



Scenario Planning in a Low Growth Environment
Why Regulatory Requirements come up short

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Is This the Future?


- SOA Research Project
 - A Low Growth World: Implications for the Insurance Industry and Pension Plans
 - Mark Alberts and Max Rudolph
 - <https://www.soa.org/resources/research-reports/2019/low-growth-world/>



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Key Takeaways



- Low GDP growth was the norm prior to 1700
 - High growth needs technological solutions, peace, renewable energy, or group to enter work force
- “Expected” growth is lower than recent historical
- Fiscal/monetary responses ineffective
- Assets, mortality, morbidity, product design, pricing time horizon will evolve



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Drivers of Growth

- Population
- Productivity
 - $GDP = Population \times Productivity$
 - $\Delta GDP = \Delta Population + \Delta Productivity$
- Ecosystem
 - YES - Biodiversity, clean environment, stable temperatures
 - NO - spillover diseases, pollution, CO₂
- Advice: the economy is a complex adaptive system – look for interactions between productivity, population growth, conflict, climate, energy...

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The Rise and Fall of American Growth 2016 - Robert Gordon

- Return to pre-1700 growth rates (0.2%)
 - Third Industrial Revolution (computers) breakthroughs have not been transformative
 - Where are GDP gains? e.g., cars, electricity, lighting, refrigeration
- Why growth will stall
 - Females already joined workforce
 - Outsourcing/gig economy
 - Education – single parents, student debt
 - Climate – historical, future
 - Income inequality
 - Government actions – debt, stimulus
- http://www.cepr.org/sites/default/files/policy_insights/PolicyInsight63.pdf 2012





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Stagflation

- This time is NOT different
- Deficits are too high
- Monetary policy is too loose
- Plausible scenario to have low growth coupled with high rates
- Needs trigger – war, pandemic, change in public sentiment
- How does this impact an insurer?




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Modern Monetary Theory (MMT)

- No spending limits
 - US can print money
 - Impossible to default
 - Relies on Congress to tax and keep spending balanced
- Successes?
- Associated with progressive Democrats but consistent with every Republican administration since Reagan
 - Alexandria Ocasio-Cortez, Stephanie Kelton
- Fiscal policy is the signal, monetary policy is the noise
 - Monetary policy is ineffective if debt is high
 - Important to reduce debt or gold standard is inevitable

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What GDP Forecasts are (and aren't)

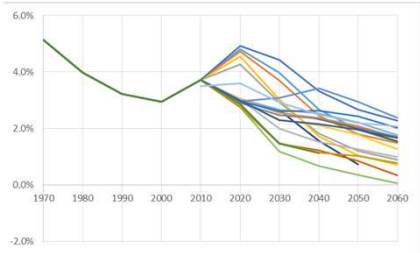
- Are
 - Expected path
 - Smooth
 - Reduce debt smoothly
- Aren't
 - Tail risk (extremes) not considered
 - Reflect tipping points or cliffs
 - No wars, recessions, pandemics

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Global GDP Growth Scenarios




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GDP Growth Forecasts


	Historical 1960- 2010	Low	Medium	High
World aggregate	3.8%	1-2%	2-2.5%	2.5-3.5%
World per capita	2.1%	0-1%	1-2%	2-3%
U.S. aggregate	3.2%	0-1%	1-2%	2-3%
U.S. per capita	2.1%	1-2.5%	1-1.5%	1.5-2%
China aggregate	8.1%	1-2.5%	2.5-3.5%	3.5-4.5%
China per capita	6.5%	1-2.5%	2.5-3.5%	3.5-4.5%

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Hillebrand-Closson 4


- 2x2x2=8 qualitative scenarios
 - Economic growth (low/high)
 - Energy prices (low/high)
 - Geopolitical relationships (low/high political harmony)
- HC4 is low growth, low energy prices, low political harmony
- Regional mercantilism
 - Regional trading blocks, US loses role as economic leader and reserve currency, populism and state capitalism grow

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HC4 vs. base scenario


	China		U.S.		World	
	Base	HC4	Base	HC4	Base	HC4
Health Expenditures per capita						
2015 - \$000s	\$ 0.4	\$ 0.4	\$ 9.1	\$ 9.1	\$ 1.1	\$ 1.1
2050 - \$000s	\$ 4.4	\$ 1.9	\$ 18.4	\$ 16.4	\$ 2.7	\$ 1.8
2015 to 2050 Change - \$000s	\$ 4.0	\$ 1.5	\$ 9.3	\$ 7.3	\$ 1.6	\$ 0.8
% of GDP 2015	5.5%	5.5%	17.1%	17.1%	9.8%	9.8%
% of GDP 2050	12.1%	11.7%	24.5%	24.1%	12.9%	13.3%
Cum Growth 2015-2050	996%	386%	102%	81%	150%	72%
Ann Growth 2015-2050	7.1%	4.6%	2.0%	1.7%	2.7%	1.6%
Life Expectancy						
Life Expectancy 2015	76.1	76.1	79.3	79.3	71.9	71.9
Life Expectancy 2050	81.6	80.1	83.0	82.7	77.4	76.0
Life Expectancy Change 2015-2050	5.5	4.0	3.7	3.4	5.5	-4.1
LE chg / \$1000 chg in per capita spending	1.4	2.6	0.4	0.5	3.4	-5.3
Per Capita GDP Growth 2015-2050						
Total GDP - Cumulative	403%	130%	41%	29%	91%	27%
Total GDP - Annual	4.7%	2.4%	1.0%	0.7%	1.9%	0.7%
Non-health GDP - Cumulative	368%	115%	29%	18%	84%	22%
Non-health GDP - Annual	4.5%	2.2%	0.7%	0.5%	1.8%	0.6%

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Scenarios to test


- Take off floors
- Negative rates
- Stagflation with rates above 10%
- Reverse stress test
- Review product mix – which products lose
 - UL Secondary Guarantee
 - Payout annuity/pensions
 - LTC



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Thank you!
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