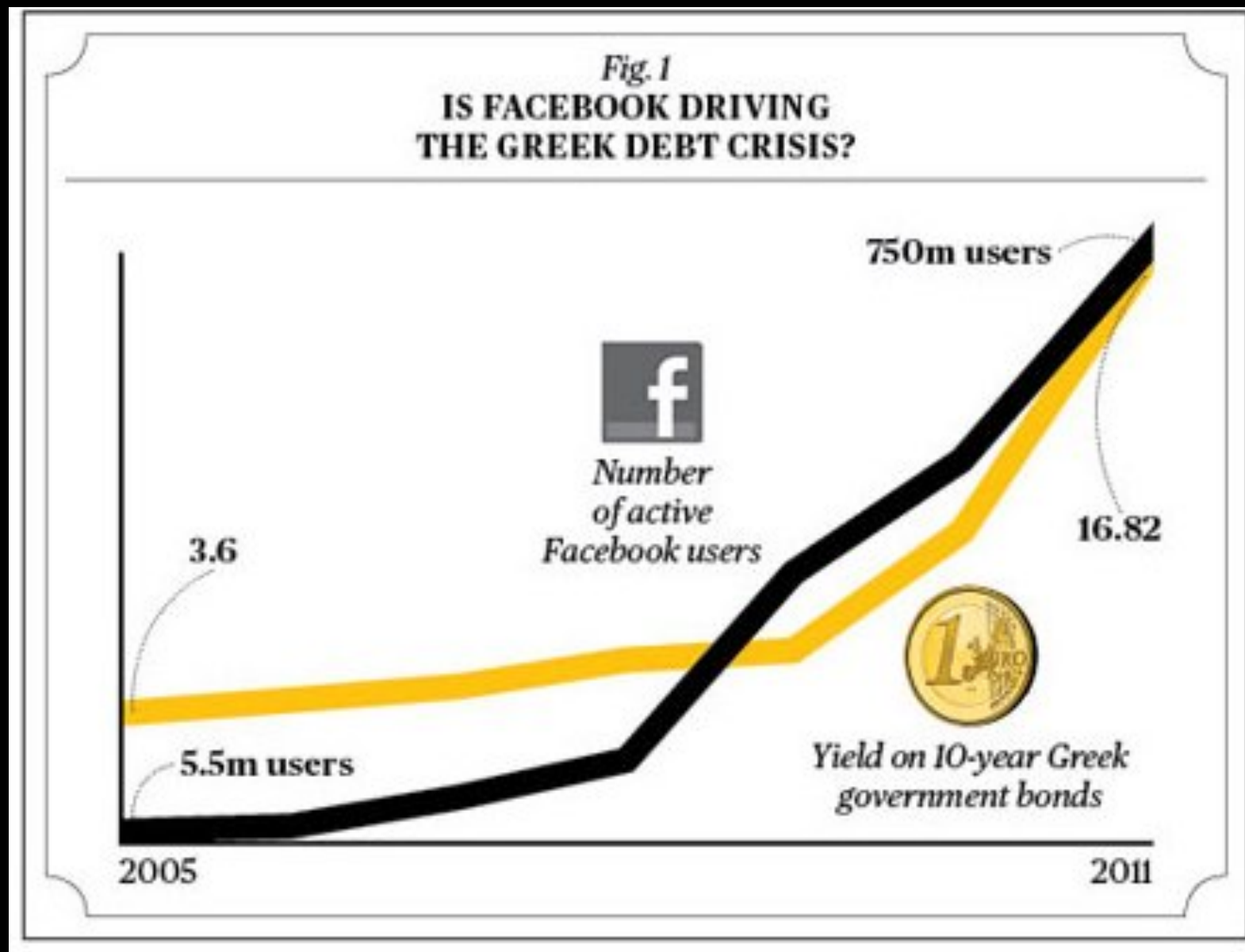


# Causal Inference

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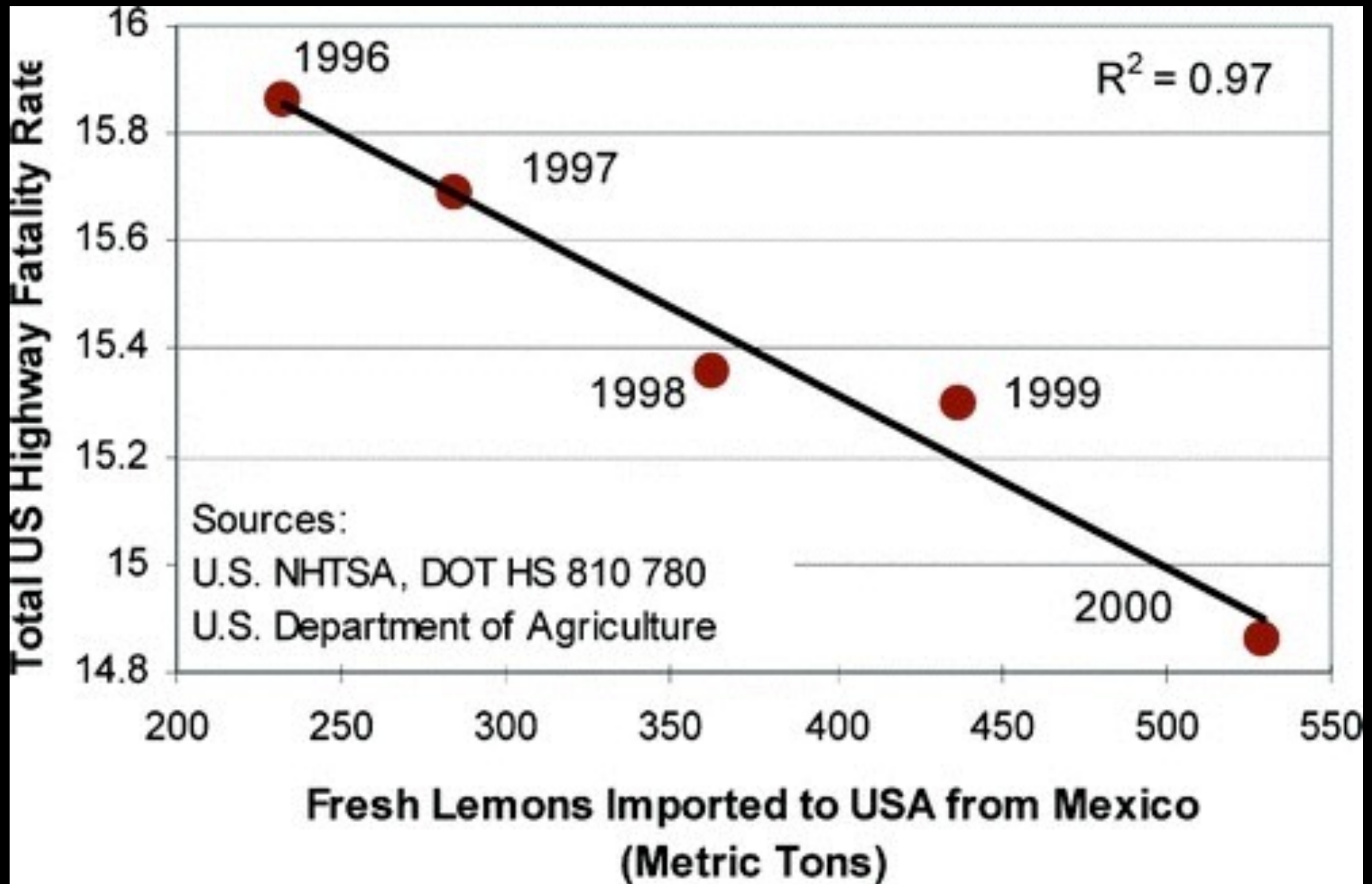
# Correlation versus Causation



Source: Correlation or Causation? BusinessWeek, Dec/2011

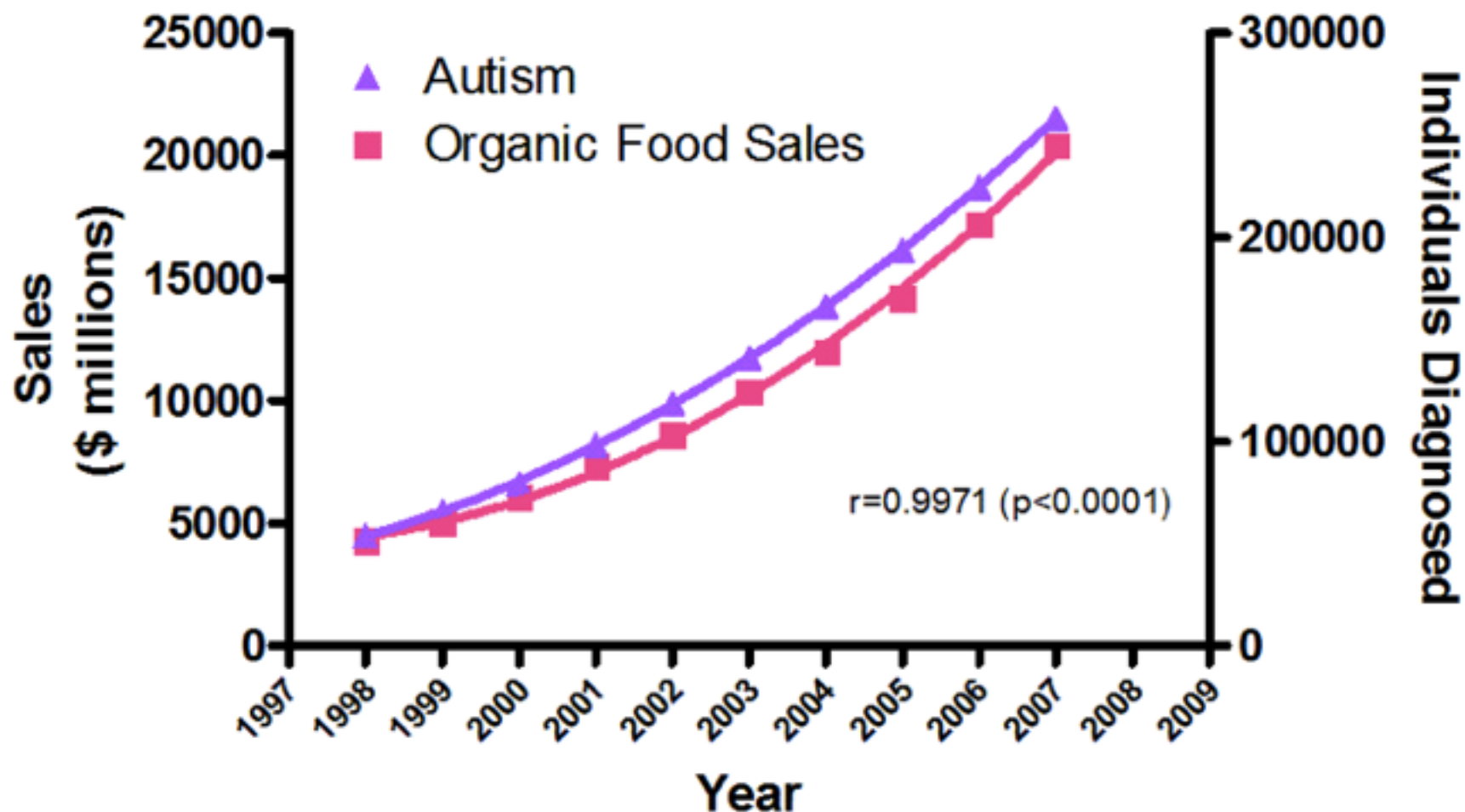
<http://www.businessweek.com/magazine/correlation-or-causation-12012011-gfx.html#>

# Correlation versus Causation



# Correlation versus Causation

The real cause of increasing autism prevalence?

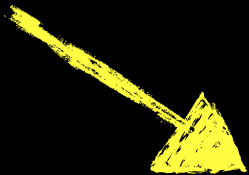


Sources: Organic Trade Association, 2011 Organic Industry Survey; U.S. Department of Education, Office of Special Education Programs, Data Analysis System (DANS), OMB# 1820-0043: "Children with Disabilities Receiving Special Education Under Part B of the Individuals with Disabilities Education Act"

# Applications

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- Evaluating the effectiveness of a new drug
- Diagnosing a patient and planning her/his optimal treatment
- Assessing the strength of the causal relationship between genes and a certain type of cancer
- Running experiments on how mice distinguish food from danger
- Making a robot to pursue a complex task in a real environment
- Evaluating impact of new taxation program



Tangled web of cause-effects relationships