

# Examining the Full Macroeconomic Implications from Different Projected Paths of Long Run Health Care Spending

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Sean Keehan<sup>1</sup>, Ronald Horst<sup>2</sup>, and Douglas Meade<sup>2</sup>

<sup>1</sup>Office of the Actuary, Centers for Medicare and Medicaid Services

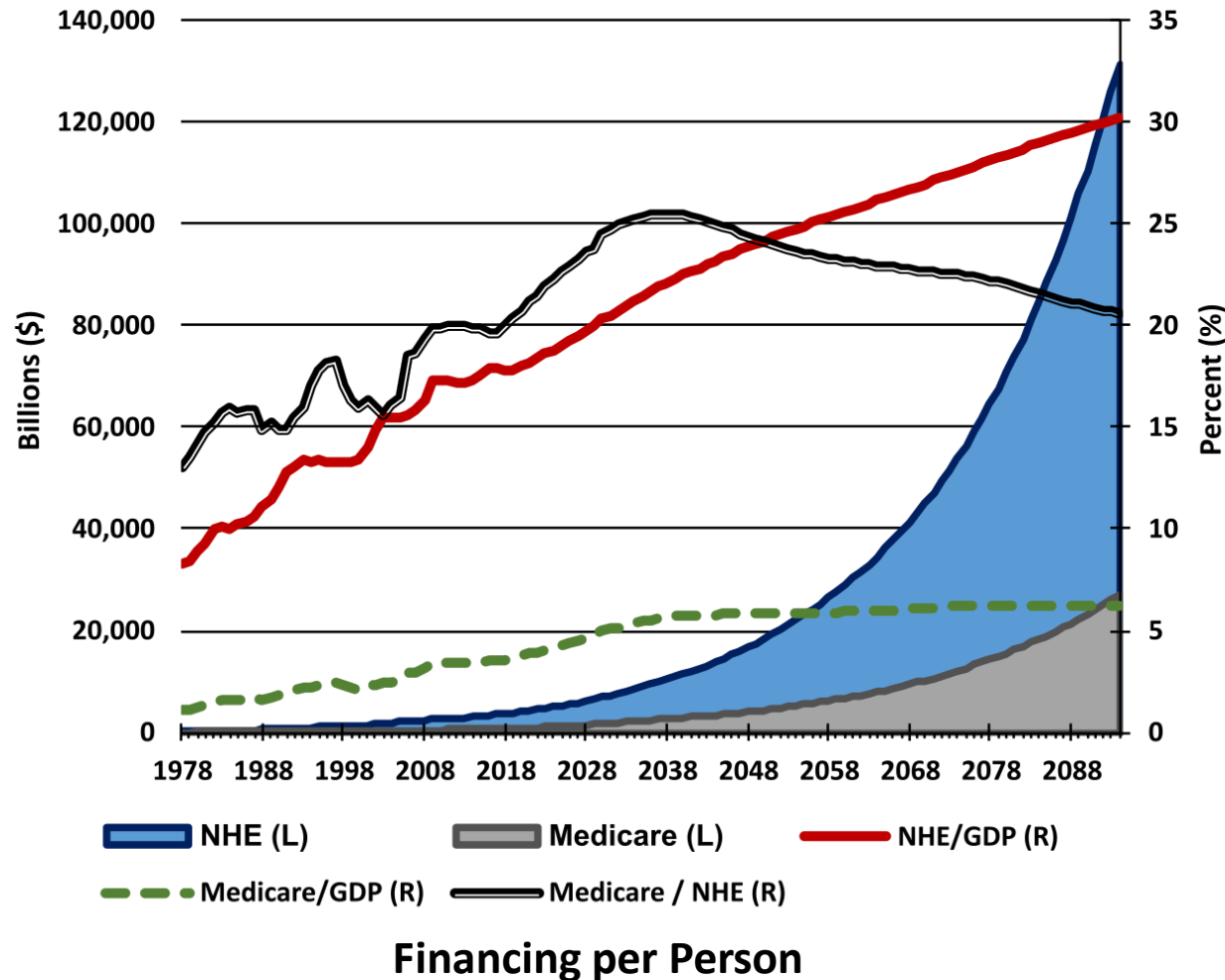
<sup>2</sup>Inforum, University of Maryland

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The numbers here are based on the 2020 Medicare Trustees Report and therefore do not reflect the impact of the Covid-19 pandemic. However, because this presentation is focused on long run (75 years) projections, when the estimates are updated to include pandemic impacts, these long run conclusions are not likely to be significantly impacted.

# Key Research Questions for the Long Run: (1) Is Sufficient Production Feasible and (2) Is Public Funding Sustainable?



- NHE / GDP
  - 1978: 8%
  - 2018: 18%
  - 2094: 30%
- Medicare / GDP
  - 1978: 1.1%
  - 2018: 3.5%
  - 2094: 6.2%
- Medicare / NHE
  - ≈Stable (2018-2094)

# *Study Objectives and Methods*

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# Study Objectives and Methods

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## Objectives

- Evaluate
  - Economic Feasibility of Health Care Spending and Production
  - Financial Sustainability of Public Funding
- Improve Understanding of Potential Long-Run Developments

## Methods

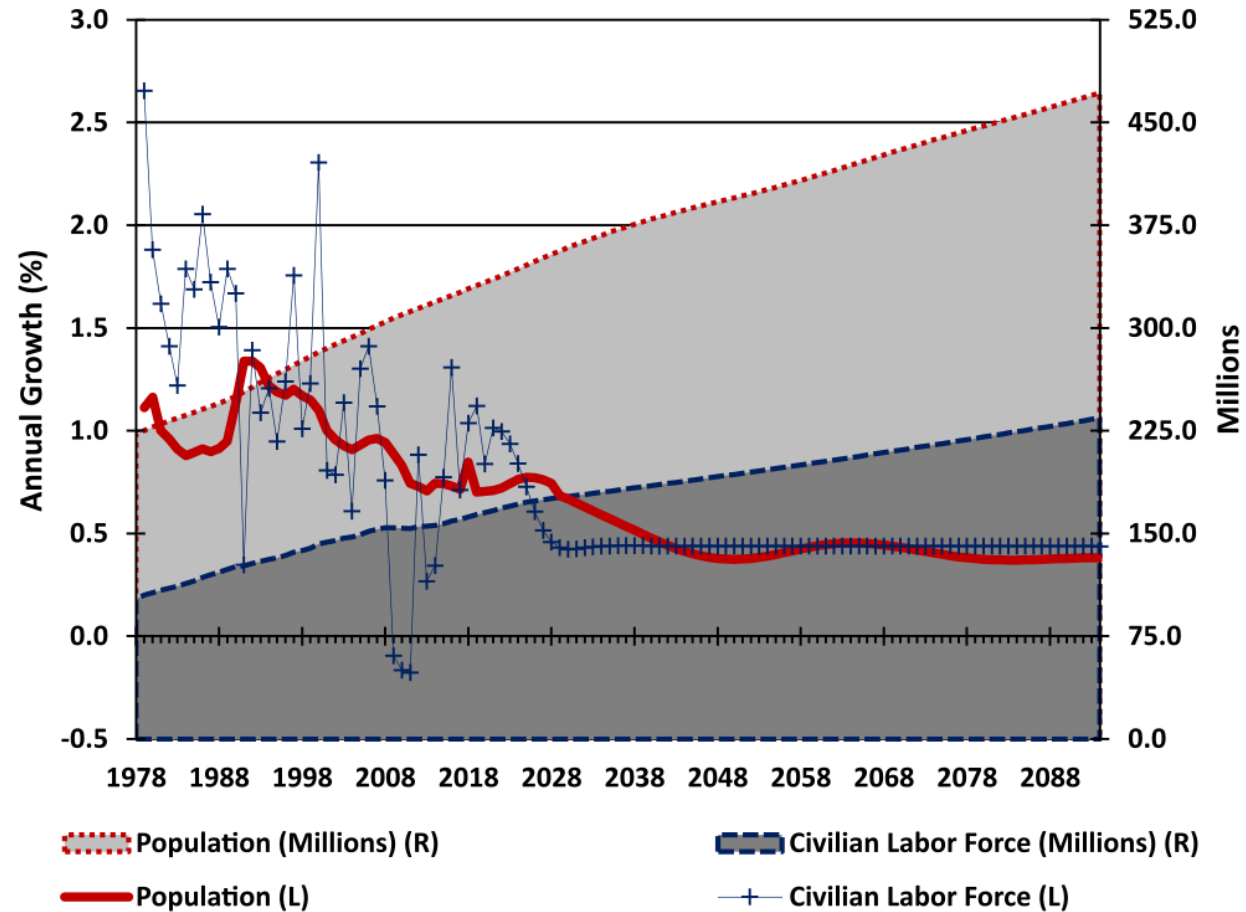
- *2020 Medicare Trustees Report*: Economic, demographic, and Medicare assumptions
- *Factors Contributing To Growth Model*: Specified levels of NHE
- Inforum model: Extensive economic & health care detail
  - Industry, Household, Government, International Sectors
- 75-year horizon (to 2094)

# *Baseline Scenario*

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# Population and Labor Force



Population and Labor Force

## Population

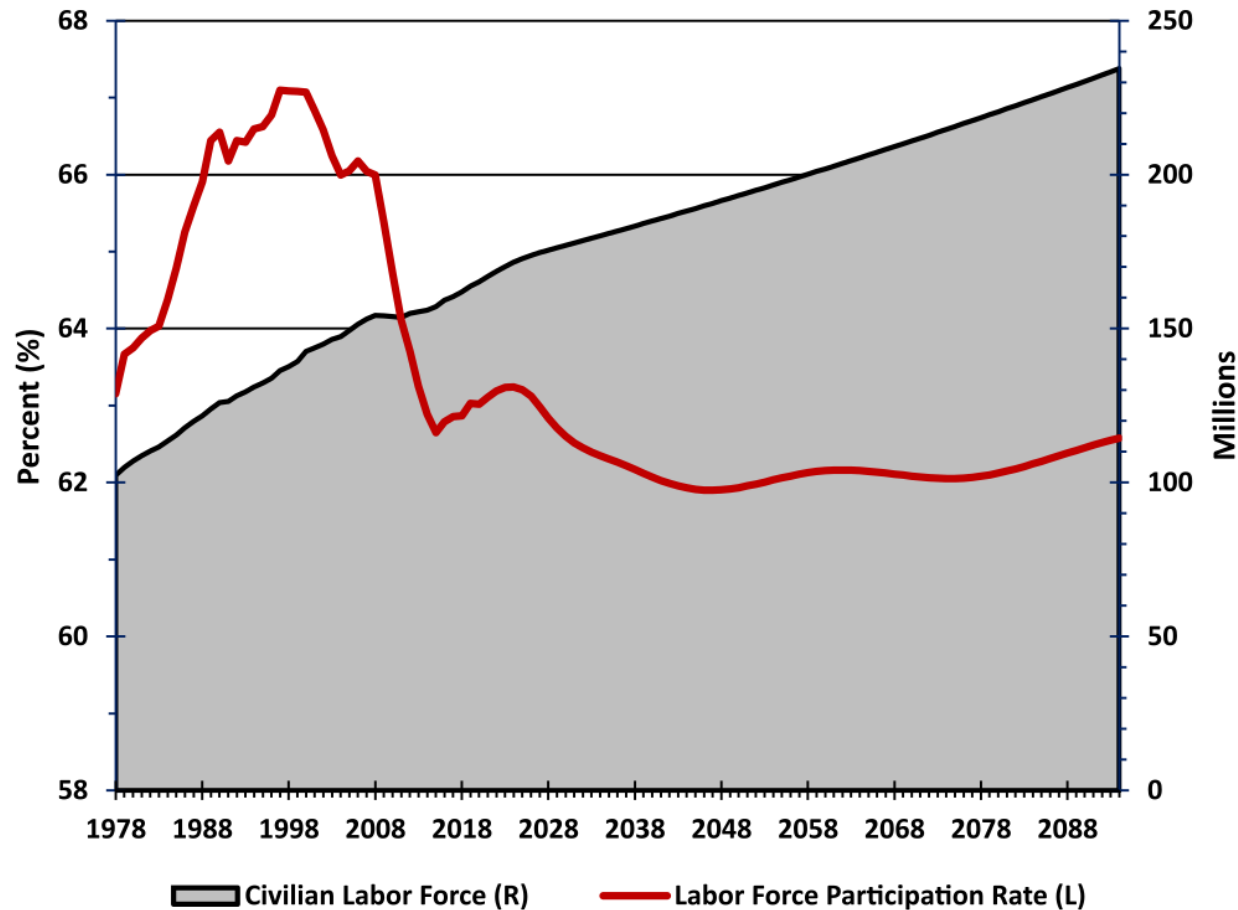
- 1978: 222m
- 2018: 328m
- 2094: 471m

## Labor Force

### Workers + Seekers

- 1978: 102m
- 2018: 162m
- 2094: 234m

# Labor Force Participation

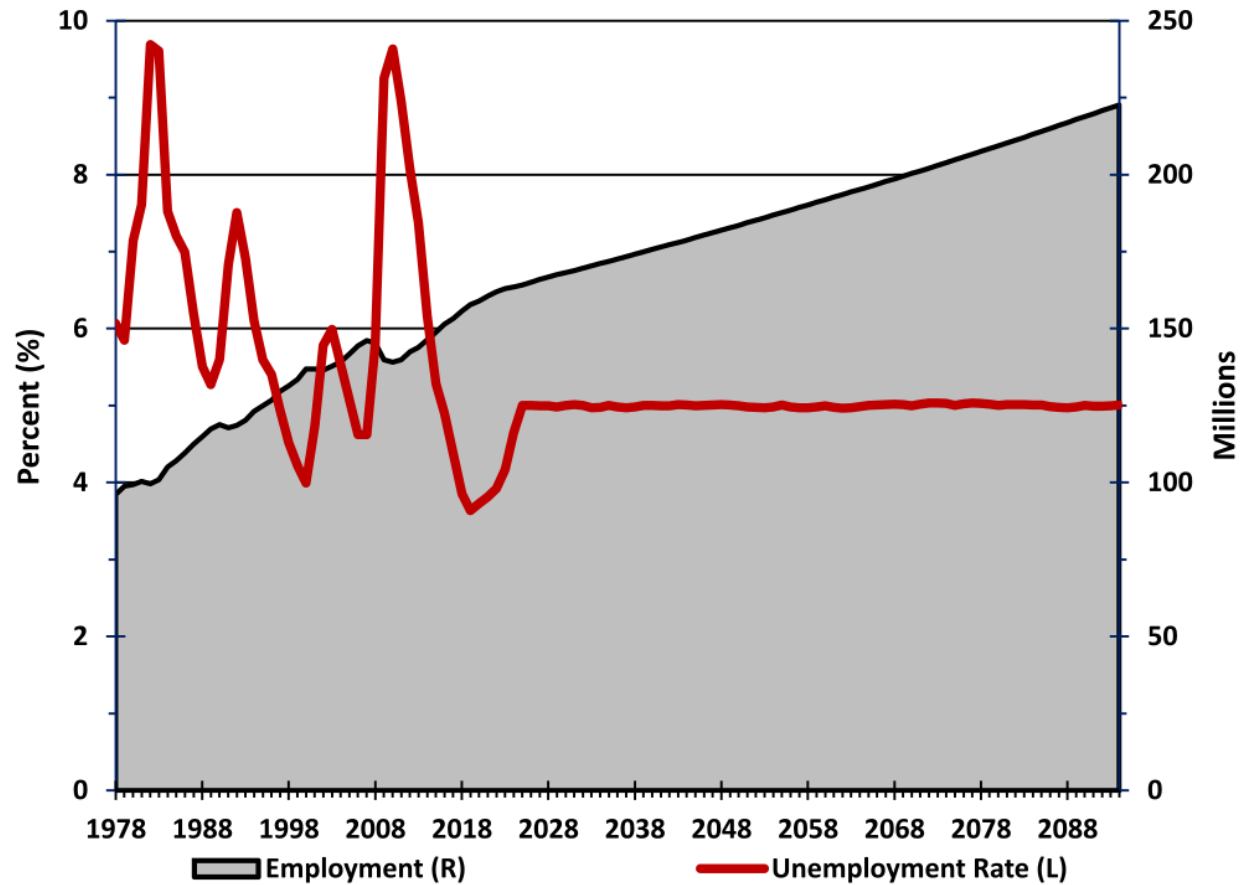


Labor Force Participation

## Participation Rate

- = Labor Force / Population 16+
- Baseline Rates: Largely Implied
- Key component of potential GDP

# Total Employment



Total Employment

## Labor Markets

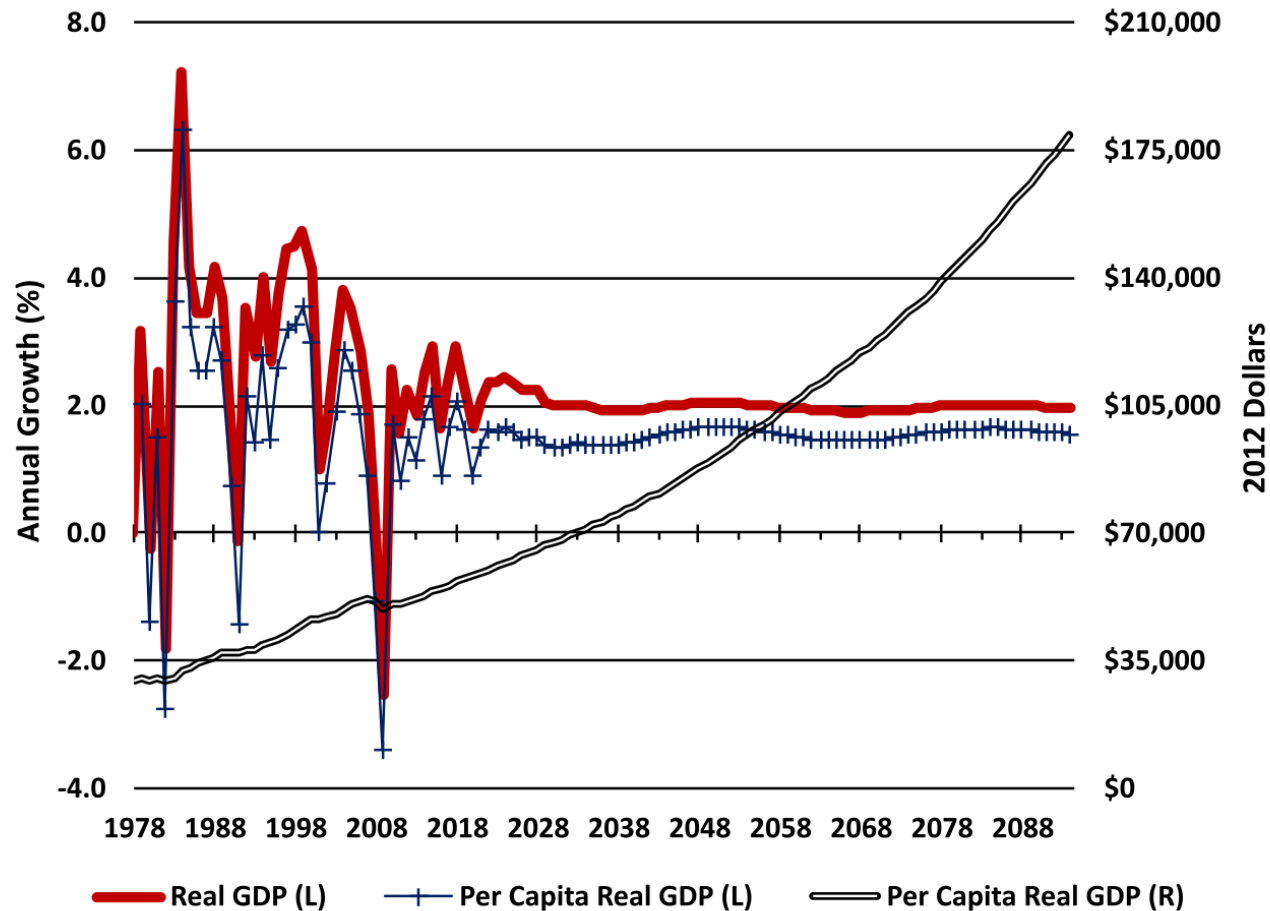
Labor Force

× Unemployment Rate

= Workers (Labor Supply)



# Baseline Economic Growth

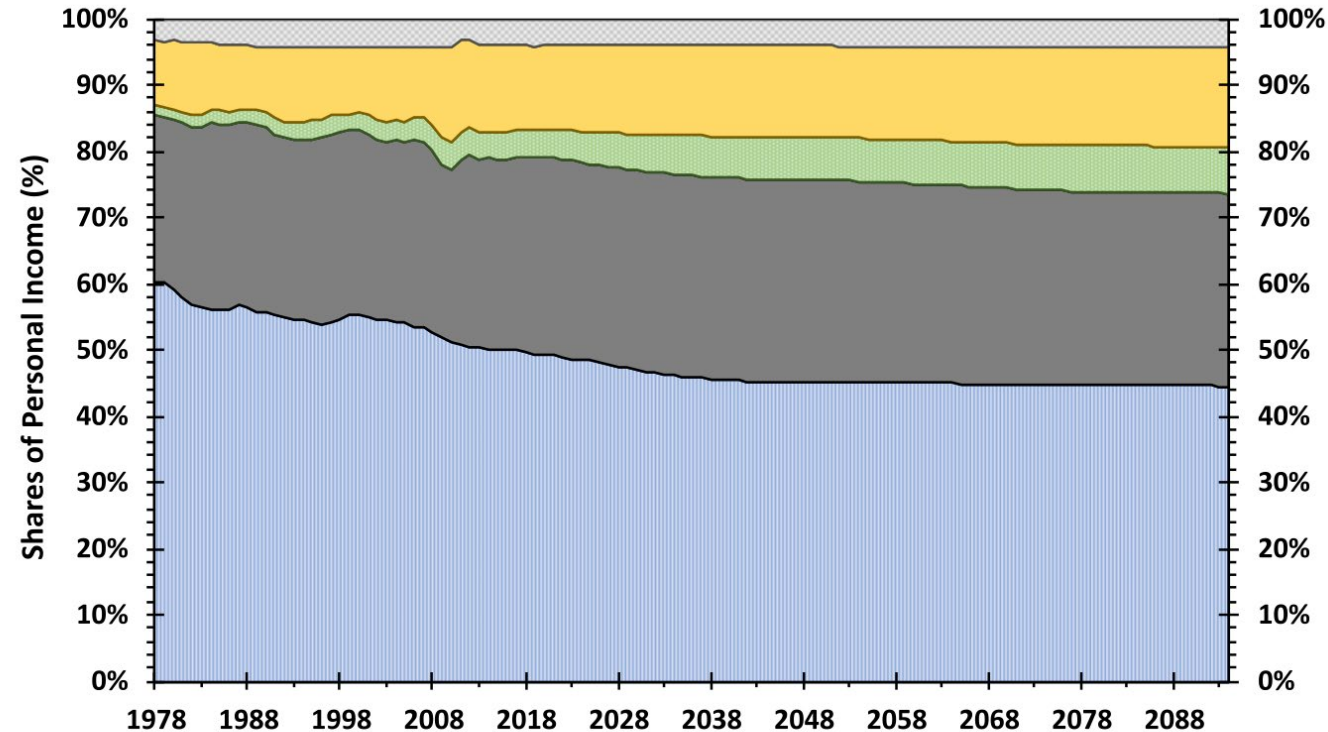


## Real GDP / Person

- 1978: \$29,500
- 2018: \$56,700
- 2094: \$179,300
- 1978-2018: 2X
- 2018-2094: 3X

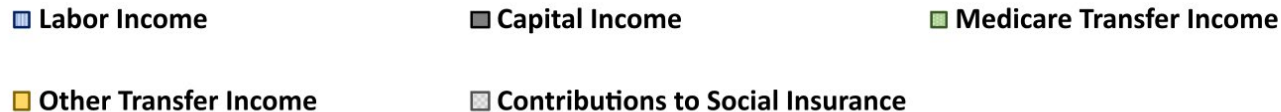
Baseline: Real GDP

# Components of Household Income



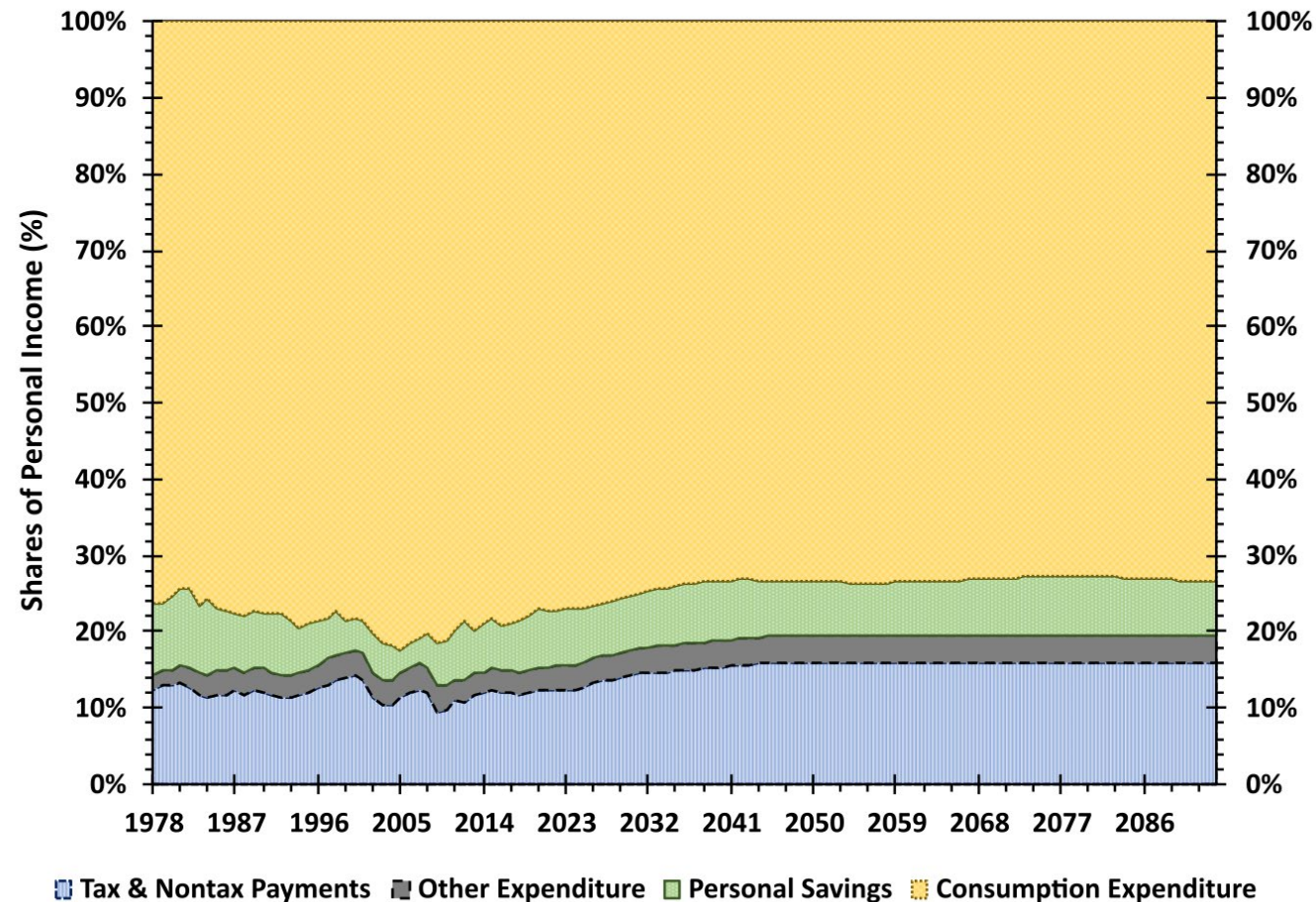
≈Balanced Growth (components stabilize as a share towards the end of projection period)

- Labor ↓
- Transfers ↑
  - Medicare
    - 1978: 1.4%
    - 2018: 4.1%
    - 2094: 7.0%
  - Other
- Capital
- Social Insurance Payments



Household Income

# Components of Household Expenditure



## Household Expenditure

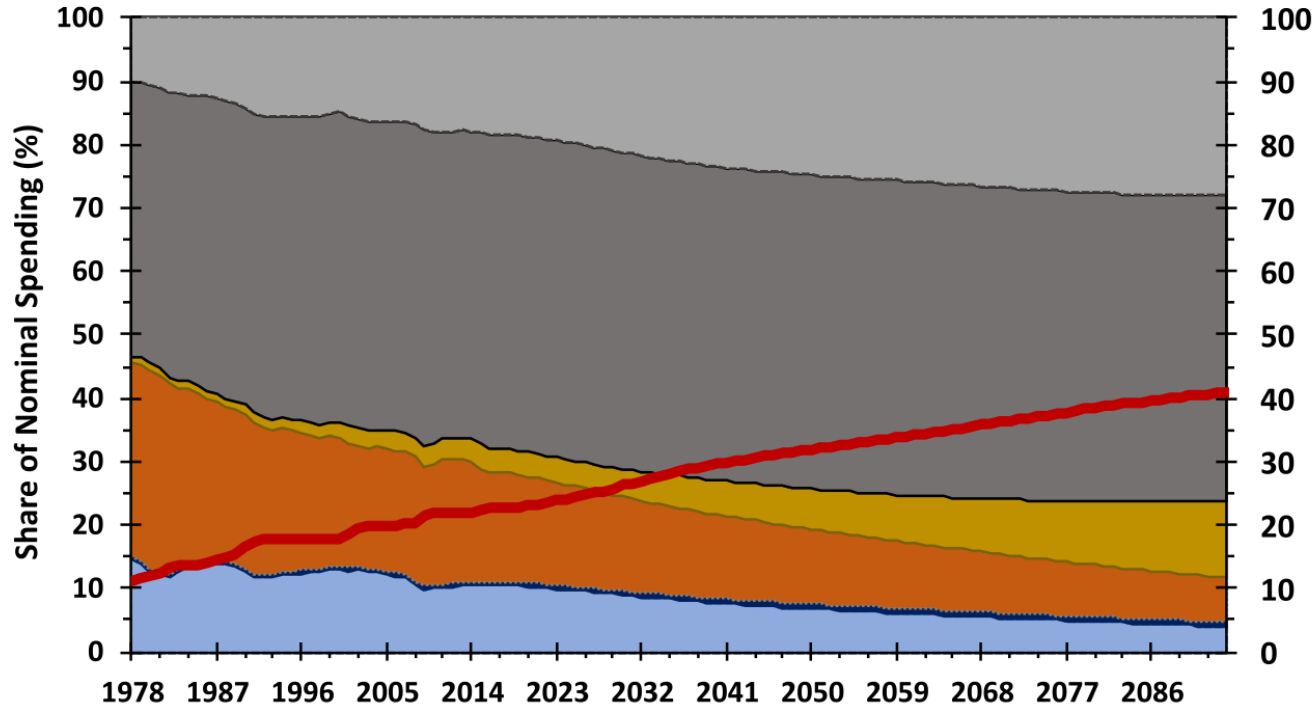
≈Balanced Growth

- Consumption ↓
- Savings
- Misc. Payments
- Taxes & Other ↑

Stabilize Federal Debt / GDP

- 1978: 12.3%
- 2018: 11.7%
- 2094: 15.8%

# Components of Personal Consumption



≈Balanced Growth

- Goods decline
- Services rise
- Both stabilize

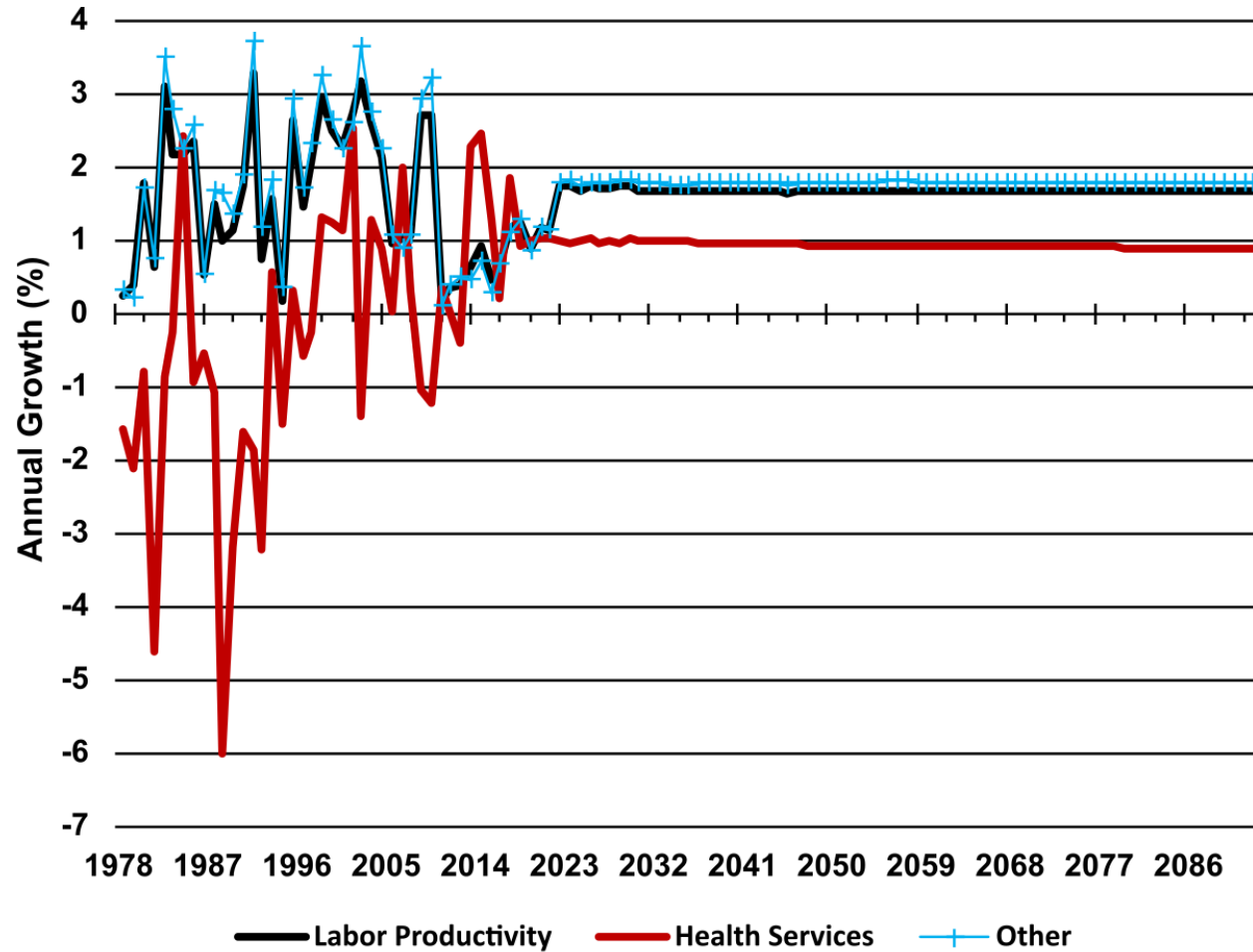
Health Care Rises

- 1978: 11.4%
- 2018: 22.7%
- 2094: 41.0%



Personal Consumption Spending

# Labor Productivity

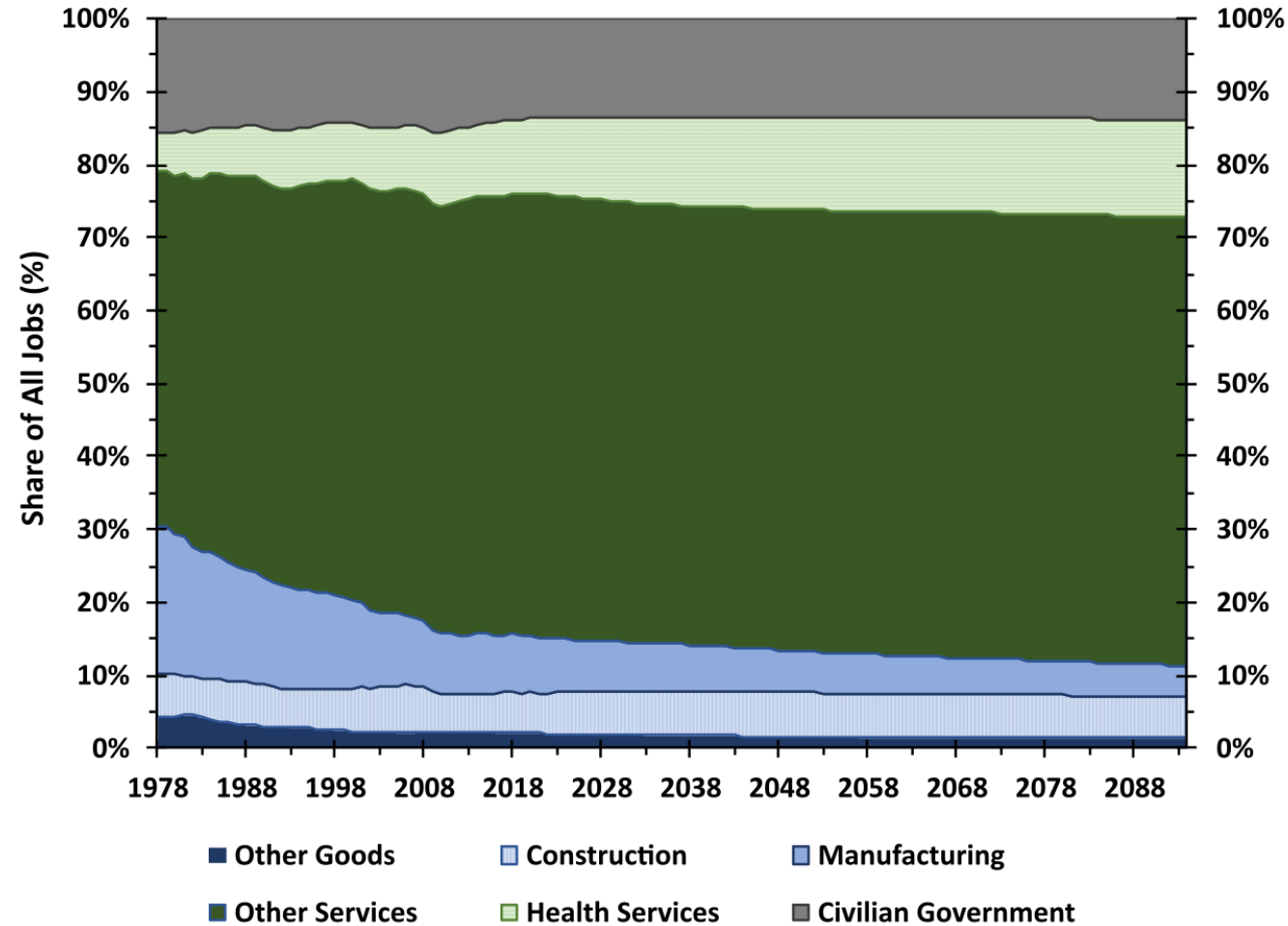


Labor Productivity

## Assumptions

- Production
    - Health Care PCE
    - Real GDP
  - Labor Productivity
    - Health Sector
    - Economy-wide
- ⇒ Imply Labor Demand

# Employment by Industry



Employment by Industry

## Services

- 2018: 70.3%
- 2094: 74.7%

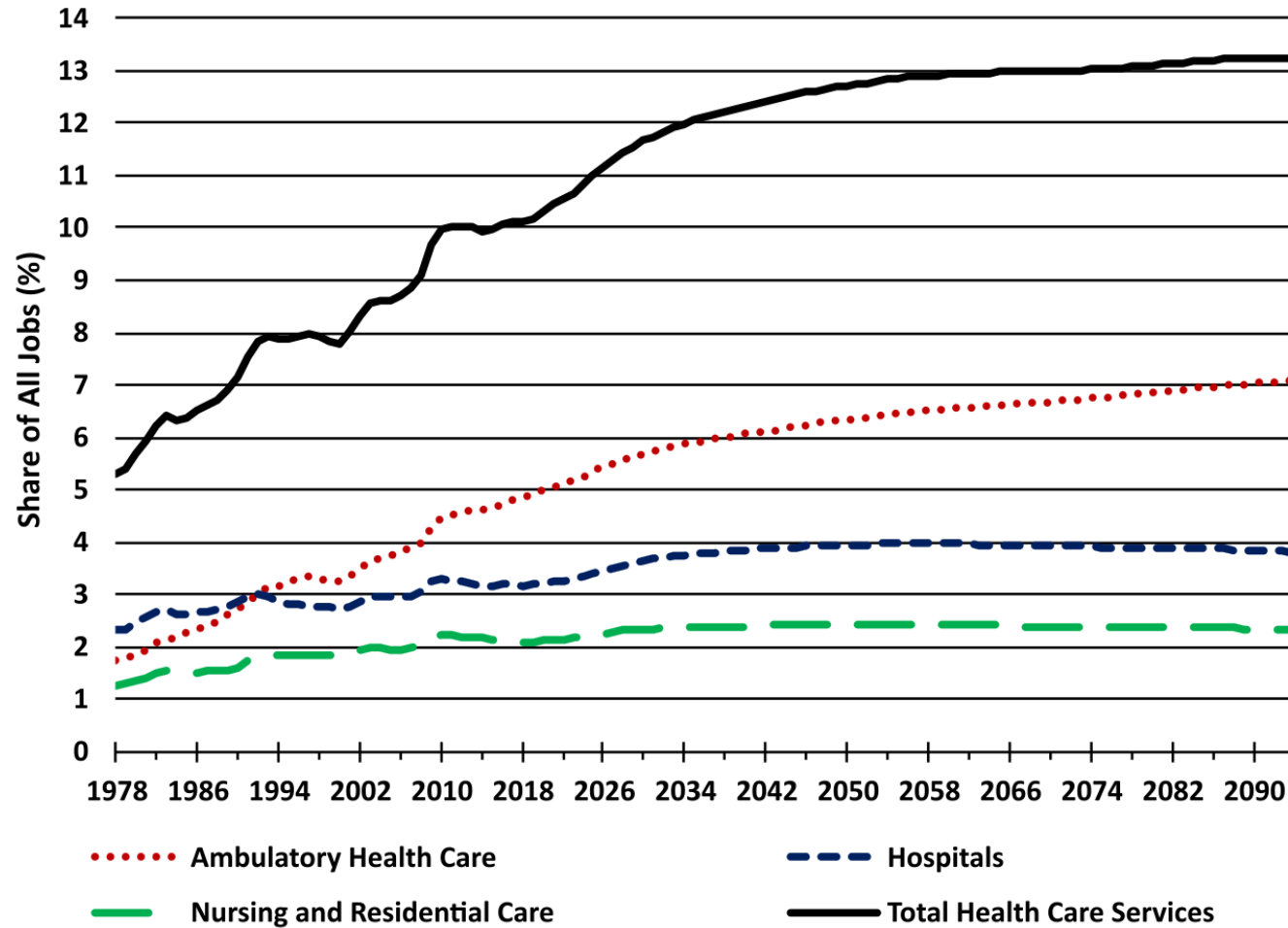
## Goods

- 2018: 15.8%
- 2094: 11.3%

## Government

- 2018: 13.9%
- 2094: 13.9%

# Health Services Employment



Health Services Employment

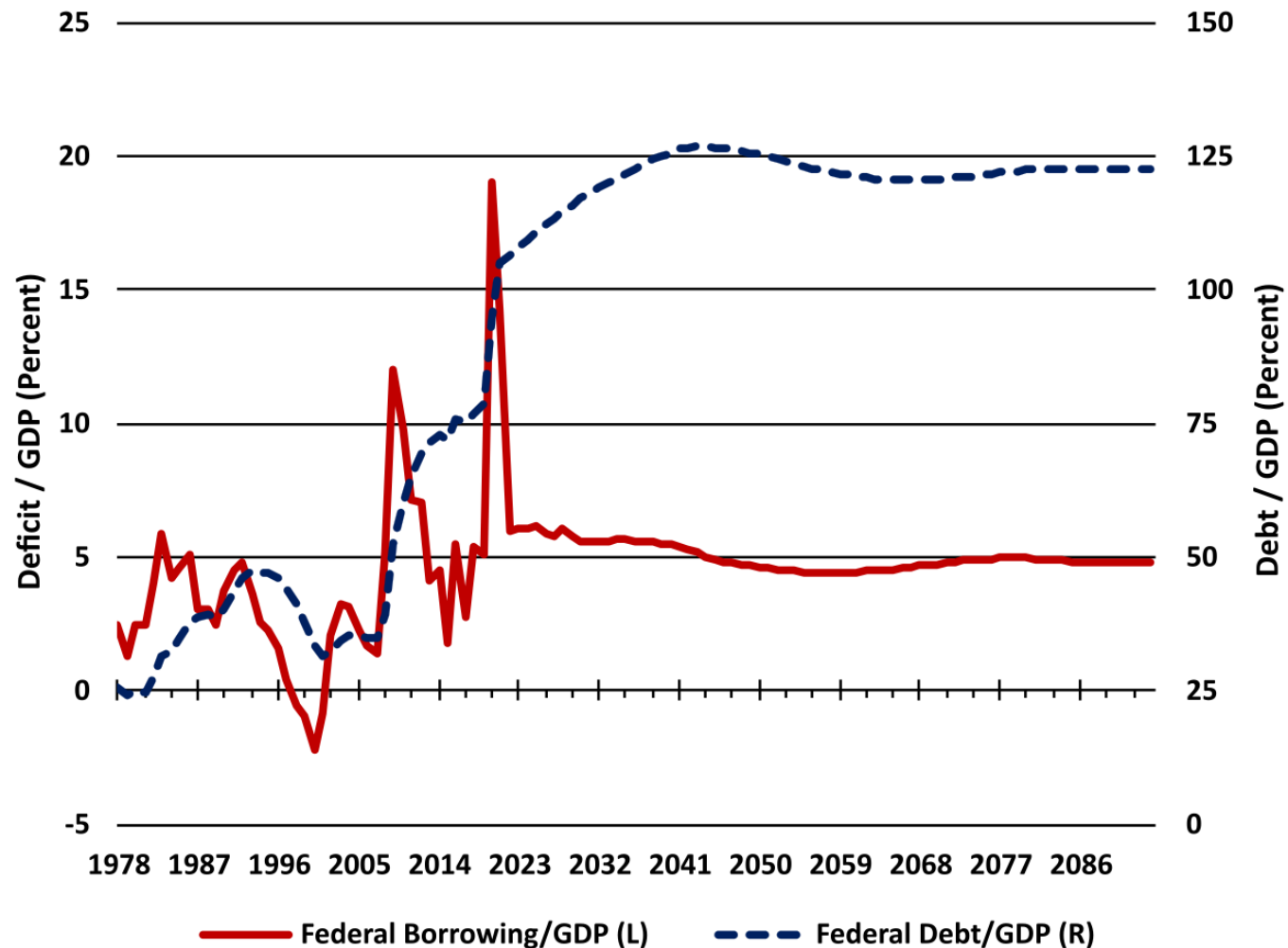
## Health Services Jobs

- 1978: 5.3%
- 2018: 10.1%
- 2094: 13.2%

## Implies Additional Requirements

- Education
  - Occupational training
  - Support from other sectors
- ⇒ Many additional jobs required

# Federal Deficits and Debt



Federal Deficits and Debt

## Deficits

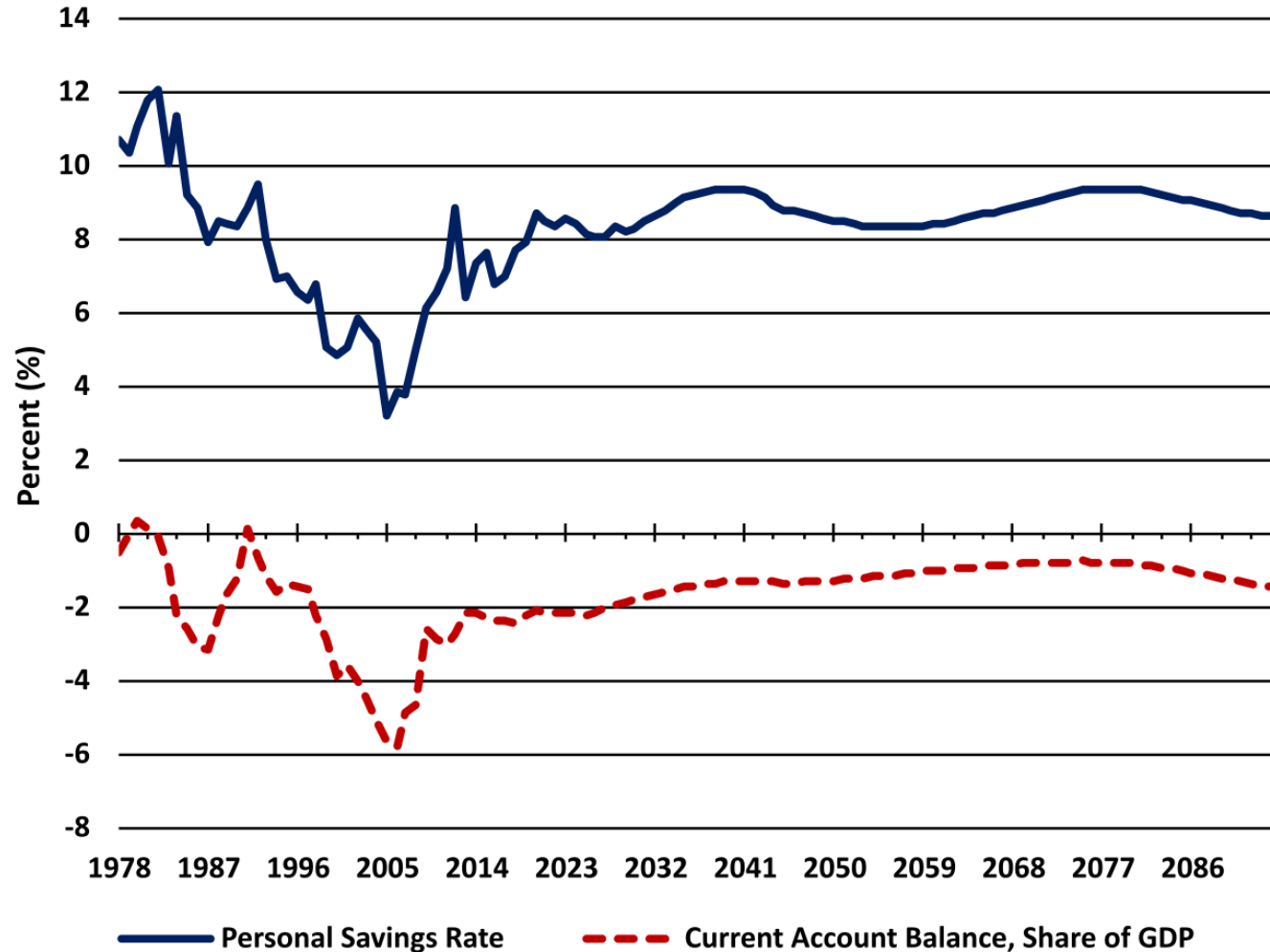
- The average federal tax rate is assumed to rise gradually then flatten out
- Deficits stabilize  $\approx 5\%$  GDP

## Debt

- Includes pandemic adjustment
- Interest costs rise accordingly
- Deficits stabilize  $\approx 125\%$  GDP



# Other Balances



Household and International Balances

## Household Accounts

- Savings Stable  $\approx$ 8-9%
- PCE components balanced

## Current Account Deficit (Trade Gap, etc.)

- Stable  $\approx$ 1-2% GDP
- High health care spending does not necessarily lead to international imbalances

# Economic Feasibility & Financial Sustainability

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- Potentially Balanced Growth
  - Demand (PCE, Other)
  - Supply (Employment)
- Potentially Sustainable Budgets
  - High but Stable Federal Debt
    - Assumed greater revenue
- Stable Household and International Balances

# Alternative Scenario

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- Background
  - The baseline scenario highlights assumptions used in the 2020 Medicare Trustees Report. For many assumptions, there are other reasonable assumptions that could be made.
  - The value of running different alternative assumptions in the LIFT model is that changes made to certain assumptions could significantly change many of the variables that we are interested in studying. One such scenario is described below, others will be run this summer.
- Specification: Slide #8 gives assumptions for the labor force, which is one variable of considerable uncertainty in the future. Other groups (specifically CBO and BLS) have assumed a lower labor force than what is in the baseline scenario. Therefore, this alternative scenario assumes that the labor force level will be about 5 percent lower than the baseline scenario.
- Initial Qualitative Results
  - A smaller labor force would lead to slightly slower economic growth over the next 75 years.
  - A smaller economy would reduce the feasibility of providing projected levels of health care and would strain government and household budgets further.

# *Conclusion and Possible Extensions*

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# Conclusions

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## Baseline

- Potential Viability
  - Supply could satisfy Demand
  - Financial Sustainability
- Results depend strongly on the assumptions

# Potential Extensions To This Study

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- The current plan is to run several additional alternative scenarios this summer & compare these results to the baseline scenario.

## Current Scope

- Sensitivity Analysis
  - $\pm$  Health Care Quantities
  - $\pm$  Health Care Prices
  - $\pm$  Health Care Funding
  - $\Delta$  Economic Details
- Other Alternative Assumptions
  - Labor Productivity & Economic Growth
  - Income Taxes & Labor Supply

## Broader Scope

- Climate Change
- Technological Developments

# *Appendix*

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# The Inforum LIFT Model

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- 121 Commodities (Output, Final Demand; 12 Health)
- 121-Sector Commodity x Commodity Tables
- 71 Industries (Value Added, Employment, etc.; 3 Health Services)
- 83 Types of Personal Consumption (11 Health)
- Based on BEA NIPA, 2007 Benchmark accounts, and Annual IO accounts
  - Provides more detail for health care than is published in BEA annual IO accounts
- Used for policy and scenario analysis, forecasting
  - Health Care, Infrastructure, Defense, Energy, Climate Change, Environmental and Health Regulation, etc.



# For Further Reading

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- Werling, Meade, Nyhus, and Horst, Health Care Spending in the Long Run, 19<sup>th</sup> Annual International Input-Output Conference, 2011.
- Werling, Keehan, Nyhus, Heffler, Horst, and Meade, [The Supply Side of Health Care](#), Survey of Current Business, 2014.
- Keehan, Meade, and Horst, Working Paper – The Supply Side of Health Care, [www.inforum.umd.edu/services/projects/supplysideofhealthcare.html](http://www.inforum.umd.edu/services/projects/supplysideofhealthcare.html), 2019.
- Inforum, LIFT Model, [www.inforum.umd.edu/services/models/lift.html](http://www.inforum.umd.edu/services/models/lift.html).