LECTURE 2
CONCEPTS | DEFINING GDP

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GDP

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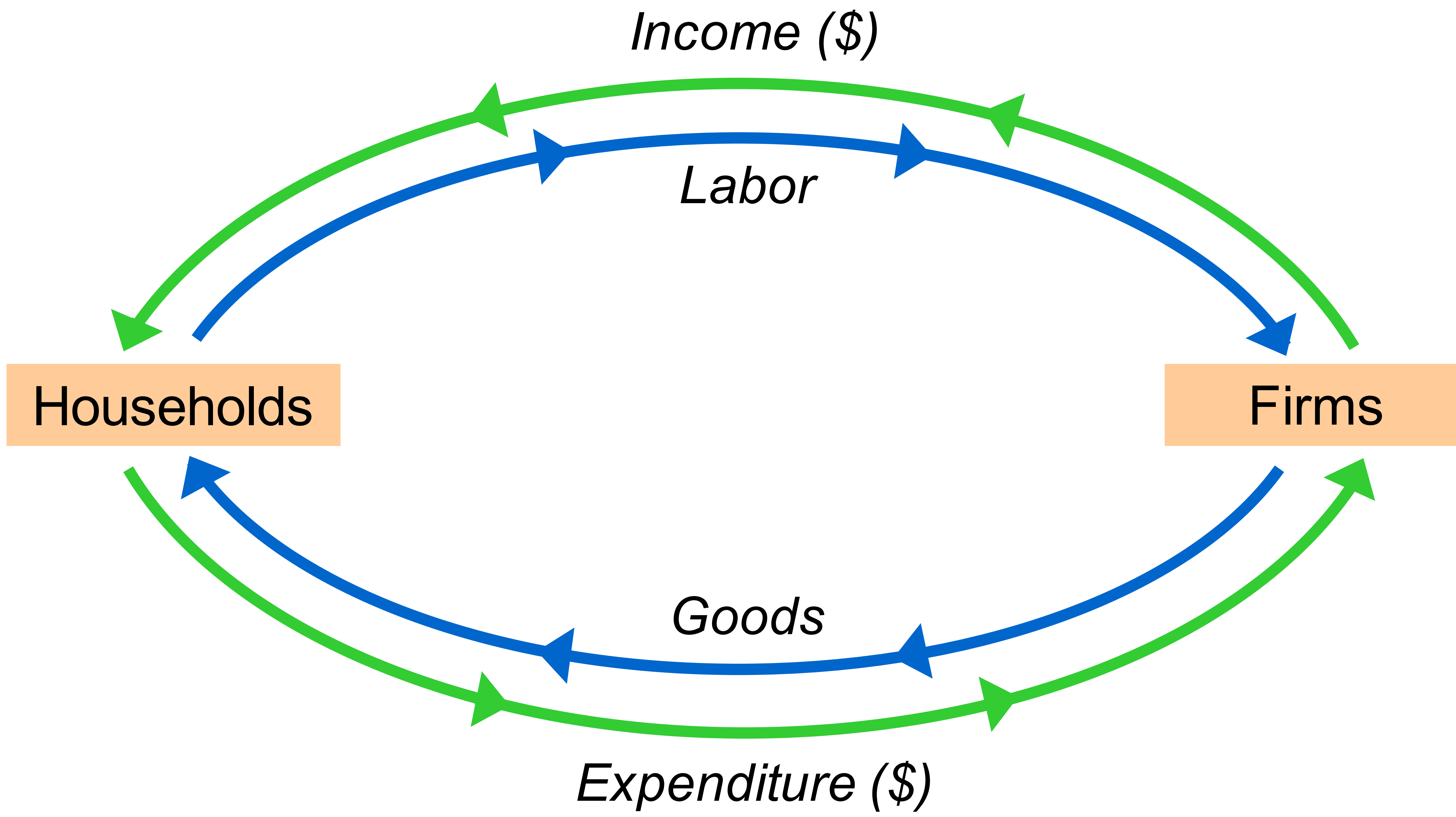
GROSS DOMESTIC PRODUCT

MEASURING GDP

- 3 definitions, based on income, value added, and expenditure on final goods and services
- definitions are equivalent
    - aggregate income = aggregate value added = aggregate expenditure on final goods and services
- in the US: GDP measured since 1947 by Bureau of Economic Analysis (BEA) using expenditure approach

INCOME = EXPENDITURE



GDP: DEFINITION 1

- GDP = all incomes in the economy
- using this income approach, we have
  - labor income: \$80+\$70= \$150
  - capital or profit income: \$20+\$30= \$50
  - GDP= \$150 + \$50 = \$200
- if value is created, it is an income to someone, so sum of incomes indicates value created in the economy

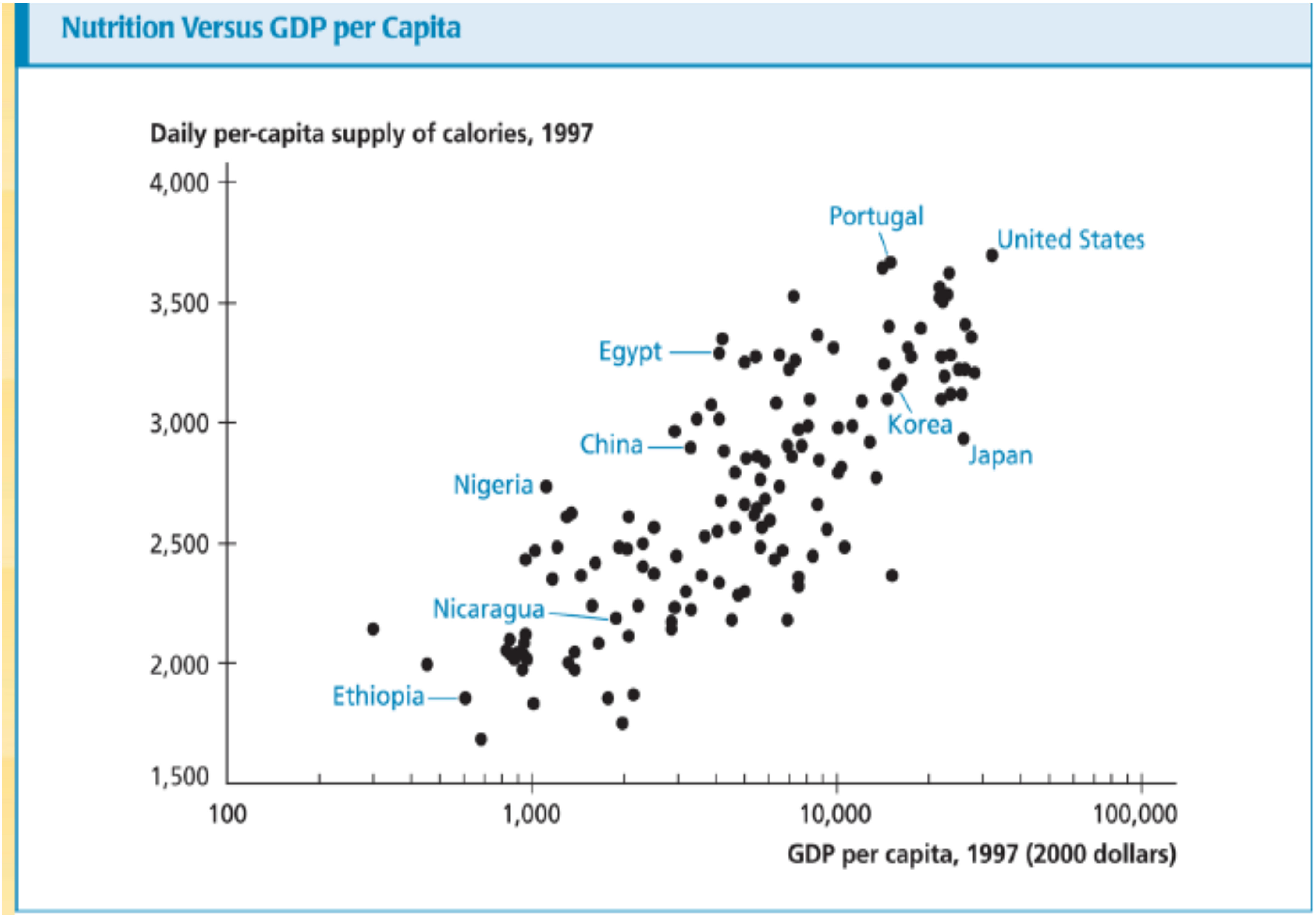
GDP: DEFINITION 2

- GDP = all value added in the economy
- value added by a firm = value of output (sales) - value of intermediate goods used in production (costs of intermediate goods)
- using this value-added approach, we have
  - value added of steel company: \$100-\$0= \$100
  - value added of car company: \$200-\$100= \$100
  - GDP= \$100 + \$100 = \$200

GDP: DEFINITION 3

- GDP = value of all final goods & services in the economy
  - the value of intermediate goods is not counted
  - intermediate goods are used in the production of another good
  - final goods are sold to consumers, not used for production
- using this expenditure approach, we have
  - value of final goods by steel company: $0
  - value of final goods by car company: $200
  - GDP= $0 + $200 = $200

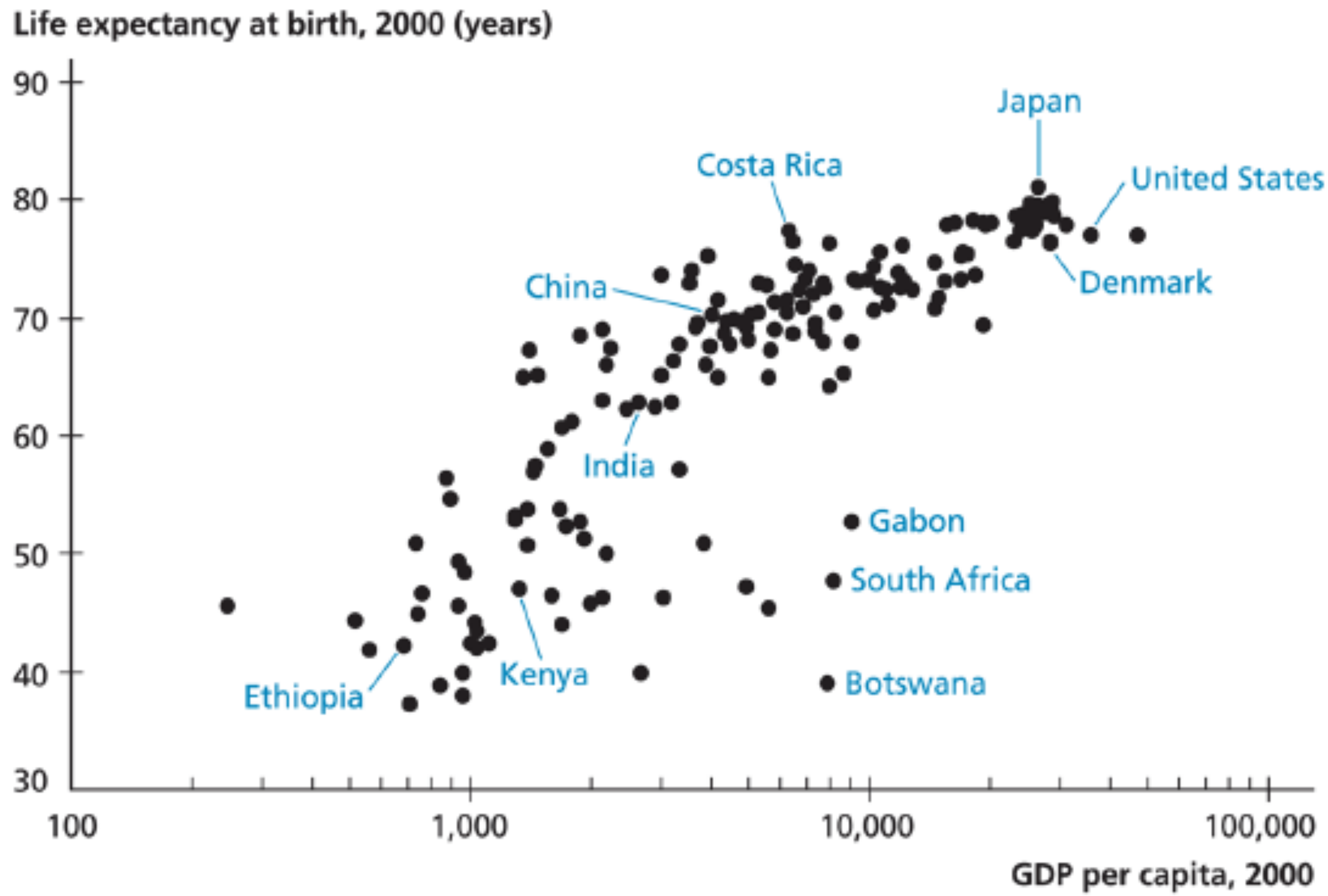
WHY DO WE CARE ABOUT GDP?



Source: FAOSTAT database, Heston et al. (2002).

WHY DO WE CARE ABOUT GDP?

Life Expectancy Versus GDP per Capita



Source: Heston et al. (2002), World Bank (2003b).

WHY DO WE CARE ABOUT GDP?

GDP VERSUS GNP

- gross domestic product (GDP): income earned by domestically located factors of production (labor & capital), regardless of nationality
- gross national product (GNP): income earned by the nation's factors of production (labor & capital), regardless of location
- GNP= GDP+NFP
- net factor payments (NFP): income paid to nation's factors of production located abroad minus income paid to foreign factors of productions located domestically

GDP VERSUS GNP, 2012

Country	*GNP*	*GDP*	*GNP – GDP (% of GDP)*
Bangladesh	127,672	116,355	9.7
Japan	6,150,132	5,961,066	3.2
China	8,184,963	8,227,103	-0.5
United States	16,514,500	16,244,600	1.7
India	1,837,279	1,858,740	-1.2
Canada	1,821,424	1,779,635	2.3
Greece	250,167	248,939	0.5
Iraq	216,453	215,838	0.3
Ireland	171,996	210,636	-18.3

WHAT IS NOT IN GDP

- household production
- non-market transactions (barter)
- natural resources depleted by production
- leisure, inequality, health, social/political liberties
- new indicators are developed to better measure well-being
    - gross national happiness (GNH) in Bhutan since 1972
    - https://www.nytimes.com/2017/01/17/world/asia/bhutan-gross-national-happiness-indicator-.html