

Income and Property Tax Bases

VOLATILITY AND GROWTH

AUGUST 2020

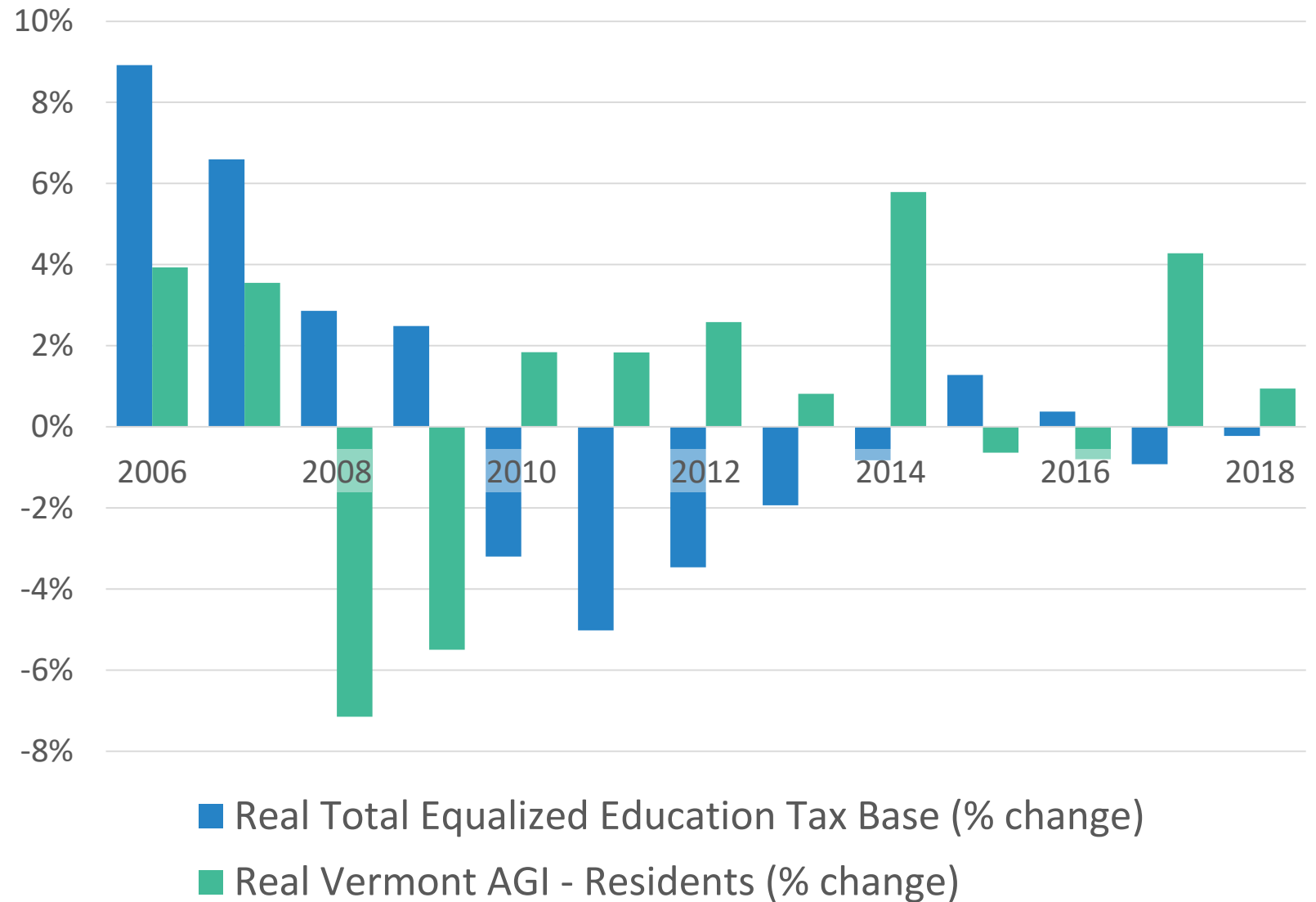
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Comparing Growth and Volatility

Recent Growth and Volatility

- Income and property values both fell in the wake of the Great Recession.
- The drop in the grand list lagged the drop in AGI, and was not as sharp of a drop, because the equalization study screens three years of sales.
- In other words, the 2009 grand list was buoyed by high values from 2007 and 2008.

Annual Change in Vermont's Real Total Equalized Education Tax Base and Residents' Real Vermont AGI (2006-2018)



But looking at only the last decade may be insufficient

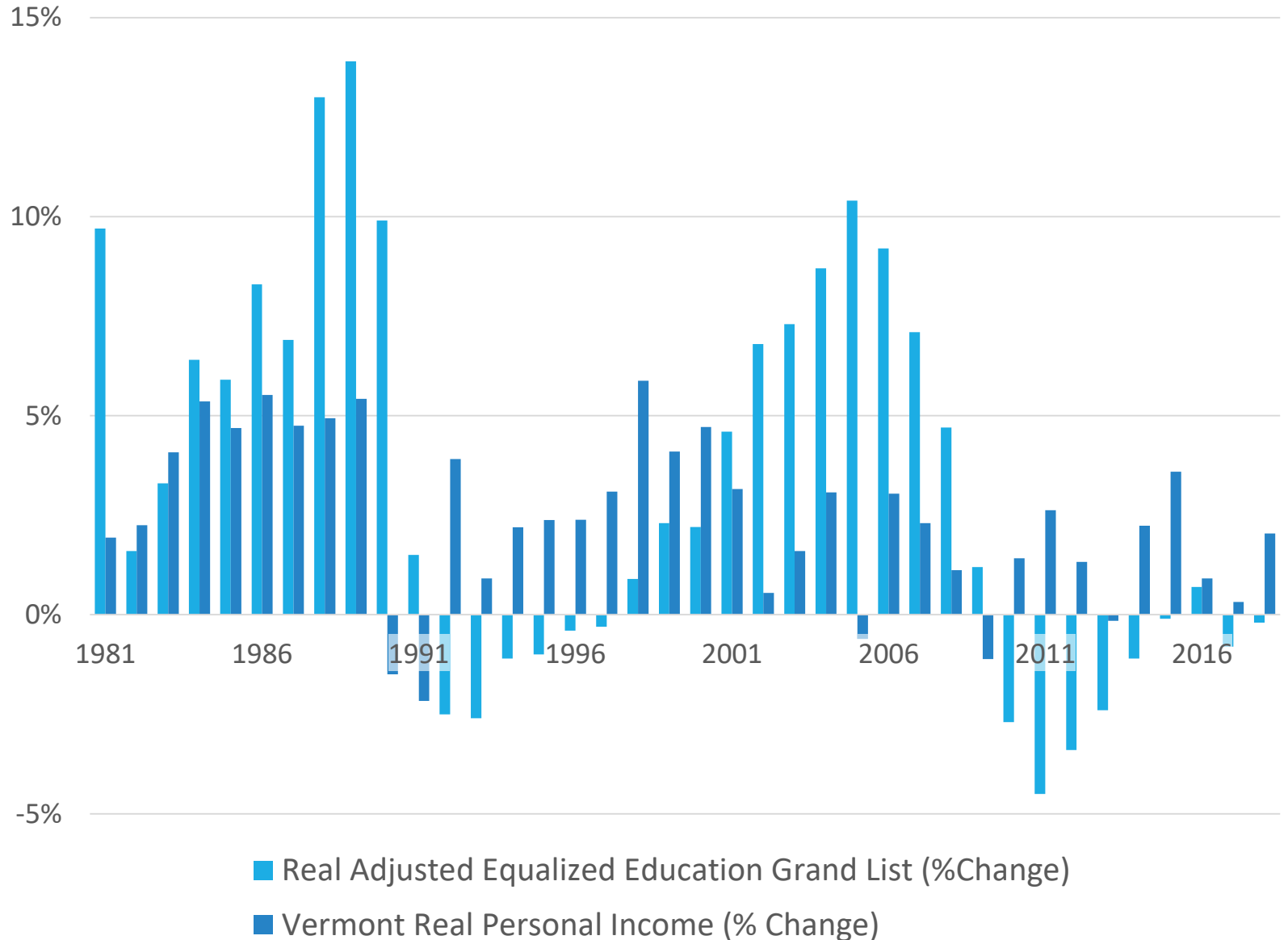
Parallel drops in income and property values – like the Great Recession -- is more the exception than the rule.

Grand list growth tends to be driven by real estate cycles that typically don't coincide with business cycles and income growth.

Since 1980, the Real Adjusted Equalized Education Grand List has grown significantly more than real personal income...

Compound Annual Growth Rate 1980-2018	
Real Adjusted EEGL	Real Personal Income
3.1%	2.4%

Annual Change in Vermont Property and Income



...though
changing the
reference point
makes a big
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Compound Annual Growth Rate

	Real Adjusted EEGL	Real Personal Income
1980-2018	3.1%	2.4%
1990-2018	1.5%	1.9%
2000-2018	2.4%	1.5%
2010-2018	-1.5%	1.6%

Compound Annual Growth Rate

Looking by decade, the '80s and '00s saw booming growth in EEGl, while the '90s and '10s saw drops.

Real personal income growth was smoother across the decades.

The '10s income growth is noteworthy given the state's stagnant population, though of course it aligned with the economic expansion.

	Real Adjusted EEGl	Real Personal Income
1980-1990	7.8%	3.7%
1990-2000	-0.1%	1.9%
2000-2010	5.7%	1.4%
2010-2018	-1.5%	1.6%

In gauging volatility, the reference point likewise makes a big difference...

Average Annual Change (% Year-over-year absolute change)

	Real Adjusted EEGL	Real Personal Income
1980-2018	4.5%	2.7%
1990-2018	3.2%	2.2%
2000-2018	4.2%	1.7%
2010-2018	1.7%	1.7%

Looking by decade, the real estate boom decades of the '80s and '00s likewise show in the volatility.

(and again, this is total base, so the larger population growth of the '80s and '90s would have an impact)

Average Annual Change

(% Year-over-year absolute change)

	Real Adjusted EEGL	Real Personal Income
1980-1990	7.9%	4.0%
1990-2000	1.5%	3.2%
2000-2010	6.3%	1.8%
2010-2018	1.7%	1.7%

A Look at the Size and Direction of Base Changes

Property values are more prone to drops – and to large gains – than income

Real Adjusted EEGL shrunk by 1% or more nine times since 1980:

- Each year from 1992-1995, when it shrunk by 1.0-2.6% per year
- Each year from 2010-2014, when it shrunk by 1.1-4.5% per year.

Real personal income shrank by more than 1% in 1990, 1991, and 2009.

of Years Since 1980...

	Real Adjusted EEGL	Real Personal Income
Grew by 6% or more	14	0
Grew by 3-6%	3	16
Grew by 0-3%	7	17
Shrunk by 0-3%	12	5
Shrunk by 3% or more	2	0

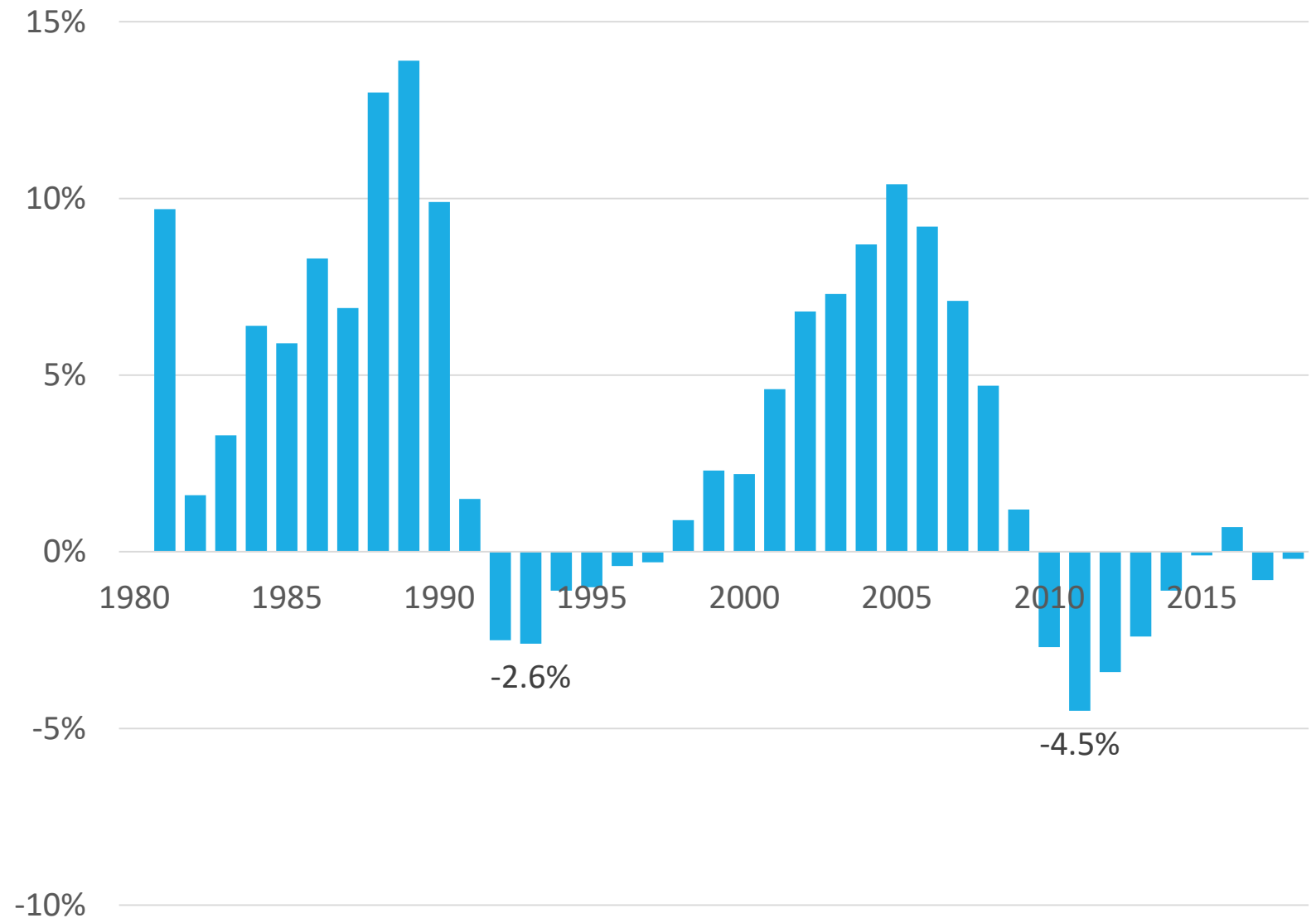
And has tended to have long cycles

Since 1980, the Real Adjusted EEGL has:

- Grown by 6% or more -> 14 times
- Grown by 3-6% -> 3 times
- Grown by 0-3% -> 7 times
- Shrunk by 0-3% -> 12 times
- Shrunk by 3% or more -> 2 times

Other than the years after the Great Recession, the Real Adjusted EEGL only shrunk by more than 1% three times in the early 90s, when it shrunk by 1.1-2.6% per year.

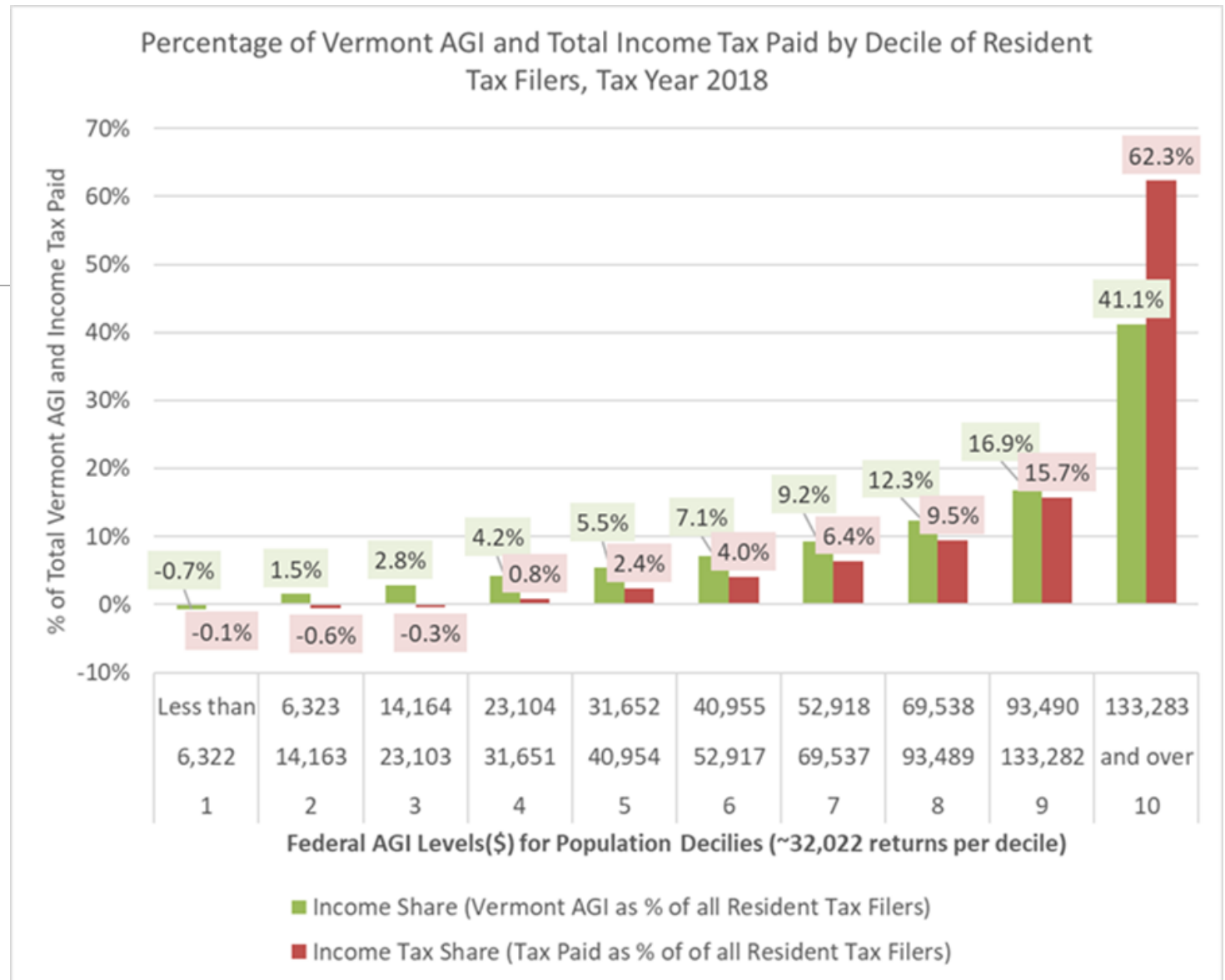
Annual Change in Vermont's Real Adjusted Equalized Education Grand List (1981-2018)



A Caveat about the Income Base

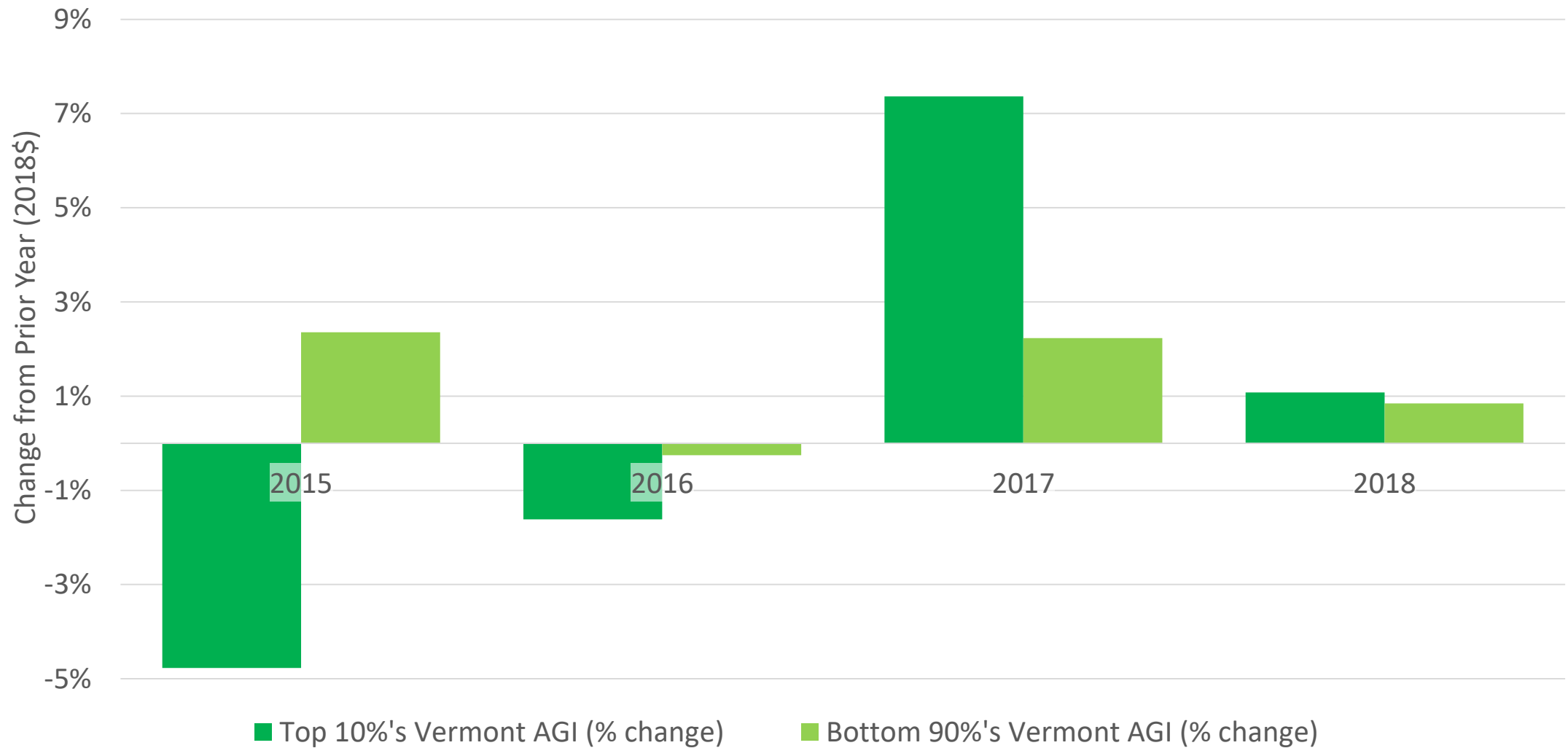
A big caveat

- Because Vermont has a progressive income tax, looking at changes in total income does not paint a complete picture of the tax base
- A progressive income tax depends heavily on high-income earners...

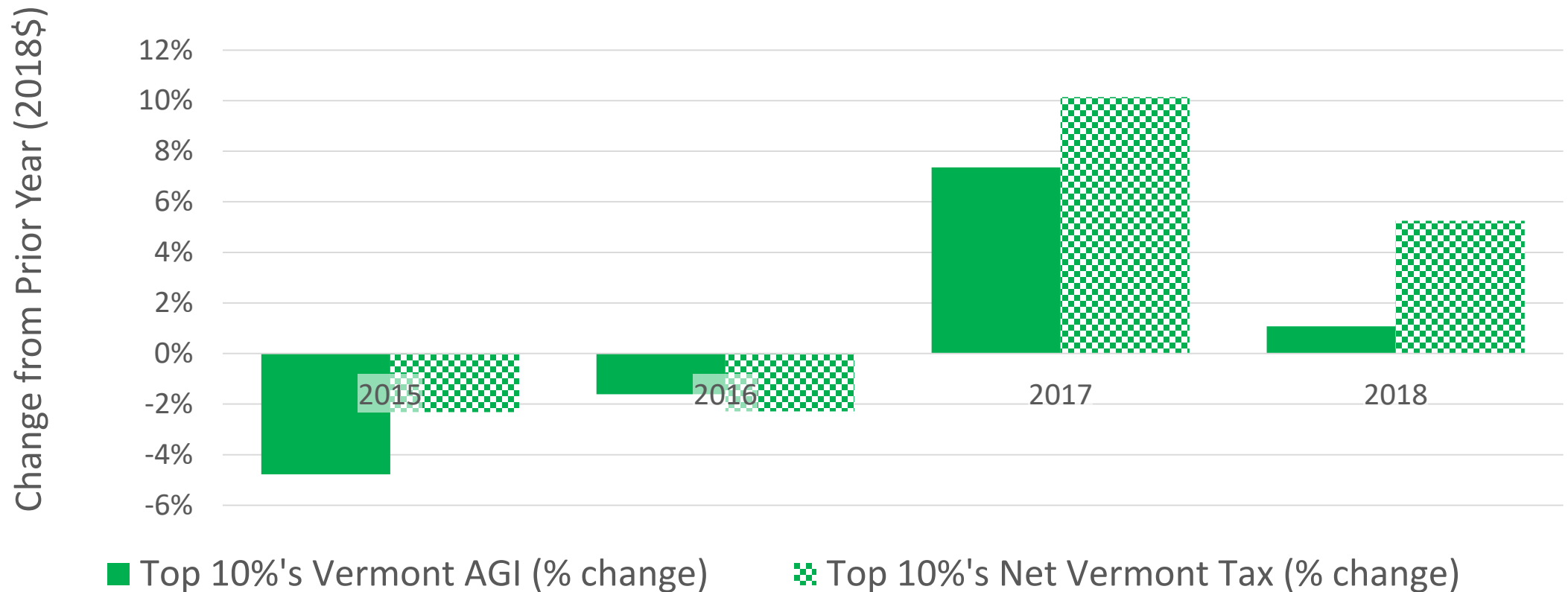


Source: TSC analysis of Department of Taxes data

...And High-income Earners' Incomes Tend to Be More Volatile than Other Taxpayers
Even in Calm Times...



... and High-income Earners' Net Tax Paid Tends to be Even More Volatile than Their Incomes

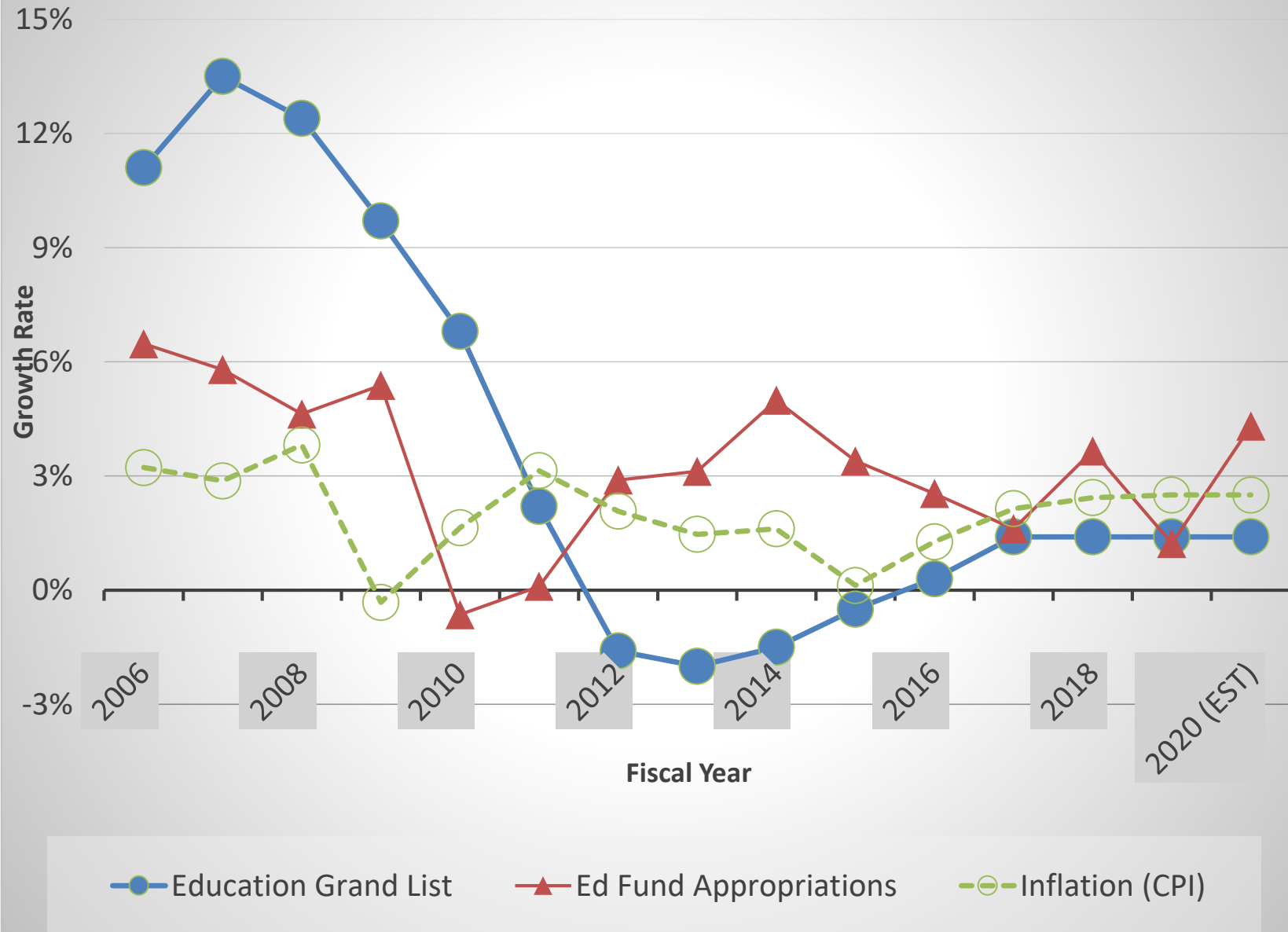


Final Thoughts

Pain of Property Tax Impacted by Relative Growth

- When Grand List grows more slowly than education spending, result is upward pressure on tax rates and/or other funding sources
- When Grand List grows more slowly than inflation, result is a decrease in the real grand list – effectively a shrinking tax base

Since 2012, the Education Grand List has Grown at a Slower Rate than Both Inflation and Education Spending



Bottom Line

In assessing sustainability, volatility and growth rates are just two factors.

Balance – diversifying funding across the three legs of the stool – can increase sustainability to the extent that different tax bases experience differing growth cycles.

Reserve funds can also help governments weather revenue ups and downs.