Discussion of Michael Christian:

"Human Capital Accounting in the US: 1994-2006"

by Ellen R. McGrattan

BEA Advisory Meeting, May 2010

1. US human capital stock is "gigantic"

    ○ 3/4 quadrillion dollars in 2006

    ○ $\approx 55 \times$ GDP

    ○ $\approx 16 \times$ Fixed assets + durables

CHRISTIAN'S MAIN FINDINGS

1. US human capital stock is "gigantic"

    - 3/4 quadrillion dollars in 2006

    - $\approx 55 \times \text{GDP}$

    - $\approx 16 \times \text{Fixed assets} + \text{durables}$

    Big even if nonmarket time excluded ($15 \times \text{GDP}$)

CHRISTIAN'S MAIN FINDINGS

1. US human capital stock is "gigantic"

   ○ 3/4 quadrillion dollars in 2006

   ○ $\approx 55 \times$ GDP

   ○ $\approx 16 \times$ Fixed assets + durables

2. Gross investment estimates sensitive to enrollment patterns

$$H_{y,s,a,e} = \begin{cases} E_{y,s,a,e} + \frac{(1+g)}{(1+\rho)}\pi_{y,s,a+1}H_{y,s,a+1,e} & a > 34 \\[2ex] E_{y,s,a,e} + \frac{(1+g)}{(1+\rho)}\pi_{y,s,a+1}\tilde{H}_{y,s,a+1,e} & a \leq 34 \end{cases}$$

$$\tilde{H}_{y,s,a,e} = \omega_{y,s,a,e}H_{y,s,a+1,e+1} + (1 - \omega_{y,s,a,e})H_{y,s,a+1,e}$$

where y, s, a, e = year, sex, age, education

H = human capital stock

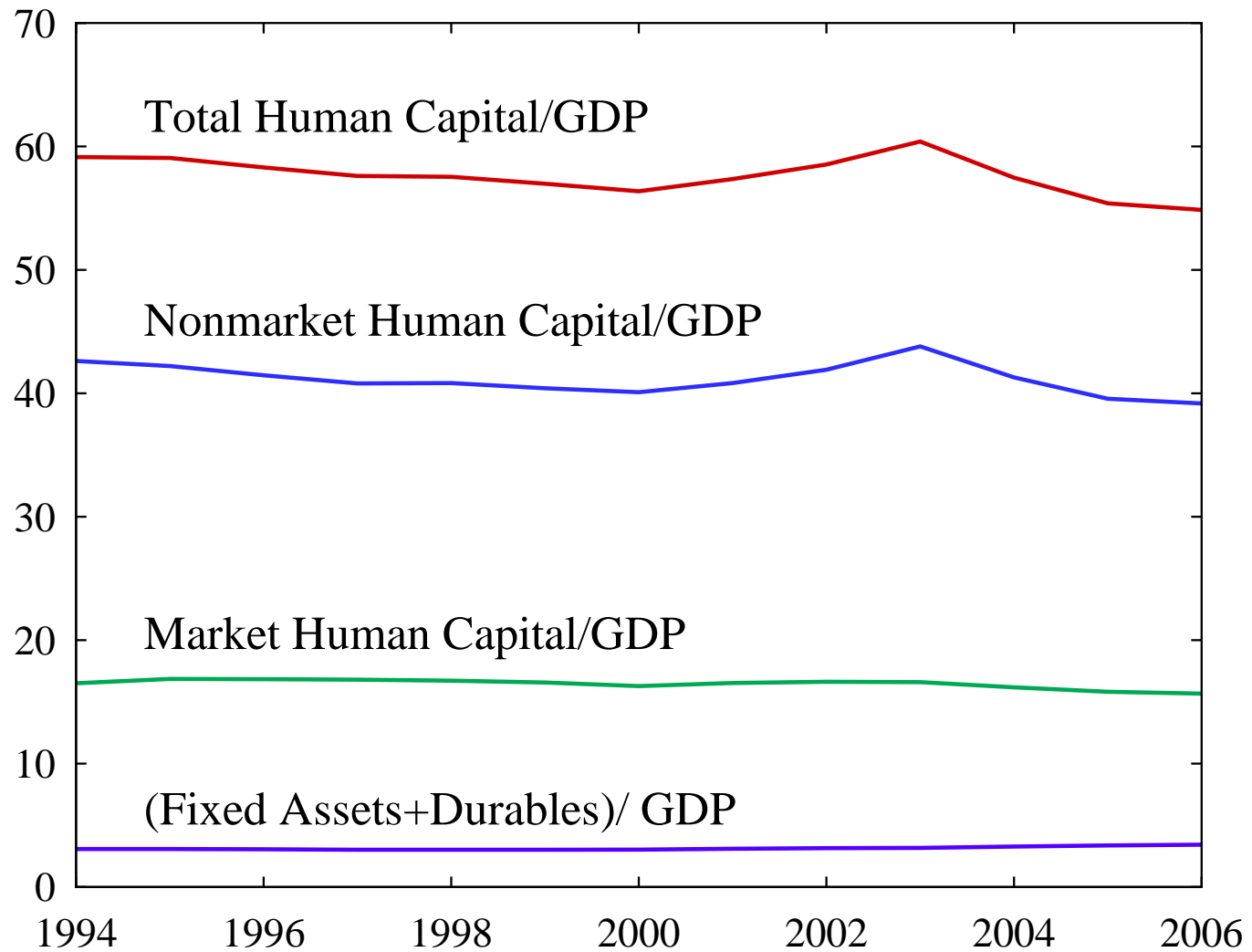E = average yearly earnings of group

π = survival probability

g = growth rate of labor earnings
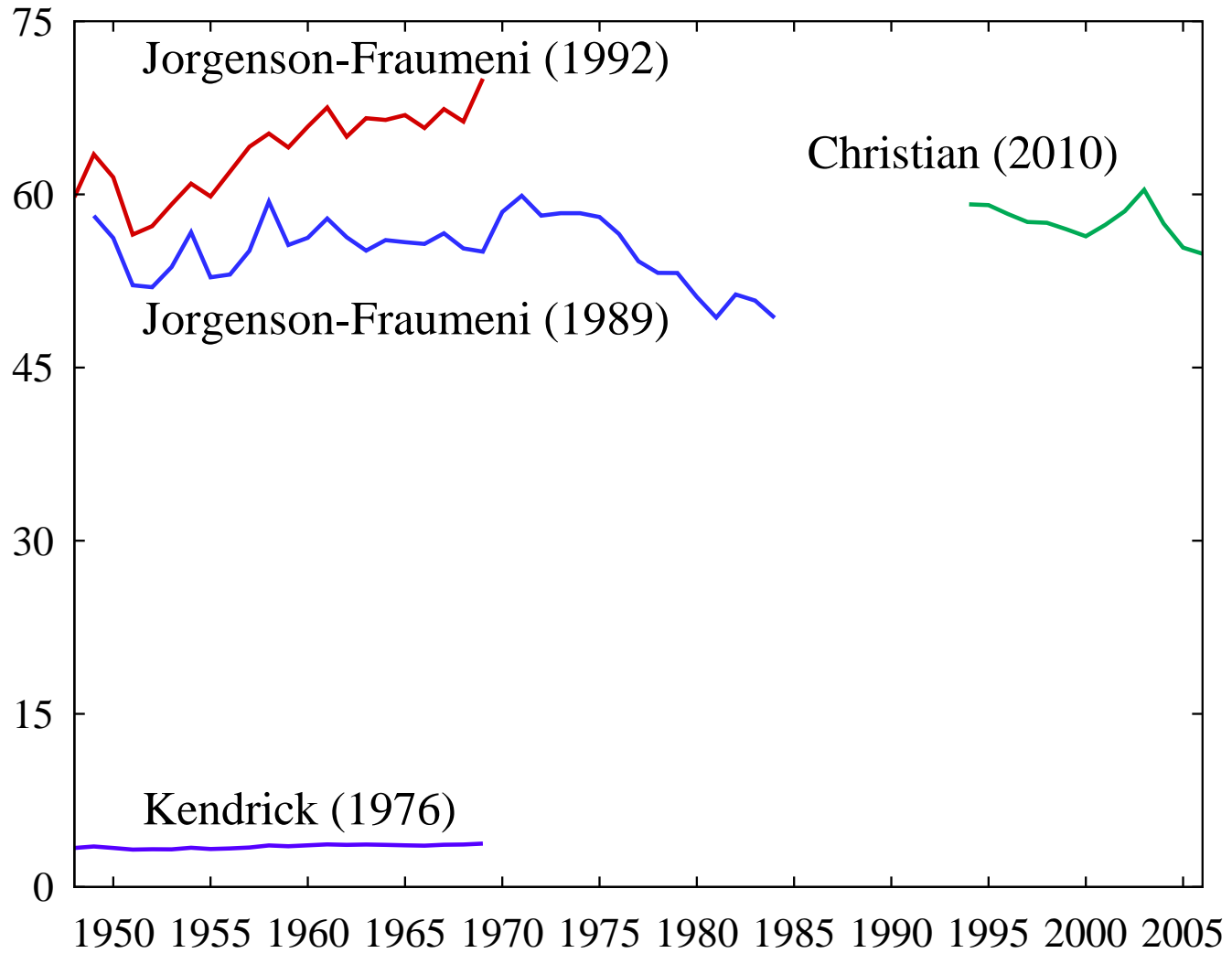
ρ = discount rate

HUMAN CAPITAL >> FIXED ASSETS

TWO MEASURES: VERY DIFFERENT RESULTS

WHY ARE J-F-C ESTIMATES SO LARGE?

- Education output treated as investment not consumption

- Nonmarket time earns same after tax wage as market time

- Costs of maintaining capital during lifetime not subtracted

- Costs of raising children not subtracted

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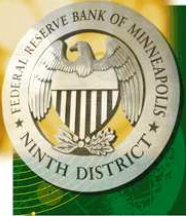- More importantly, why does it matter?

MAIN COMMENTS

- Would like to see

    - Less emphasis on the size of the stocks

    - More emphasis on their economic importance

- With the goal of better connecting theory and measurement
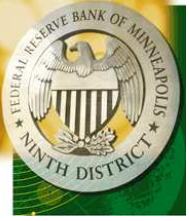
Consumers of the Estimates

- Who are they?

- Who should they be?

- Who are they? Satellite accountants

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- Who are they? Satellite accountants

- Who should they be?

  - Labor economists studying education policy

  - Development economists studying income differences

  - Financial economists studying asset pricing

  - Macroeconomists studying business cycles

ECONOMIC IMPORTANCE OF ESTIMATES

- Issues in labor

  - What are implications for returns to education?

  - How are the implied returns different from Mincer's?

- Issues in development

  - What are implications for education policies of poor?

  - And for true income & wealth differences?

ECONOMIC IMPORTANCE OF ESTIMATES

- Issues in finance

  - What are implications for asset prices?

  - Do they help resolve any outstanding puzzles?

- Issues in macro

  - What are implications for business cycles?

  - Do they shed light on the large labor wedge?

RECOMMENDATIONS FOR FUTURE

- Focus on specific economic questions

- Specify economic environment fully

  - What are the production technologies?

  - Who are the owners of productive factors?

  - What is consumption, investment?

  - What transactions occur?

- Construct model accounts using *current BEA methodology*