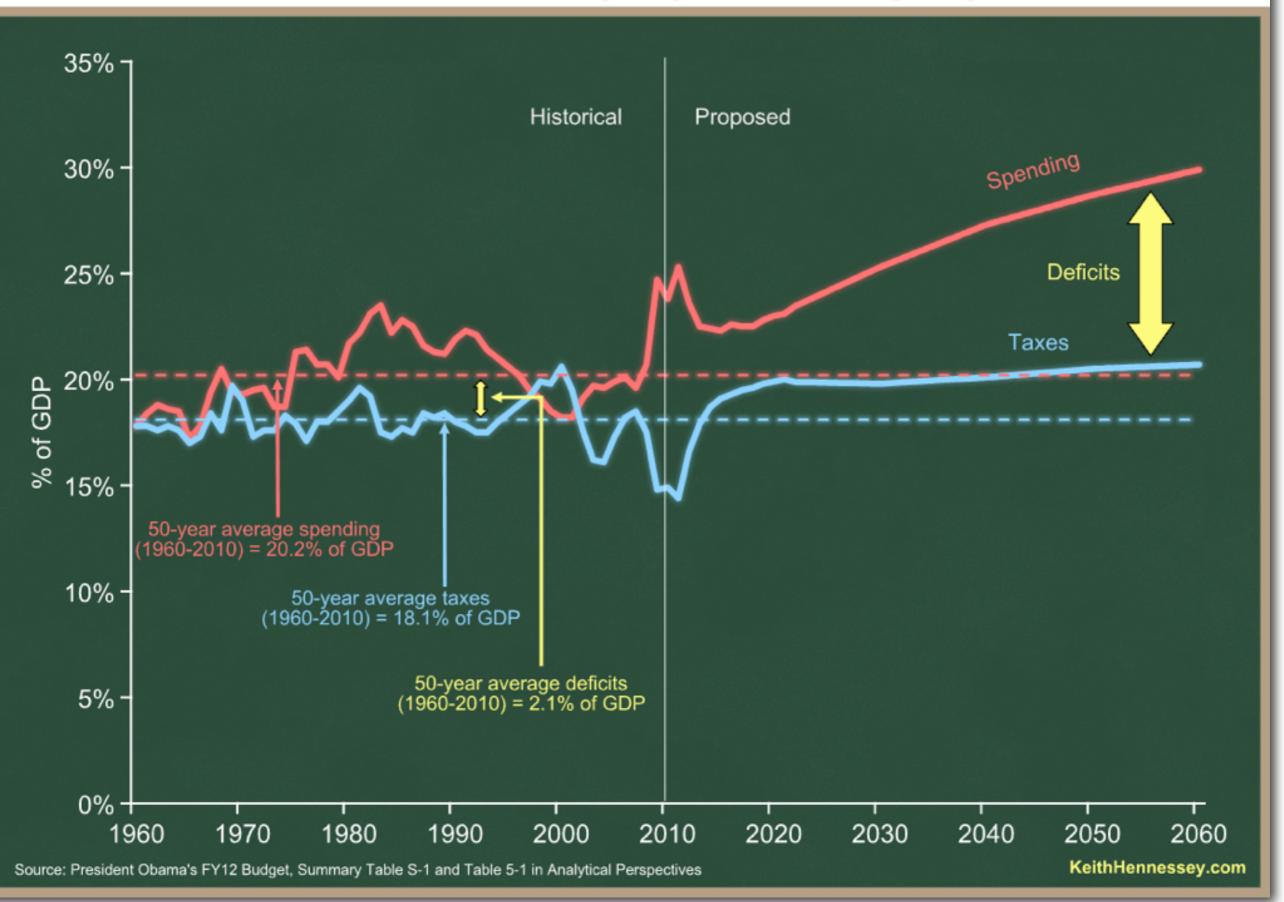
The Growth Imperative

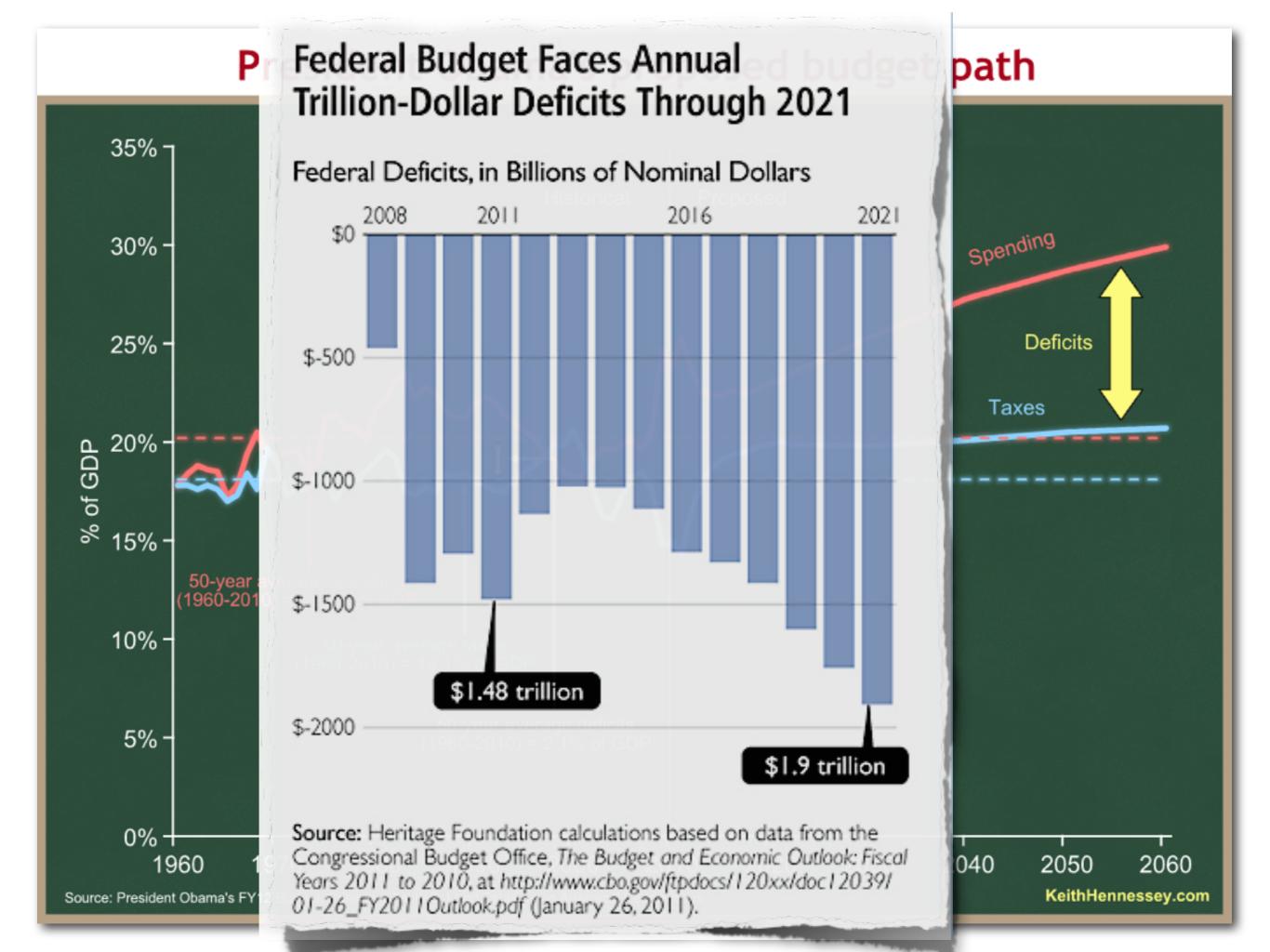
National Chamber Foundation May 24, 2011

Bret Swanson NCF Fellow

> ENTROPY ECONOMICS GLOBAL INNOVATION + TECHNOLOGY RESEARCH

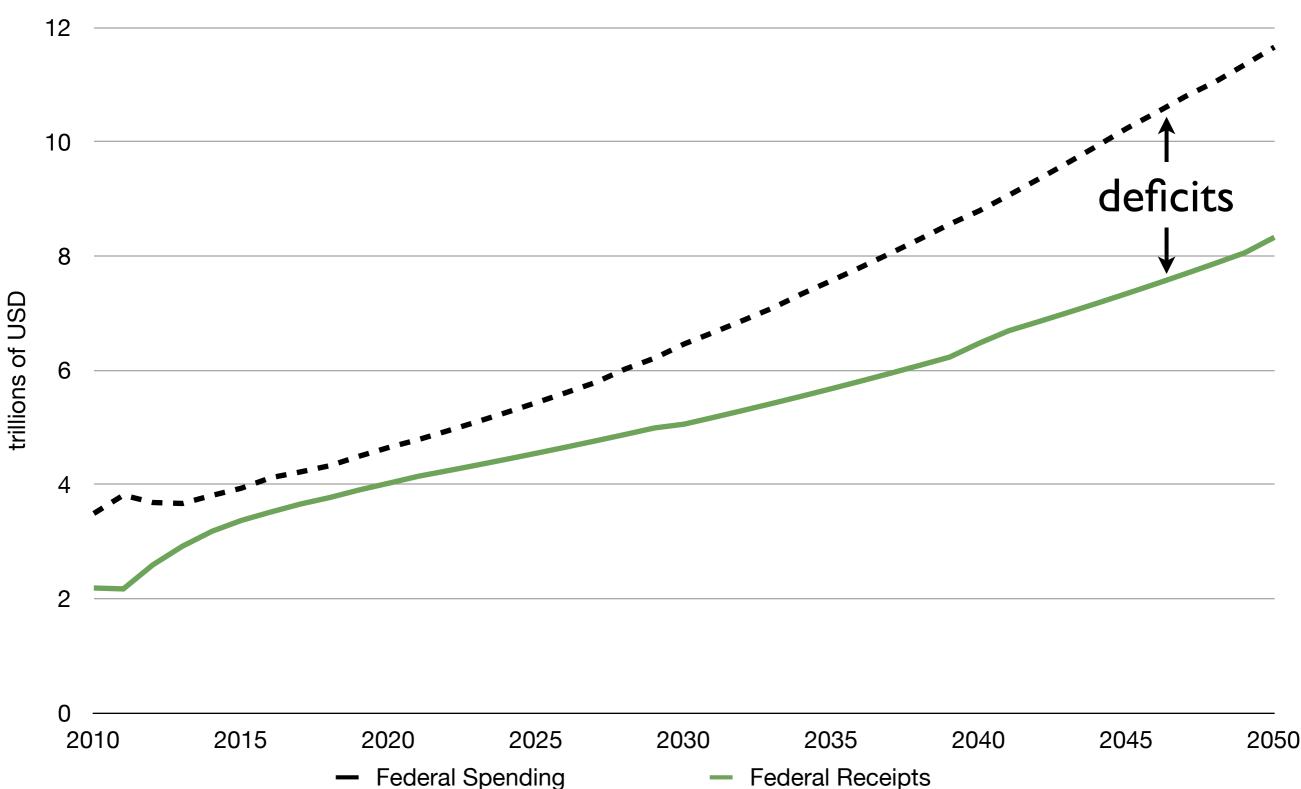
President Obama's proposed budget path





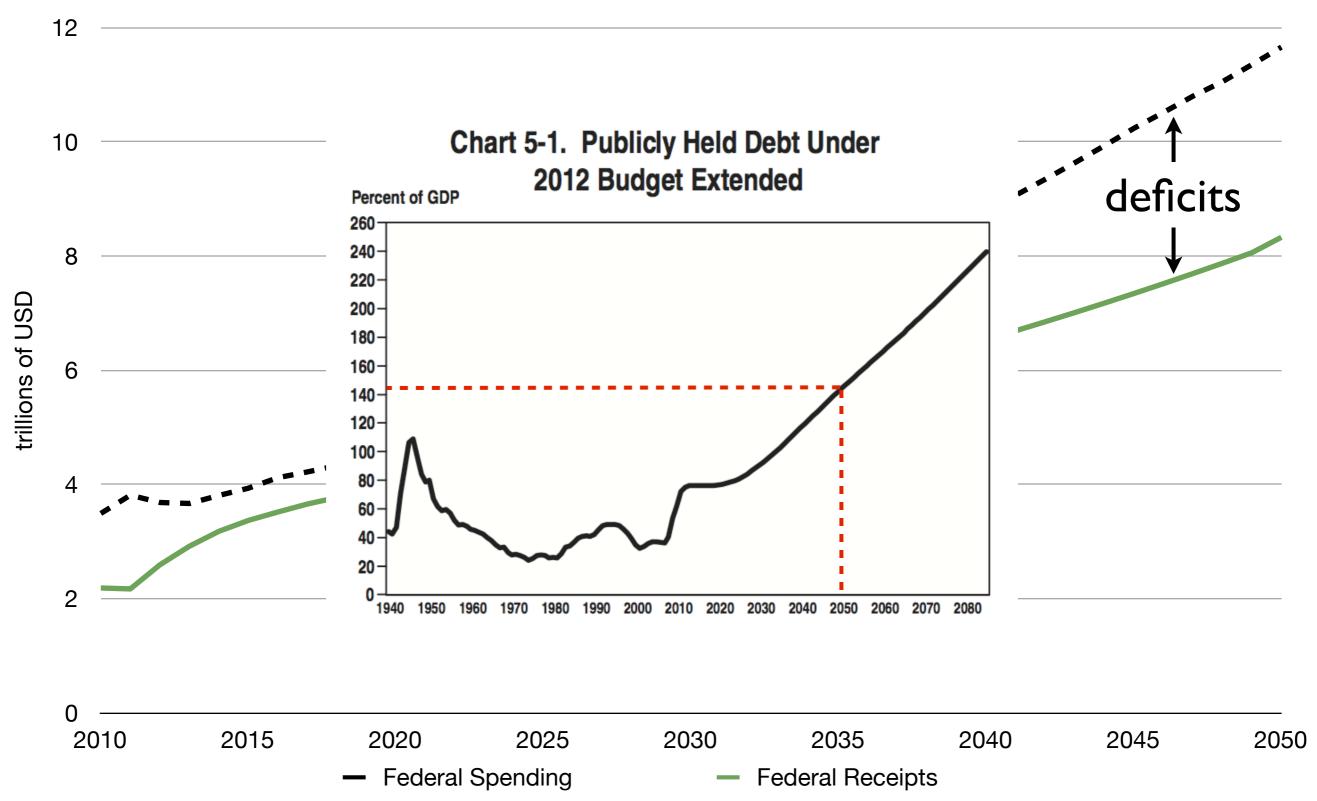
White House Budget

White House 2012 Budget (in 2010 US dollars)



White House Budget

White House 2012 Budget (in 2010 US dollars)



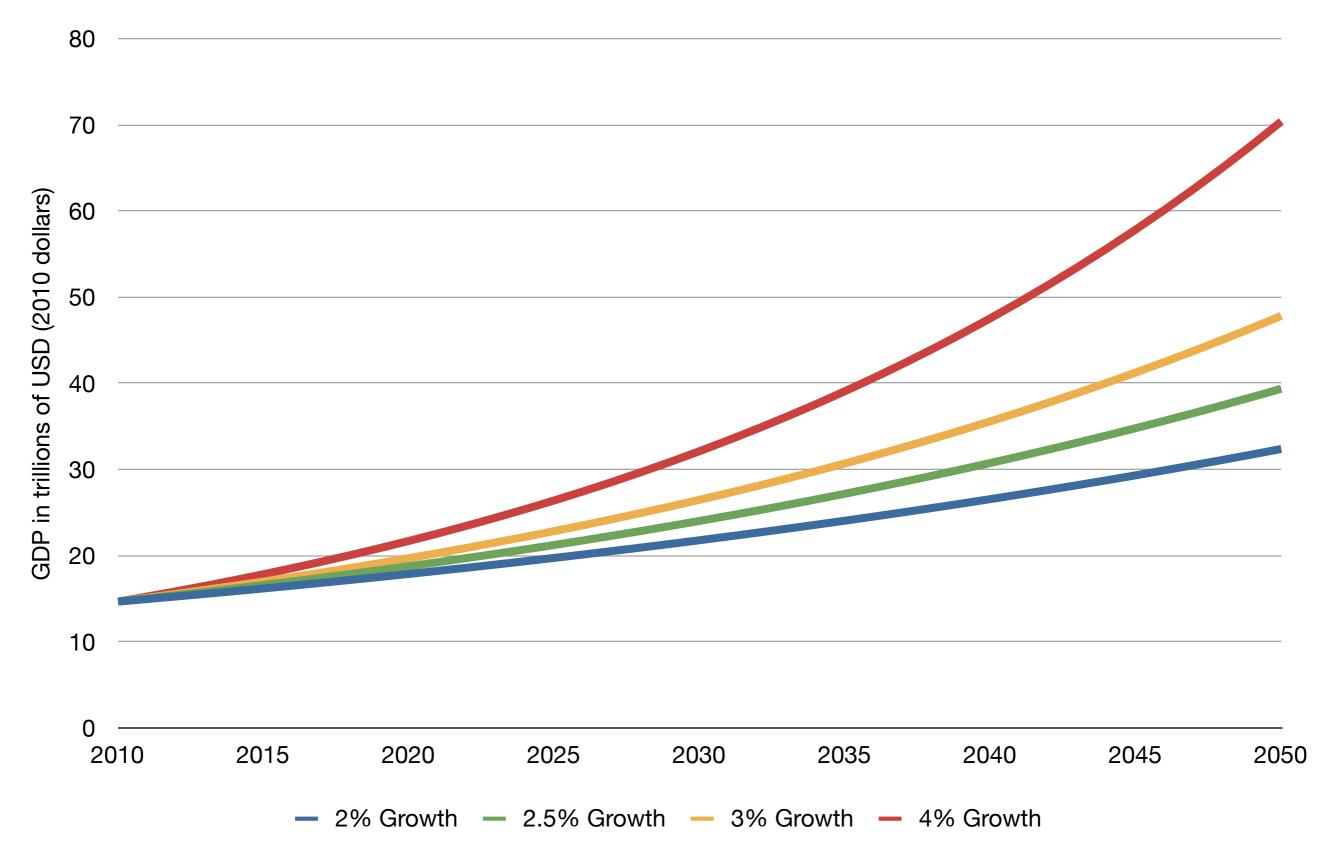
Every generation has perceived the limits to growth that finite resources and undesirable side effects would pose if no new recipes or ideas were discovered. And every generation has underestimated the potential for finding new recipes and ideas. We consistently fail to grasp how many ideas remain to be discovered. The difficulty is the same one we have with compounding: possibilities do not merely add up; they multiply.

– Paul Romer

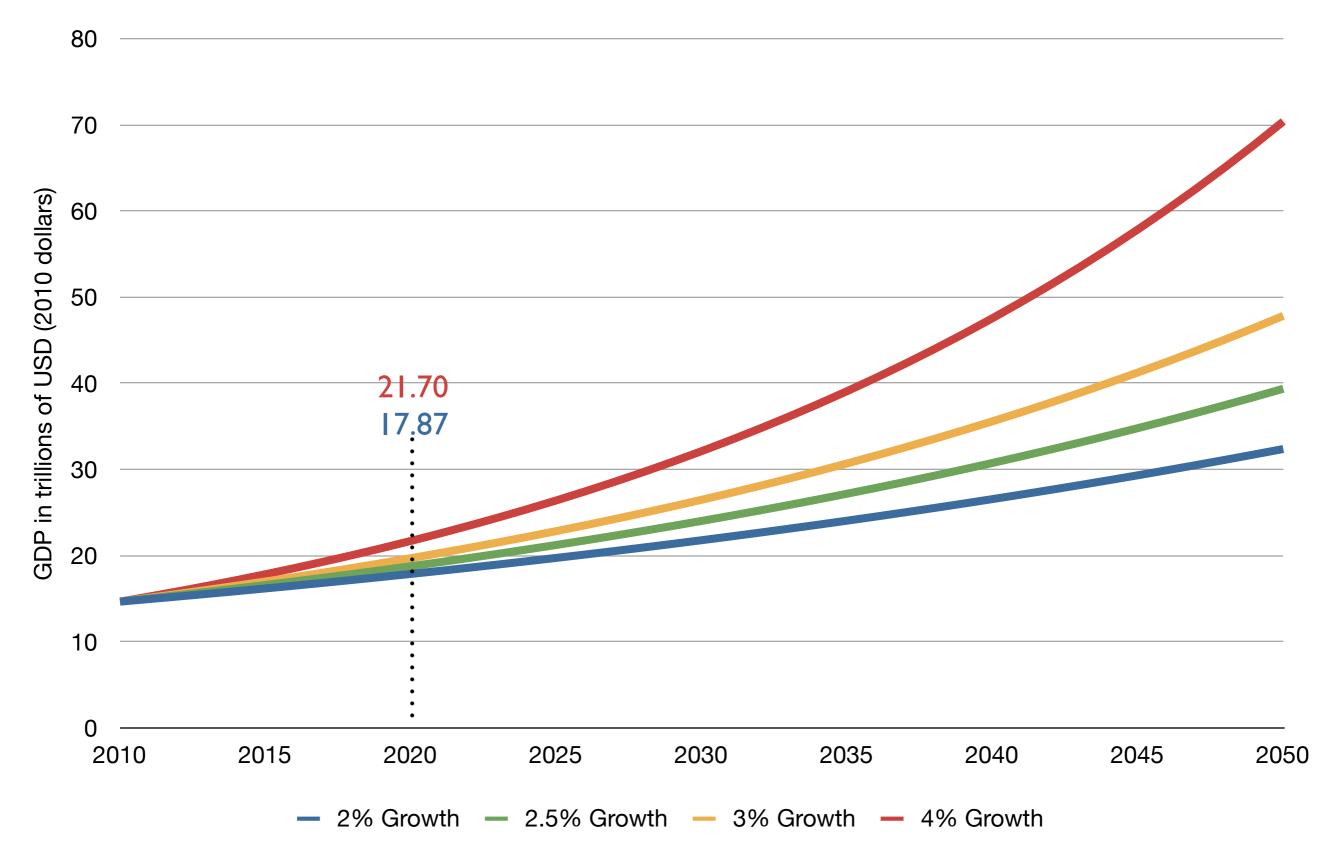
Sarbox-Dodd-Frank Disclaimer

Some of the following are idealized scenarios meant to illustrate big concepts; they omit many details and are not projections.

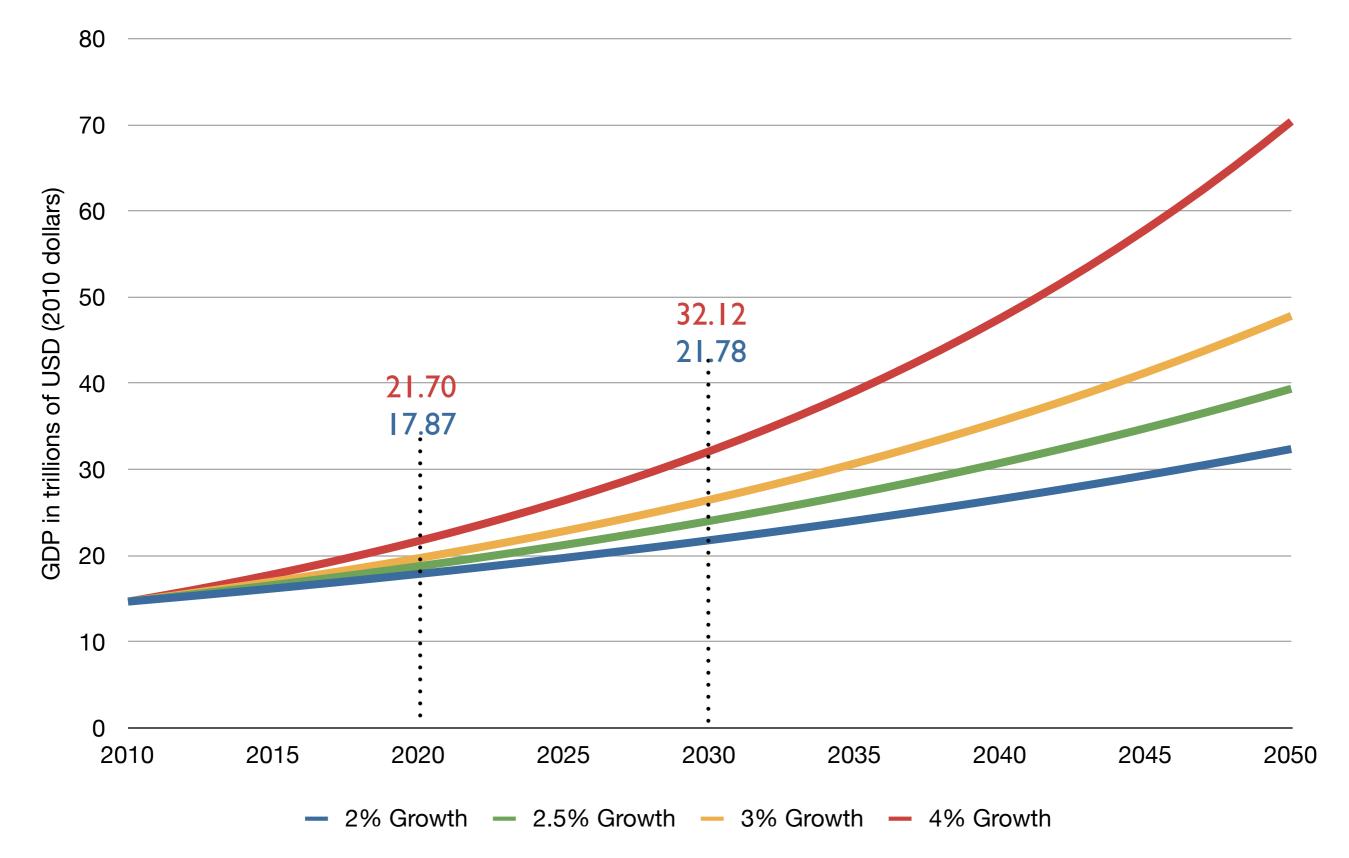
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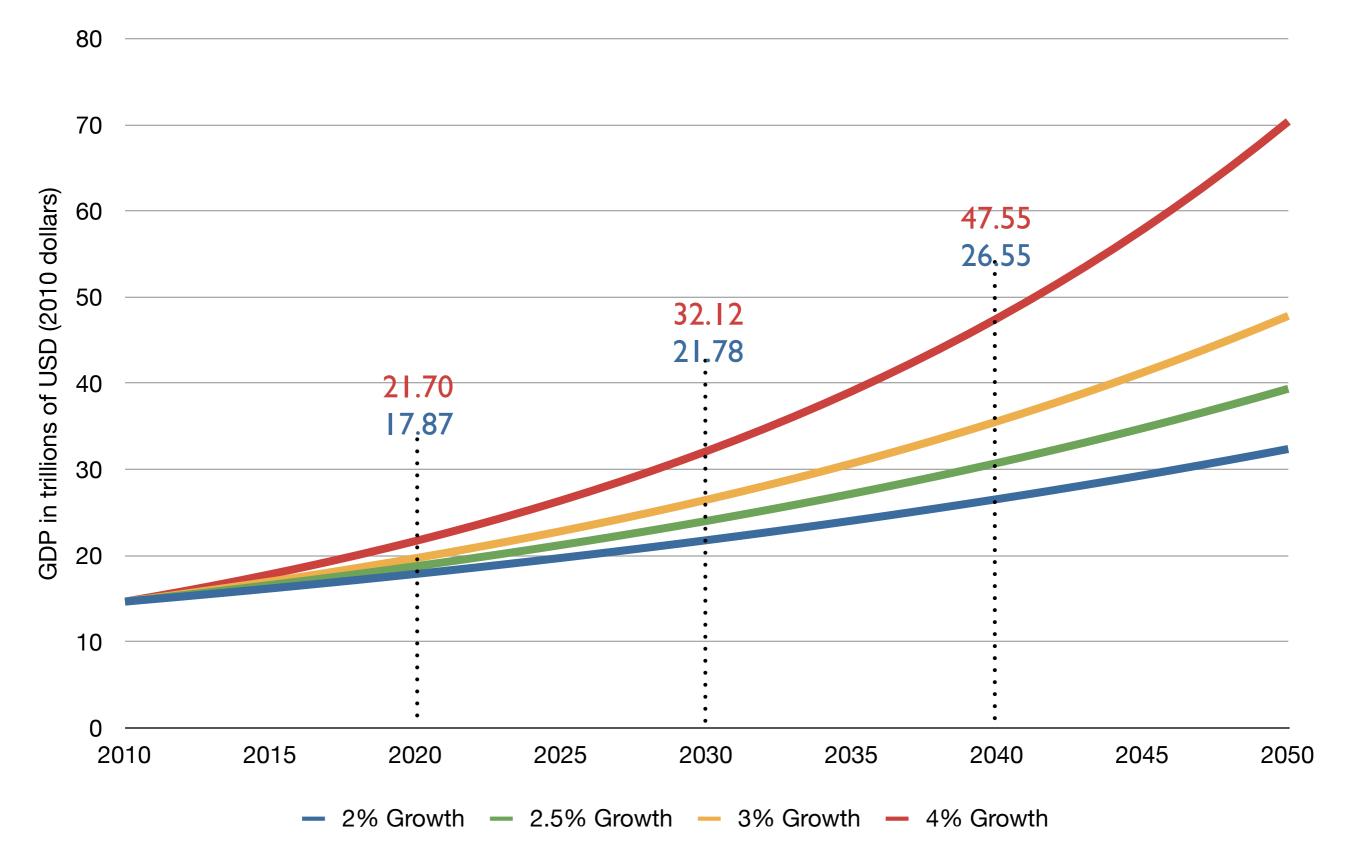
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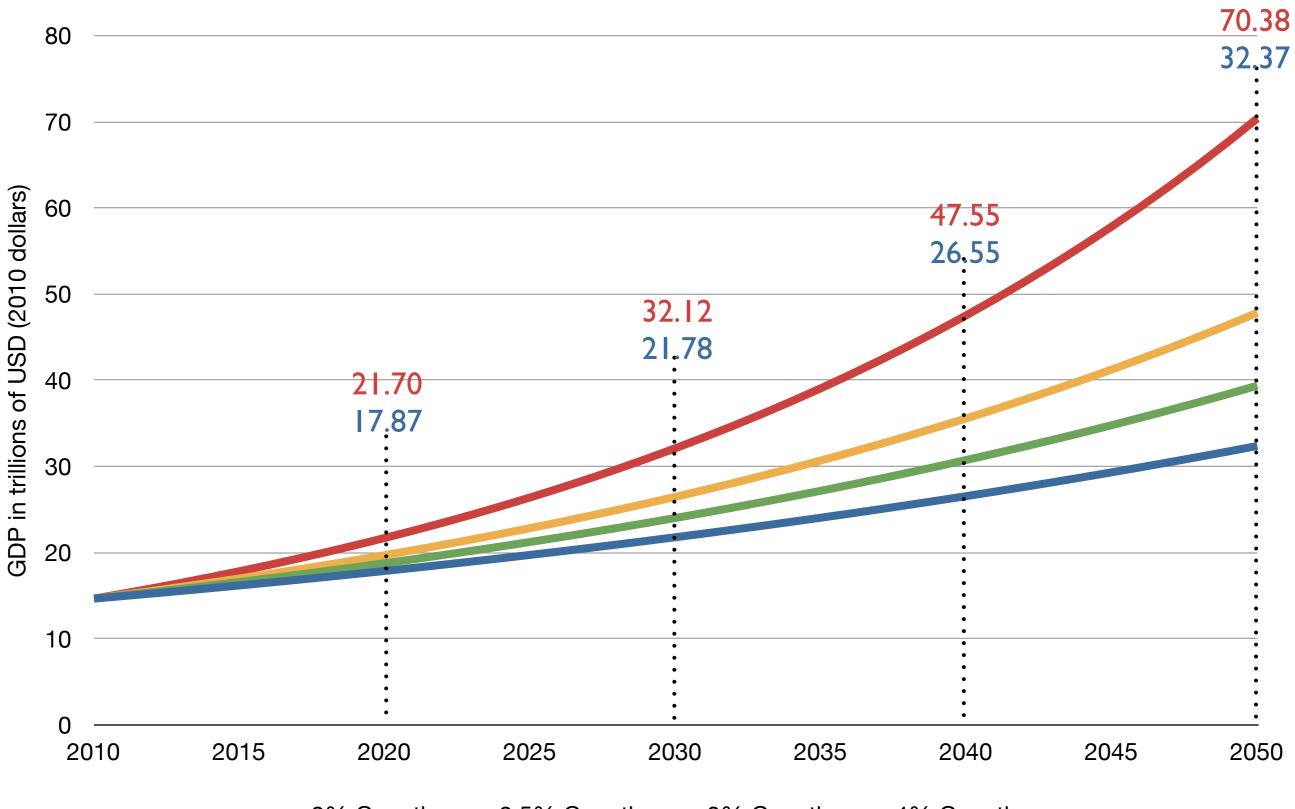


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U.S. GDP Growth Scenarios



- 2% Growth - 2.5% Growth - 3% Growth - 4% Growth

Growth By Decade

average per year

1920s ... 4.2% 1930s ... 2.71% 1940s ... 5.57% 1950s ... 3.5% 1960s ... 4.2% 1970s ... 3.18% 1980s ... 3.24% 1990s ... 3.4% 2000s ... |.67%

* GDP is not everything. And its measurement isn't perfect. Michael Mandell is working on a comprehensive new way to account for it.

The Great Stagnation?

- Economist Tyler Cowen argues we've harvested all the "low hanging fruit" – free land, mass education, and easy tech advances
- stagnating median wages, and indeed the financial crisis itself, were due to a four-decade long "technological plateau"
- Not enough innovation
- Internet is great, but mostly provides "cheap fun"
- Technology not translating to jobs and higher living standards

The Great Stagnation?

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I reviewed the book here:

 Technolog <u>http://blogs.forbes.com/bretswanson</u> standards

Traditional Variables of GDP Growth

- fertility
- immigration
- longevity
- productivity

But what we really care about it standard of living, or output <u>per capita</u>

The first three add people – a desirable thing – but won't do the trick

Productivity

- physical capital
- human capital

Important, but diminishing returns

The Growth We Need

new products new methods new technologies new ideas new companies

specialization scale expanding markets increasing returns quantum, not incremental, productivity advances entirely new industries, services, life enhancements

How do we get more?

experimentation entrepreneurship free flow of ideas flexible labor, capital, and goods markets

The Never Ending Frontier

- others can play catch up by adopting leading edge technologies and business methods
- for Developing Nations, path of growth is relatively clear
- for Developed Nations, growth is more uncertain, more difficult
- U.S. must remain at the technological and entrepreneurial frontier
- Brink Lindsey's "ratchet effect" the more prosperous a nation becomes, the more freedom and entrepreneurship it needs

The Never Ending Frontier

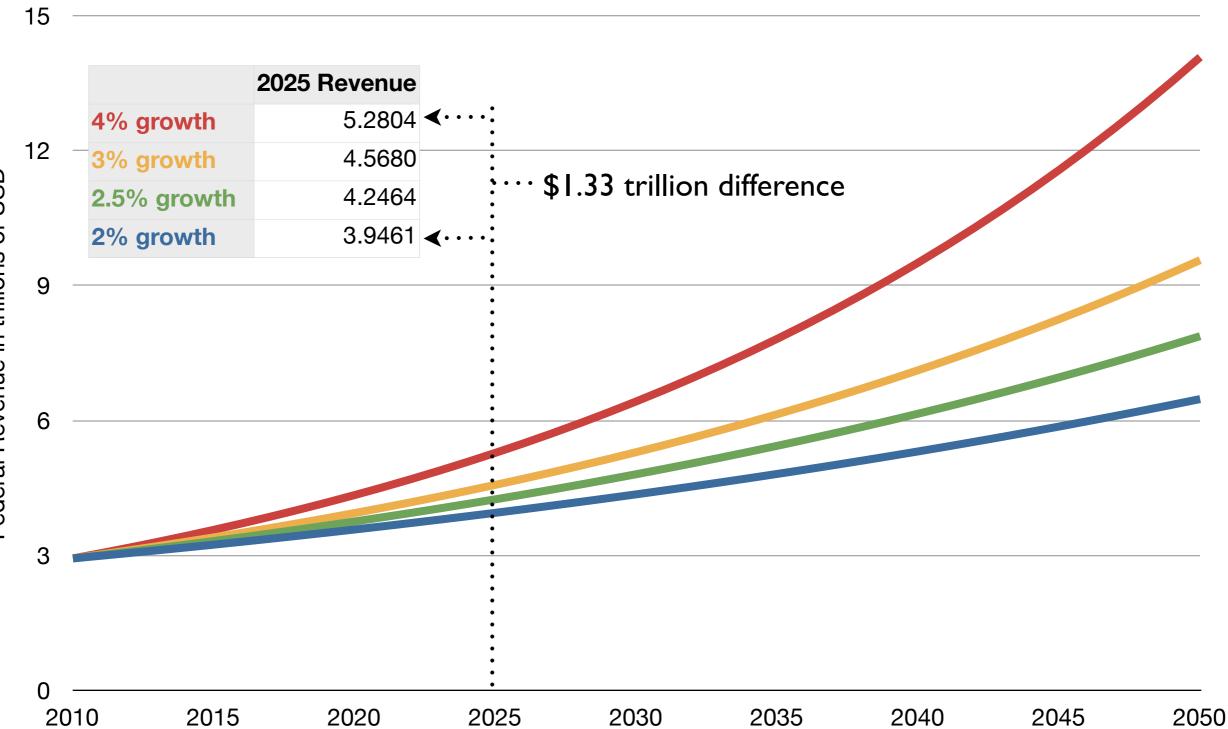
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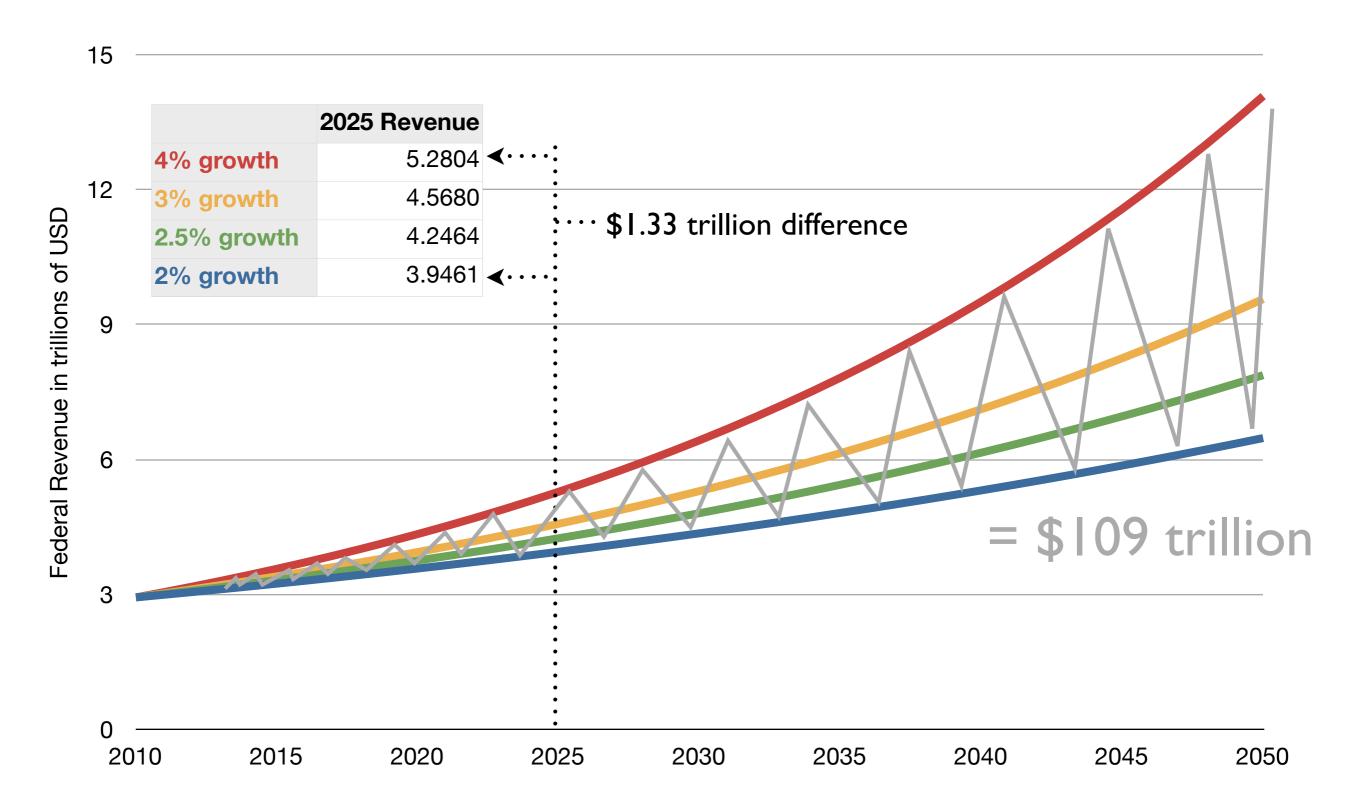
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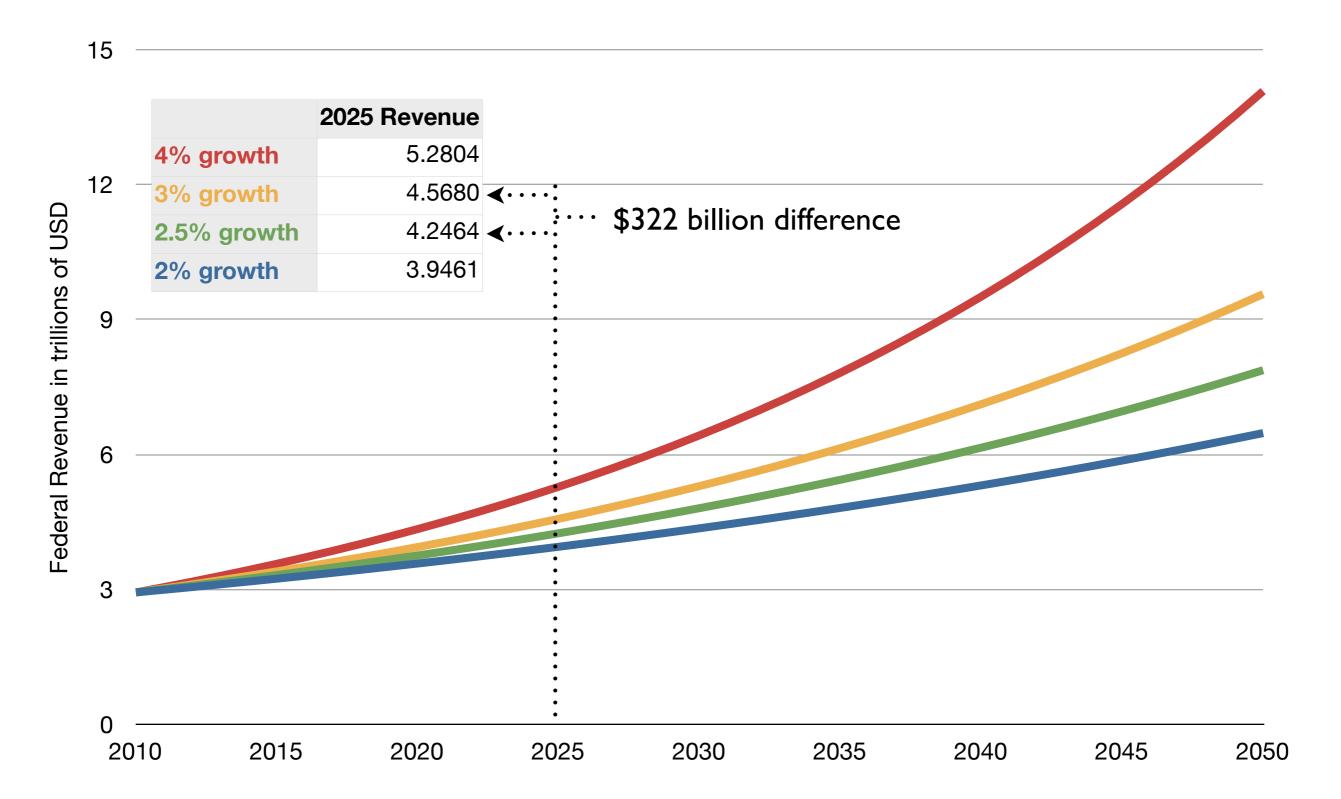
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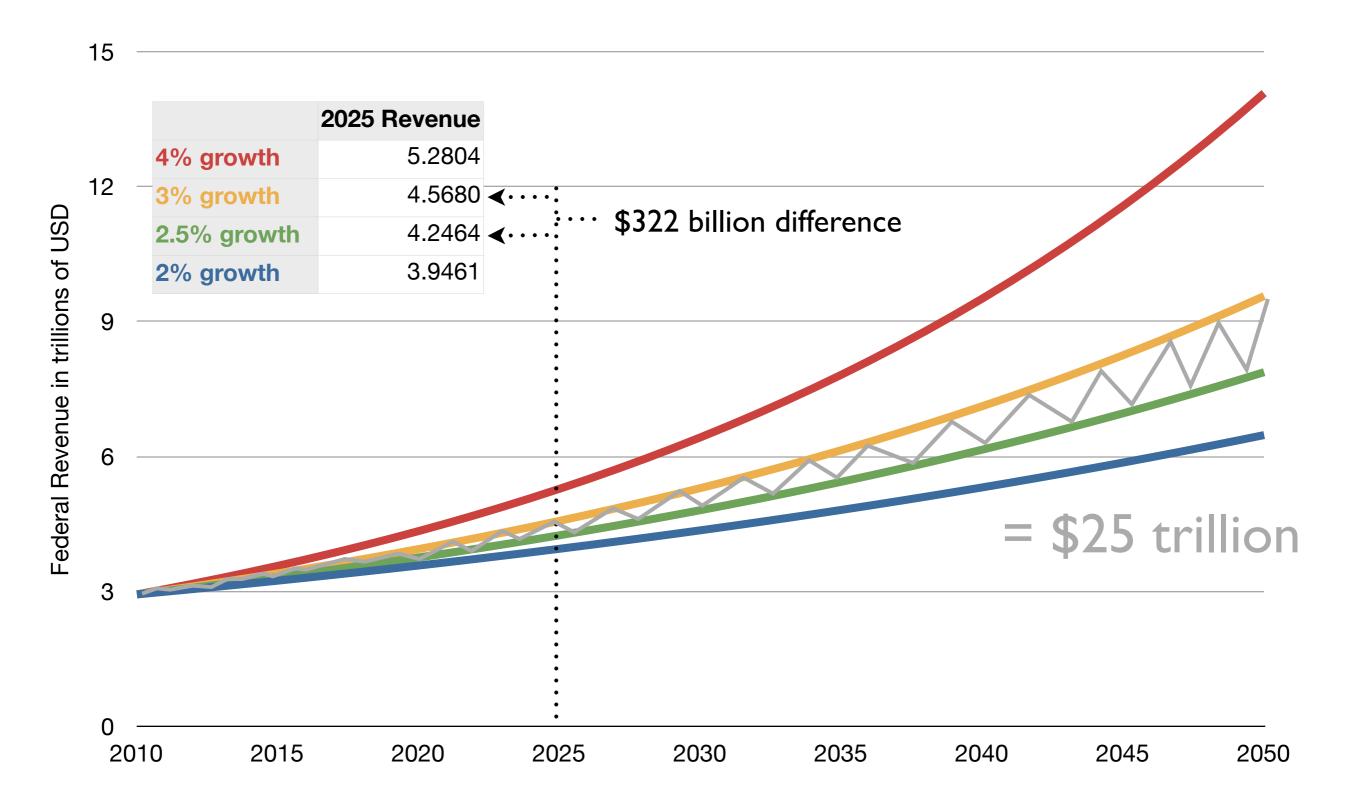




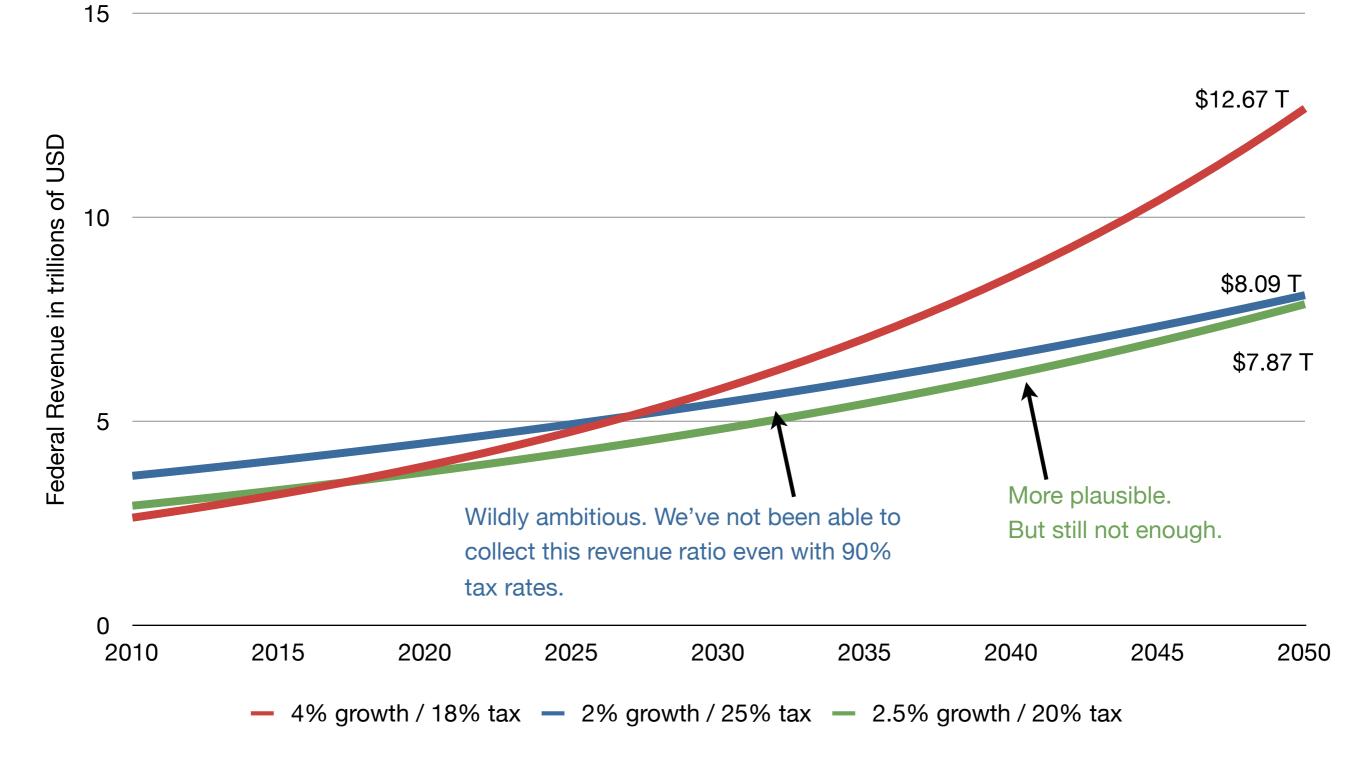
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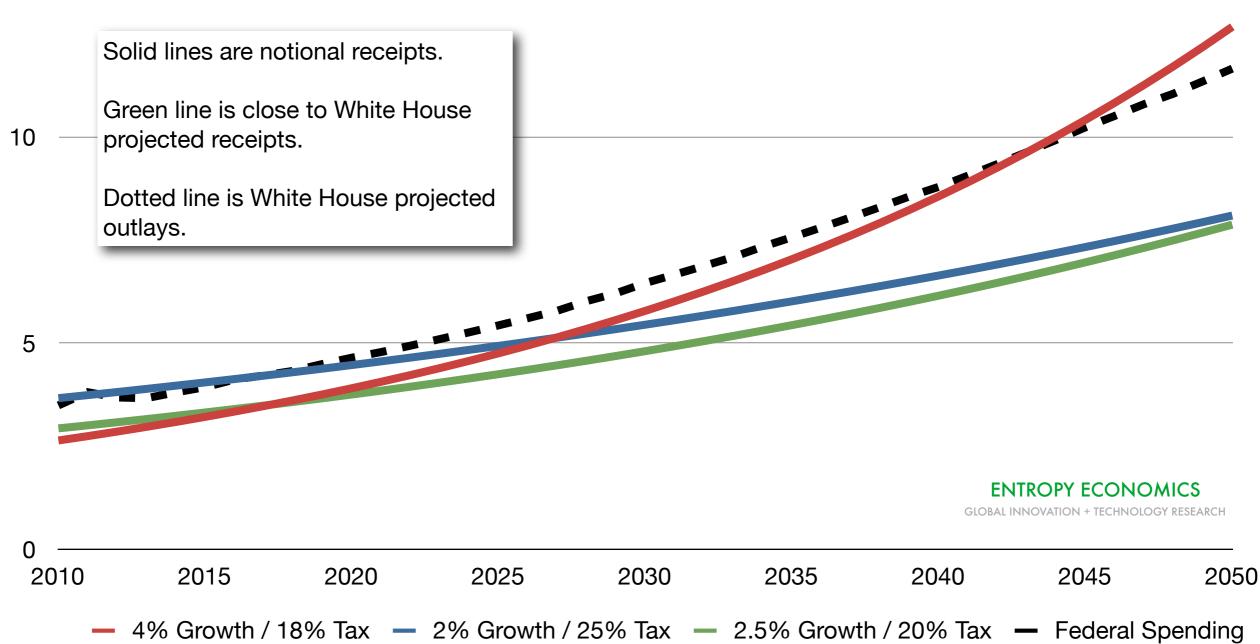


High Growth / Low Tax Beats Low Growth / High Tax



High Growth keeps up with even profligate spending

15



"We can't grow our way out of this problem"

- Economic Growth does not replace the need for substantial entitlement and spending reforms
- Indeed, utter transformation of Medicare will help spur a new entrepreneurial, consumer-centric, innovative, value-conscious health sector
- Health care is among largest but least productive sectors
- Medicare reform is thus not just about spending reduction – it is crucial to the Growth Agenda itself
 * Social Security's well-known AWI "growth problem" – where bene

* Social Security's well-known AWI "growth problem" – where benefits grow with the economy, not inflation – is a consideration but is relatively easy to solve.

Growth Boosters

- short term end regulatory and monetary bias against lending
- medium term tax reform
- long term deregulate America . . . unleash energy, education, health care, and communications
- reinvigorate Federalist structure to encourage experimentation, flexibility, competition

"Net" Growth

- The Federal Government owns 61% of all the best wireless spectrum (between 174 MHz and 4 GHz)
- mobile phone networks have just 10% of this prime spectrum
- We need a big bang in wireless spectrum to unleash the next wave of digital innovation

Med Growth

- decentralize health care, health insurance
- new biz models in health
- more physicians as entrepreneurs, more physicians in technology and research
- revolution at the FDA

Asset Shift Effect

- Faster Growth and Faster <u>Expected</u> Growth expands asset values, often by large multiples
- Unpredictable, but important consideration

Unpleasant Fiscal Arithmetic

 Economist John Cochrane (U. Chicago) has a new model integrating fiscal and monetary policy.

$$\frac{M_t+B_t}{P_t}=E_t\int_{\tau=0}^{\infty}\frac{1}{R_{t,t+\tau}}s_{t+\tau}\,d\tau$$

- Tipping point comes with expectations that we will inflate away unsustainable debt.
- Economic growth is absolutely central. Low growth expectations destroy Cochrane's fiscal valuation equation.
- Short-term debt can blow things up. Long-term debt acts as cushion.
- Fed and Treasury should be lengthening debt duration, not shortening it as we are.

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"The present value of future tax revenues is what matters," Cochrane writes.

A "high marginal tax and interventionist policy which stunts growth can be particularly dangerous for setting off a fiscal inflation."

Government actions that reduce the prospective growth rate by just 0.3%, he estimates, would put us at the "fiscal limit" of monetary policy *today*.

The Growth TEST

- Rapid Economic Growth is a national goal
- Measure every policy against the TEST
- Does it help maximize economic growth?
- Helps inform and shape debate on every issue – regulation, taxes, free trade, immigration, infrastructure

Thank You.

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