

Macroeconomics, Module 2: Economic Growth

Homework Assignment: Gross Domestic Product: Medical Cost Trends

(The attached PDF file has better formatting.)

Module 2 covers world economic growth.

- The homework assignment for Module 3 deals with the mathematics of growth.
- The homework assignment for Module 2 deals with the last topic in Module 1, the consumer price index, which is particularly relevant to actuaries.

[The final exam problems do not test the facts of world economic growth, such as which countries have grown faster or slower. The final exam focuses on the concepts in the text.]

Background: “Back to Reality: Problems with the Consumer Price Index” on pages 25-26.

You are using the medical CPI to project average claim severities for a line of business that covers medical costs, such as

- health insurance
- the medical benefits part of workers' compensation
- medical payments in personal auto

Explain whether the medical CPI over-states or under-states the insurance medical cost trend for this line of business, using the concepts discussed by Barro. Explain how *quality change* and the *introduction of new procedures* affect the medical CPI and the medical claim severity.

Optional: (Not required for homework assignment) Does a higher medical benefits trend from quality improvements raise or lower the cost of insurance? The answer depends on the type of medical care.

- Some costly medical care reduces the length of a hospital stay or the duration of disability.
- Other high cost medical care keeps patients alive and in a hospital for many years before death.