

GDP as a measure of economic growth

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GDP as a measure of economic growth

- GDP is a useful aggregate indicator, despite its serious drawbacks
- The real problem is when it is misused, by decision makers or the media
- We need to both modernize GDP and complement it with other metrics

GDP as a measure of economic growth

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An improvement in measured GDP is not necessarily 'good'

Today's discussion

'Good' things missing from measured GDP



- Consumer surplus
- Free goods (e.g., internet, recycling)
- Unpaid and volunteer work
- Leisure time
- Value of family, friends, community
- Health, well-being and happiness

'Bad' things missing from measured GDP



- Pollution, noise, congestion
- Visual and landscape impairment
- Inequality

'Bad' things that can increase measured GDP



- Unsustainable use of resources
- Unsustainable debt-fueled consumption
- War, disasters, crime, accidents, illness

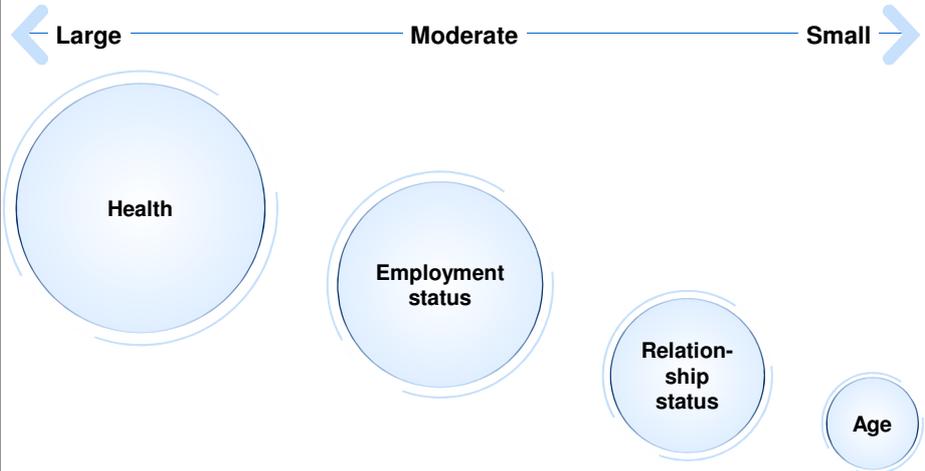
'Good' things that can reduce measured GDP



- Lower prices (if not captured accurately by deflators)
- Personal value of self-service (convenience, control)

GDP growth doesn't directly capture changes in people's well-being

Impact of key variables on personal well-being in the UK



SOURCE: ONS, "Measuring National Well-being - What matters most to Personal Well-being?", 2013

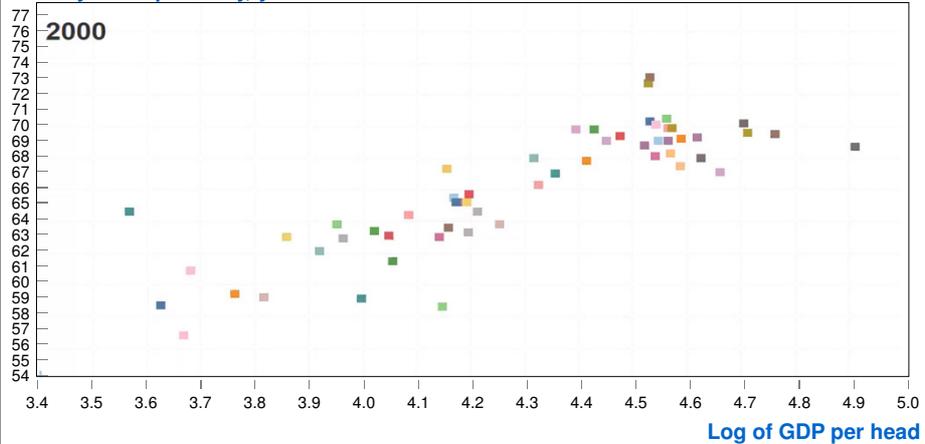
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However, at a global level, GDP per head does correlate with health outcomes

GDP per head and healthy life expectancy

2000-2015

Healthy life expectancy, years



SOURCE: World Bank; WHO; McKinsey analysis

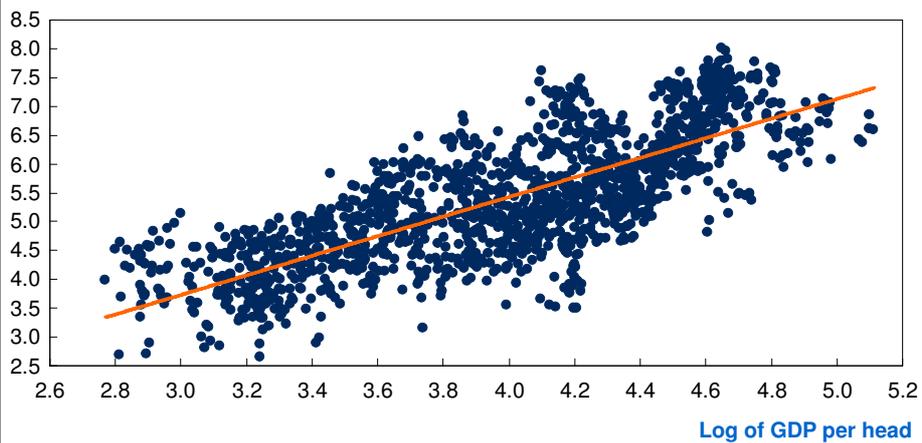
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GDP per head also correlates with self-reported well-being across countries

GDP per head and self-reported well-being

156 countries; 2006-2017

Cantril life ladder measure of well-being



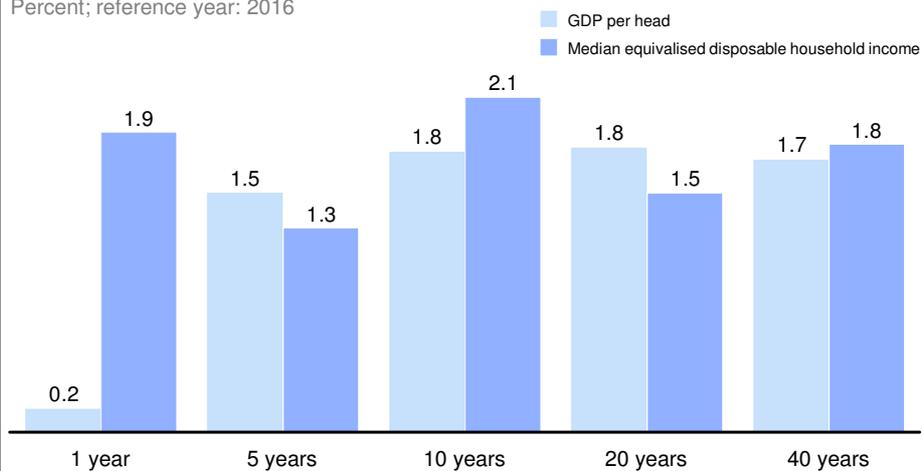
SOURCE: World Happiness Report 2018

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In the UK, GDP growth is broadly in line with median disposable household income

Average annual growth rate in GDP per head and disposable income

Percent; reference year: 2016



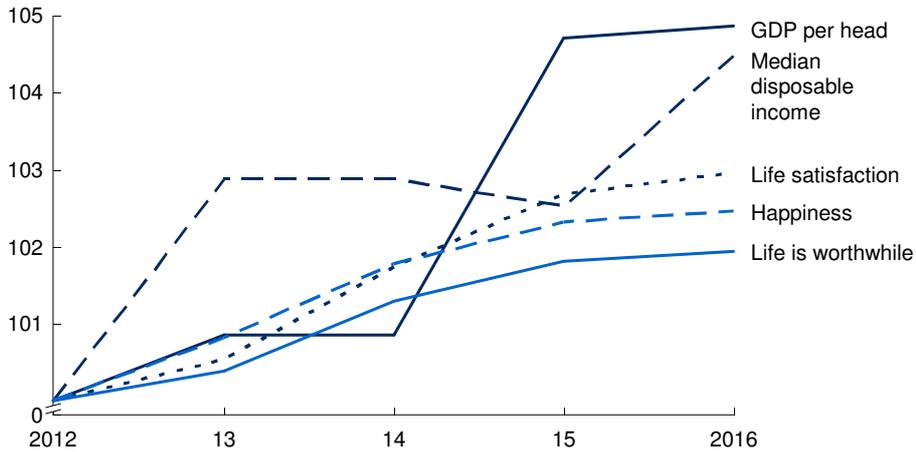
SOURCE: ONS; McKinsey analysis

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But year-on-year changes in GDP are not accurate indicators of people's well-being

UK GDP per head and well-being indicators

Index; 2012=100



SOURCE: ONS; McKinsey analysis

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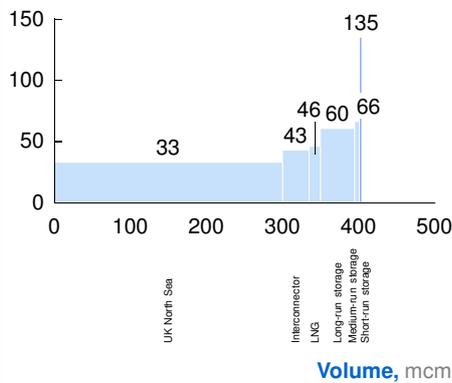
Consumer surplus is a significant component of economic value (1/2)

Supply and demand curves for the UK natural gas market

January 30, 2006; estimated and simplified

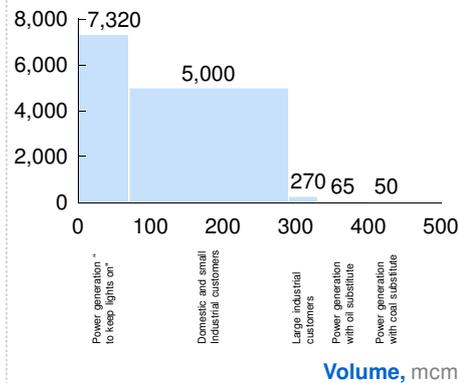
Supply

Price, p/therm



Demand

Price, p/therm



SOURCE: DECC, 2006; McKinsey analysis

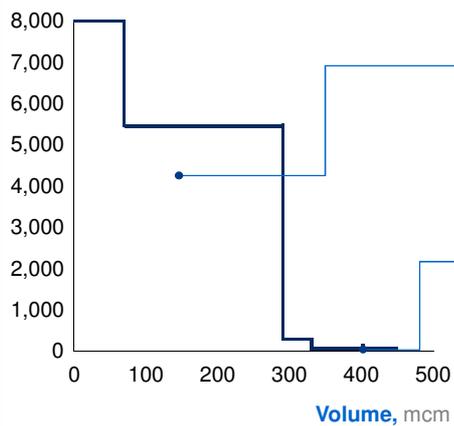
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Consumer surplus is a significant component of economic value (2/2)

Supply and demand curves for the UK natural gas market

January 30, 2006; estimated and simplified

Price, p/therm



Rough estimate of economic welfare

- Consumer surplus ca. £5,960 million
- Producer surplus ca. £40 million
- Total welfare ca. **£6,000 million**

Rough estimate of market clearing GDP

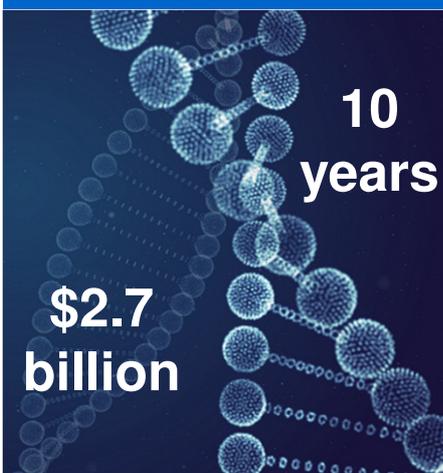
- Price ca. 65 p/therm
- Volume ca. 400 mcm
- GDP ca. **£50 million**

SOURCE: DECC, 2006; McKinsey analysis

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GDP growth doesn't always capture benefits of technological progress very well, either

Human genome project 1990-2001



Human genome sequencing 2017

Retail price of \$1,000

Time taken: 1 day



SOURCE: McKinsey Global Institute; Statista 2018

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Changes in short-term GDP are often taken out of context in day-to-day reporting (1/2)

The Guardian – January 28, 2014

UK economy grows by fastest rate since financial crisis – as it happened

The British economy expanded by 1.9% in 2013 – the fastest GDP growth since the first quarter of 2008, after 0.7% growth in final three months

Telegraph.co.uk – January 26, 2014

UK confirmed as fastest growing economy in Western Europe

Official data this week will show that the UK economy grew 1.9% in 2013, the strongest annual growth since 2007

The Independent – January 29, 2014

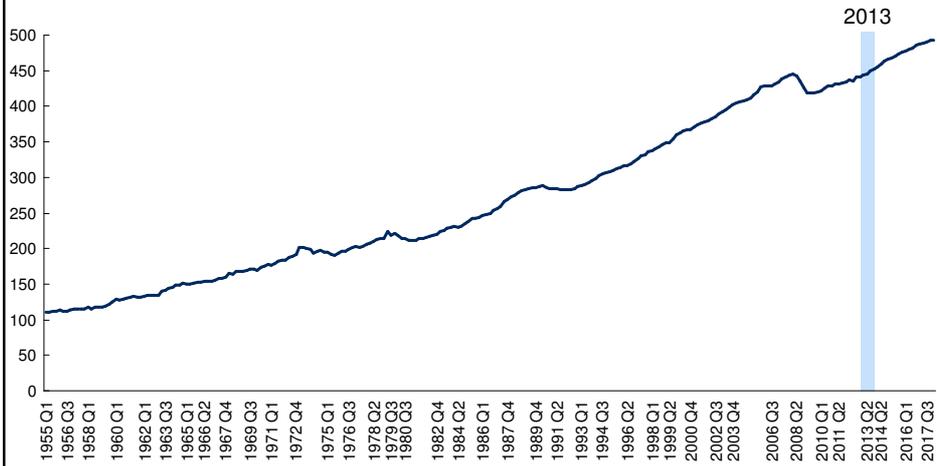
UK GDP: British economy growing at fastest rate since 2007

Official figures show UK economy grew 0.7% in the fourth quarter bringing the annual growth rate to 1.9%

Changes in short-term GDP are often taken out of context in day-to-day reporting (2/2)

UK quarterly GDP 1955-2017

Chained volume measures, seasonally adjusted, £bn



SOURCE: ONS

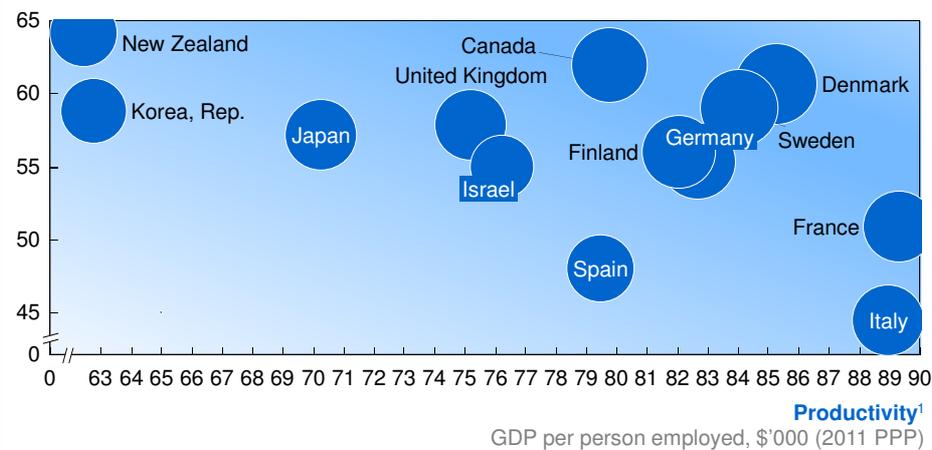
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Countries with the same GDP per capita can have very different economic outcomes

Employment as a share of 15+ population¹

Percent

● GDP per head¹



¹ Average for each country between 2006 and 2014

SOURCE: World Bank; McKinsey analysis

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Averages hide important differences (1/3)

GDP per head

2014, current prices, thousand PPS



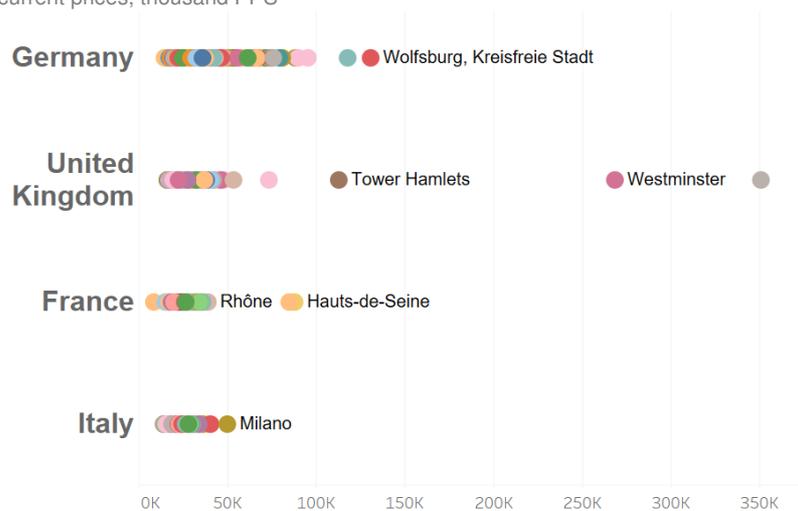
SOURCE: Eurostat

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Averages hide important differences (2/3)

GDP per head by NUTS2 region

2014, current prices, thousand PPS



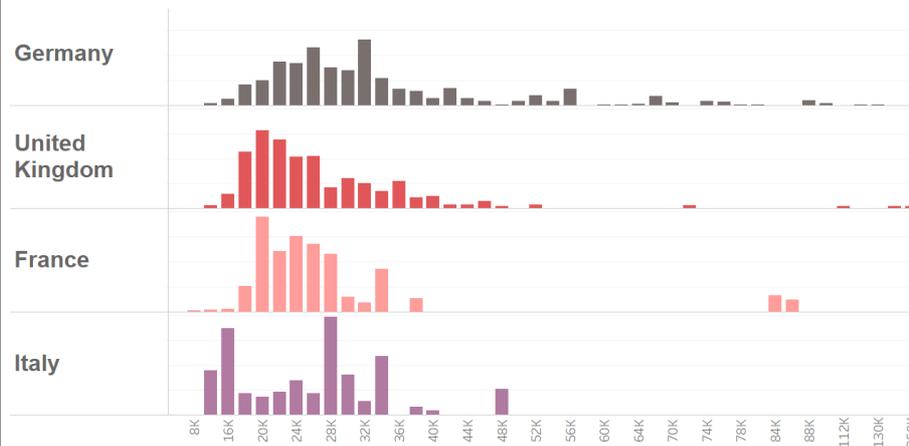
SOURCE: Eurostat

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Averages hide important differences (3/3)

Distribution of population across different bands of GDP per head

2014, current prices, thousand PPS; percent of total population



SOURCE: Eurostat

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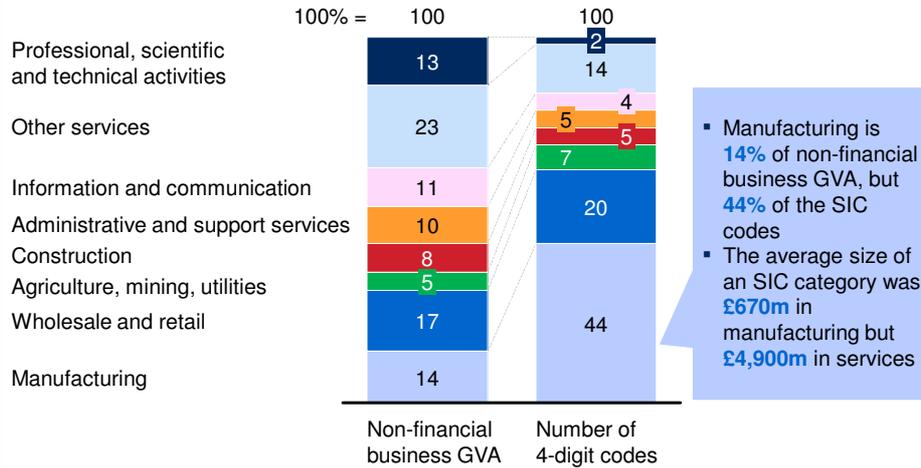
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Manufacturing is over-represented in GDP statistics at the 4-digit SIC level

Share of sectors in GVA and number of SIC 4-digit categories
Percent, 2015



SOURCE: ONS Annual Business Survey; McKinsey analysis

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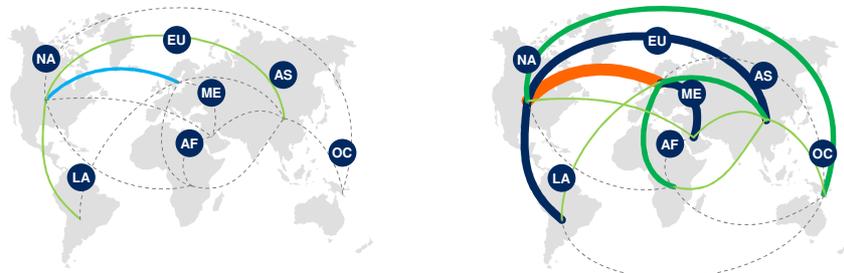
Cross-border data flows are surging and connecting more countries

Used cross-border bandwidth



2005
100% = 4.7 Terabits per second (Tbps)

2014
100% = 211.3 Tbps **45x larger**



NOTE: Lines represent interregional bandwidth (e.g., between Europe and North America) but exclude intraregional cross-border bandwidth (e.g., connecting European nations with one another).

SOURCE: TeleGeography, Global Internet Geography; McKinsey Global Institute analysis

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“AI is the new electricity”

Andrew Ng

Adjunct Professor, Stanford University
Co-founder and chairman, Coursera
Former Chief Scientist, Baidu



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