

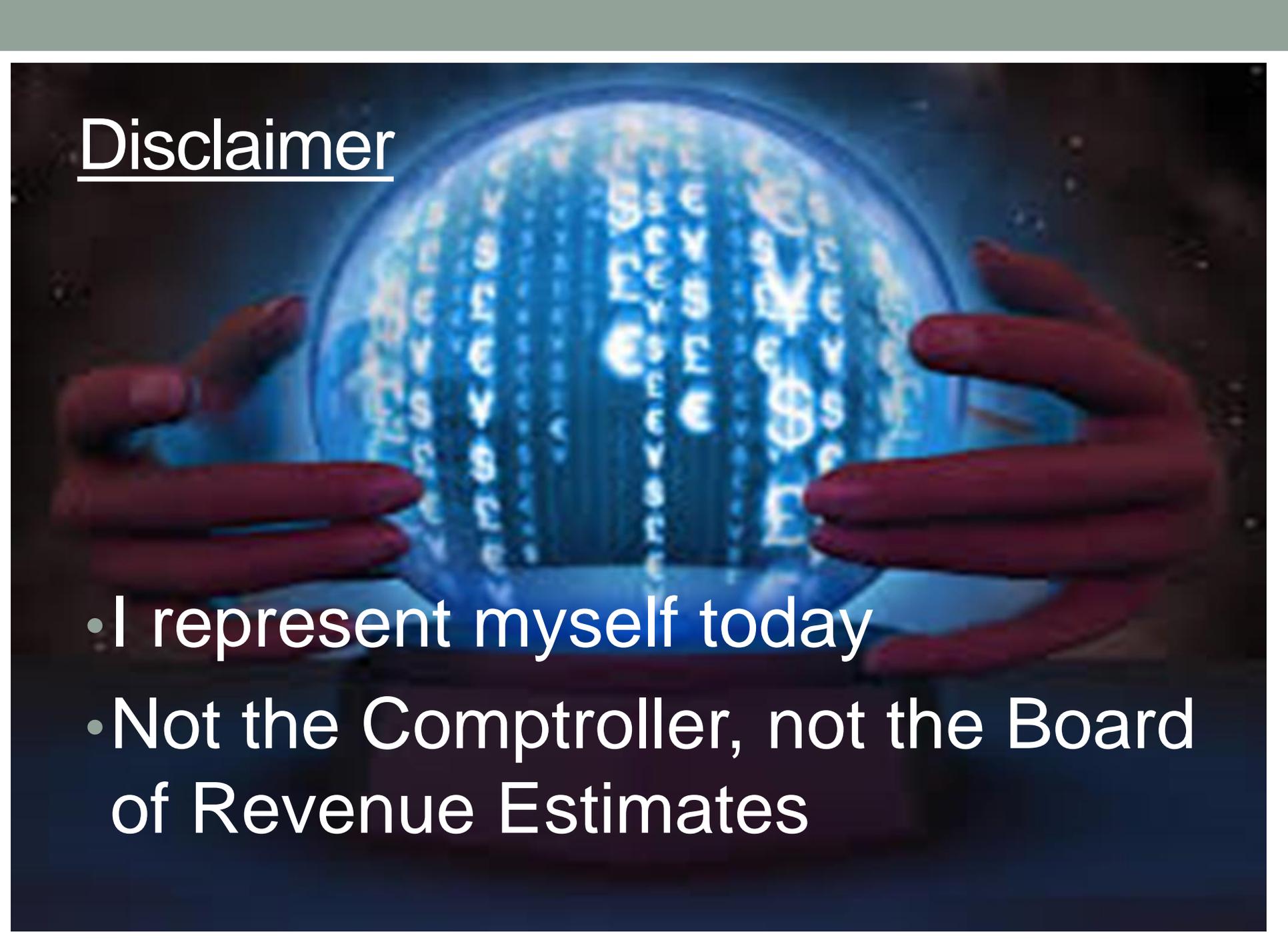
ESTIMATING REVENUES

REVENUE VOLATILITY

Office of the Comptroller
State of Maryland

Andrew Schaufele: Director, Bureau of Revenue Estimates

Disclaimer

A glowing blue globe is the central focus, surrounded by a digital rain of currency symbols and numbers. The symbols include the Euro (€), Dollar (\$), Pound (£), and Yen (¥). The numbers are arranged in vertical columns, resembling a data stream or a financial report. Two hands are positioned on either side of the globe, appearing to hold or present it. The background is dark with a subtle starry pattern.

- I represent myself today
- Not the Comptroller, not the Board of Revenue Estimates

Revenue Volatility On The Rise

- Need to separate volatility from estimate variance
 - Separate items, but volatility increasingly a cause of estimate variance
- Considerations
 1. Estimating Program
 2. Economic Outlook
 3. Data Availability and Quality
 4. Diversified Revenue Sources
 5. Income Concentration & Taxpayer Behavior
 6. External Disruptions (Policy, Legal)
 7. Potential Solutions

State Estimating Program

- Board of Revenue Estimates (BRE) Responsibility
 - Comptroller Peter Franchot
 - Treasurer Nancy Kopp
 - Budget Secretary David Brinkley
 - Andrew Schaufele, Executive Secretary
- Revenue Monitoring Committee
 - 16 to 20 fiscal minded individuals from BRE related agencies and Legislative Services
 - Chaired by BRE Executive Secretary

Consensus Estimates

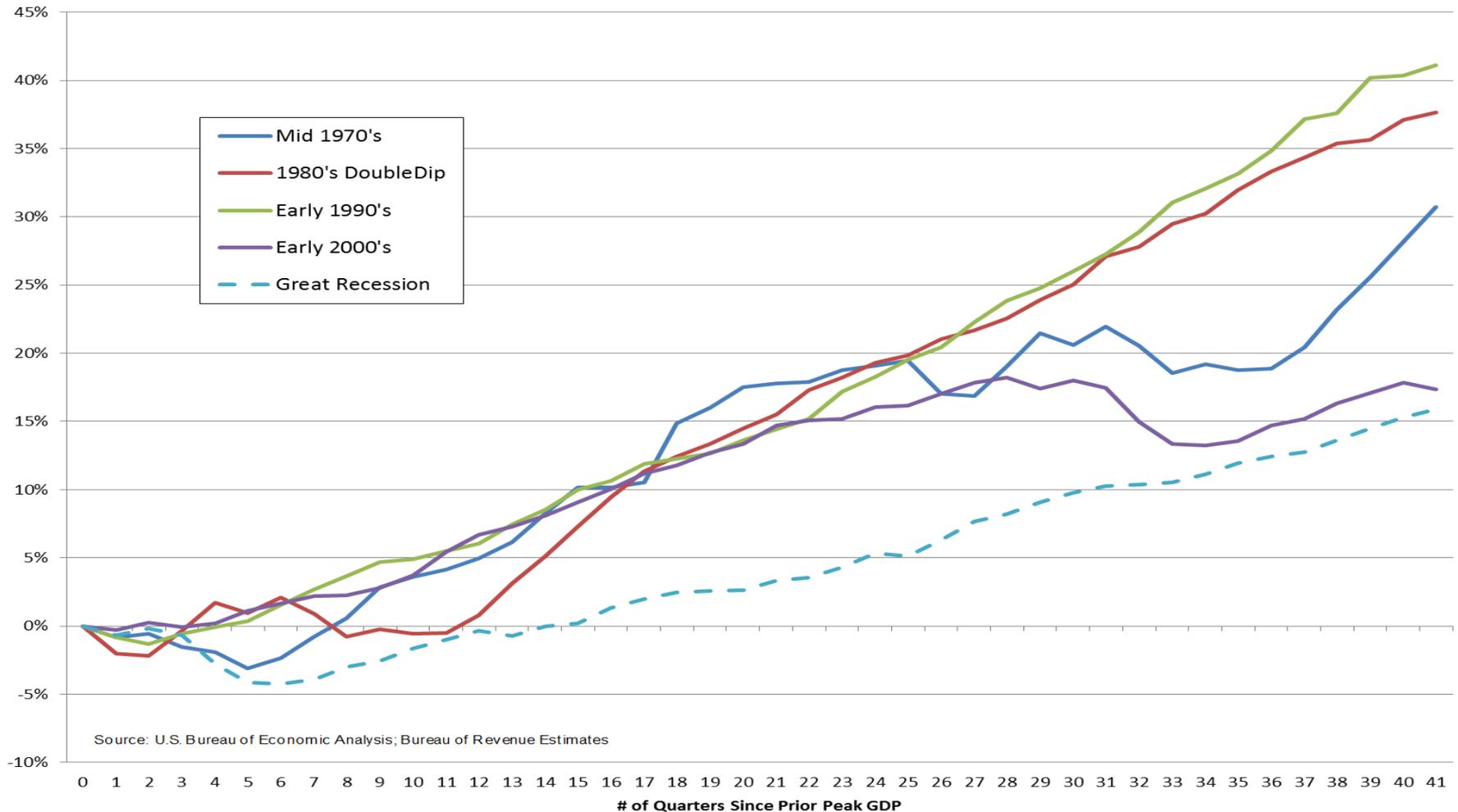
- Process set in statute
- Staff for major State government financial entities participate
- Strong working relationship
- Diversity of opinion
- Rigorous analysis and corrective feedback
- Process consistently praised by 3 major debt rating agencies

Economics and Modeling

- Economists and Revenue Estimators Use Historical Relationships to Predict Future (Statistics, Regressions, etc..)
- Great Recession Exposed Disruption in Post WW2 Economy
- Structural Change in Economy??
 - Still Debated

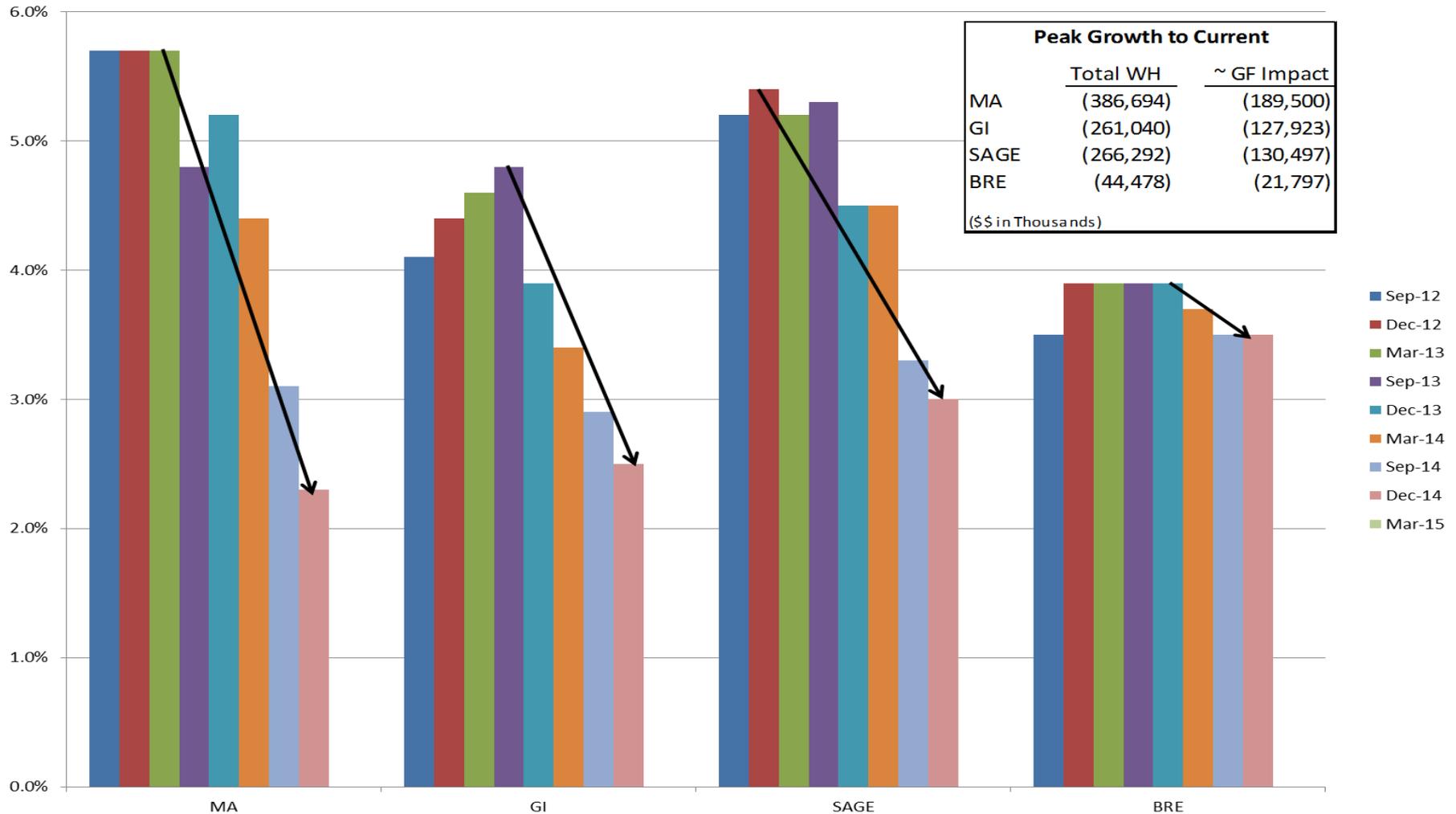
Economics and Modeling

Historic Recessions -- % of Previous Peak GDP (Quarterly)



Economics and Modeling

Estimates for Calendar Year 2014 Wages and Salaries



Economics and Modeling

- Many suspected causes
 - That's an entirely different presentation
- Suspected main culprit – Changing Age Demographics
- BRE has done a tremendous amount of research on this subject and made the data available by county – available on Comptroller's Website [here](#)
- Basic finding is that aging of workforce has itself reduced income tax revenues by 1.5% since 2010 (peak age distribution)
 - Will increase to 4.5% by 2035

Data Availability and Quality

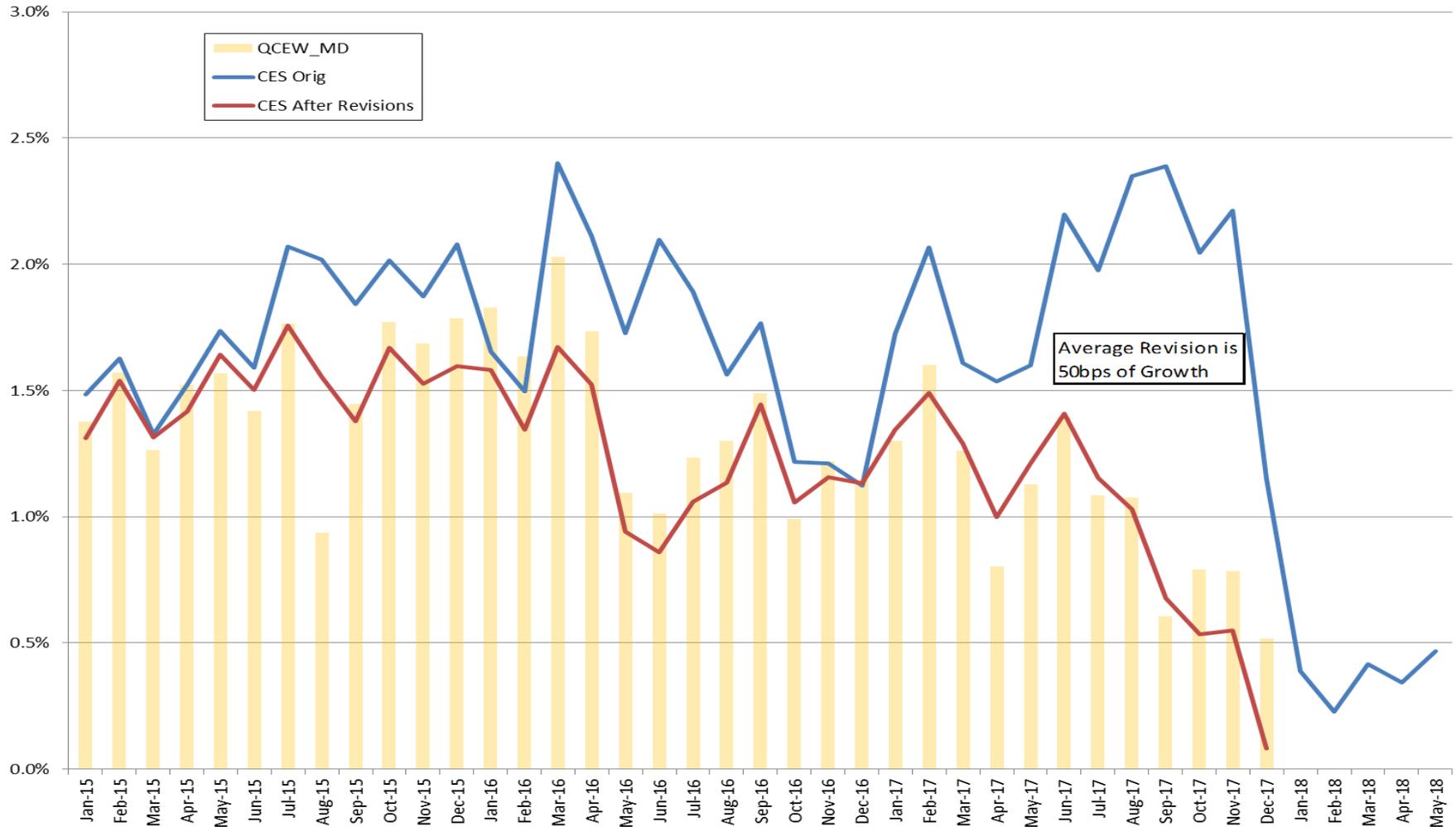
- Not all data available at County Level
- Available data always lags
 - Most key timely data is based on surveys that are later revised
 - E.g., employment
 - Other data is gleaned from tax returns
 - Most notably, capital gains and business income, both highly volatile
 - Collecting tax year 2018 revenue now, but most recent income tax detail available is tax year 2015
 - Significant lag between when revenue is collected (during year) to when the tax return is processed and then the IRS releases data
- Data quality can be highly questionable
 - Just as our models have been thrown off by “new” economy, so have the surveys
 - E.g., monthly employment data is revised after the years ends, some DLLR data can point towards revisions, but 9 month delay!
 - Need to understand the source data and possible revisions to truly interpret “actual” state of matters

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Data Availability and Quality

CES - Maryland Employment Data - Before and After Revision

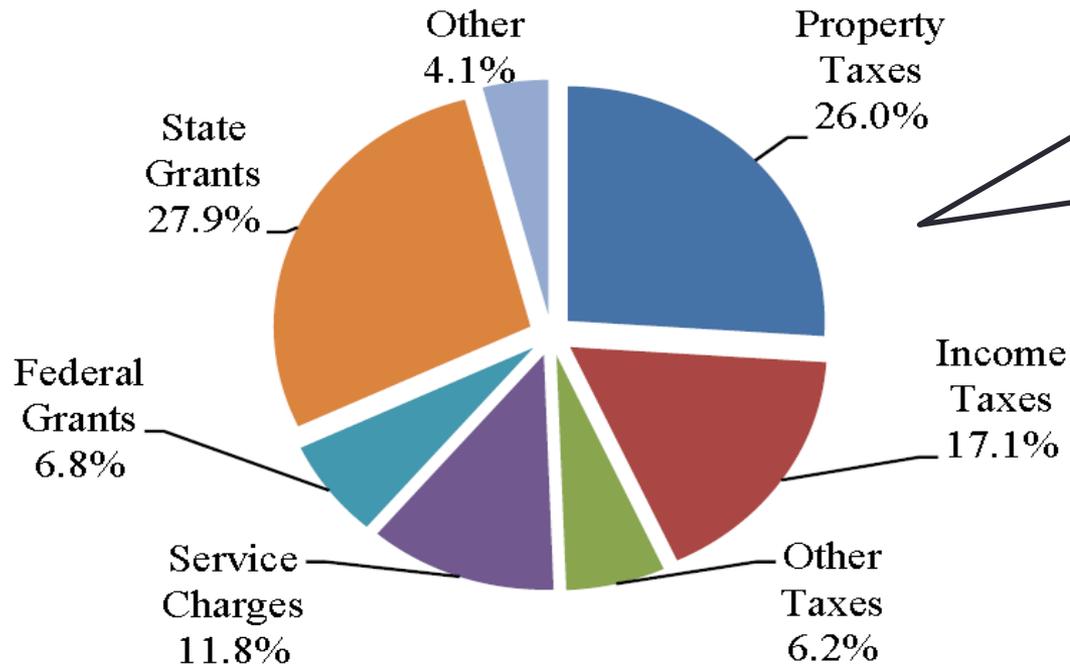


Diversified Revenue Sources - State

1. Personal Income Tax - ~50% of all GFs
 2. Sales Tax - ~ 28% of all GFs
 3. Corporate Income Tax - ~5% of all GFs
- Fiscal Year 2017, Current GF = \$16.589 Billion
 - For Perspective:
 - 0.5% miss is \$83 million
 - 1.0% miss is \$166 million
 - 1.5% miss is \$249 million
 - Note: we only missed our final estimate by +0.5%
 - Year before – we missed by -1.5%
 - Average absolute revenue estimate change is 0.7%

Diversified Revenue Sources - Local

Table 3.3
Sources of Revenue – Counties and Baltimore City
Fiscal 2015



Excluding Grants,
Property Tax is **40%** and
Income Tax is **26%**

Source: Department of Legislative Services

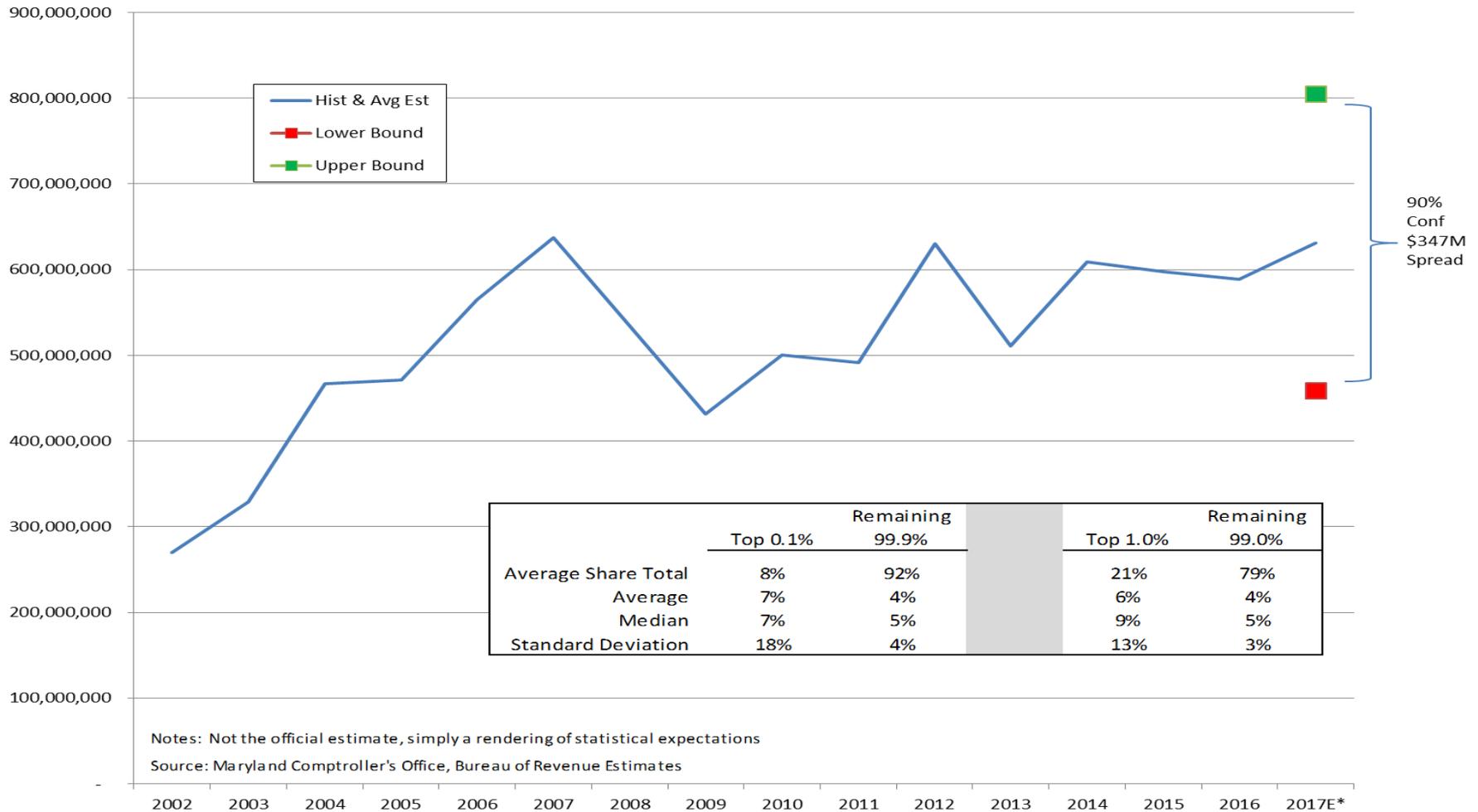
Income Concentration & Taxpayer Behavior

Percentile	# Tax Payers	Net Maryland Tax (\$)	Average Federal Gross Income (\$)	Share State Net Tax (%)	Cum Share State Net Tax (%)
Top 0.01%	269	252,606	19,270	3.7	3.7
>0.01% & <=0.1%	2,422	356,414	2,981	5.2	8.8
>0.1% & <=1.0%	24,225	859,189	755	12.4	21.2
>1.0% & <=5.0%	107,668	1,300,847	283	18.8	40.0
>5.0% & <=10.0%	134,584	941,602	179	13.6	53.7
>10.0% & <=25.0%	403,752	1,666,099	116	24.1	77.7
>25.0% & <=50.0%	672,920	1,328,280	64	19.2	97.0
>50.0% & <=75.0%	672,920	374,667	30	5.4	102.4
>75.0% & <=100.0%	672,920	-163,973	13	-2.4	100.0
Total	2,691,680	6,915,731	76	100	100

Notes: (1) Dollars in Thousands; (2) Ordered by State Net Tax; (3) Tax Year 2014

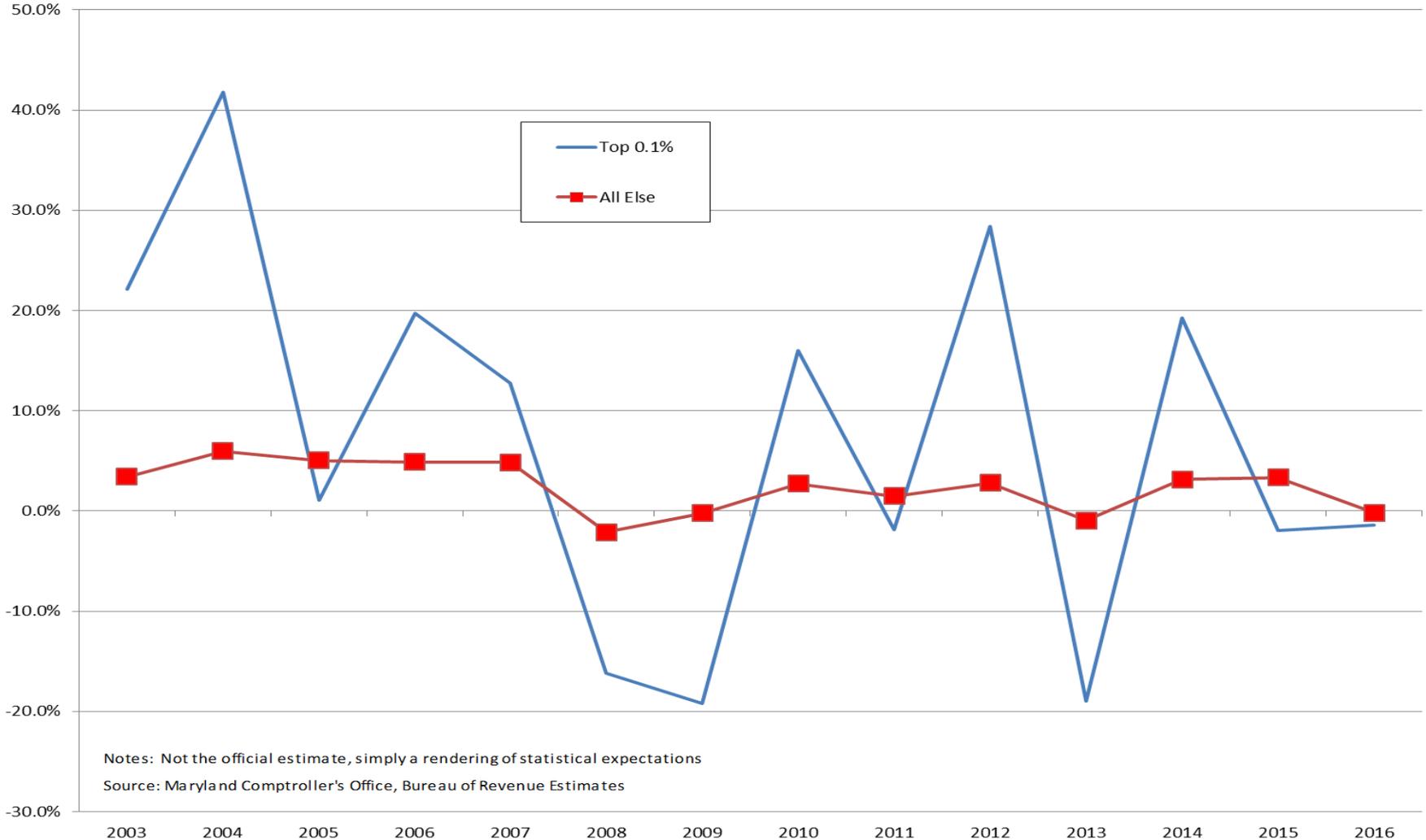
Income Concentration & Taxpayer Behavior

Maryland Income Tax Collections from Top 0.1% Payers



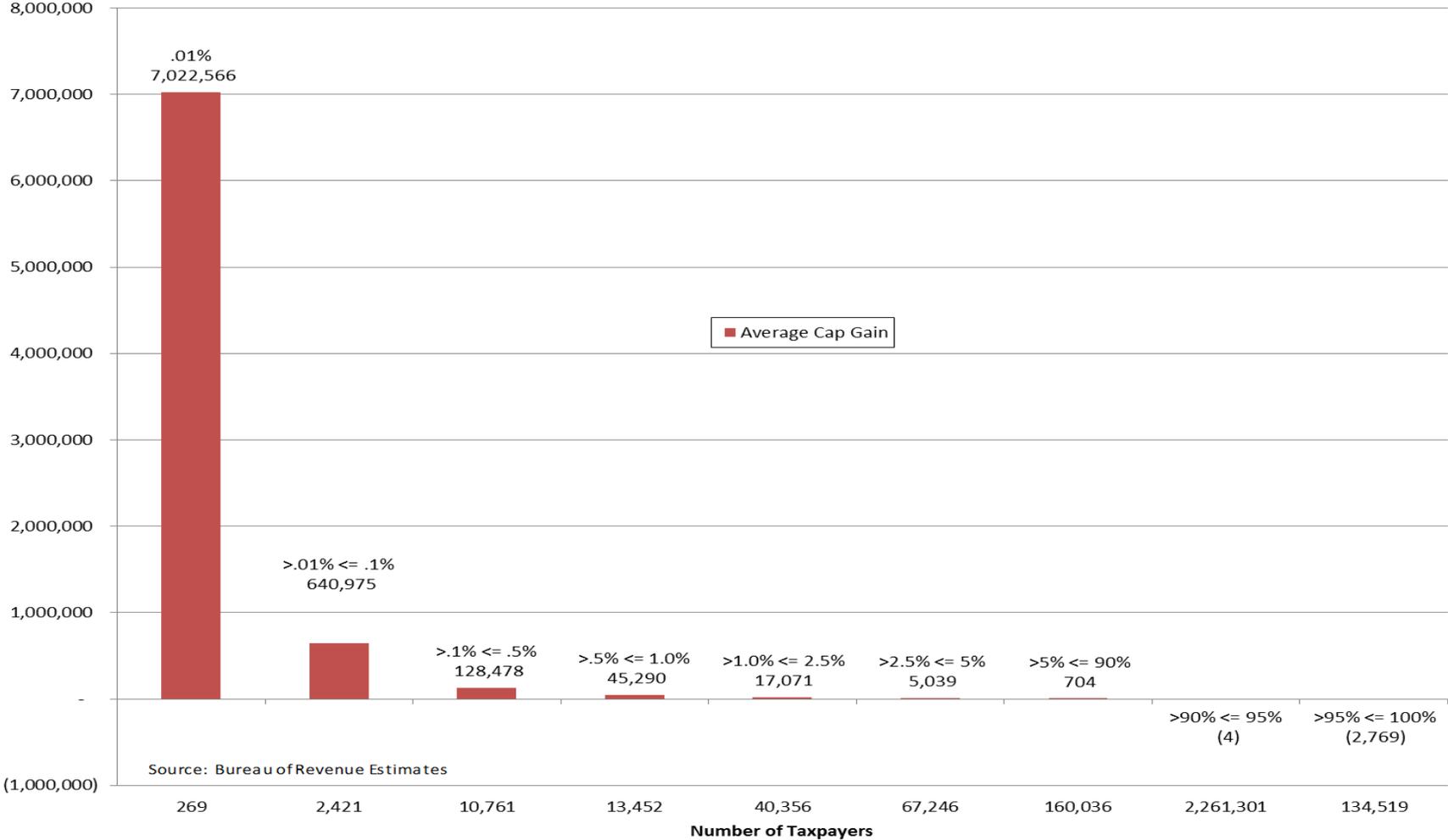
Income Concentration & Taxpayer Behavior

Maryland Income Tax Collections - Growth Top 0.1% Payers Compared To Rest



Income Concentration & Taxpayer Behavior

Tax Year 2013 Average Capital Gains Dollars Ordered By Taxpayers With Gains



External Disruptions – Policy & Legal

Recent Examples:

1. Wynne Case – allowed a credit against the local income tax for taxes paid to other states on certain income. Prevents double taxation of that income
 - a. Ongoing cost to local governments: ~ \$60M per year
 - b. Allowed amended returns and protective claims: ~ \$250M
2. State Tax Policy Changes – Major Changes in 2008 and then again in 2012
3. Federal Tax Policy Uncertainty
 1. Fiscal Cliff – 2012
 2. Republican Sweep in Nov 2016
4. Federal Tax Policy Changes – TCJA – It's a BIG DEAL

External Disruptions - Tax Cuts & Jobs Act (TCJA)

- Impacts below are based on cash collections – NOT LOCAL DISTRIBUTION TIMING
- These figures are before the General Assembly's changes

Updated BRE Estimate for 60 Day Reports - By Fiscal Year - Updates & Consolidation			
Dollars in Thousands			
Item	Fiscal Year 2018	Fiscal Year 2019	Fiscal Year 2020
Personal Income Tax - State - General Fund	28,360	403,943	315,868
Sales Tax - State - General Fund	4,752	31,096	24,476
Corporate Income Tax - State - General Fund	2,408	76,557	58,931
State Revenue General Fund - SubTotal	35,519	511,595	399,275
Casinos - State - Education Trust Fund	750	4,906	3,862
Corporate Income Tax - State - Non General Funds	624	19,855	15,284
State Revenue Total	36,894	536,357	418,421
Local Income Tax Total	17,545	251,780	190,624
Total State & Local Taxes Impact	54,439	788,137	609,045

Notes:

(1) Fiscal Year 2019 is higher due to the fact that so much uncertainty exists. It is unlikely that estimated taxpayers will greatly affect their payments before the end of fiscal year 2018 for tax year 2018. Much of the impact is likely to occur later in the year as taxpayers adjust withholding and then "true up" upon filing their taxes. Could be substantial refunds for tax year 2018 in fiscal year 2019.

(2) The fiscal years are a cash basis for State purposes; these are not intended for estimating local cash basis distributions.

Possible Solutions

- Accept it! It is inevitable and this expansion is unprecedented
 - Carry larger reserves
- Take conservative approach to estimates
 - We assume 0% growth for capital gains in our outlook
- Statutory constraints
 - COM, DBM, and DLS worked together at the staff level to generate a report documenting volatility as well as to make recommendations – report available [here](#)
 - MGA passed CH550 in 2017, effective for FY20 estimate:
 - Institutes a cap for estimated growth of, effectively, non-wage income tax; amount exceeding cap limited to 2% of total revenues (2% limit reduced in 2018 BRFA to phase in at 0.5% in 2020 and 1% in 2021)
 - If cap is exceeded and total closeout revenue is positive, the exceeding revenue is treated as one-time revenue
 - That excess revenue is then statutorily spread across reserve accounts and Pay-Go capital funding

Thank You

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