MARYLAND REVENUE ESTIMATES

REVENUES & ECONOMICS
OCTOBER 2019

Office of the Comptroller
State of Maryland

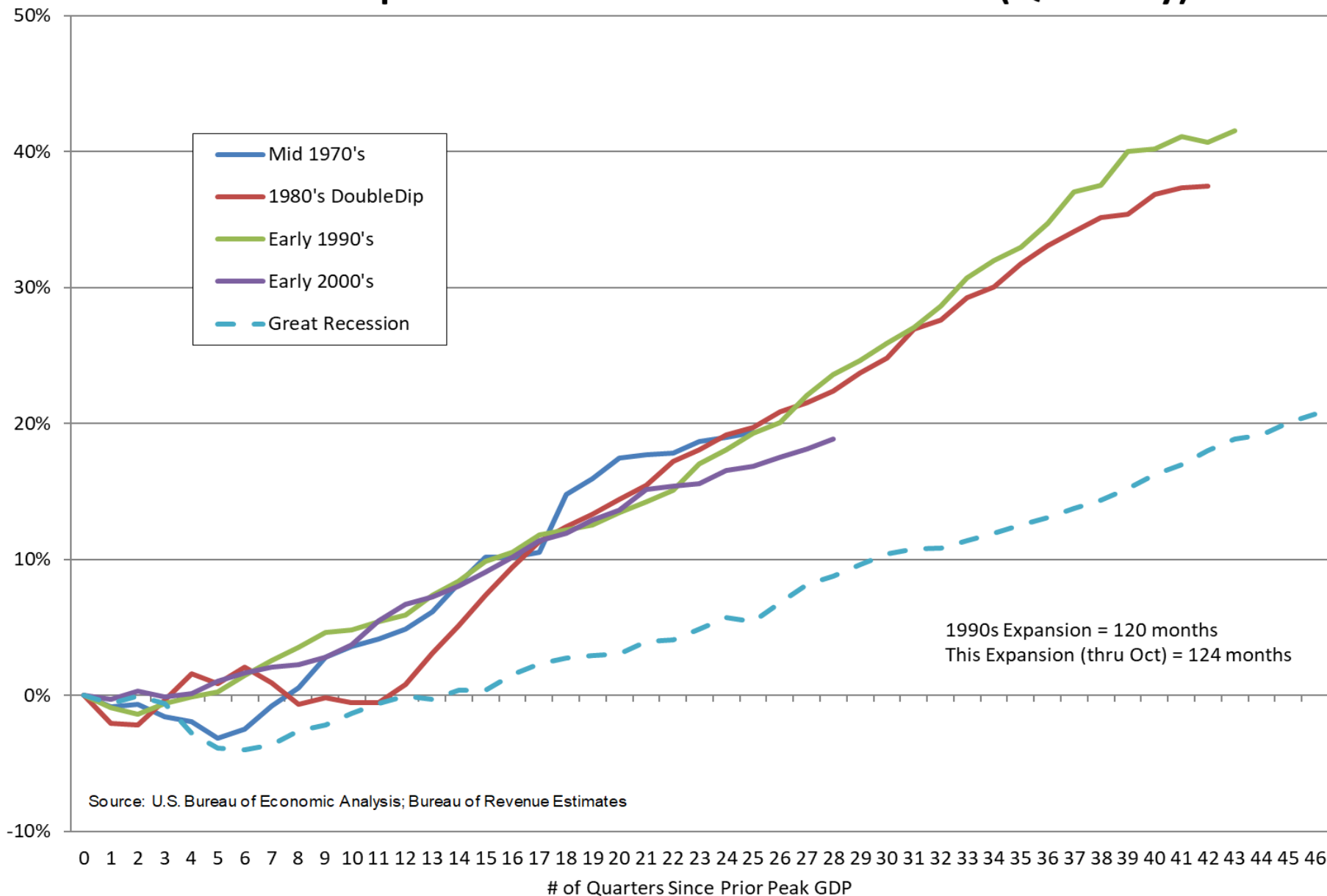Andrew Schaufele: Director, Bureau of Revenue Estimates

Disclaimer

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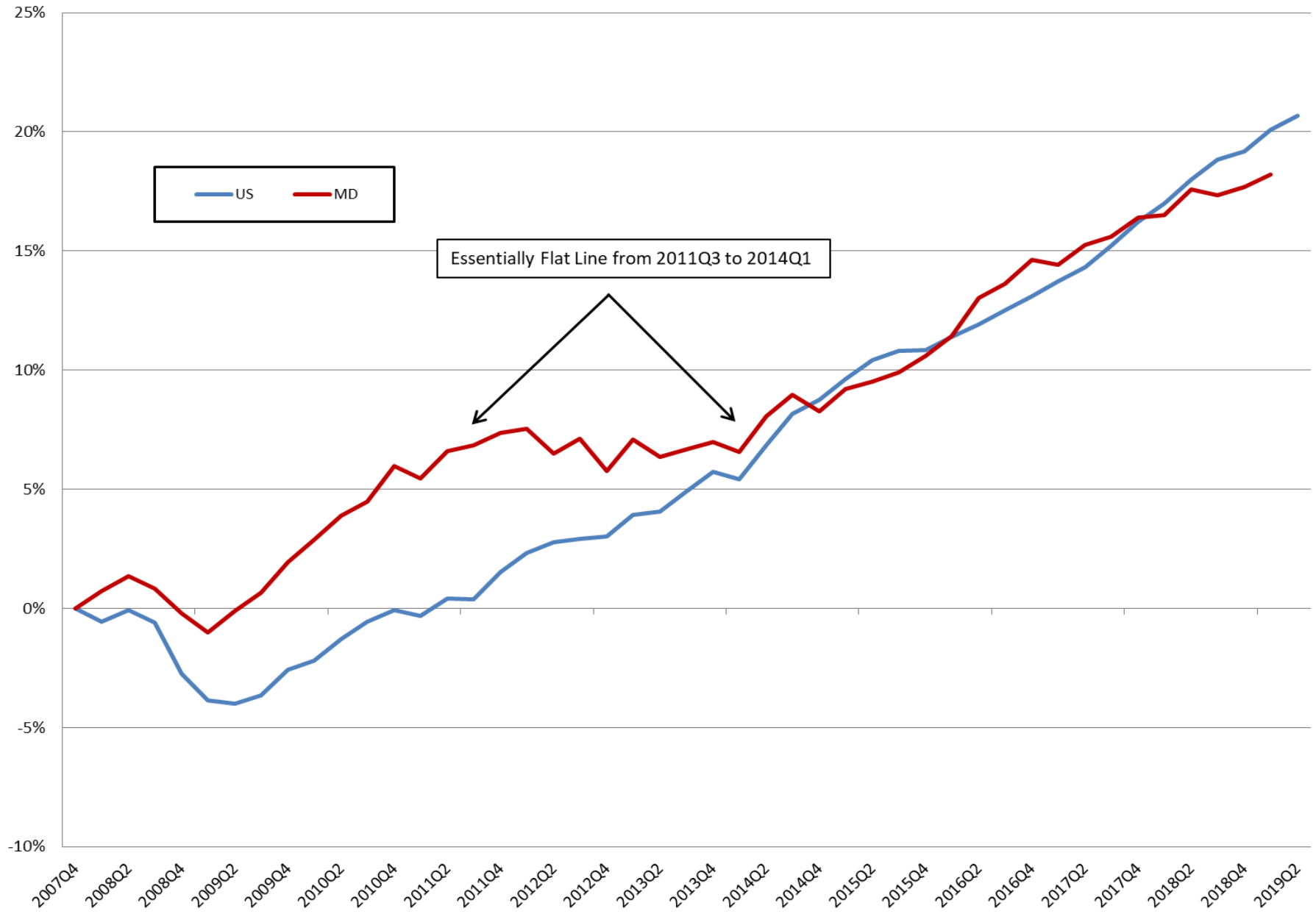- Not the Comptroller, not the Board of Revenue Estimates

Agenda

- Quick Thoughts on Economy
- Revenue Results & Expectations
- Putting Kirwan Funding in Perspective

Historical Expansions -- % of Previous Peak GDP (Quarterly)
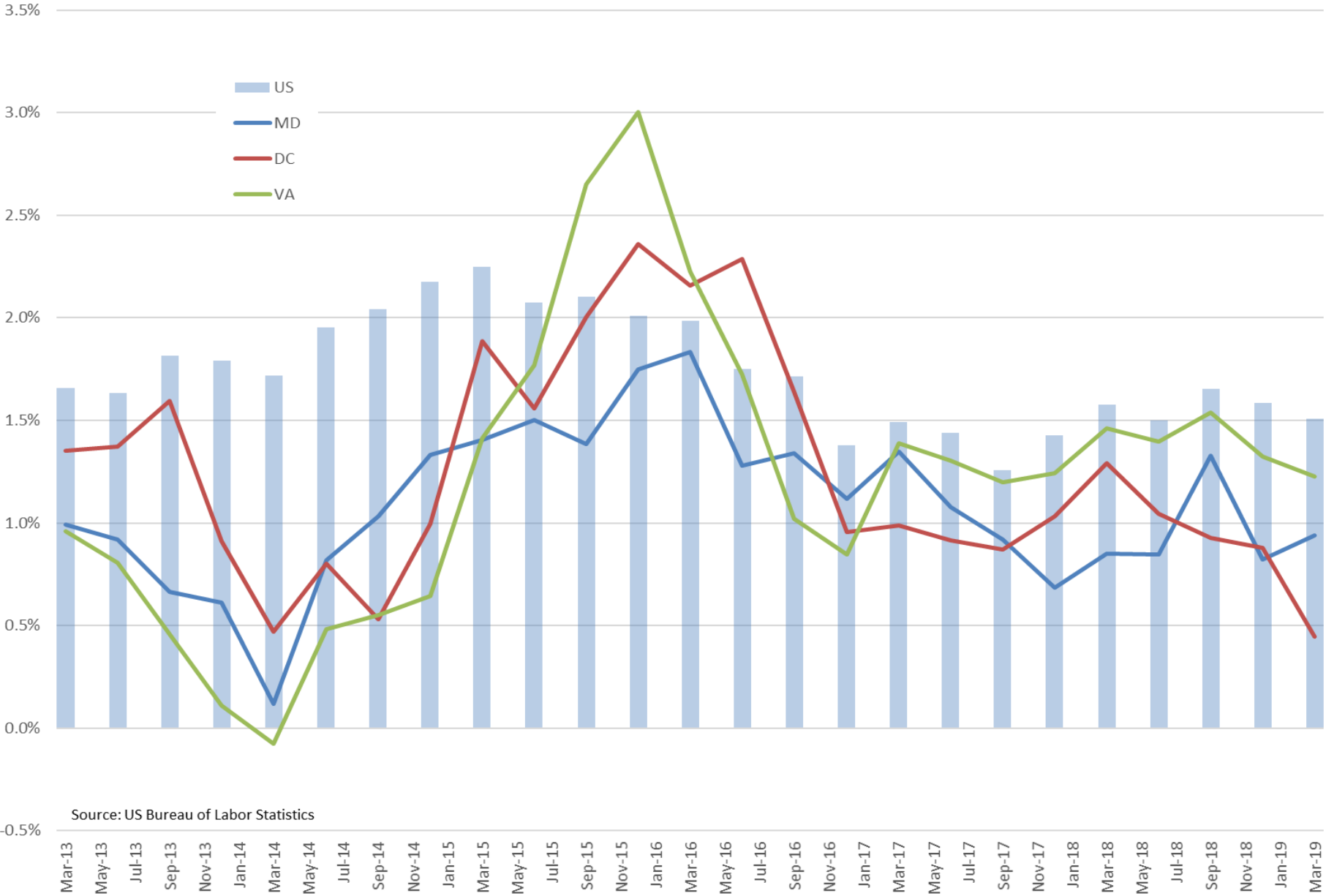
1990s Expansion = 120 months
This Expansion (thru Oct) = 124 months

Source: U.S. Bureau of Economic Analysis; Bureau of Revenue Estimates

# of Quarters Since Prior Peak GDP

Real GDP Growth, Indexed to 4th Qtr 2007

QCEW Employment Y-o-Y Growth

Source: US Bureau of Labor Statistics

QCEW Federal Employment Growth

Jobs Lost From Prior Peak	
MD	1,953
DC	5,579
MD & DC	**7,532**

Legend: US, MD, DC, VA

Source: Bureau of Labor Statistics - QCEW; Bureau of Revenue Estimates
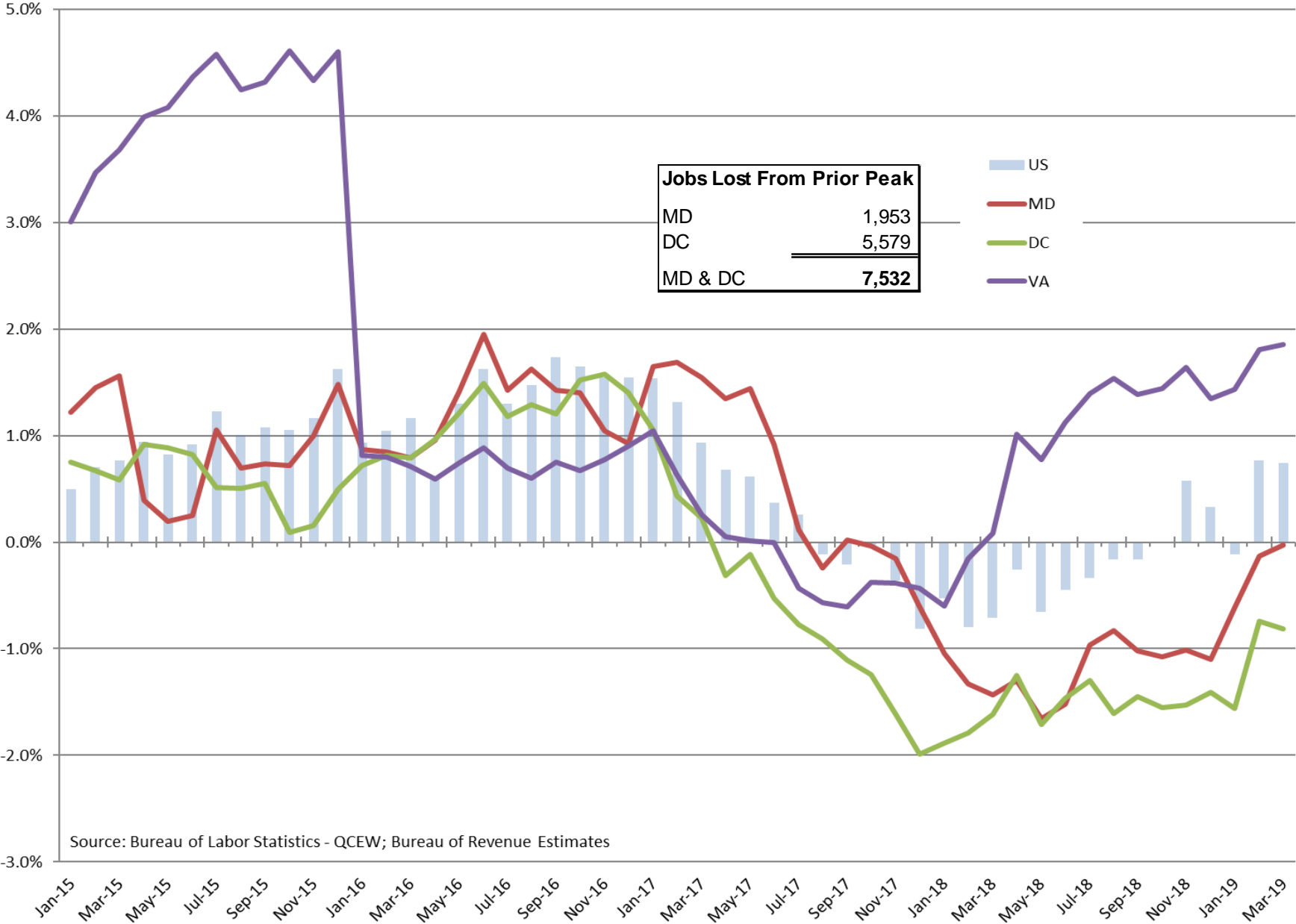
State Income Tax Withholding - 3Qtr Moving Average - By Attributable Period
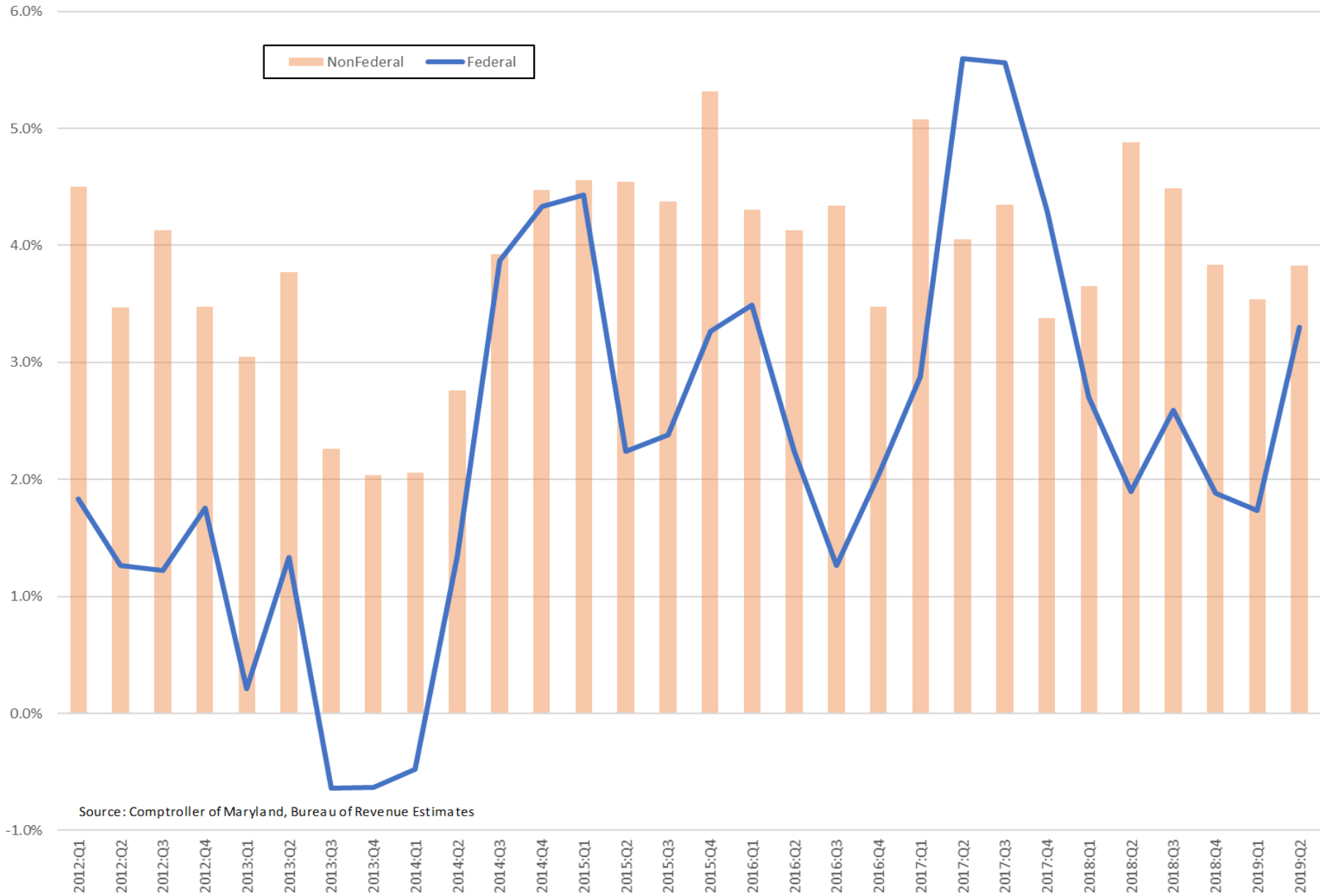
Average Wage Growth
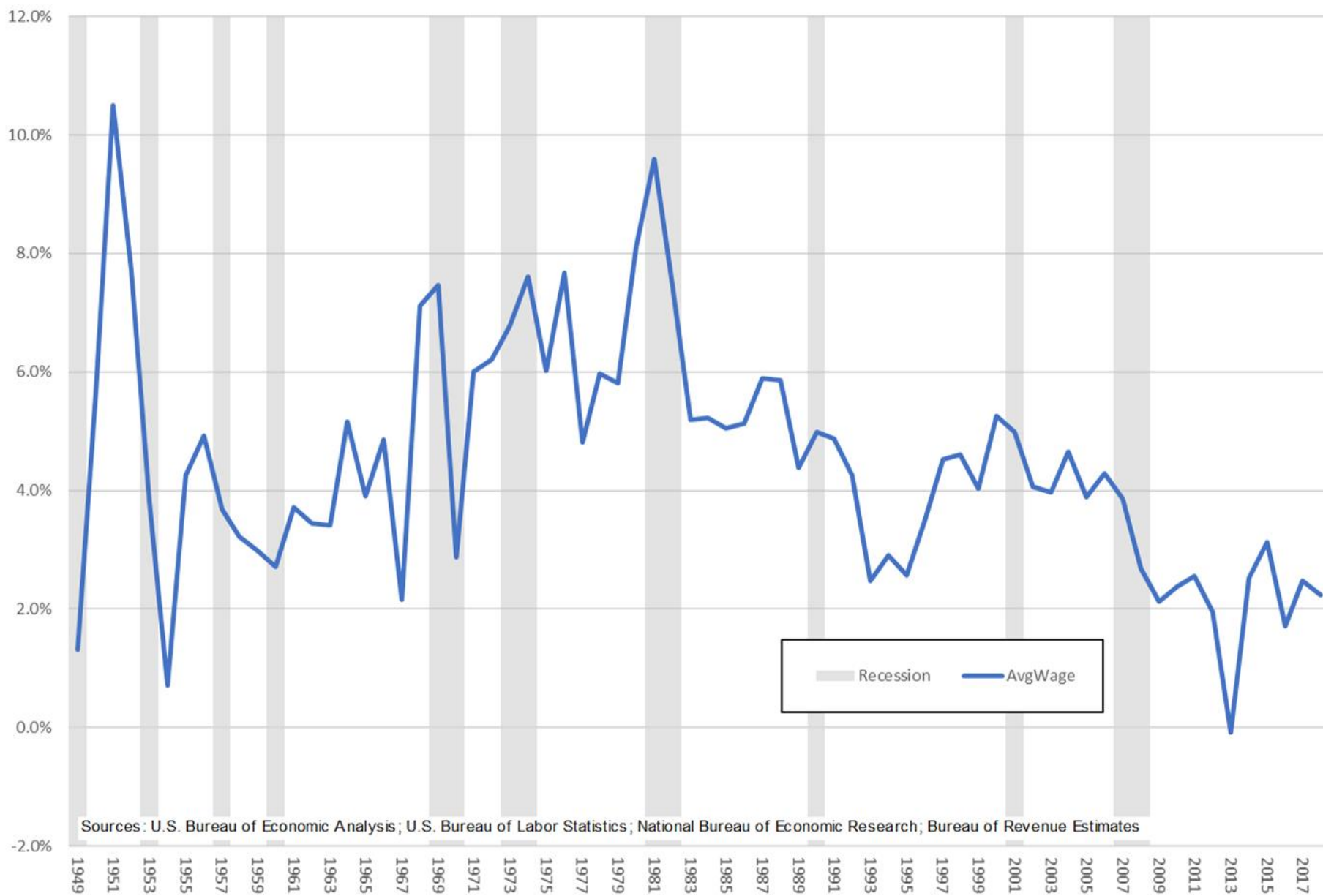
Sources: U.S. Bureau of Economic Analysis; U.S. Bureau of Labor Statistics; National Bureau of Economic Research; Bureau of Revenue Estimates

Recession — AvgWage

Employment Growth & Wages -- State of Maryland

Growth Factor Rank	Industry	(a) 2018Q4 YTD Employment Growth	(b) 2018Q4 YTD Share of Total	= (a) * (b) Growth Factor	2018Q4 YTD Average	Average Wage Rank
	Total	0.9%	100.0%	0.9%	61,175	
1	Education & Health Services	2.1%	16.6%	0.347%	54,296	9
2	Professional & Business Services	2.0%	16.9%	0.340%	79,487	4
3	Manufacturing	2.7%	4.1%	0.110%	78,926	5
4	Local Government	0.9%	9.1%	0.085%	57,516	8
5	State Government	2.0%	3.7%	0.074%	58,304	7
6	Leisure & Hospitality Services	0.6%	10.5%	0.065%	24,036	13
7	Construction	0.6%	6.1%	0.039%	65,892	6
8	Other Services	0.3%	3.4%	0.011%	43,236	11
9	Trade, Transportation, & Utilities	0.1%	17.3%	0.010%	46,653	10
10	Natural Resources & Mining	0.2%	0.2%	0.001%	43,101	12
11	Information	-3.6%	1.4%	-0.049%	92,839	3
12	Federal Government	-1.2%	5.4%	-0.064%	105,797	1
13	Financial Activities	-1.4%	5.2%	-0.074%	94,207	2

Note 1: Average Wage is Annualized

Note 2: Aggregate Wage Growth For the Reference Period is 3.5%

Note 3: Average Wage Growth For the Reference Period is 2.6%

Employment Growth & Wages -- State of Maryland

| Growth Factor Rank	Industry	(a) 2019Q1 YTD Employment Growth	(b) 2019Q1 YTD Share of Total	= (a) * (b) Growth Factor	2019Q1 YTD Average	Average Wage Rank
	Total	0.9%	100.0%	0.9%	63,877	
1	Professional & Business Services	2.5%	17.0%	0.424%	84,941	5
2	Education & Health Services	1.4%	16.9%	0.239%	53,566	9
3	Construction	2.0%	6.0%	0.118%	64,616	6
4	Leisure & Hospitality Services	1.0%	10.0%	0.098%	24,170	13
5	Manufacturing	2.1%	4.1%	0.087%	86,461	4
6	Local Government	0.8%	9.5%	0.080%	59,079	7
7	State Government	1.6%	3.7%	0.061%	55,810	8
8	Natural Resources & Mining	12.9%	0.2%	0.031%	44,758	11
9	Other Services	0.2%	3.4%	0.006%	43,497	12
10	Trade, Transportation, & Utilities	-0.1%	17.1%	-0.014%	49,075	10
11	Federal Government	-0.3%	5.4%	-0.014%	101,706	3
12	Information	-3.0%	1.3%	-0.040%	116,219	1
13	Financial Activities	-2.4%	5.1%	-0.121%	111,708	2

Sources: U.S. Bureau of Labor Statistics, M.D. Department of Labor, Licensing, and Regulation, Bureau of Revenue Estimates

Note 1: Average Wage is Annualized

Note 2: Aggregate Wage Growth For the Reference Period is 2.6%

Note 3: Average Wage Growth For the Reference Period is 1.7%

Share of Population By Age Cohort

Sources: U.S. Census Bureau; Moody's Analytics; Bureau of Revenue Estimates

■ Under 25 ■ 25 to 44 ■ 45 to 64 ■ Over 65
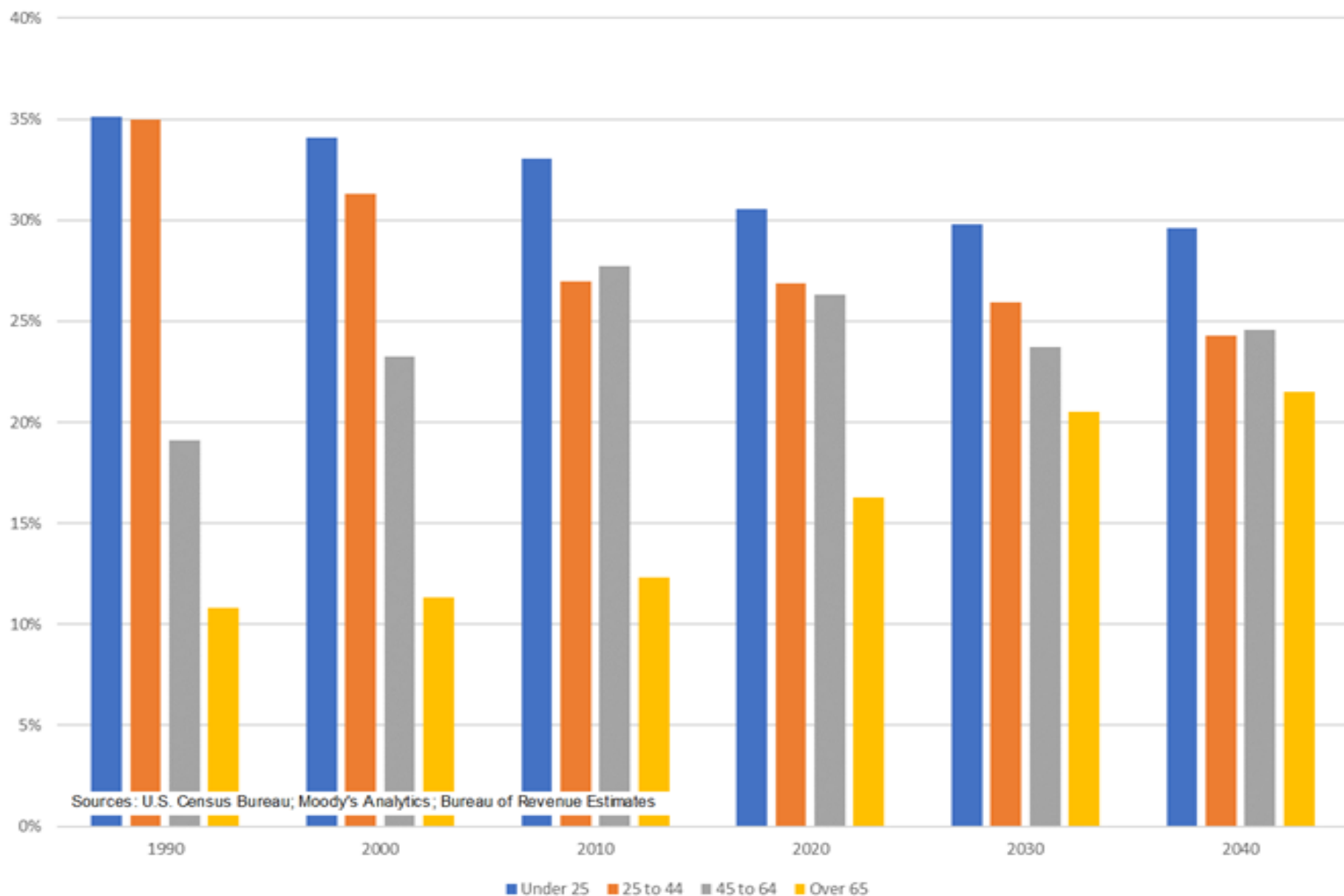
Retirement Churn Hurting Wage Growth - Employed To Not In Labor Force Relative To Total Labor Force
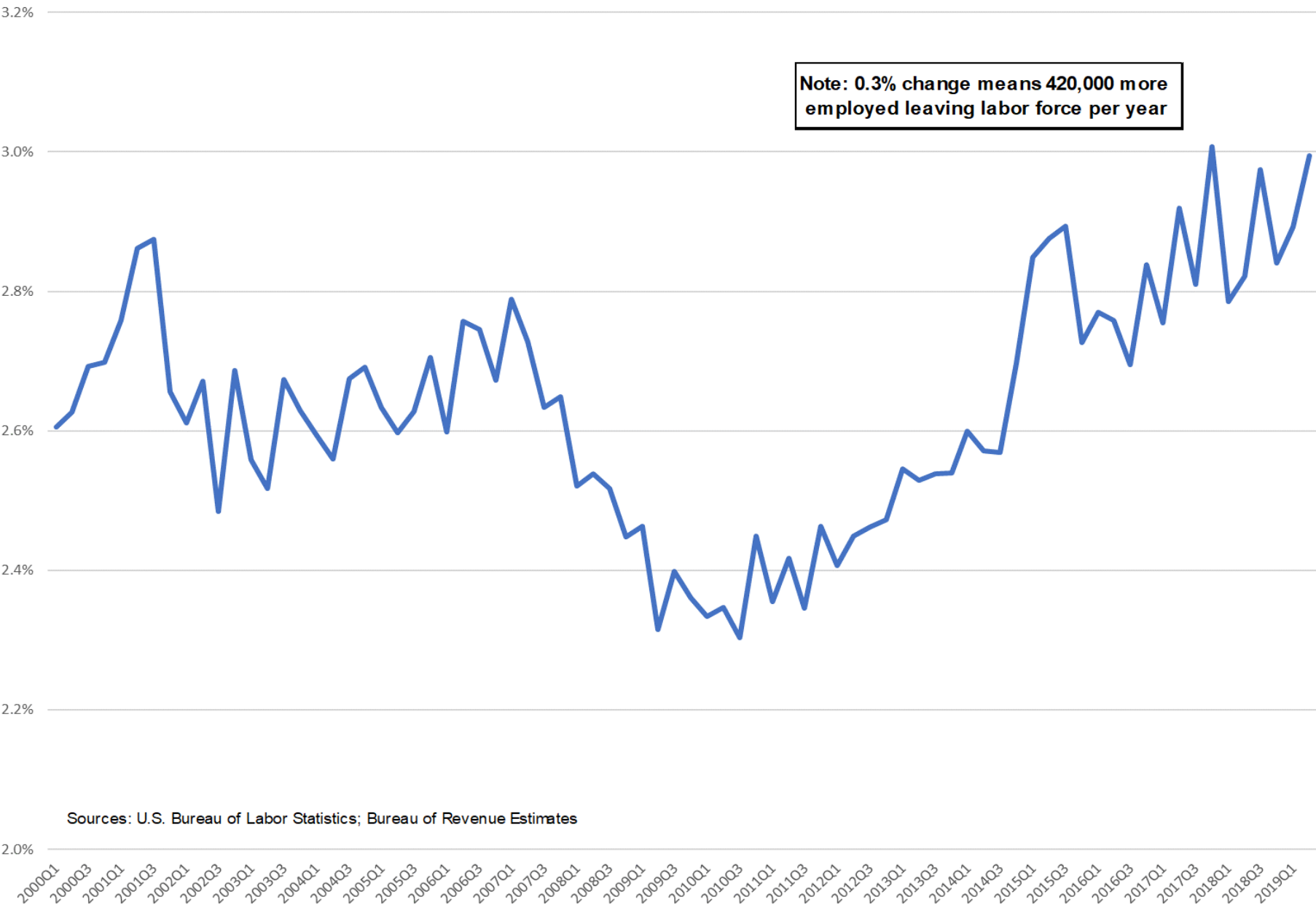
Note: 0.3% change means 420,000 more employed leaving labor force per year

Sources: U.S. Bureau of Labor Statistics; Bureau of Revenue Estimates

Retirement Churn - Example

Quantity	Job	Wage - Low Bound	Wage - Upper Bound
50	Entry Level	30,000	45,000
10	Middle Management	50,000	75,000
2	Vice President	100,000	150,000
1	President	225,000	325,000

	Pre Retire Scenario	Post Retire Scenario	
Total Wage:	3,120,000	2,930,000	-6.1%
Average Wage:	49,524	46,508	-6.1%

Pre Retire -- Assumes mid-point for existing employees and max for
 employee to be promoted

Post Retire – Assumes mid-point for prior employees and min for
 newly promoted

But Revenues are Robust – Aren't They??

		September 2019 General Fund Estimate		
Tax Type	**Approx Share GF**	**FY 2019 Closeout Variance**	**FY 2020 September Estimate**	**FY 2021 September Estimate**
Personal Income Tax	56%	208	169	124
Sales Tax	26%	-51	-70	-75
Other	18%	60	31	13
Total Ongoing General Fund	100%	217	130	61
Change From Previous Estimate		1.2%	0.7%	0.3%

Note: Dollars in Millions; FY21 change is relative to planning numbers; Dollars may not sum due to rounding

Revenues - Key Events

- Closeout for FY19 – finished $217M better than estimate
- September BRE meeting (FY21 and beyond are relative to planning numbers):
  - FY 20: +$130M
  - FY 21: +$61M
  - FY 22: -$83M
  - FY 23: -$113M
  - FY 24: -$129M

- The average expected growth rate for FY22 and beyond is ~ 3.2%
  - Was 3.6% after March estimate
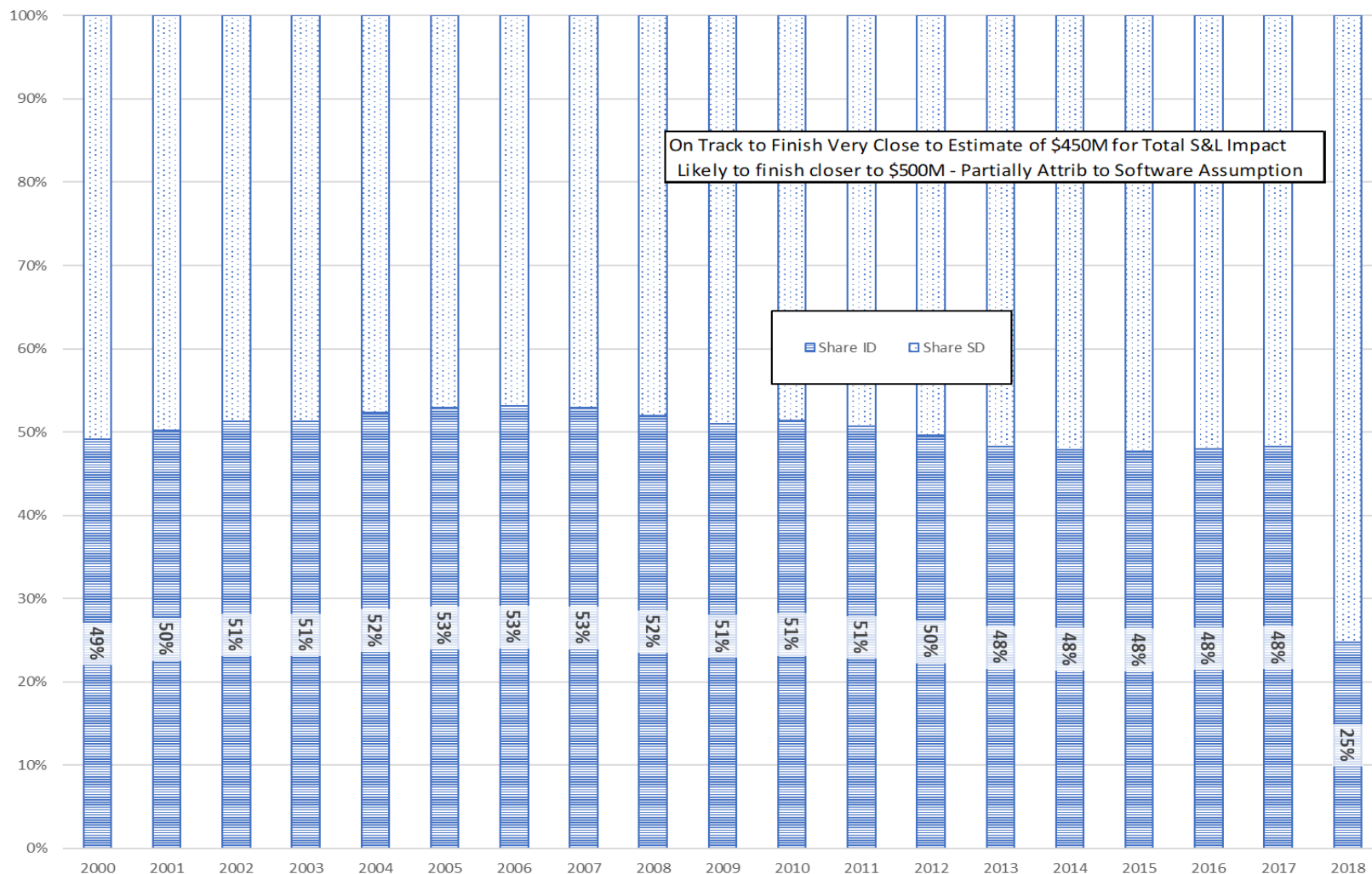
Econ Outlook from September Forecast (% growth)

Calendar Year	Employment		Personal Income		Aggregate Wages		Average Wage		Capital Gains	
	Mar 19	Sep 19	Mar 19	Sep 19	Mar 19	Sep 19	Mar 19	Sep 19	Mar 19	Sep 19
2017	1.1	1.1	4.1	4.1	3.5	3.5	2.4	2.4	23	39
2018	0.8	0.9	3.2	3.3	2.8	3.1	2.1	2.2	12	18
2019	0.7	0.8	3.9	3.5	3.5	3.2	2.8	2.4	5	4
2020	0.6	0.6	3.9	3.6	3.9	3.3	3.3	2.7	-4	-2
2021	0.4	0.5	3.7	3.7	3.3	3.3	2.9	2.8	-2	-6
2022	0.5	0.5	4.0	3.9	3.5	3.4	3.0	2.9	0	-3
2023		0.5		3.8		3.5		3.0	1	-1

Estimate of Taxable Income - Baseline - Sep 2019
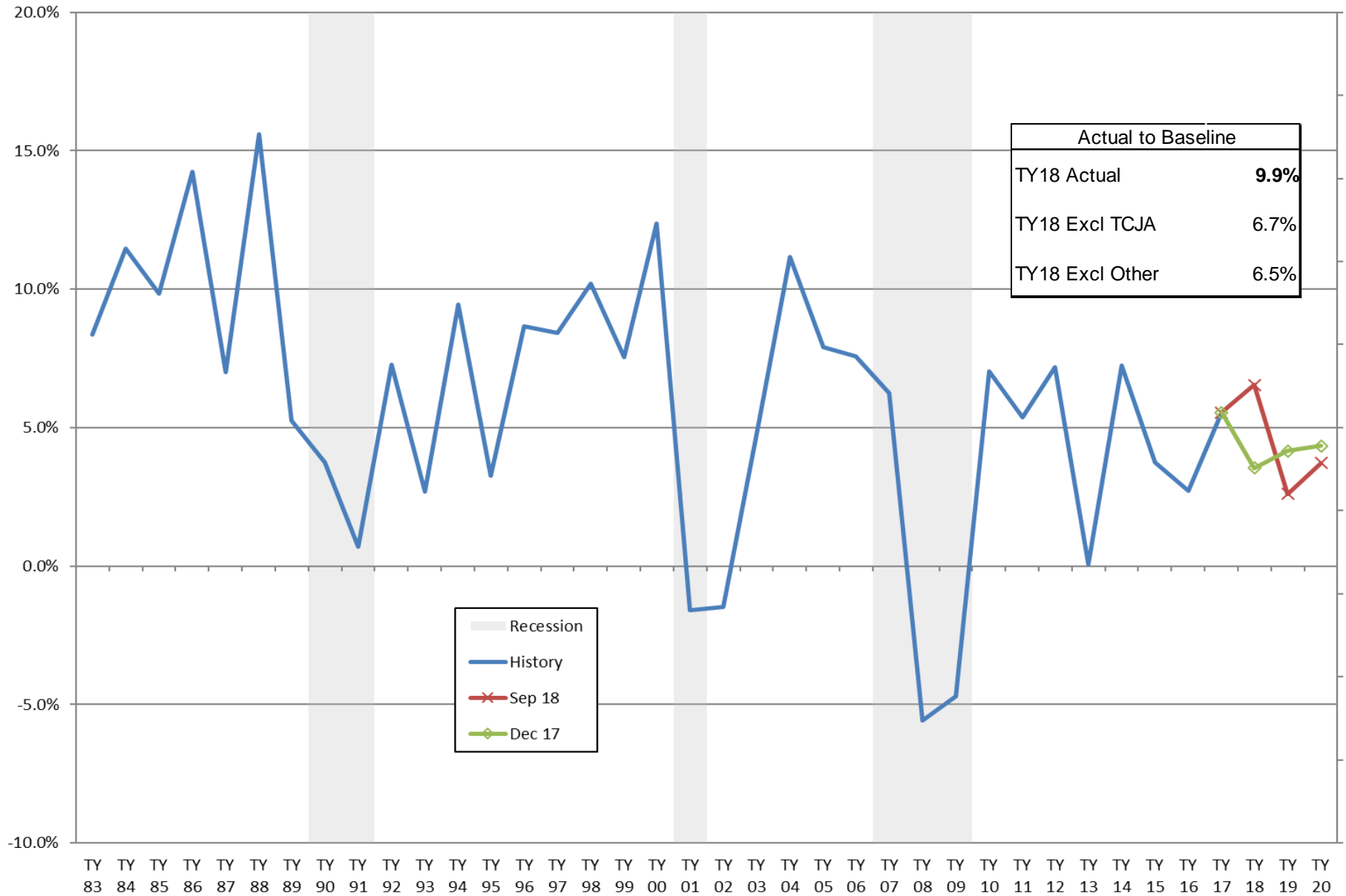
Good News For Budgeters

Share of Returns by Deduction Type - Residents in Both Years - Through 171st Day of Processing Year


On Track to Finish Very Close to Estimate of $450M for Total S&L Impact
Likely to finish closer to $500M - Partially Attrib to Software Assumption

TCJA Actual Looks Close To Estimate

Estimation of TY18 TCJA Impact	Currently in Forecast					Alternative Scenario		
	State	Local	Total			State	Local	Total
Existing Filers - Itemize Both Years	26,412,744	16,576,944	42,989,687			26,412,744	16,576,944	42,989,687
Existing Filers - Switch To Standard	213,196,771	136,939,039	350,135,810			213,196,771	136,939,039	350,135,810
New Filers - Itemized	1,154,787	741,068	1,895,855			1,154,787	741,068	1,895,855
New Filers - Switch to Standard	11,715,790	7,561,432	19,277,222			11,715,790	7,561,432	19,277,222
Not Yet Filed - Itemized	5,678,107	3,632,196	9,310,303			43,658,256	23,399,995	67,058,251
Not Yet Filed - Switch to Standard	3,213,374	2,058,903	5,272,277			3,213,374	2,058,903	5,272,277
Resident Total	261,371,572	167,509,581	428,881,154			299,351,721	187,277,381	486,629,102
Non-Res Impact (assumes 10% and higher rate)	39,740,707	-	39,740,707			45,515,466	-	45,515,466
Total	301,112,279	167,509,581	468,621,861			344,867,187	187,277,381	532,144,568
Official Estimate	277,012,894	175,451,972	452,464,867			277,012,894	175,451,972	452,464,867
			3.6%					17.6%

Taxable Capital Gains
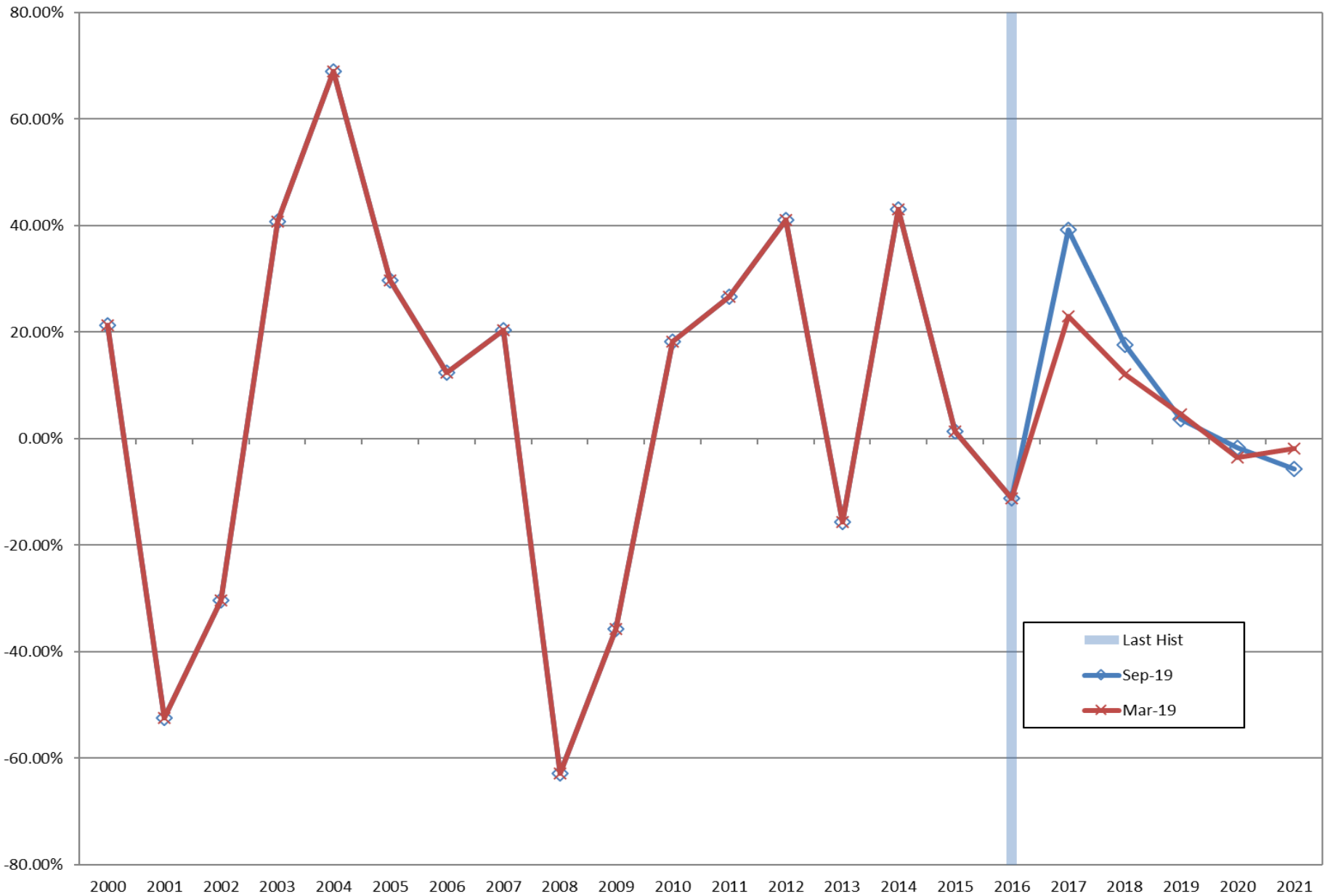
Taxable Capital Gains ($$s in Millions)
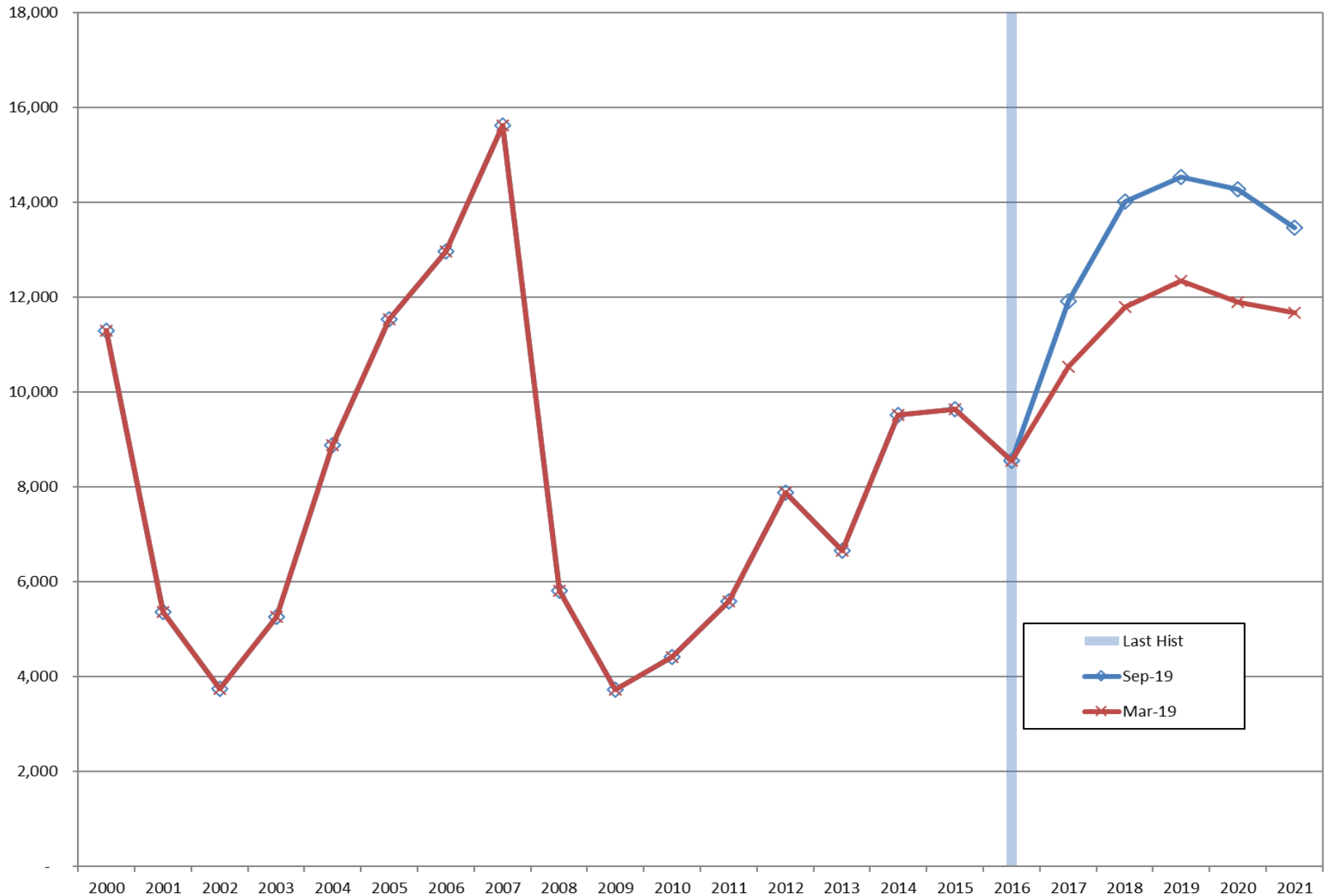
Income Shifting Also A Factor

	Actual Baseline	Model output	Diff from Actual		
2011	5.6%	5.6%	0.0%		
2012	7.2%	6.0%	1.2%		
2013	0.1%	-0.1%	0.2%		
2014	7.3%	6.2%	1.0%		
2015	3.7%	5.0%	-1.3%		
2016	2.7%	2.2%	0.5%		
2017	5.5%	6.2%	-0.6%		
2018	6.5%	4.5%	2.0%		

Liability Adjustment

	Forecast %	Forecast+1StDev %	Forecast diff $	Forecast+1StDev diff $	**Liability Adj**
2018	4.5%	5.8%	(312.2)	(109.5)	**(210.8)**

Tax Year	Act/Est	Adj For Shift
2018	6.5%	3.7%
2019	2.6%	4.0%

eq_liab1_nm

Dependent Variable: LOG(LIABILITY)
Method: ARMA Conditional Least Squares (Marquardt - EViews legacy
Date: 09/08/19   Time: 21:18
Sample (adjusted): 1983 2018
Included observations: 36 after adjustments
Convergence achieved after 12 iterations
White heteroskedasticity-consistent standard errors & covariance
MA Backcast: 1979 1982

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(AVG_WG)	0.957643	0.032949	29.06439	0
LOG(EMP)	1.230036	0.10043	12.24767	0
LOG(TAXBL_CG)	0.073329	0.005598	13.09905	0
C	-11.3859	0.517551	-21.9996	0
@YEAR=2003	-0.0169	0.008422	-2.00697	0.0542
AR(1)	0.602467	0.17431	3.456302	0.0017
MA(4)	0.897502	0.058039	15.46367	0

R-squared	0.999541	Mean dependent var	8.8682	
Adjusted R-squared	0.999446	S.D. dependent var	0.5651	
S.E. of regression	0.013304	Akaike info criterion	-5.6289	
Sum squared resid	0.005133	Schwarz criterion	-5.321	
Log likelihood	108.3197	Hannan-Quinn criter.	-5.5214	
F-statistic	10519.22	Durbin-Watson stat	1.9698	
Prob(F-statistic)	0			

Inverted AR Roots	0.6			
Inverted MA Roots	.69+.69i	.69-.69i	-.69-.69i	-.69+.69

Revenue Conclusion

- The near-term looks boring – muddling along with meager wage growth and a high level of capital gains

- Risk of recession is heightened
  - Many potential points of failure – lots of pressure on FRB
- If we are indeed in for a near-term boost in revenue, then **it may make sense to grow reserves for inevitable correction**

Kirwan Funding

By FY30 (inflation adjusted):

State: +$2,773,000,000
Local: +$1,227,900,000

Total: +$4,010,000,000

- **All Figures Shown After This are Mine**
- **All Possible Policies are My Thoughts of Where They Might Go**
- **All Numbers Here Are Generated To Advance The Conversation, Put The Numbers in Perspective**

In The News

Identified Kirwan Funding Sources	
Policy	**Approximate Revenue**
Legalize Marijuana	150
Sports Gambling	25
Eliminate Certain Business Credits	40
Sales Tax From Remote Sellers & Marketplaces	50
Total	**265; 6.6% of total, 9.5% of State Share**

Note: Dollars in Millions; Not official estimates, those will be dependent on the policy details

Sales Tax Is A DRAG – Structural Issues


Baseline Sales Tax Collection Growth
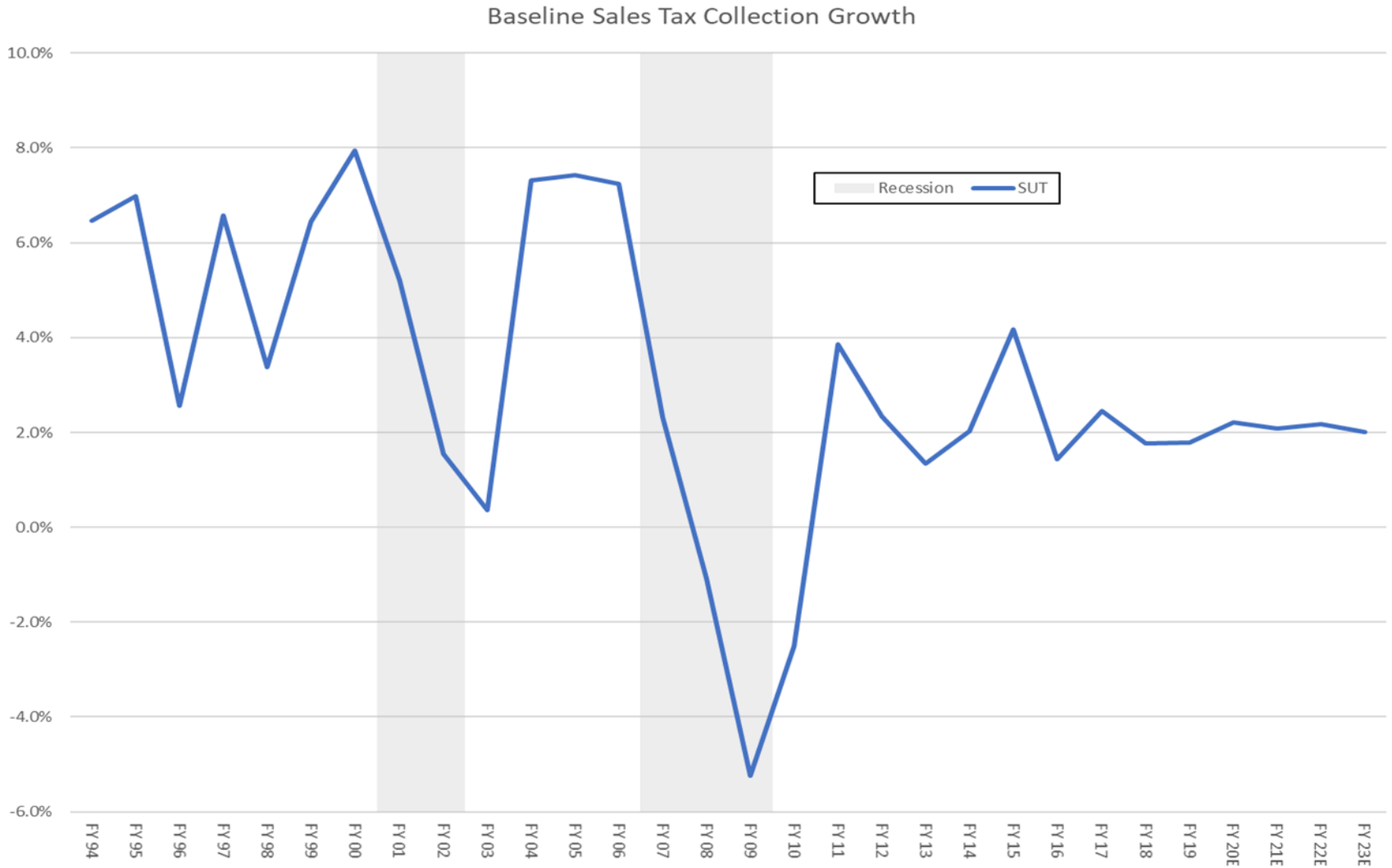
Sales Tax Is A DRAG – Structural Issues

Sales Tax (~25% of GF)

- Age Composition of Tax Base reducing collections
- Goods inflation is weak
- Last major structural change to sales tax base was NEVER (enacted in 1947)
  - Lots of rate changes, lots of added exemptions, some services added
  - In 1947 "Goods" made up 61% of Consumer Expenditures
  - In 2018 "Goods" made up 31% of Consumer Expenditures
- Ameliorated by SCOTUS Wayfair decision, Comptroller response, and subsequent MGA Marketplace legislation
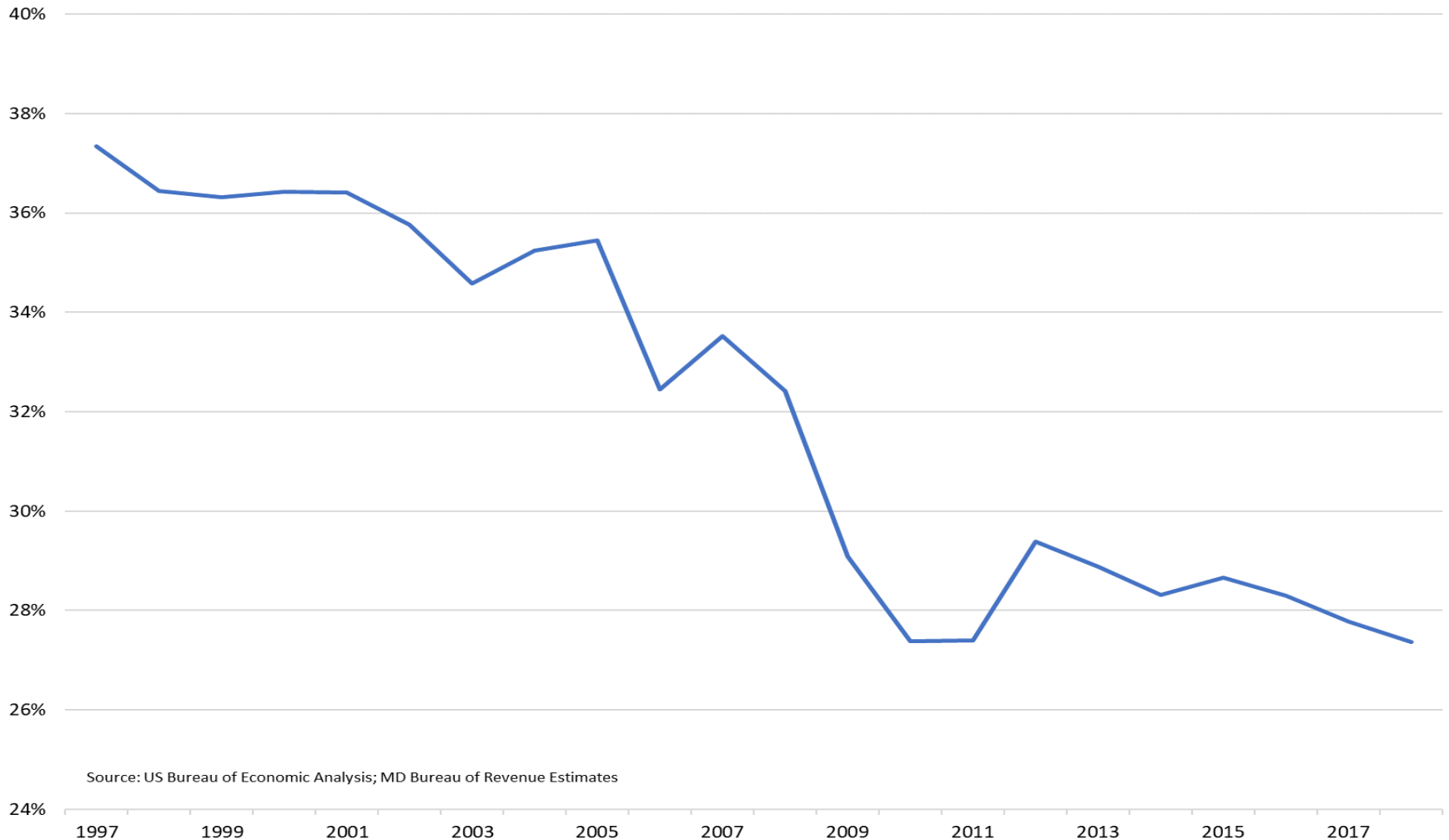
Sales Tax Is A DRAG – Structural Issues

CPI Inflation Indexed to 2014 Q1
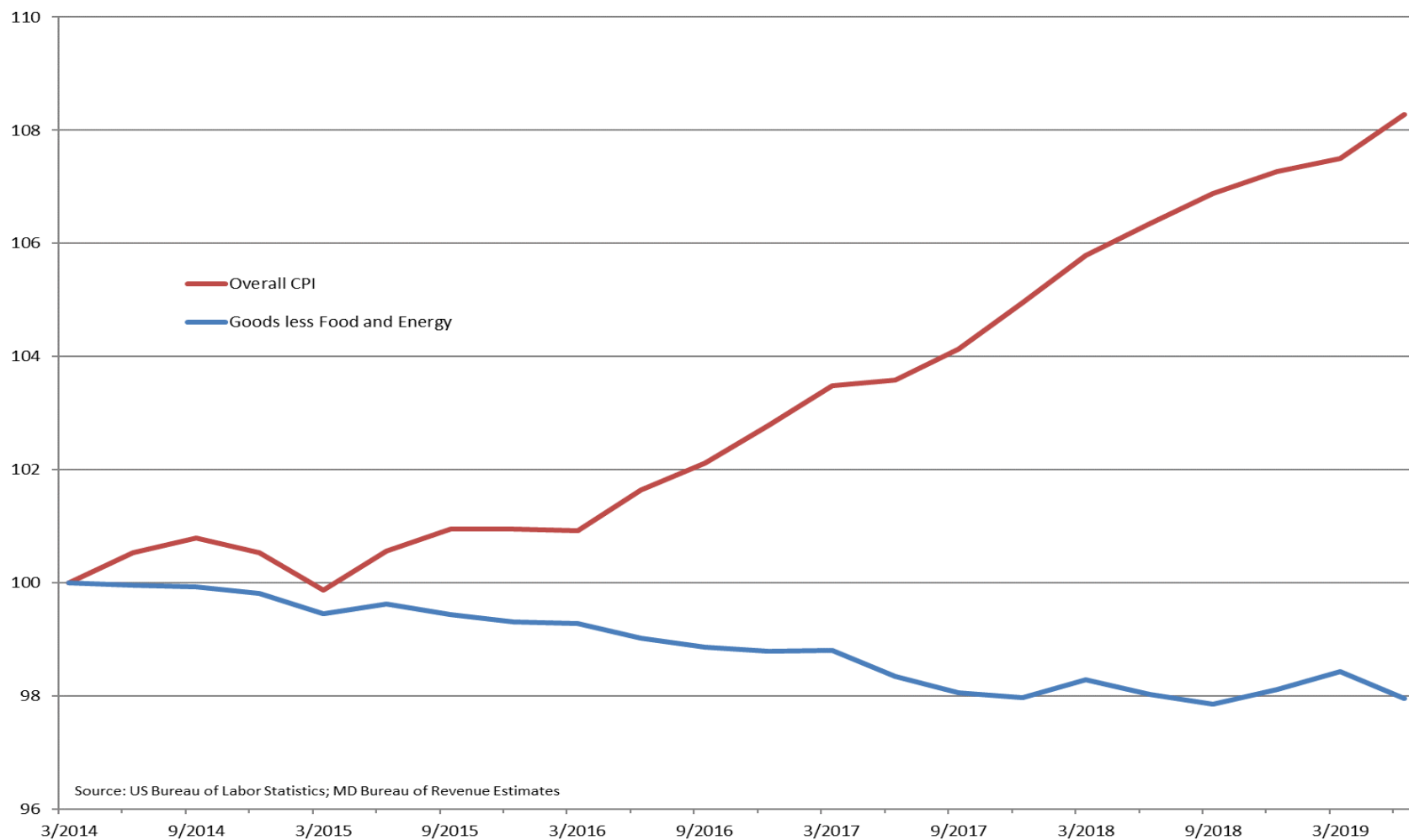
Sales Tax Is A DRAG – Structural Issues

Taxable Consumption as % of Total Consumption

Source: US Bureau of Economic Analysis; MD Bureau of Revenue Estimates

Sales Tax Opportunities In Play

- Tax Services
  - In theory, could tax most services (e.g., exclude medical) and perhaps reduce rate to be revenue neutral but keep pace with actual economic activity
  - Or, could tax services and raise money
  - Taxing services reduces some of the inherent sales tax regressivity
  - Disclaimer: politically difficult to tax professional services which is where most of the money is
- Digital Goods
  - Many goods that we used to tax are no longer taxable simply because we download them or subscribe
- Rate Change
  - If assume none-of-the-above: 1% rate increase (6% to 7%) is worth $826M

Income Tax – Where The Money Is

Percentile	# Tax Payers	Net Maryland Tax ($)	Average Federal Gross Income ($)	Share State Net Tax (%)	Cum Share State Net Tax (%)
Top 0.01%	275	238,767	18,329	3.1	3.1
>0.01% & <=0.1%	2,484	416,034	3,484	5.4	8.5
>0.1% & <=1.0%	24,833	959,918	819	12.5	21.0
>1.0% & <=5.0%	110,370	1,446,786	304	18.8	39.9
>5.0% & <=10.0%	137,963	1,045,145	191	13.6	53.5
>10.0% & <=25.0%	413,887	1,836,857	123	23.9	77.4
>25.0% & <=50.0%	689,813	1,461,326	67	19.0	96.4
>50.0% & <=75.0%	689,813	439,435	34	5.7	102.2
>75.0% & <=100.0%	683,813	-165,207	12	-2.2	100.0
Total	2,759,251	7,679,061	81	100	100

Notes: (1) Dollars in Thousands; (2) Ordered by State Net Tax; (3) Tax Year 2017

Income Tax – Increase taxes by 10% for Top 5

Percentile	Current Effective Tax Rate %	Tax Increase $	Avg Increase $	New Effective Tax Rate %
Top 0.01%	4.7	23,877	86.8	5.2
>0.01% & <=0.1%	4.8	41,603	16.7	5.3
>0.1% & <=1.0%	4.7	95,992	3.9	5.2
>1.0% & <=5.0%	4.3	144,679	1.3	4.7
>5.0% & <=10.0%	4.0	0	0	4.0
>10.0% & <=25.0%	3.6	0	0	3.6
>25.0% & <=50.0%	3.1	0	0	3.1
>50.0% & <=75.0%	1.9	0	0	1.9
>75.0% & <=100.0%	-1.9	0	0	-1.9
Total	3.4	306,151	NA	3.6

Notes: (1) Dollars in Thousands; (2) Ordered by State Net Tax; (3) Tax Year 2017; (4) Not the Official Estimate; (5) New top marginal rate would go from 5.75% to ~ 6.3%, lower marginal bracket rates increase also

Income Tax – Increase taxes by 10% for Top 5 and by 5% for 5% through 25%

Percentile	Current Effective Tax Rate %	Tax Increase $	Avg Increase $	New Effective Tax Rate %
Top 0.01%	4.7	23,877	86.8	5.2
>0.01% & <=0.1%	4.8	41,603	16.7	5.3
>0.1% & <=1.0%	4.7	95,992	3.9	5.2
>1.0% & <=5.0%	4.3	144,679	1.3	4.7
>5.0% & <=10.0%	4.0	52,257	0.4	4.2
>10.0% & <=25.0%	3.6	91,843	0.2	3.8
>25.0% & <=50.0%	3.1	0	0	3.1
>50.0% & <=75.0%	1.9	0	0	1.9
>75.0% & <=100.0%	-1.9	0	0	-1.9
Total	3.4	450,251	NA	3.6

Notes: (1) Dollars in Thousands; (2) Ordered by State Net Tax; (3) Tax Year 2017; (4) Not the Official Estimate; (5) New top marginal rate would go from 5.75% to ~ 6.3%, all marginal bracket rates above 4.75% increase also

Income Tax – Increase taxes by 10% for Top 5%; by 7% for 5% through 25%; and 5% all else

Percentile	Current Effective Tax Rate %	Tax Increase $	Avg Increase $	New Effective Tax Rate %
Top 0.01%	4.7	23,877	86.8	5.2
>0.01% & <=0.1%	4.8	41,603	16.7	5.3
>0.1% & <=1.0%	4.7	95,992	3.9	5.2
>1.0% & <=5.0%	4.3	144,679	1.3	4.7
>5.0% & <=10.0%	4.0	73,160	0.5	4.2
>10.0% & <=25.0%	3.6	128,580	0.3	3.8
>25.0% & <=50.0%	3.1	73,066	0.1	3.3
>50.0% & <=75.0%	1.9	21,972	0.03	2.0
>75.0% & <=100.0%	-1.9	0	0	-1.9
Total	3.4	602,929	NA	3.7

Notes: (1) Dollars in Thousands; (2) Ordered by State Net Tax; (3) Tax Year 2017; (4) Not the Official Estimate; (5) New top marginal rate would go from 5.75% to ~ 6.3%, all marginal bracket rates above 4.0% increase also

State Property Tax

- General Fund projected to pay $500M toward debt service in the future
- Current State Property Tax rate is 1.12% and estimate for FY20 is ~ $860M
- Would take a 58% increase to generate $500M
  - Rate would increase from 1.12% to 1.77%
- Here is what that looks like:

Geography	2018 Average Home Price	Tax @ 1.12%	Tax @ 1.77%	Difference
Statewide	336,868	3,773	5,959	2,186
Montgomery County	535,846	6,001	9,479	3,478
Allegany County	105,707	1,184	1,870	686

Other Thoughts

- Maybe adding progressive rates for property taxes (State and local)
- Maybe adding progressive rates for local income taxes
  - Obviously would need to increase the local rate cap as well
- The extra money from TCJA goes away in tax year 2026
- Could do a Entity Level Tax for PTEs (currently taxed on personal return) that would be deductible at State and federal level – helps business owners that are losing at federal level from $10k SALT cap

- When it all starts to add up, it seems like a **very heavy lift**
- **You can't realistically get to that amount of money without taxing the middle class. PERIOD**
- IT BETTER WORK – Education is not something to toy with – can't imagine we'd get another bight at the apple, ever
- Despite the poll with wording that I'm not privy to suggesting that Marylanders support more taxes for education – last I checked our voters have voted in two gubernatorial elections for maintaining the tax status quo

Thank You

Andrew Schaufele

Comptroller of Maryland

Director, Bureau of Revenue Estimates

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