Should Policymakers Care Whether Inequality is Helpful or Harmful for Growth?

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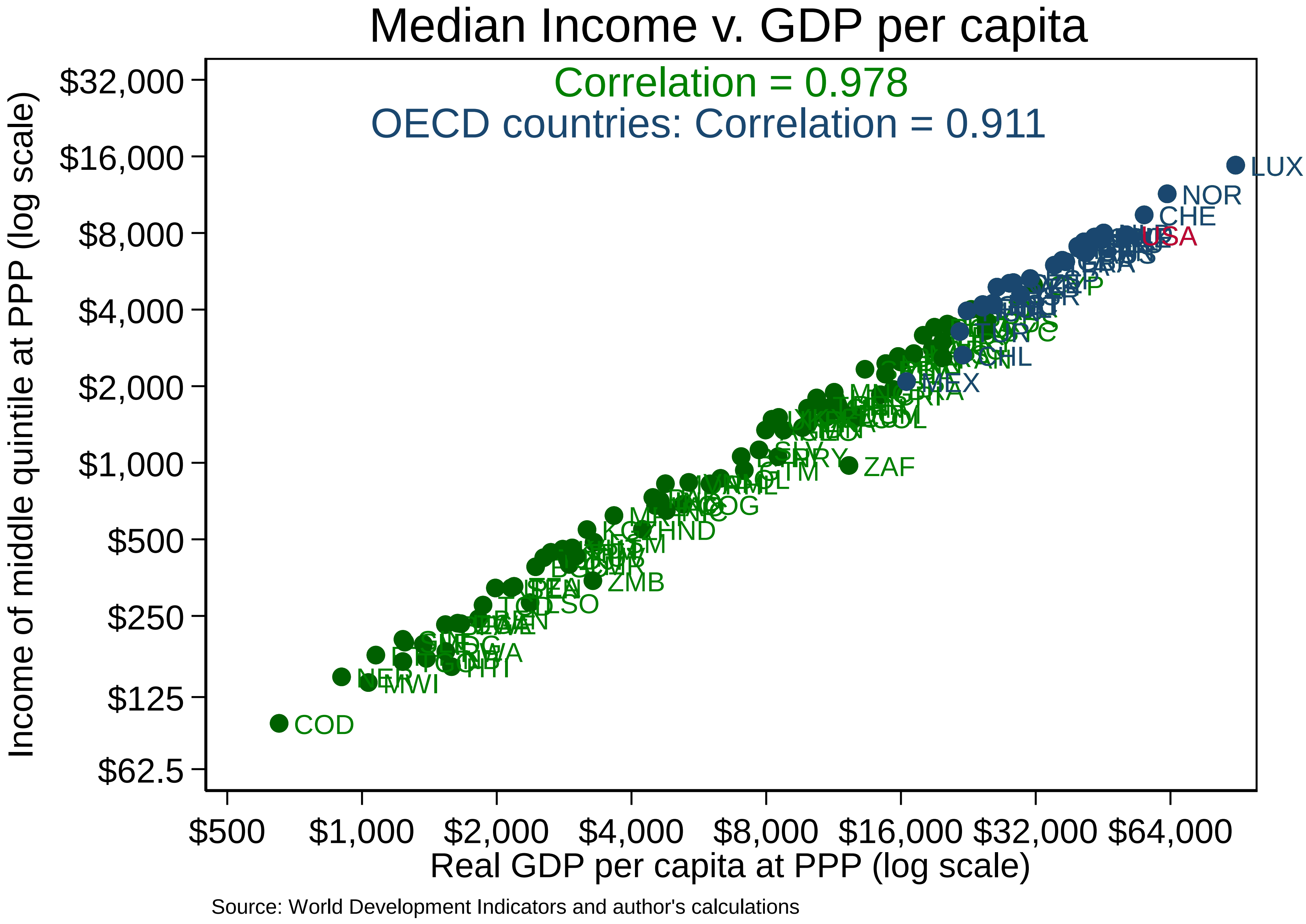
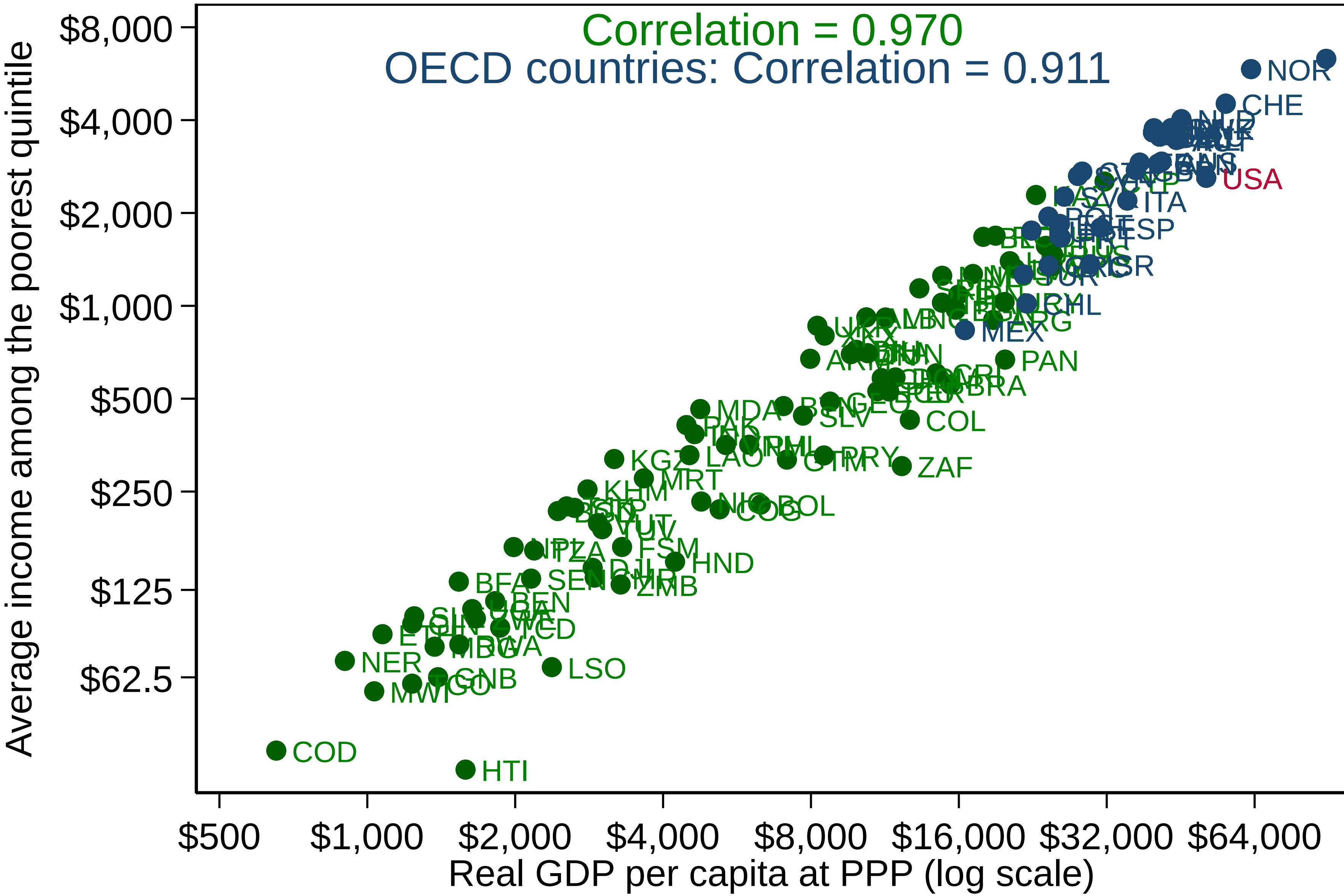
Do we go wrong by focusing on GDP?

"more research should focus on developing and analyzing left-hand side variables that are normatively relevant, from simple ones like median income, the income of the bottom quintile or the mean of log income…"


Median Income v. GDP per capita
Correlation = 0.978
OECD countries: Correlation = 0.911
Income of middle quintile at PPP (log scale)
$32,000
$16,000
$8,000
$4,000
$2,000
$1,000
$500
$250
$125
$62.5
Real GDP per capita at PPP (log scale)
$500
$1,000
$2,000
$4,000
$8,000
$16,000
$32,000
$64,000
LUX
NOR
CHE
USA
CHL
MEX
ZAF
ZMB
LSO
HND
MWI
COD
Source: World Development Indicators and author's calculations

Income of the Poorest Fifth v. GDP per capita



Source: World Development Indicators and author's calculations

Estimating utilitarian social welfare

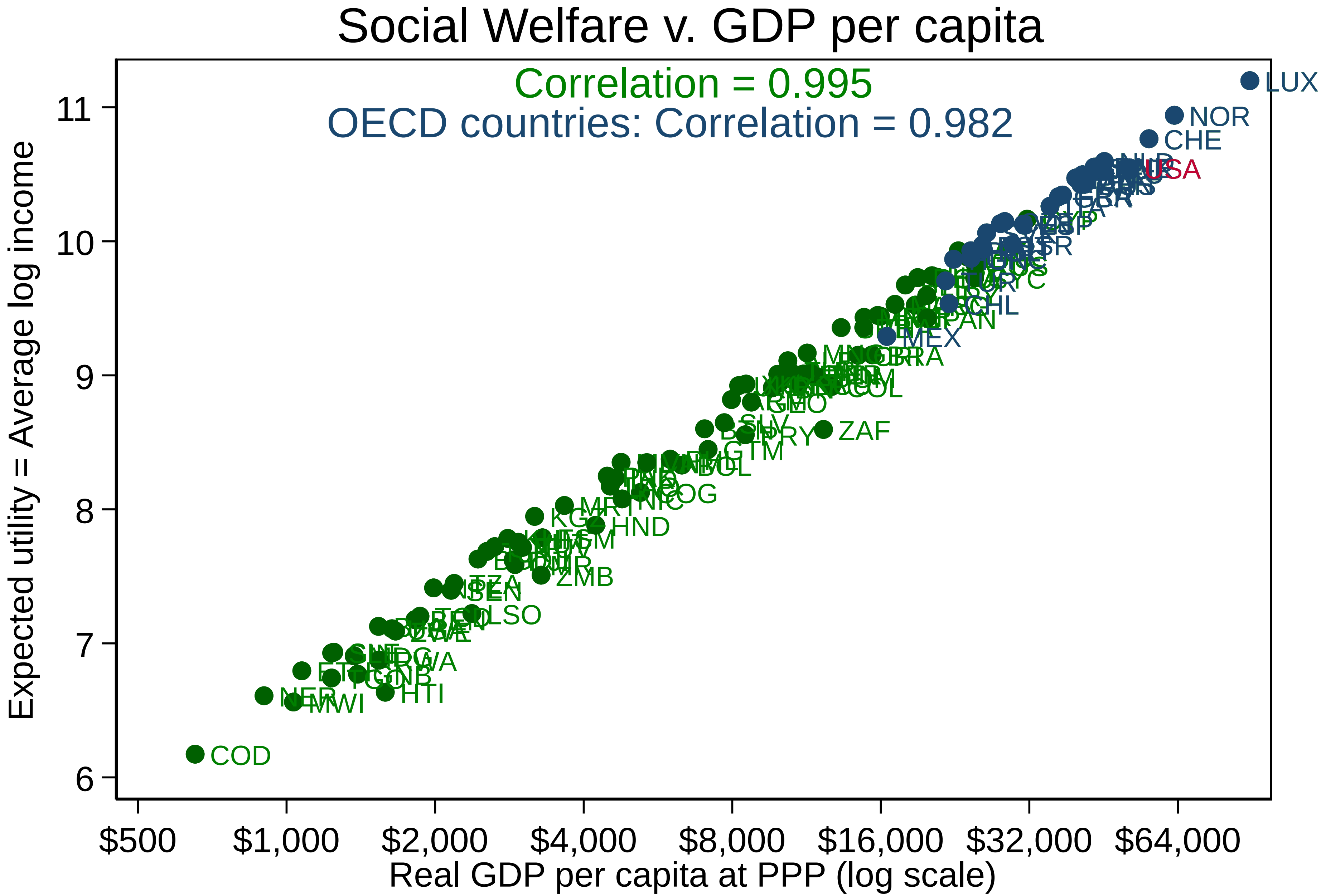
- People have log utility:
  - $U_{i,c} = \ln(Y_{i,c})$
- Average utility in country, *c:*
  - $\overline{U_c} = \overline{\ln(Y)_c}$ ← Average of log income, not Log of average income
- Re-arranging:
  - $\overline{U_c} = \ln(\overline{Y_c}) \quad - \quad [\ln(\overline{Y_c}) - \overline{\ln(Y)_c}]$

Log(GDP per capita) (= log of average income)

Mean log deviation (a measure of inequality)

(if incomes are log-normal):

- An approximation:
  - $\overline{U_c} \approx \ln(\overline{Y_c}) \quad - \quad \left(F_N^{-1}\left(\frac{1+Gini}{2}\right)\right)^2$



Source: World Development Indicators and author's calculations

Inequality before growth?

"in advanced economies a lexicographic framework that focuses exclusively on distributional analysis and then only to growth when the distribution of different policies is the same is generally likely to be appropriate."

A Utilitarian Approach

- Person i at time t has log utility: $U_{i,t} = \log(Y_{i,t})$
- A utilitarian maximizes discounted average utility

$$Welfare = \sum_t \beta^t \sum_i \frac{\log(Y_{it})}{n}$$

$$= \sum_t \beta^t \left[\underbrace{\log\left(\frac{\sum_i Y_{it}}{n}\right)}_{GDP\ per\ capita} - \left(\underbrace{\log\left(\frac{\sum_i Y_{it}}{n}\right) - \sum_i \frac{\log(Y_{it})}{n}}_{Mean\ \log\ deviation} \right) \right]$$

- Income grows at the rate g: $Y_{i,t} = Y_i^0 (1+g)^t$
- Implies that:

$$Welfare = \beta \log(1+g) + (\log(\overline{Y_{t=0}}) - MLD)$$

$$\approx \beta \log(1+g) + \left(\log(\overline{Y_{t=0}}) - \left(F_N^{-1}\left(\frac{1+gini}{2}\right)\right)^2 \right)$$

Comparing Sweden v. USA

$$Welfare \approx \beta \log(1+g) + \left(\log(\overline{Y_{t=0}}) - \left(F_N^{-1}\left(\frac{1+gini}{2}\right)\right)^2 \right)$$

- Parameters:
  - β=0.96 (discount rate)
  - g=1.4% (average per capita growth rate over past two decade)

- What would we pay to reduce US Gini from 0.4106 to Swedish level of 0.2732?
  - Answer 1: Halve the growth rate to 0.7%

  OR

  - Answer 2: Allow initial GDP to decline by 15%