Factors Contributing to Growth Model

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What is the Factors Model?

- Develops long-range health spending projections based on the Trustees economic projection
- Based on an accounting framework used to track the historical contributions of key factors:
  - Demographics
  - Δ in insurance coverage
  - Δ in relative medical price inflation
  - Δ in real per capita income
  - Residual (primarily attributable to the development and diffusion of new medical technologies)
- Future assumptions about the key factors are based on long-run historical experience and anticipated evolution in the long-run future
- Allows for decomposition of projections into "price" and "real" components critical for making current law Medicare projections

Factors Model Equation

$$h = a + \varepsilon_y y + \varepsilon_i i + (1+\varepsilon_p)\, p + d$$

h = growth in constant-dollar health spending per capita

a = growth residual

y = growth in income (approximated by GDP per capita)

i = average coinsurance rate
(approximated by the out-of-pocket share of total health spending)

p = growth in relative medical price at time t (relative to GDP deflator)

d = index of demographic contribution at time t

Elasticity:

ε_y = income-technology; ε_i = coinsurance; ε_p = relative medical price

How is the Factors Model Used in TR?

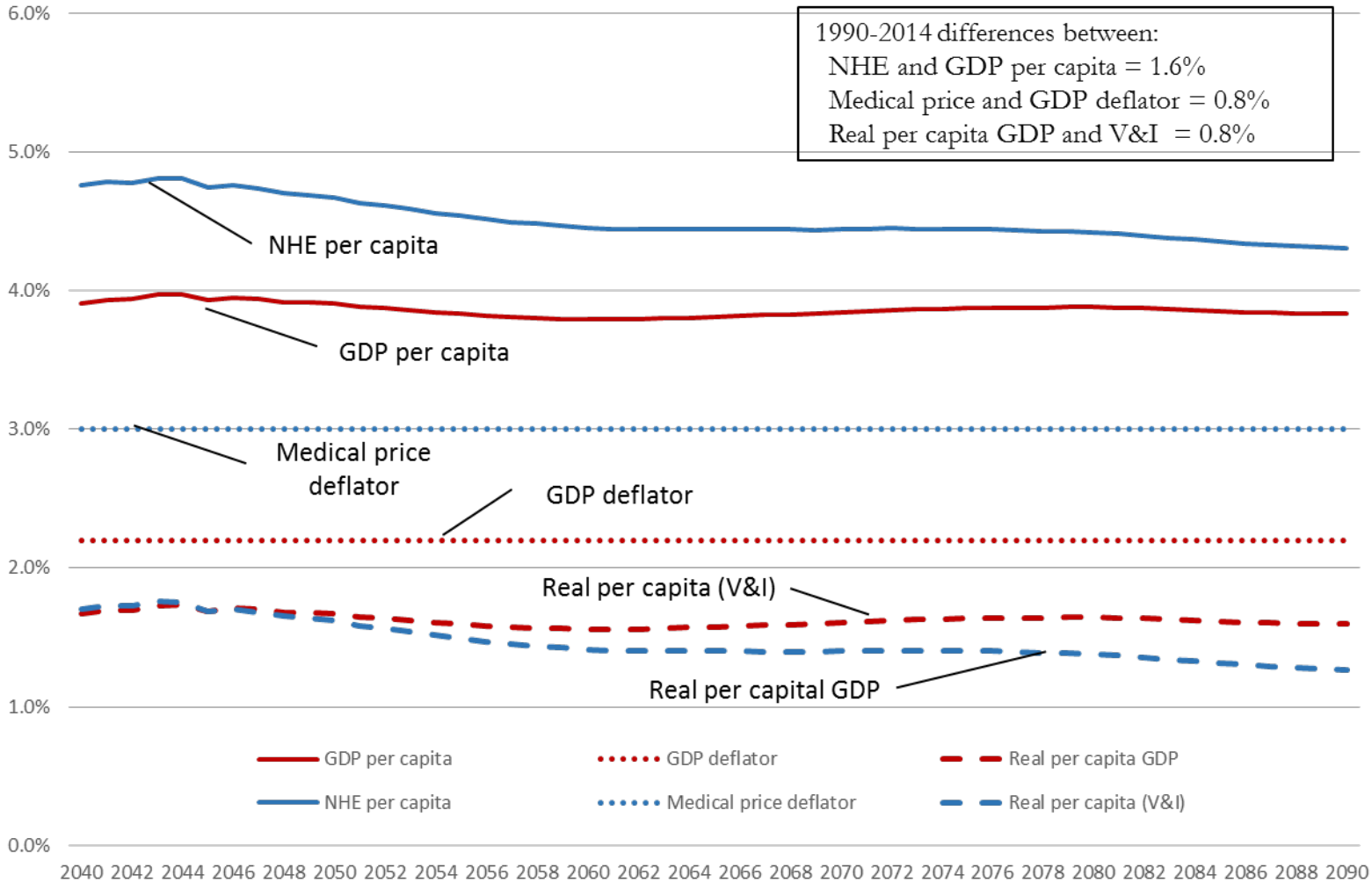
- Part A (updated by market basket) and Part B (updated by market basket or CPI)
  - Real per capita growth (V&I)* for years 25-75, adjusted by ACA behavioral impacts

- Part B (physician services)
  - Real per capita (V&I)** for years 25-75 assuming medical price equals the MEI

- Part B (lab, physician-administered Rx, small facility), Part D, and NHE
  - Medical price and real per capita (V&I)* for years 25-75

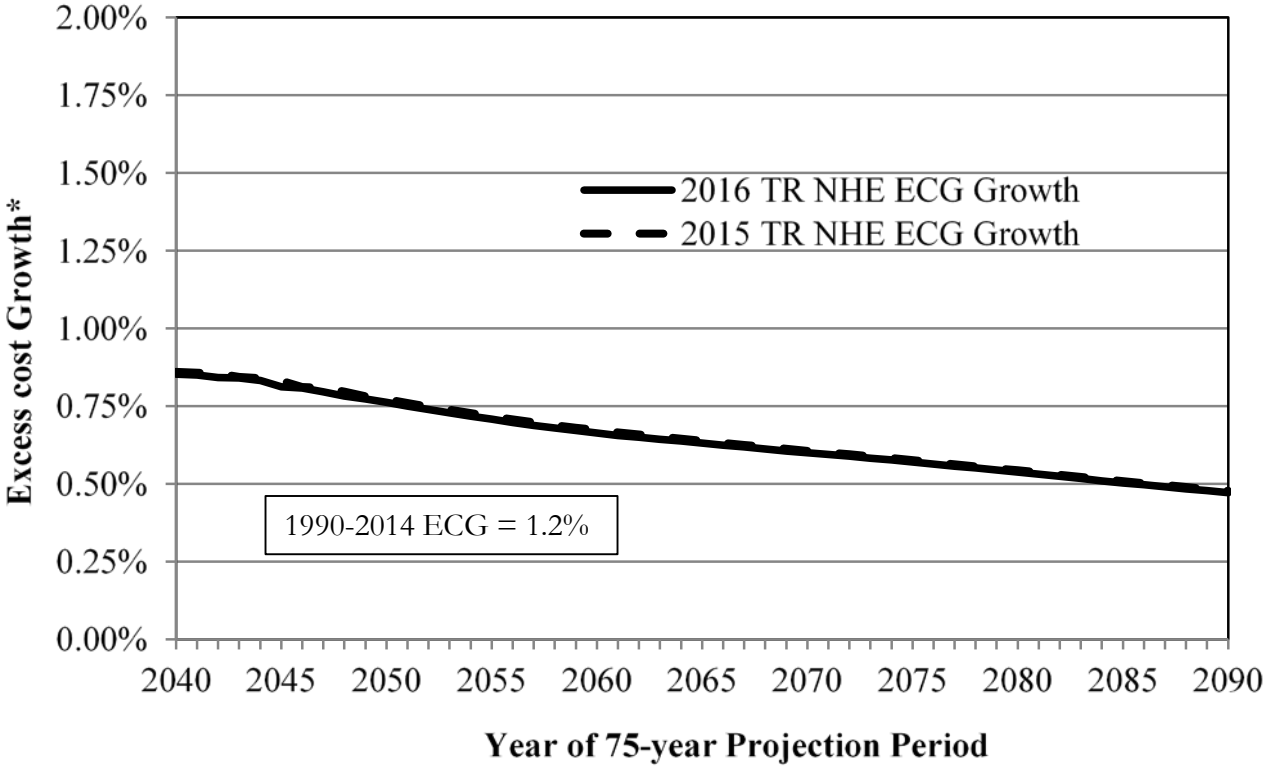
*Excluding age-gender effects
**Excluding age-gender effects; grows roughly 0.4% faster than NHE V&I

Results


1990-2014 differences between:
NHE and GDP per capita = 1.6%
Medical price and GDP deflator = 0.8%
Real per capita GDP and V&I = 0.8%
6.0%
5.0%
4.0%
3.0%
2.0%
1.0%
0.0%
NHE per capita
GDP per capita
Medical price deflator
GDP deflator
Real per capita (V&I)
Real per capital GDP
2040 2042 2044 2046 2048 2050 2052 2054 2056 2058 2060 2062 2064 2066 2068 2070 2072 2074 2076 2078 2080 2082 2084 2086 2088 2090
GDP per capita
GDP deflator
Real per capita GDP
NHE per capita
Medical price deflator
Real per capita (V&I)

Results, cont.

Figure A.5.—Long-Range NHE Excess Cost Growth* based on the FCG Model

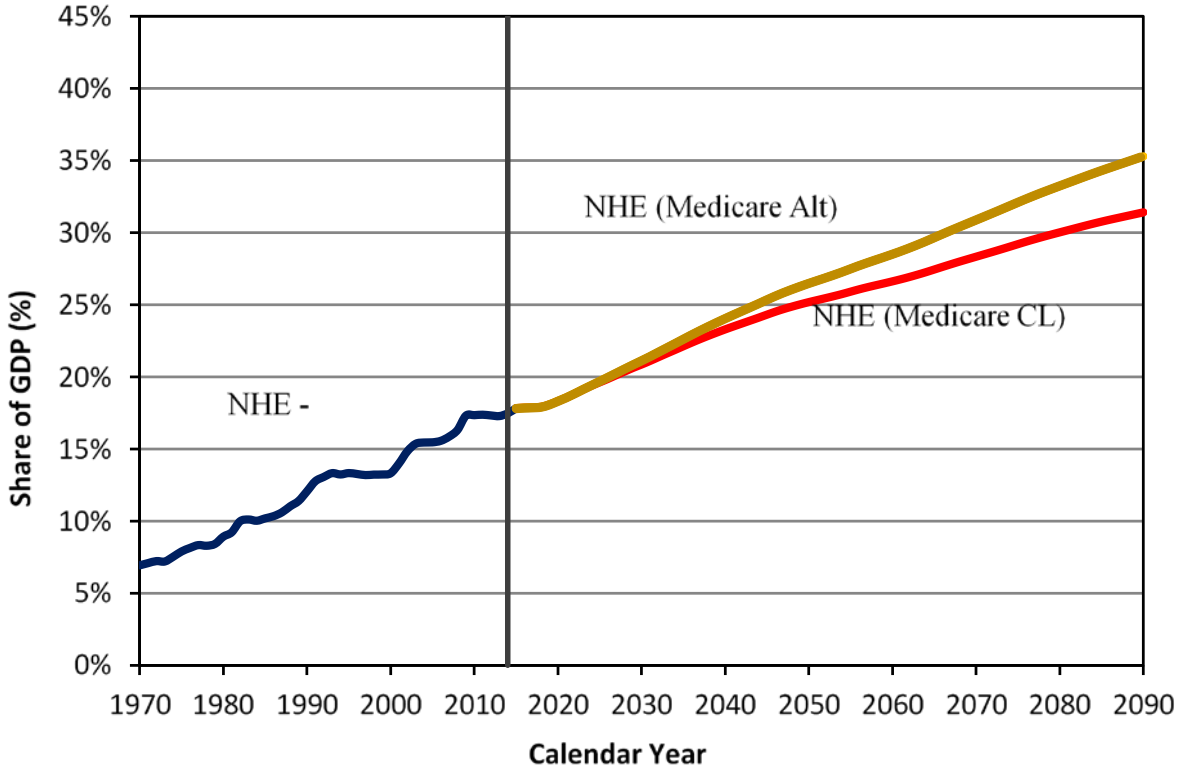


Source: Centers for Medicare & Medicaid Services, Office of the Actuary.

*Excess Cost Growth is defined as growth in per capita, age-gender adjusted health spending less growth per capita GDP.

Results, cont.

Chart 5—National Health Expenditures as a Percent of GDP 1970-2090



Source: Centers for Medicare and Medicaid Services, Office of the Actuary.

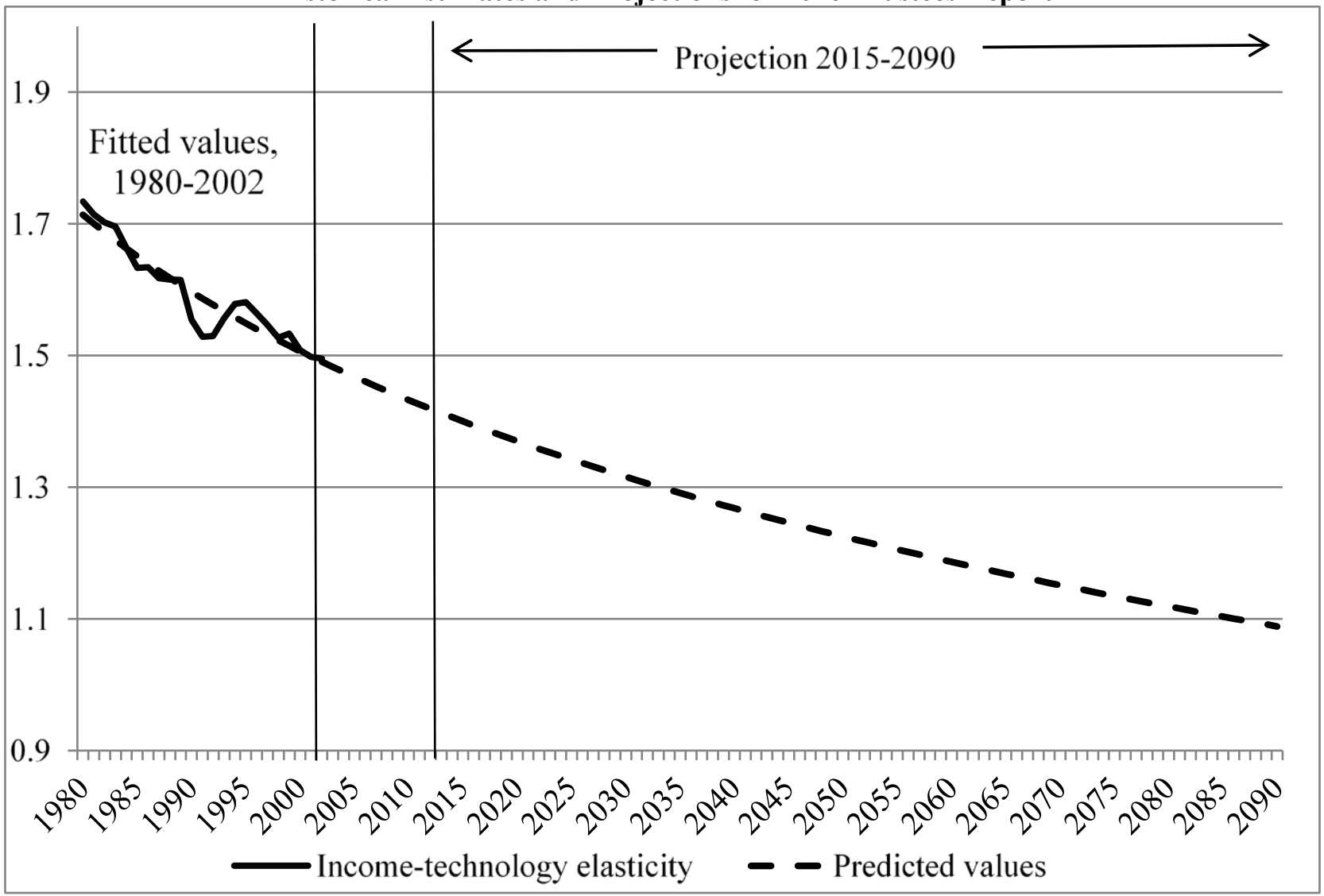
NOTE: Historical data is used before 2015 and projections from 2015 forward.

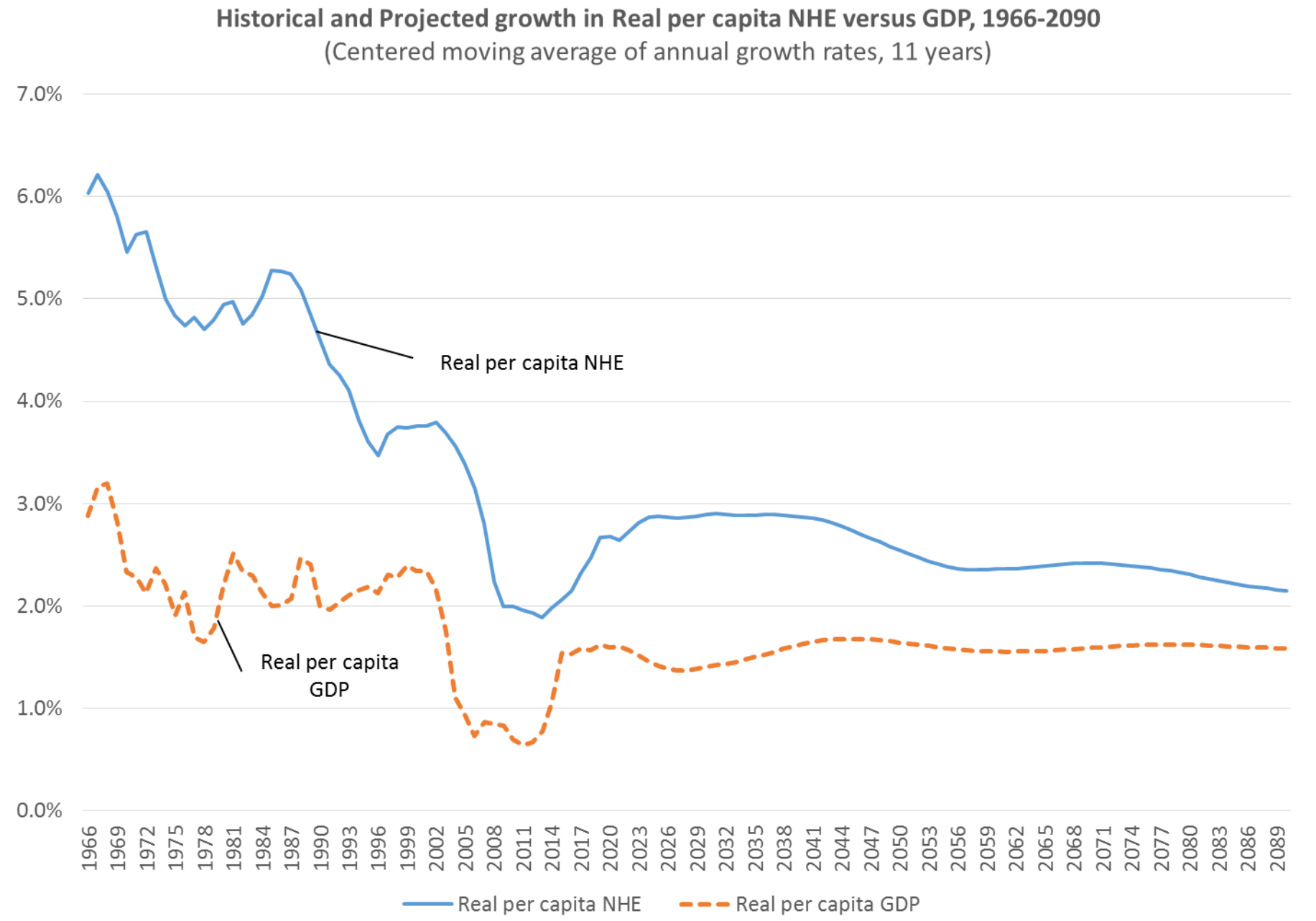
Additional Information

Factors Model Assumptions and Variables

	Historical Estimate	Assumptions 2040-2090
Income-Technology Elasticity	1.5-1.7	1.27 → 1.09
GDP per capita (% change)		1.6%
Insurance Elasticity	–0.2	–0.2
Average coinsurance rate (% change)		0.0%
Relative Medical Price Elasticity	–0.4	–0.51 → –0.59
Relative medical price (% change)		0.8%

Figure A.4.— Income-Technology Elasticity Estimates:
Historical Estimates and Projections for 2016 Trustees Report




Historical and Projected growth in Real per capita NHE versus GDP, 1966-2090
(Centered moving average of annual growth rates, 11 years)
7.0%
6.0%
5.0%
4.0%
3.0%
2.0%
1.0%
0.0%
Real per capita NHE
Real per capita GDP
1966
1969
1972
1975
1978
1981
1984
1987
1990
1993
1996
1999
2002
2005
2008
2011
2014
2017
2020
2023
2026
2029
2032
2035
2038
2041
2044
2047
2050
2053
2056
2059
2062
2065
2068
2071
2074
2077
2080
2083
2086
2089
Real per capita NHE
Real per capita GDP