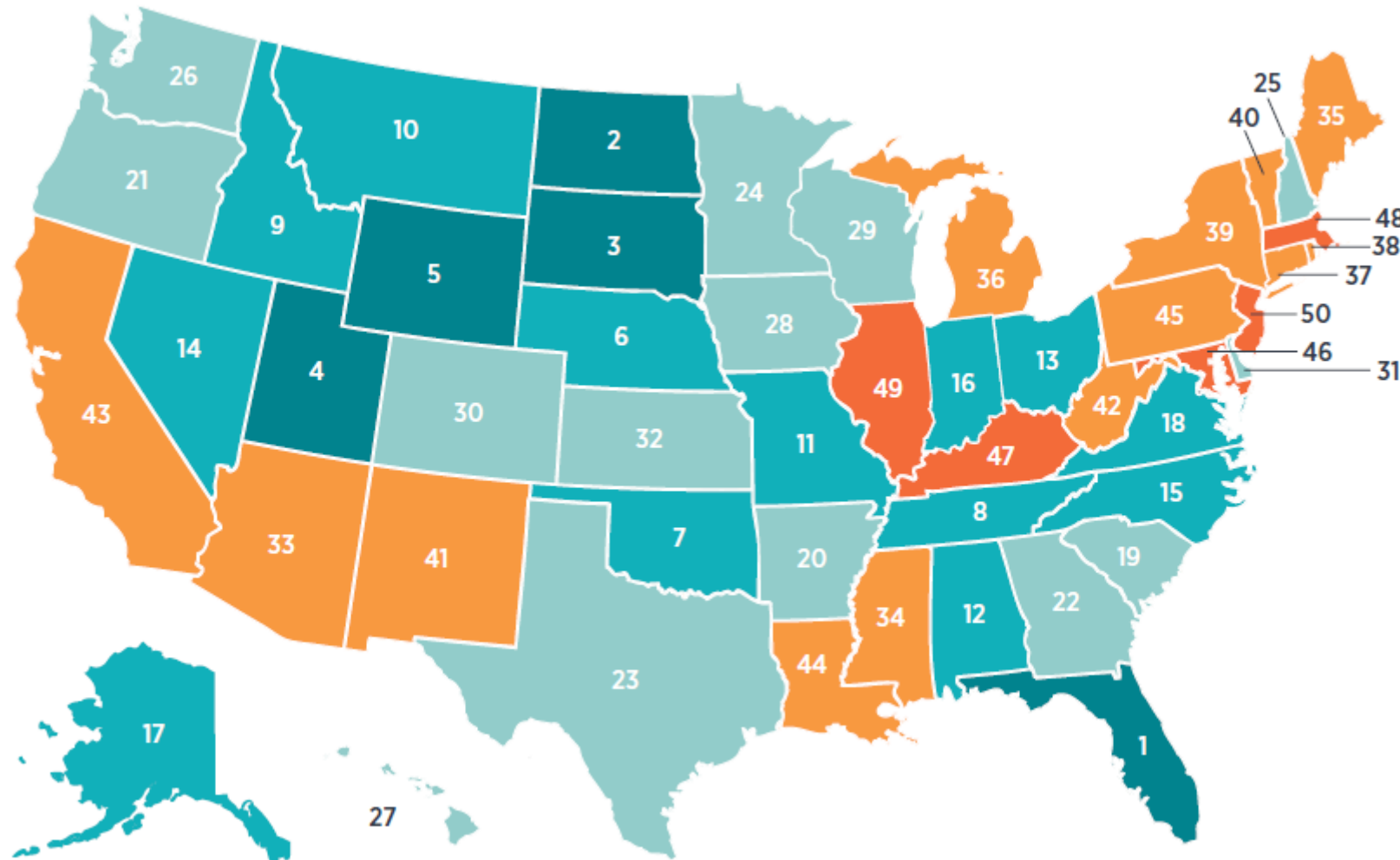# RANKING THE STATES BY FISCAL CONDITION: MARYLAND

Presentation to the Maryland GFOA Meeting
October 27, 2017
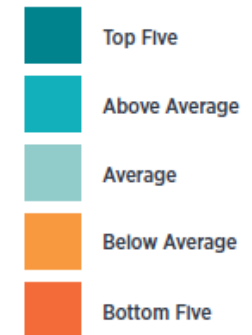
Eileen Norcross
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MERCATUS CENTER
George Mason University

Fiscal solvency: How do the states rank?

OVERALL FISCAL CONDITION RANK

- Top Five
- Above Average
- Average
- Below Average
- Bottom Five

TOP FIVE

1. Florida
2. North Dakota
3. South Dakota
4. Utah
5. Wyoming

BOTTOM FIVE

46. Maryland
47. Kentucky
48. Massachusetts
49. Illinois
50. New Jersey

CAFRS; how comprehensive are they?
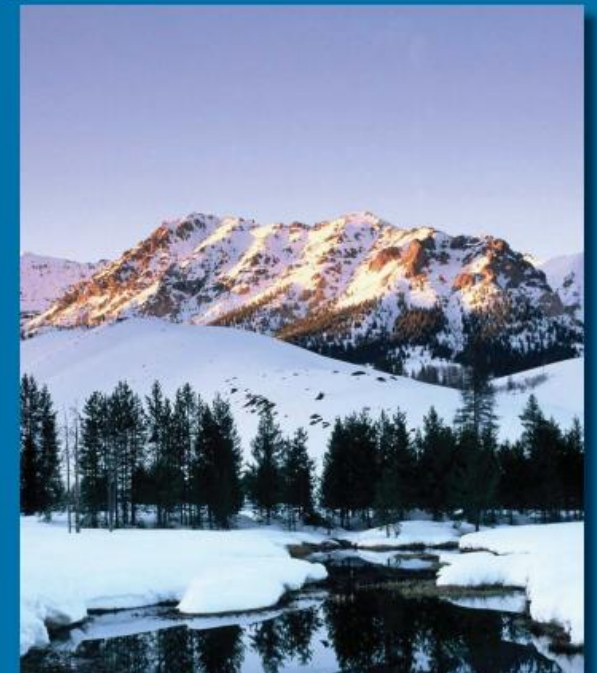
Governing magazine: "Are CAFRs Useless?*"

Can officials forsee fiscal trouble by looking at a CAFR?

"What am I going to do with this?"
                    - performance auditor for Lawrence, Kansas

- Dense, data-driven, standardized
- Snapshot in time, backward-looking
- Better reports for earlier warnings, projections, or knowing how to use the data that's there?

Working with the current CAFR

- Compare government's performance
  - over time
  - among similar governments

- Making the CAFR significant requires "slogging in the trenches"

Operationalizing the CAFR

Monitoring local government fiscal stress (1970s-present)
- Advisory Committee on Intergovernmental Relations studies 1970s-1980s
- Brown's 10-point test
- Financial Trends Monitoring System (FTMS) – 48 metrics
- Local Governments use metric systems (NY, NC, OH, PA, MI)

Less work on state governments
GASB 34 makes it possible to analyze governments on same basis

Measuring Fiscal Solvency (Wang, Dennis, and Tu, 2007)

"How to develop a measure of financial condition based on GASB 34?"

- full accrual accounting
- economic resources measurement focus (report capital assets, depreciation and long-term obligations)

Are the measures reliable and valid?

How do states perform?

What is financial condition?

Ability of an organization to meet obligations without incurring significant financial hardship

Does the government resort to gimmicks, excessive debt, "evasive tactics?"

CASH SOLVENCY: Is there enough cash to cover short-term bills?

	Cash Ratio	Quick Ratio	Current Ratio
Definition	(Cash + cash equivalents + investments)/current liabilities	(Cash + cash equivalents + investments + receivables)/current liabilities	Current assets/current liabilities
	Highly liquid cash	Includes receivables: funds due from transactions with government (e.g. college tuition, licenses, fees)	Assets converted into cash within the year
Benchmark	1 or greater	1 or greater	2 or greater
U.S. Average (FY 2015)	2.68	3.66	3.93

BUDGET SOLVENCY: Do revenues match expenses?

	Operating Ratio	Surplus or deficit per capita
	Total revenues/total expenses	Change in net assets/population
	Revenues should match or exceed expenses	Indicates positive or negative direction in overall position
U.S. average (FY 2015)	1.04	$149.98 per capita

LONG RUN SOLVENCY: How large are liabilities relative to assets?

	Net asset ratio	Long-term liability ratio	Long-term liability per capita
	Restricted + unrestricted net assets/total assets	Noncurrent liabilities/total assets	Noncurrent liabilities/population
U.S. average (FY 2015)	-0.17	0.61	$4,271.90

SERVICE LEVEL SOLVENCY: Size of taxes, revenues, and expenses relative to residents' income

	Tax to income ratio	Revenues to income ratio	Expenses to income ratio
	Total tax revenues	Total taxes plus other revenues	Total expenses
U.S. average (FY 2015)	0.06	0.13	0.13

TRUST FUND SOLVENCY (Norcross 2014): Total unfunded pension liabilities and OPEB liabilities relative to residents' income

	Pension to income ratio	OPEB to income ratio
	Unfunded pension liabilities (risk-adjusted discount rate)	Other Post Employment Benefits
	For state administered plans based on U.S. census list. Excludes locally administered plans.	Largely unfunded in most states
U.S. average (FY 2015)	0.35	0.04

Qualities of good metrics

- Measurement validity – does it assess financial condition?
  - Face validity – intuitive sense
  - Assess the organization as a whole
  - Empirically associated with related socioeconomic variables – predictive validity (A stronger economy strengthens financial condition)

Quality of good metrics

- Measurement reliability
  - Are metrics correlated within dimensions?
  - Are different dimensions correlated?

DATA

FY 2015 Comprehensive Annual Financial Report (CAFR)

- Metrics are as good as the CAFR definitions and reporting. (e.g. where's the Rainy Day Fund, how are liabilities recorded, is the Alaska Permanent Fund accessible?)

Pension Plan Actuarial Statements

- Include all state-administered plans. State may not contribute, but has contingent liability via its administration of the plan and relationship to local governments
- GASB 68 effects

METHODOLOGY

1) Calculate a rank for each dimension of each solvency (sum of z-scores for each ratio)
2) Calculate overall ranking by summing each of the dimensions (weighted as follows)

<u>Weights</u>
- Cash = 35%
- Budget = 35%
- Long run = 10%
- Service level = 10%
- Trust fund = 10%

More weight given to short run: Short term problems are more immediate. There is time to make adjustments to cover the longer run.

Removing weights changes rankings in some cases – not all.

METHODOLOGY

- Changes to 2017 study
- Capping Alaska's cash. Alaska's large reserves skew its actual fiscal picture. Bring its cash metrics more in line with next highest states. Drops Alaska from 1st to 17th.
- Remove debt from Trust Fund Solvency (already accounted for in long-run solvency metrics)
- Note that states now reporting more of pension obligations in long-run numbers due to GASB 68 (not perfect, but better)

Top Five States

	Florida (1)	North Dakota (2)	South Dakota (3)	Utah (4)	Wyoming (5)
Cash	2nd place: 8 -10 times cash to cover short term	6th place: 4 to 7 times cash to cover short term	4th place: 6-8.5 times cash to cover short term	4th place: 4-10 times cash to cover short term	5th place: 6-7 times cash to cover short term
Budget	10th place: Revenues exceed expenses by 7% ($278 surplus per capita)	1st place: Revenues exceed expenses by 27% ($2,810 surplus per capita)	11th place: Revenues exceed expenses by 4% ($647 surplus per capita)	4th place: Revenues exceed expenses by 13% ($481 surplus per capita)	2nd place: Revenues exceed expenses by 11% ($857 surplus per capita)
Long run	17th place: Net assets = 10% total assets; liabilities = 34% total assets; $2,303 liabilities per capita	9th place: Net assets =58% total assets; liabilities =13% total assets; $4,417 liabilities per capita	4th place: Net assets = 34% total assets; liabilities = 10% total assets; $802 liabilities per capita	14th place: Net assets =26% total assets; liabilities = 23% total assets; $2,336 per capita	6th place: Net assets – 72% total assets; liabilities =10% total assets
Service Level	3rd place: Taxes =4%,revenues = 9%, expenses= 9% of resident income.	50th place: Taxes = 13%, revenues = 24% and expenses = 19% resident income	5th place: Taxes = 4%, revenues = 10%, expenses = 10% resident income	12th place: Taxes = 6%, revenues = 11%, expenses = 10% of resident income	42nd place: Taxes =8%, revenues = 16%, expenses = 14% of resident income
Trust Fund	8th place: Pensions = 22%; OPEB = 2%; debt = 2.7% of resident income	4th place: Pensions = 24%, OPEB = 0% of; debt = 4.2% of resident income	12th place: Pensions = 25%, debt =1.4% of resident income	23rd place: Pensions =30%, OPEB=0%, debt =5.1% of resident income	37th place: Pensions =40%, OPEB = 1% debt = 0.1% of resident income

Bottom Five States

	Maryland (46)	Kentucky (47)	Massachusetts (48)	Illinois (49)	New Jersey (50)
Cash	46th place: 0.55 – 1.4 times cash to cover short term	39th place: 0.84-1.7 times cash to cover short term	49th place: 0.45-1.1 times cash to cover short term	48th place: 0.52 -0.96 times cash to cover short term	50th place: 0.84-2.1 times cash to cover short term
Budget	39th place: Revenues exceed expenses by 1 percent ($88 surplus per capita)	37th place: Revenues exceed expenses by 2% ($122 surplus per capita)	48th place: Revenues cover 94% expenses ($319 deficit per capita)	46th place: Revenues cover 96% of expenses ($27 deficit per capita)	49th place: Revenues cover 91% of expenses ($677 deficit per capita)
Long Run	44th place: net assets are -0.5%; liabilities are 94% of total assets	46th place: net assets -1.16; liabilities exceed assets by 33%	48th place: Net assets = -1.84; liabilities = 2.4 times total assets	49th place: Net assets = -2.77; liabilities = 3.17 times assets	50th place: Net assets – 2.92; liabilities =3.6 times total assets
Service Level	16th place: Taxes =6%,revenues = 11%, expenses= 11% of resident income.	41st place: Taxes = 7%, revenues = 15% and expenses = 15% resident income	34th place: Taxes = 6%, revenues = 13%, expenses = 14% resident income	20th place :Taxes = 6%, revenues = 11%, expenses = 12% of resident income	24rd place: Taxes =6%, revenues = 11%, expenses = 12% of resident income
Trust Fund	14th place: Pensions = 26% resident income; OPEB = 3%; debt = 5.2%	44th place: Pensions = 53%, OPEB = 3% debt = 4.5% of resident income;	19th place: Pensions = 28%, OPEB = 4%, debt =6.9% of resident income	46h place: Pensions =54%, OPEB=8%, debt =5.1% of resident income	39th place: Pensions =42%, OPEB =15%; debt = 8.3% of resident income.

Biggest Movers – Move by more than 5 spots

	Increase	Decrease
Overall Ranking	AS (28th – 20th) CT (50th -37th) DE (38th – 31st) HI (45th – 27th) ME (43rd – 35th) OR (30th – 21st)	AK (1st - 17th) CO (22nd – 30th) LA (33rd – 44th) NM (34th – 41st) PA (39th- 45th) TX (17th-23rd)
Cash	HI, NV, OR	-
Budget	AS, CA, CT, HI, IN, KY, ME, MD, MO, NY, OK, RI, TN, VT	AL, AK, CO, IA, KS, MS, NE, NM, OH, SC, TX, WA, WI
Long run	FL, NC, OR, VA, WI	CO, ME, VT, WV
Service level	WI, AK	-
Trust fund	ND	OR, VT, WY

What the rankings can tell us

- Recession-readiness: Does the state have sufficient cash to cover a sudden downturn?

- Do revenues fail to match expenses over time? (structural deficit)

- Do liabilities greatly exceed assets?

- Does the state rely extensively on debt over a long time?

- How large are expenses, taxes, and revenues relative to resident wealth? Is spending sustainable? (Alaska, North Dakota, and oil)

- How large are unfunded liabilities relative to resident income?

What the rankings cannot tell us

- Metrics are more important than a rank. Rankings are relative. Little variation in middle of pack.

- Metrics need context

- Can the state afford its obligations?

- How does the state's tax structure affect the economy and revenue collection?

- How much money is in the Rainy Day Fund? (see Erick Elder, 2016). What are the rules for the fund?

- How is the economy?

- Comparisons among states are limited. Must consider state's fiscal institutions.

Some highlights from this year's ranking

1) Spending cuts in CT pushed them to the top of budget solvency

2) NJ: honesty in pension reporting hurts their rank, but should be recognized for accuracy.

3) ND should look to Alaska's experience. Post-2015, ND budget trouble.

4) Florida – it's possible to be a high population state and have fiscal discipline

5) Wyoming has a large unfunded pension liability relative to the income of state residents.

Ranking the states: Lessons for future research

Relative ranking is not as meaningful as absolute performance

Weight short term more heavily. Could make counterargument.

Remove weights changes some states rankings

Maryland moves from 45 to 38 because of emphasis we give to short run.

Will no longer rank states but move to benchmarks and contextual analysis of data.
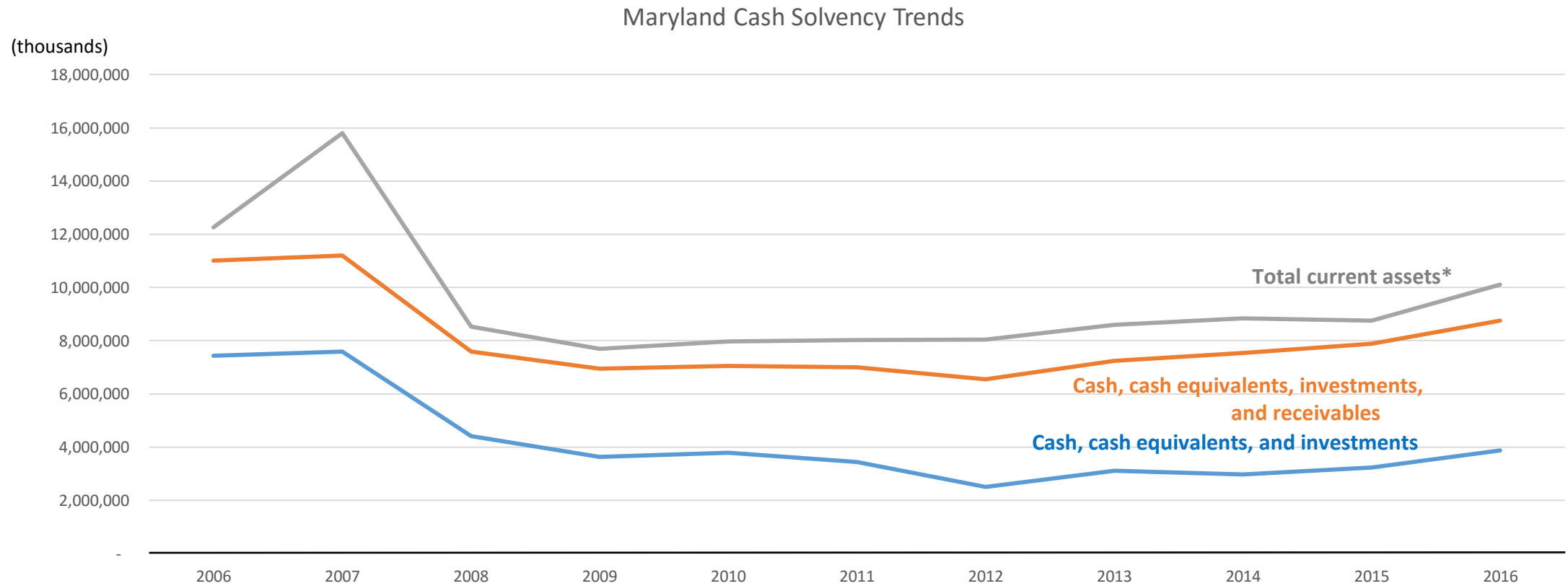
Maryland's Metrics for FY 2015

	Cash ratio	Quick ratio	Current ratio	Operating ratio	Surplus (deficit) per capita	Net asset ratio	Long-term liability ratio	Long-term liability per capita
Maryland	0.55	1.33	1.48	1.01	$88	-0.50	0.94	$6,554
National Average	2.68	3.66	3.93	1.04	$150	-0.17	0.61	$4,272

Maryland's metrics for FY 2015

	Tax-to-income ratio	Revenue-to-income ratio	Expenses-to-income ratio	Pensions-to-income ratio	OPEB-to-income ratio
Maryland	0.06	0.11	0.11	0.26	0.03
National Average	0.06	0.13	0.13	0.35	0.04

Maryland Cash solvency: 2006-2016
Rank: 46th

Maryland Cash Solvency Trends

(thousands)

Total current assets*

Cash, cash equivalents, investments,
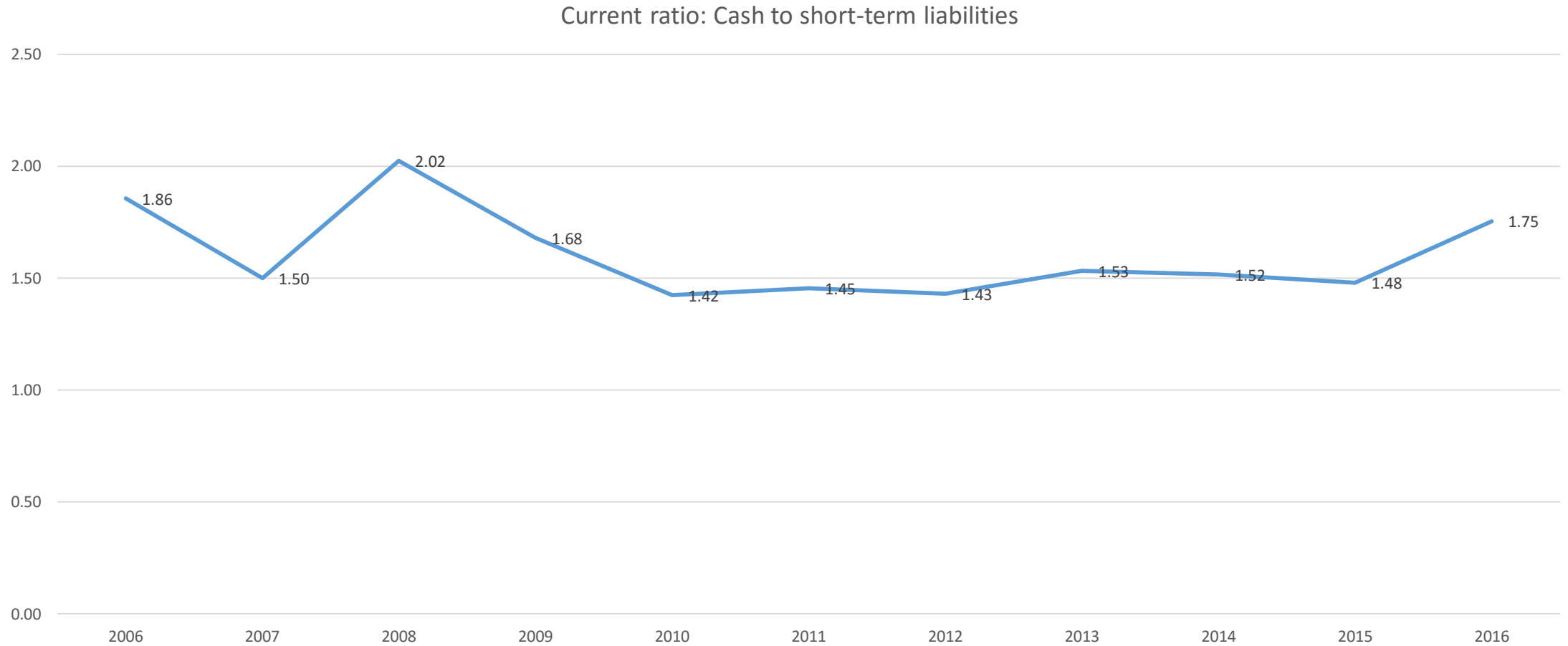and receivables

Cash, cash equivalents, and investments

*Total current assets include less liquid forms of cash line items including prepaid items, inventory, and collateral, among others.

Cash solvency analysis

Metric	FY 2015	State Average	Benchmark
Cash Ratio	0.55	2.68	1
Quick Ratio	1.33	3.66	1
Current Ratio	1.48	3.93	2

Maryland's cash position: current ratio

Current ratio: Cash to short-term liabilities

Year	Ratio
2006	1.86
2007	1.50
2008	2.02
2009	1.68
2010	1.42
2011	1.45
2012	1.43
2013	1.53
2014	1.52
2015	1.48
2016	1.75

Rainy Day Fund: Deposit Rule - improved

If account is less than 7.5% of GF revenues, appropriate $50 million until reaches 7.5%.

Sweeper provision – any unassigned GF balance at closeout in excess of $10 million into fund; (modified for FY 17 – FY 19 to put excess in pension system.)

Fiscal Responsibility Act of 2017 – Link Deposits to Revenue Volatility. Above average collections of nonwithholding taxes receipts (capital gains).

Rainy Day Fund: Withdrawal Rule

- Administration may withdraw funds above 5% and transfer to General Fund.
- If fund is below 5% must submit separate legislation to withdraw.

Maryland

- Improvements to Rainy Day Fund; 2017 legislation
- The 5 percent rule – is it really enough?
- **Maryland** enacted legislation that saves above-average collections of nonwithholding tax receipts—such as income received through capital gains and dividends—into the state's Revenue Stabilization Account. Because nonwithholding income is a notoriously volatile portion of the state's personal income tax, setting aside excess levels encourages year-to-year budget stability.

Rainy Day Fund Balance

- FY 2017 and FY 2018 = 5% of general fund revenues.

- Estimated Balance FY 2017 = $832.6 million

- $665 million less than needed to weather an average recession (Elder, 2016)
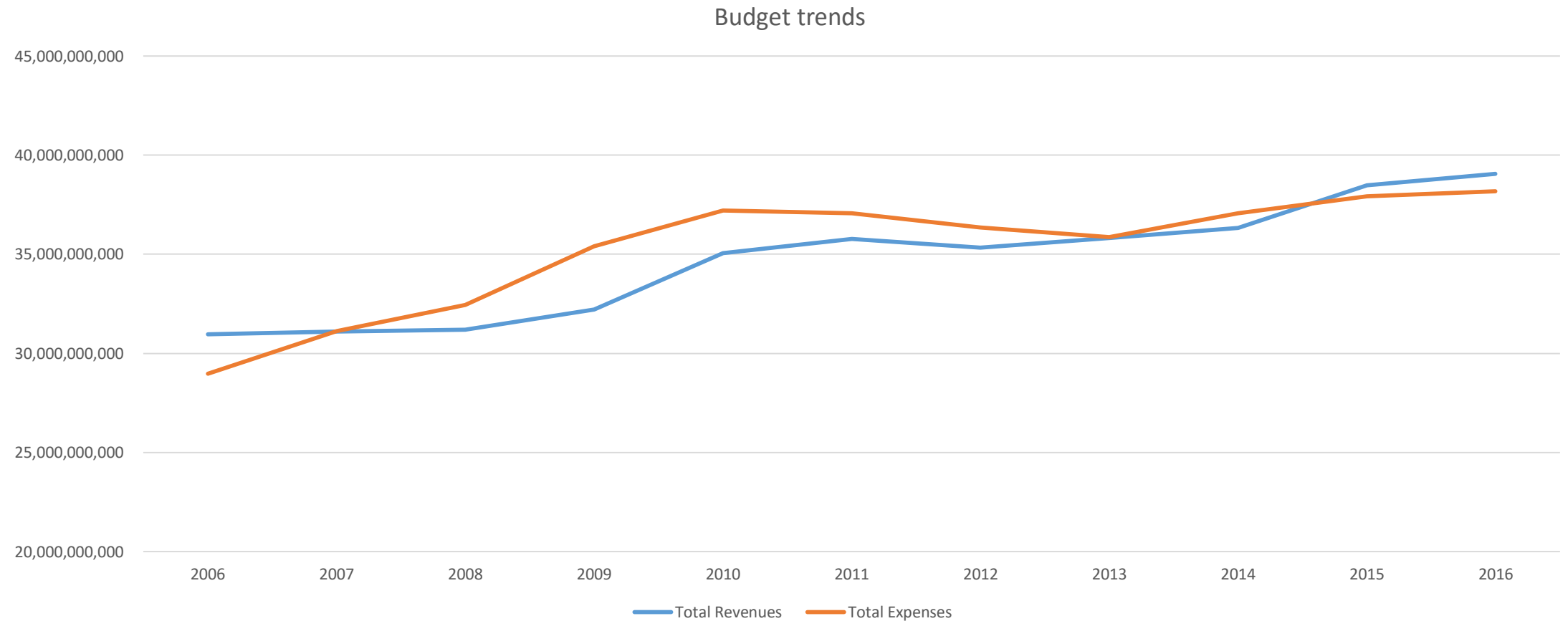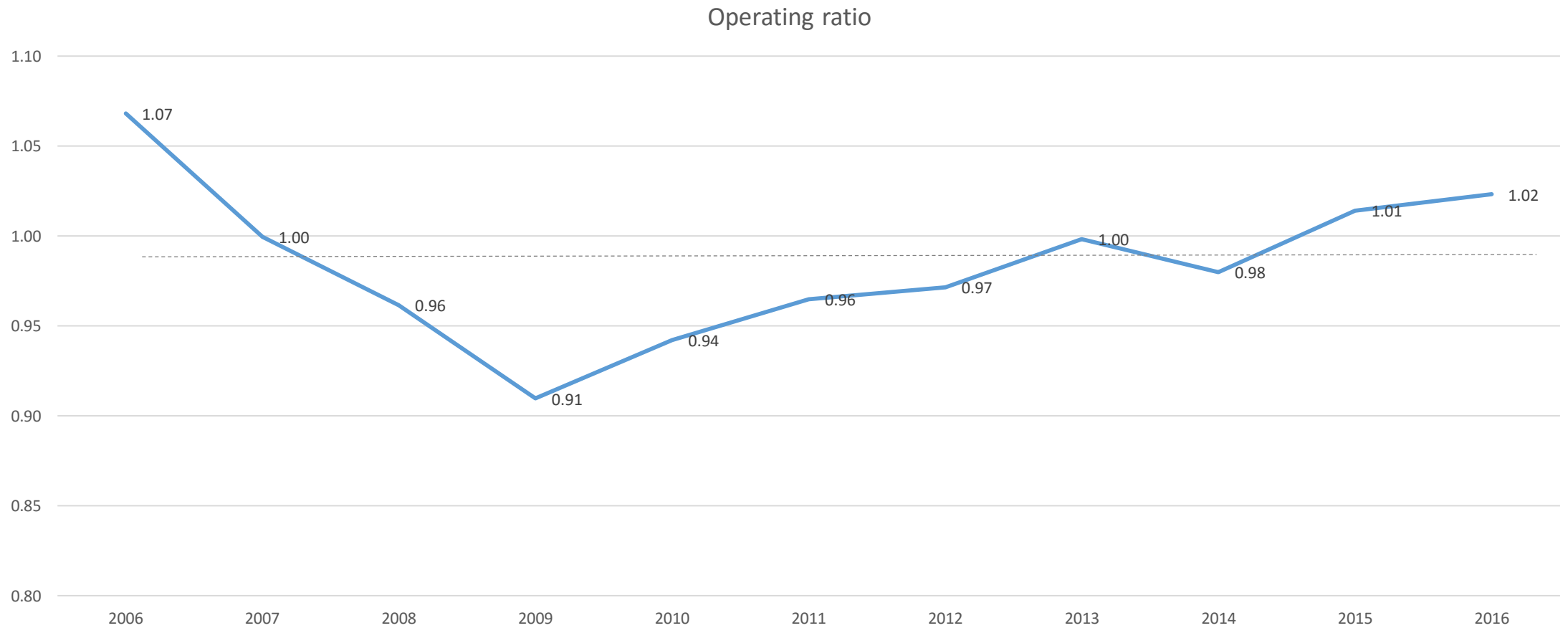
Maryland: Rainy Day Fund (Elder 2016)

Maryland's Cash Available and
Amounts Needed to Weather Recessions
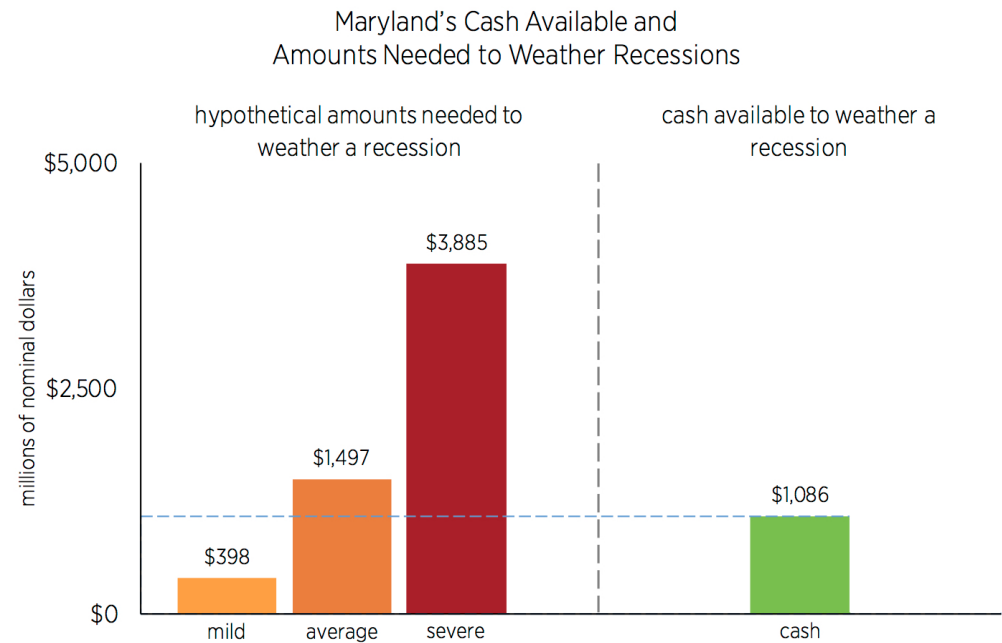
Budget solvency analysis

	Operating ratio	Surplus (deficit per capita)
Maryland	1.01	$88
National Average	1.04	$150

Maryland Budget solvency: 2006-2016
Rank: 39th

Budget trends

Total Revenues — Total Expenses

Maryland Operating ratio: 2006-2016

Operating ratio

A Decade-Long Structural Deficit

Spending

- 4% - 5% annual growth
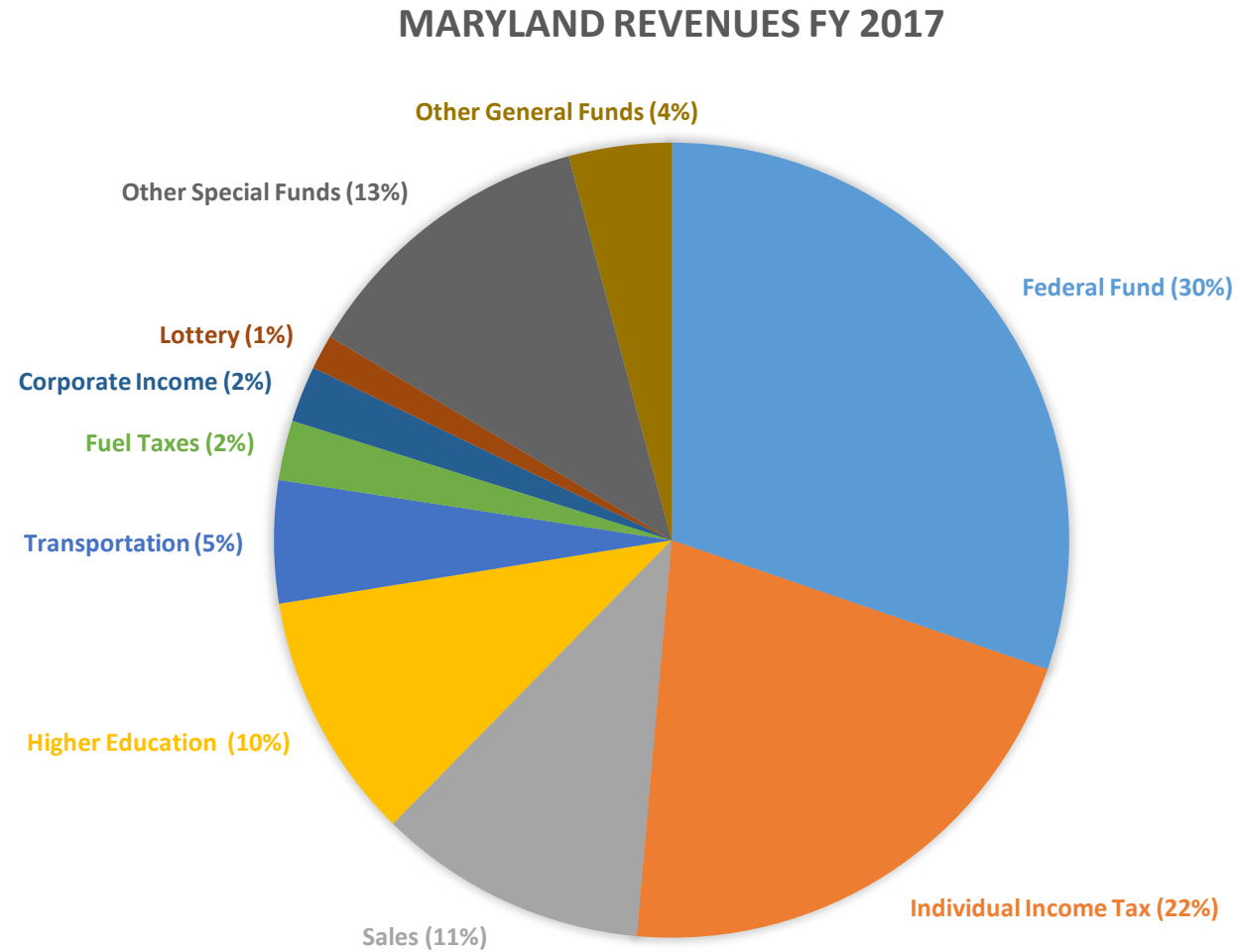 Drivers: mandates in education and health; entitlements
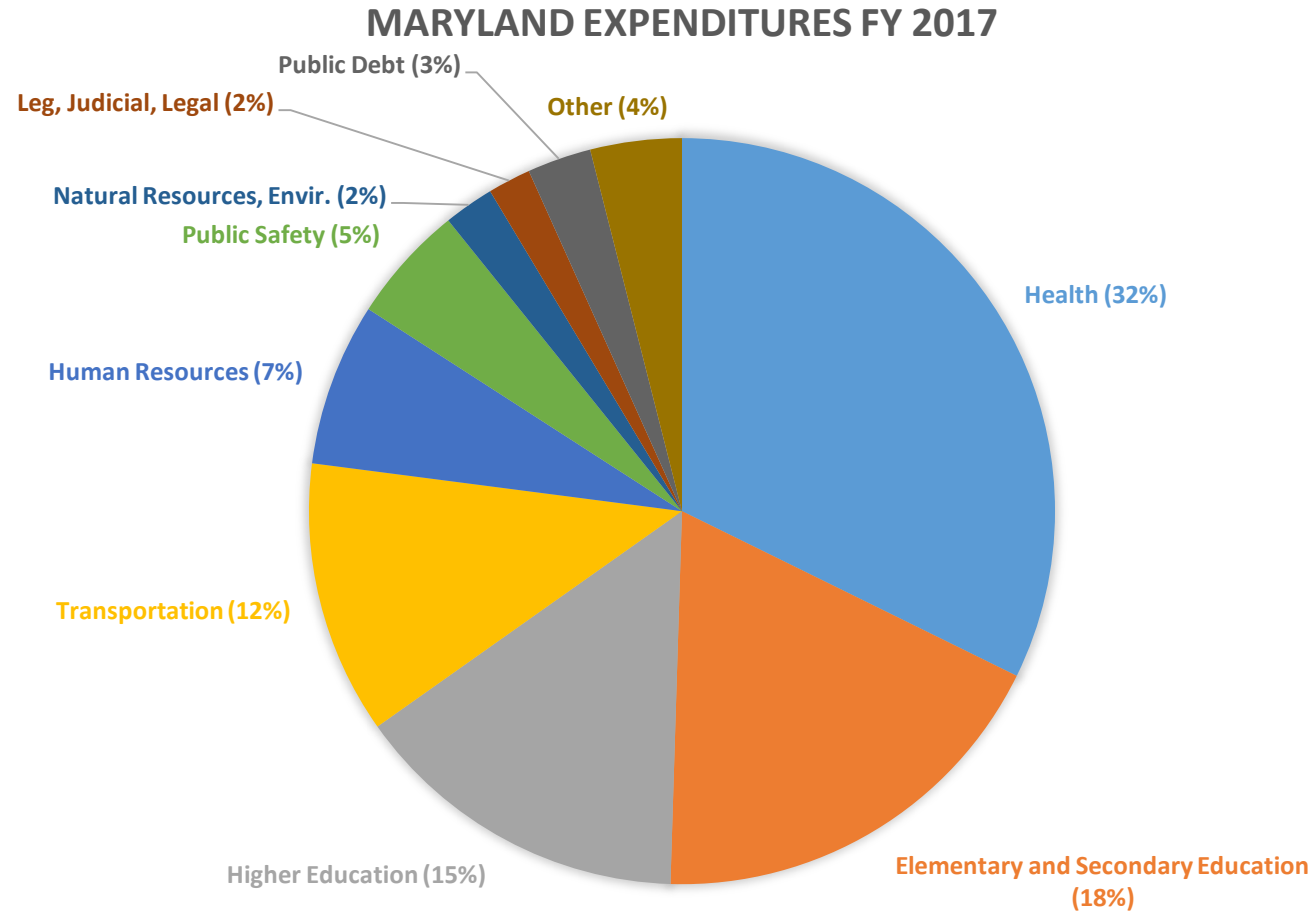 83% of GF spending mandated by law

Revenues

- 3% annual growth
  Revenue estimates revised downward due to volatile nonwithholding tax revenues

Revenues

MARYLAND REVENUES FY 2017

- Other General Funds (4%)
- Other Special Funds (13%)
- Lottery (1%)
- Corporate Income (2%)
- Fuel Taxes (2%)
- Transportation (5%)
- Higher Education (10%)
- Sales (11%)
- Individual Income Tax (22%)
- Federal Fund (30%)

Expenditures

MARYLAND EXPENDITURES FY 2017

- Public Debt (3%)
- Leg, Judicial, Legal (2%)
- Natural Resources, Envir. (2%)
- Public Safety (5%)
- Other (4%)
- Health (32%)
- Human Resources (7%)
- Transportation (12%)
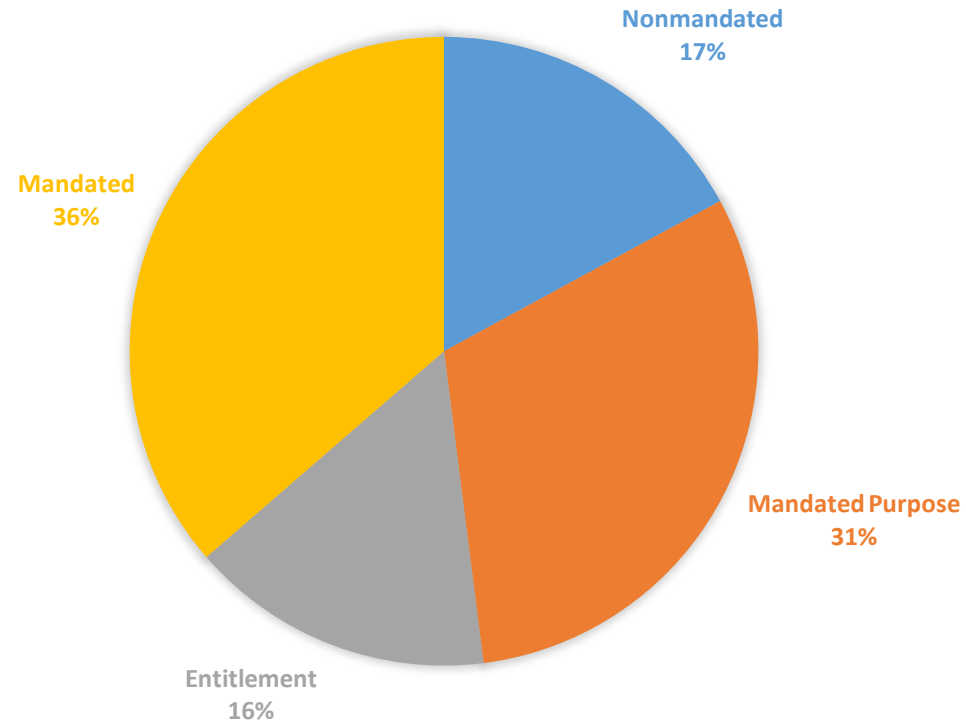- Higher Education (15%)
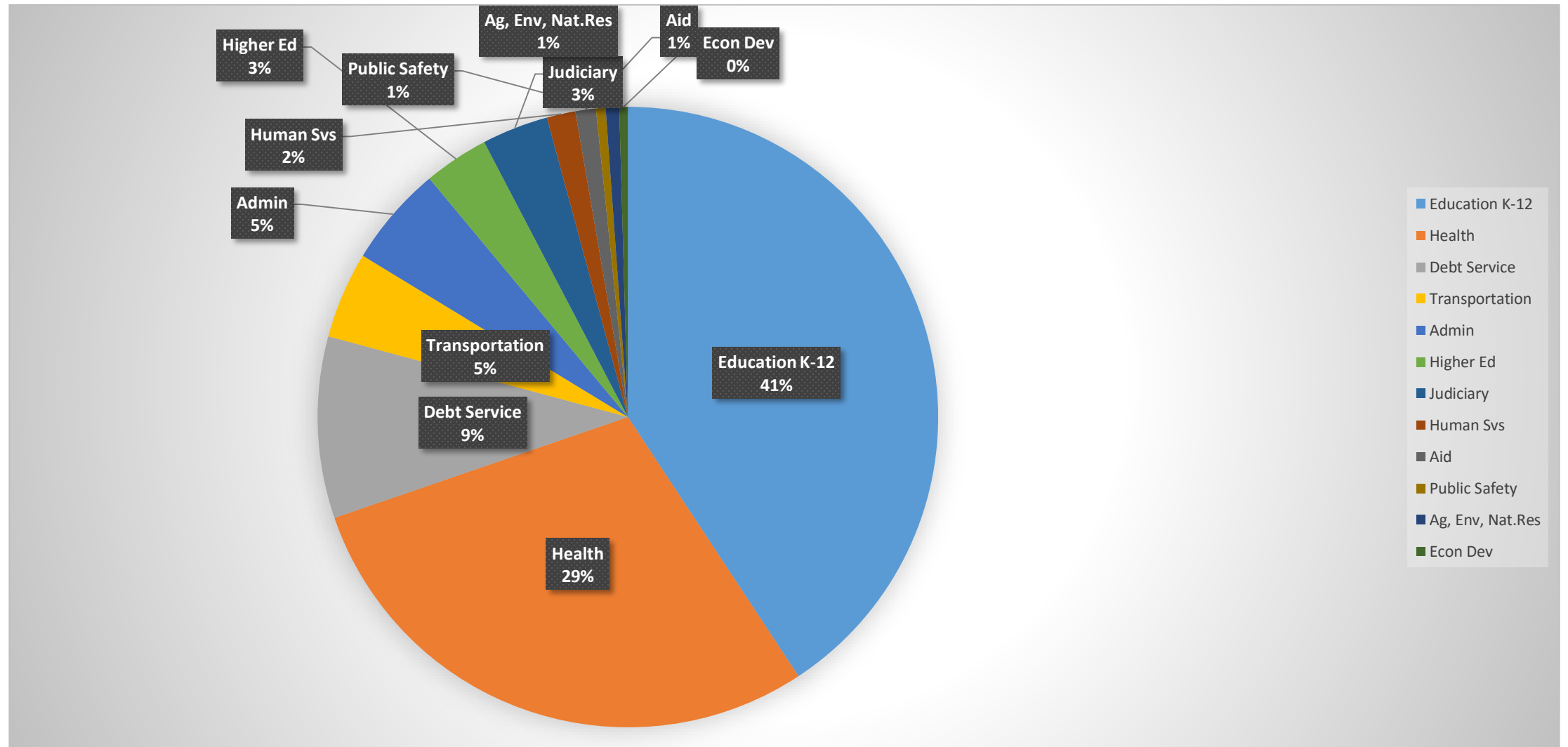- Elementary and Secondary Education (18%)

Budget highlights FY 2017

- $43 billion budget
- Own source budget = $30.1 billion of which 17% is non-mandated.

Mandated spending and Entitlements

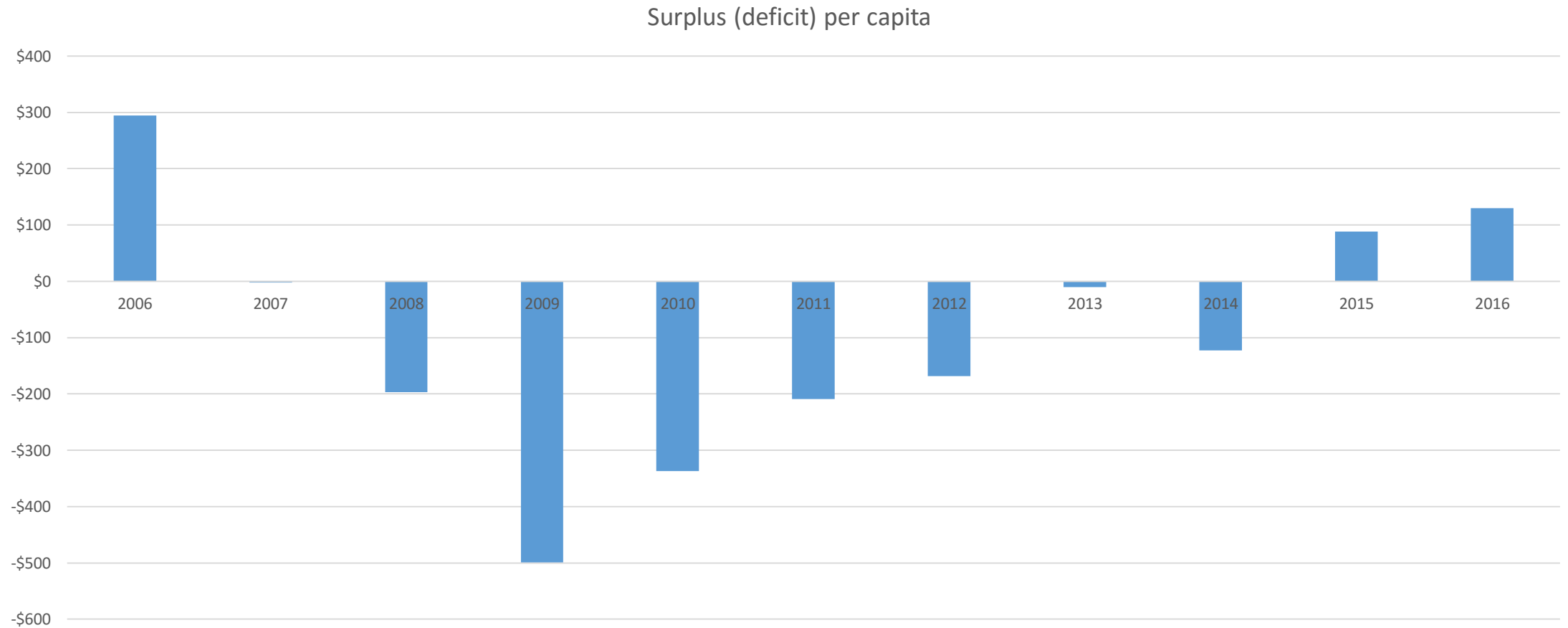
MARYLAND SPENDING FROM OWN-SOURCE BUDGET
FY 2017 ALLOWANCE

Nonmandated 17%
Mandated Purpose 31%
Entitlement 16%
Mandated 36%

FY 2017 Statutorily Mandated Appropriations and Entitlements by Policy Area

Higher Ed 3%
Public Safety 1%
Ag, Env, Nat.Res 1%
Aid 1%
Econ Dev 0%
Judiciary 3%
Human Svs 2%
Admin 5%
Transportation 5%
Debt Service 9%
Education K-12 41%
Health 29%

Legend:
- Education K-12
- Health
- Debt Service
- Transportation
- Admin
- Higher Ed
- Judiciary
- Human Svs
- Aid
- Public Safety
- Ag, Env, Nat.Res
- Econ Dev

MD Surplus (deficit) per capita: 2006-2016
Measures direction of net position
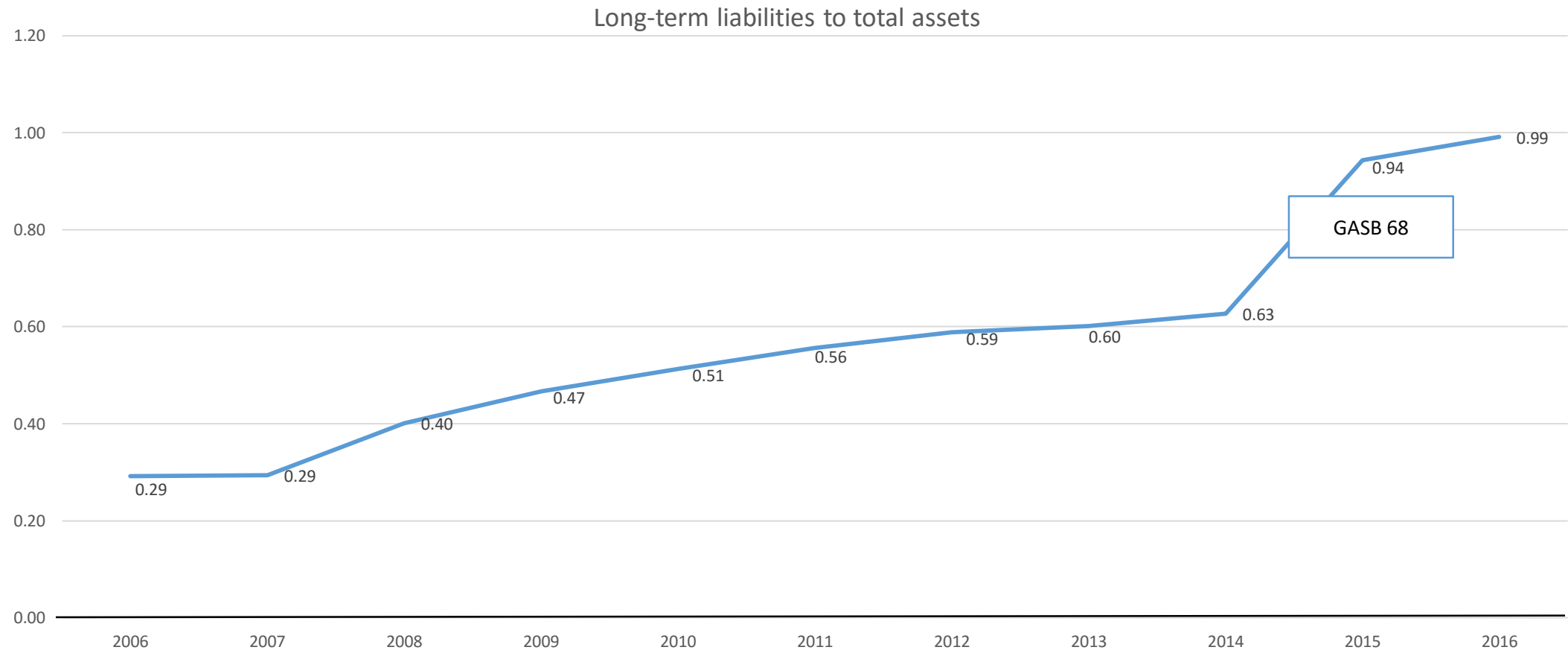
Balance is being achieved via Rainy Day fund

- 88 percent of structural gap closed for FY 2018
  - Rainy Day Fund
  - $202 million in fund transfers
  - $185 million in cuts to spending
- Operating ratio shows revenue exceeds expenses in FY 2015 and FY 2016 but is it sustainable?
- Ongoing risks – economy's tie-in to federal spending
- Growth in mandated spending
- Lackluster growth

Long Run Solvency Analysis

	Net asset ratio	Long-term liability ratio	Long-term liability per capita
Maryland	-0.50	0.94	$6,554
National Average	-0.17	0.61	$4,272

Maryland Long run solvency: 2006-2016
Rank: 44th

Long-term liabilities to total assets

| Year	Value
2006	0.29
2007	0.29
2008	0.40
2009	0.47
2010	0.51
2011	0.56
2012	0.59
2013	0.60
2014	0.63
2015	0.94
2016	0.99

GASB 68

Maryland's long-term liabilities

- Growth is in noncurrent liabilities
- Bonds
- Pensions and OPEB
- GASB 68 effect
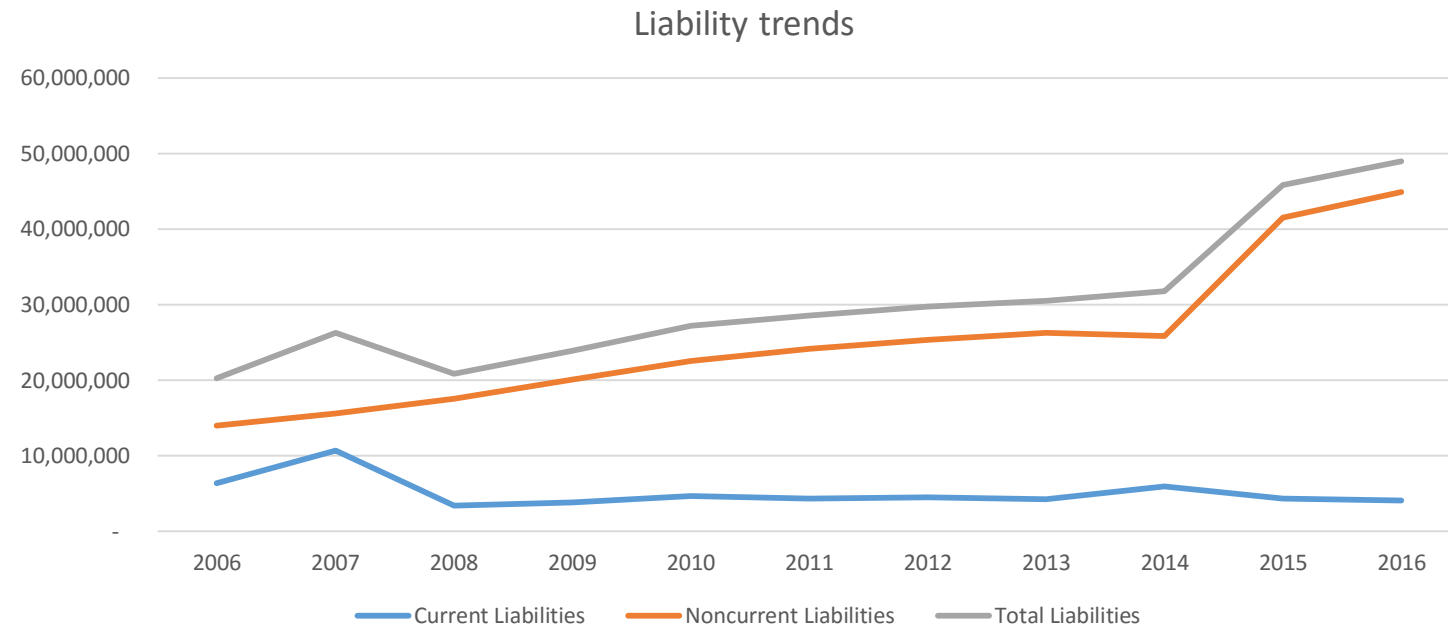
Liability trends
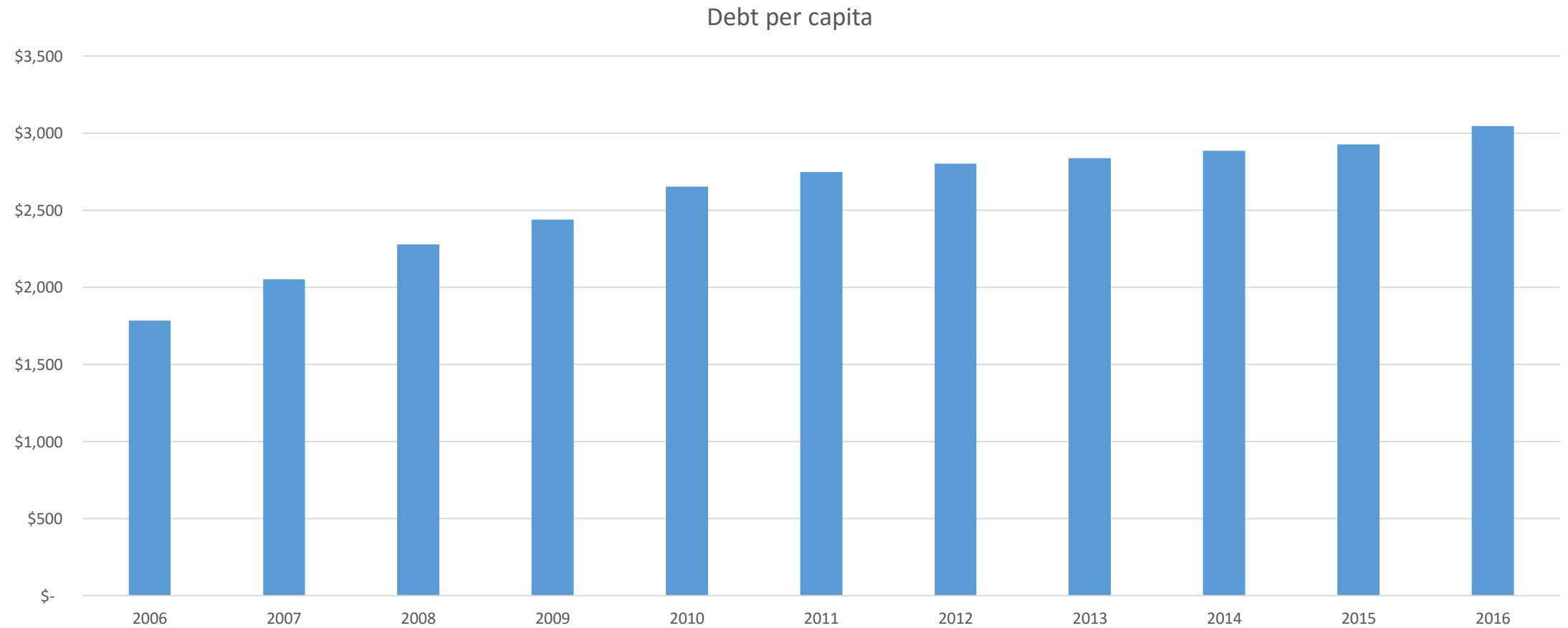
Maryland: Asset trends

- Unrestricted net assets (revenues over expenses) have been declining
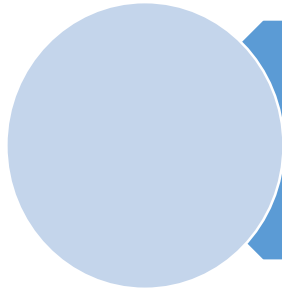
- Deficit since 2008

- Liabilities rising

Asset trends
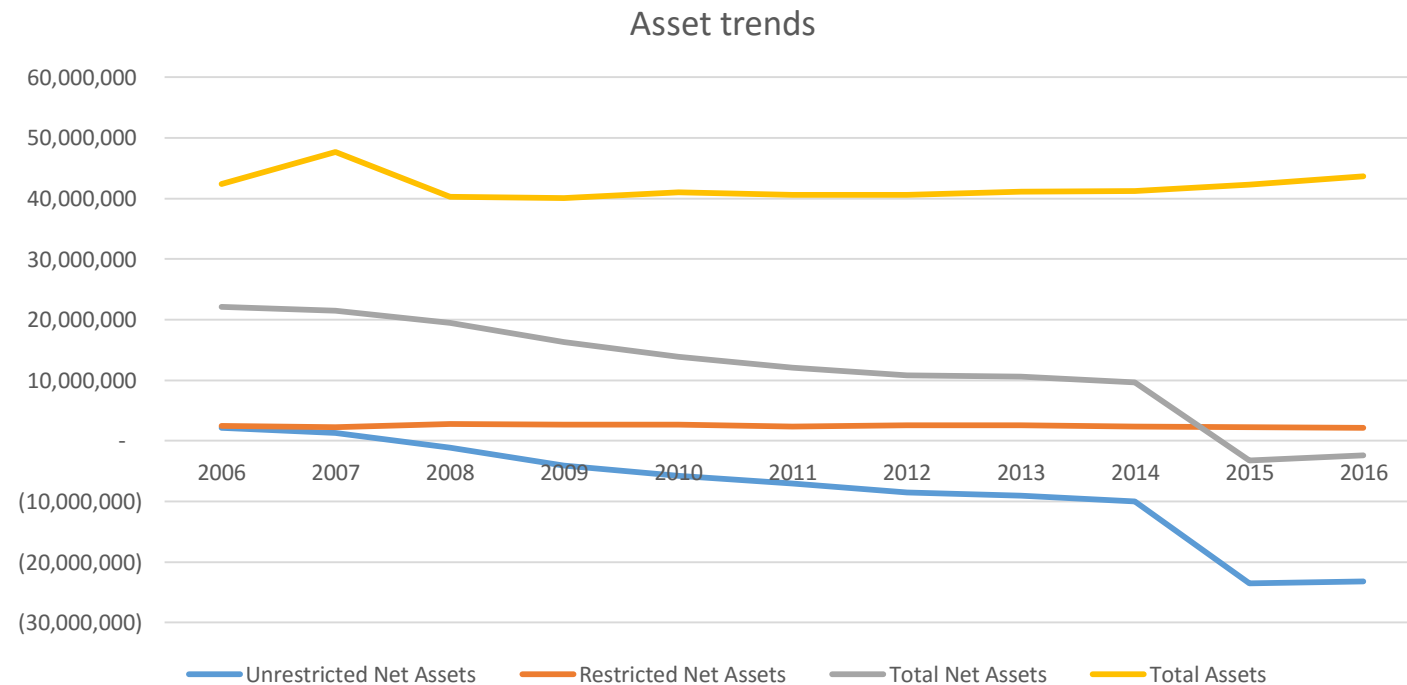
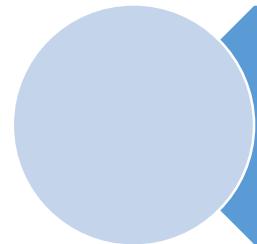# Maryland: Debt chart

Debt per capita

Service Level Solvency Analysis

	Tax-to-income	Revenue-to-income	Expenses-to-income
Maryland	0.06	0.11	0.11
National Average	0.06	0.13	0.13

Service Level Solvency: Subjective and a little vague. Need context.

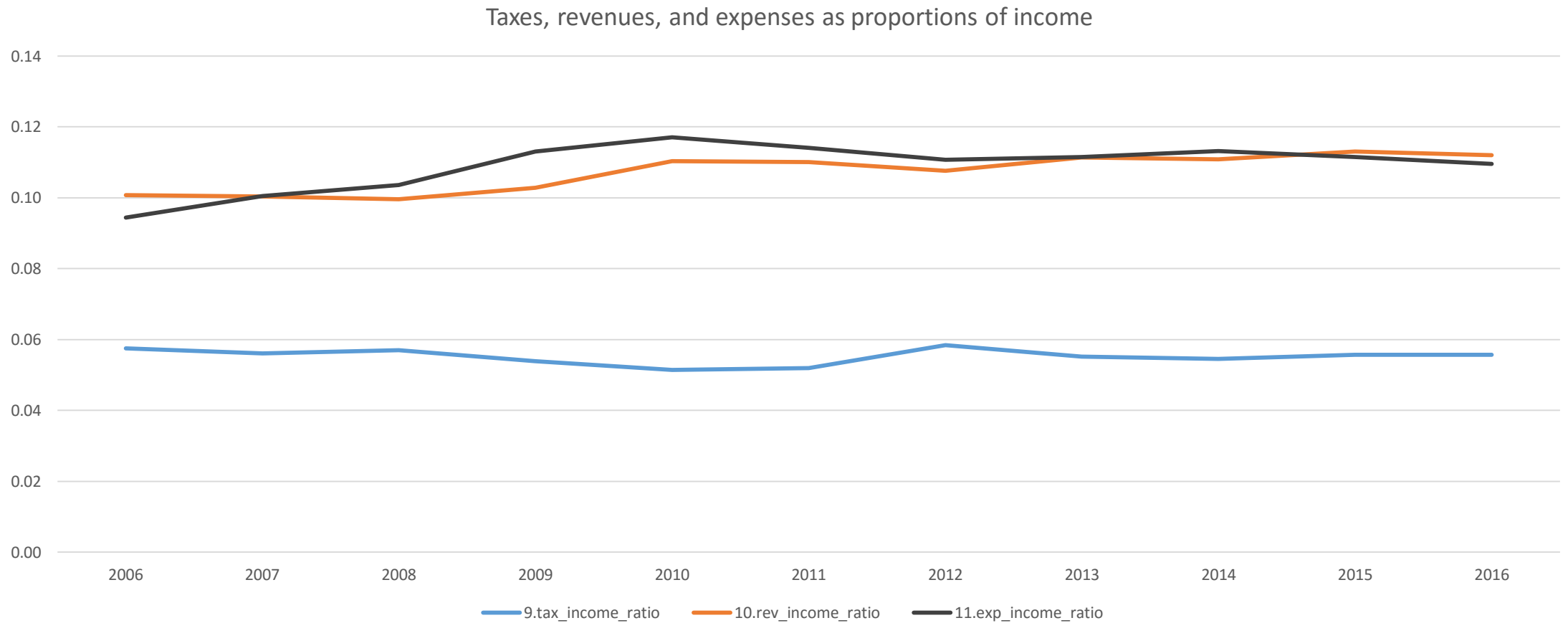How much are taxes, revenues and expenses relative to state personal income?

Not a lot of variance among the states

Alaska, Wyoming, North Dakota: show fragility

Maryland Service Level Solvency: 2006-2016
Rank: 16th

Taxes, revenues, and expenses as proportions of income

9.tax_income_ratio — 10.rev_income_ratio — 11.exp_income_ratio

Service Level Solvency Analysis: Gap between revenues and expenses

Taxes

Relatively flat

Increases in sales, corporate, income FY 07- FY 08

Revenues

Boosts from Federal funds

ARRA: FY 09-FY 11

ACA: FY 14

Expenses

Healthcare

Education

Medicaid

Trust Fund Solvency analysis

	Pensions-to-income	OPEB-to-income
Maryland	0.26	0.03
National Average	0.34	0.04

Trust Fund Solvency: Pensions and OPEB

- Pre-GASB 68 versus post-GASB 68 measurement of pensions
- Include full liability for all plans administered by the state
- What is the status of the overall system?
- Actuarial versus Market discounting

Maryland Trust fund solvency FY 2015
Rank: 14th

Unfunded Pension Liability (Actuarial)	Unfunded Pension Liability (MVL)	OPEB Unfunded Liability
$20.1 billion	$88 billion	$9.35 billion
70% funded	34% funded	3% funded

GASB 67/68: Subjective application

- Weinberg and Norcross (2017): States apply discount rate based on estimates of when assets will run out. This varies by state.
- Until 2015 governments reported pension funding deficiencies on balance sheet, not unfunded liability
- Now on balance sheet; discount rate selection varies.
- Only 13 plans in our sample of 144 plans used the blended rate
- Asset smoothing incorporated into expenses and thus net positions
- Standards working at cross purposes?

Conclusions

Metrics point to:
- Need to maintain and strengthen Rainy Day Fund
- Ongoing structural deficit
- GASB changes and impact on net position

Metrics do not tell us:
- Context on budget process, rules, institutions
- Tax structure

Testing the FCI with 10 years of data

- Clark (2015) applies FCI to Ohio local governments 2004-2010. Finds FCI is not consistently reliable or fully valid for local governments

- Only one study applies it to the states (Wang, Dennis and Tu, 2007)

- Norcross and Gonzalez (forthcoming, summer 20017) will test FCI using panel data (50 states, over time)

No more rankings

- Test and identify key metrics
- Put into institutional, budget and fiscal context
- Develop case studies

What we've learned

Capturing a state's fiscal health depends on clarity and consistency in reporting.

Ongoing development of accounting and measurement rules will change that picture.

Metrics are a road map but not the full story.

Making the CAFR accessible is an ongoing, dynamic project: input from academic, policymakers, public is part of process.

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