

# Studying Social Inequality with Data Science

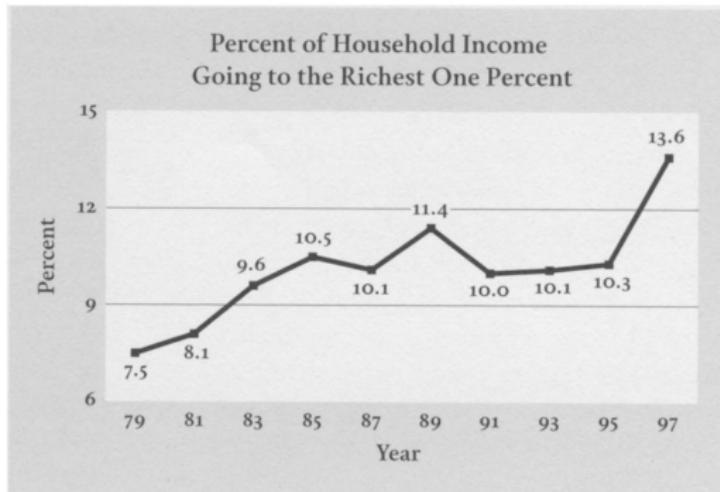
INFO 3370 / 5371  
Spring 2023

## 2. Does inequality matter?

Figure 1

Changes in the percent of household income going to the richest 1 percent of American households, 1979 – 1997.

Source: Congressional Budget Office, *Historical Effective Tax Rates, 1979 – 1997*, September 2001, Table G-1c.



# Learning goals for today

By the end of class, you will be able to

- ▶ make a normative argument about inequality
- ▶ make an empirical argument about inequality
- ▶ recognize cultural views that conflict with distributional facts

*Christopher Jencks  
on  
inequality*      *Table 3*  
 Purchasing power of households at the 10th  
 and 90th percentiles of each nation's distribu-  
 tion relative to households at the same per-  
 centile in the United States in the same year,  
 1992–1997

<i>Country (and year)</i>	<i>Purchasing power as a percent of the U.S. level in the same year</i>		
	<i>10th percentile</i>	<i>90th percentile</i>	<i>Average of all percentiles</i>
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### Question:

Where would  
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U.K. or U.S.?

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**Question:**

Where would  
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Purchasing power of households at the 10th and 90th percentiles of each nation's distribution relative to households at the same percentile in the United States in the same year, 1992–1997

What part is  
**empirical**  
and what part is  
**normative?**

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## A **normative** question

What distribution is desirable?



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dy elstet zu dir vñ vat  
mit in all geman  
re oach hin zu einem fram  
vñ nach mi der vñ dar an  
Das ref der vil rann matt  
vñ arz er an den fram gelugt  
wazzen mer dat genug  
in em pach vil groz

Inz dem heiten fram flos  
das viedl vñ haint vñ all d' scha  
Genug zetzenbchen heten gr. dñ  
D w' zogt auf s' mit groz dy  
vñ amalech dy haderhaft  
vñ wotten mit in freiten  
Is dy amalechiten  
degund nähren gem den me:

The Israelites  
Collecting Manna  
from Heaven  
Austria  
About 1400–1410

Unknown artist  
Getty Open Content Program  
[getty.edu/art/collection/object/105T6R](http://getty.edu/art/collection/object/105T6R)

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How should we distribute the manna?

# An **empirical** question

What distribution do we have?

Income inequality and economic output in various countries during the 1990s

<i>Country (and year of the ninetieth to the tenth percentile)</i>	<i>Ratio of holdhold income at the 90th to 10th per- centile<sup>a</sup></i>	<i>GDP per capita as a percent of U.S. level in 1998<sup>b</sup></i>	<i>Life expectancy at birth (1995 est.)<sup>c</sup></i>
Scandinavia <sup>d</sup>	2.8	75	77.2
Sweden (1995)	2.6	68	78.9
Finland (1995)	2.7	68	76.6
Norway (1995)	2.8	85	77.8
Denmark (1992)	2.9	79	75.4
Western Europe	3.6	73	77.5
Nether. (1994)	3.2	75	77.5
Germany (1994)	3.2	71	76.6
Belgium (1996)	3.2	74	76.4
France (1994)	3.5	66	78.4
Switz. (1992)	3.6	84	78.5
Italy (1995)	4.8	67	77.6
Brit. Com.	4.3	73	77.7
Canada (1994)	4.0	78	78.2
Australia (1994)	4.3	75	78.0
U.K. (1995)	4.6	67	77.0 <sup>e</sup>
U.S. (1997)	5.6	100	75.7
Middle-income LIS nations			
Russia (1995)	9.4	21 (?)	65.0
Mexico (1998)	11.6	25	NA

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## People Sorted by Income

Higher income →



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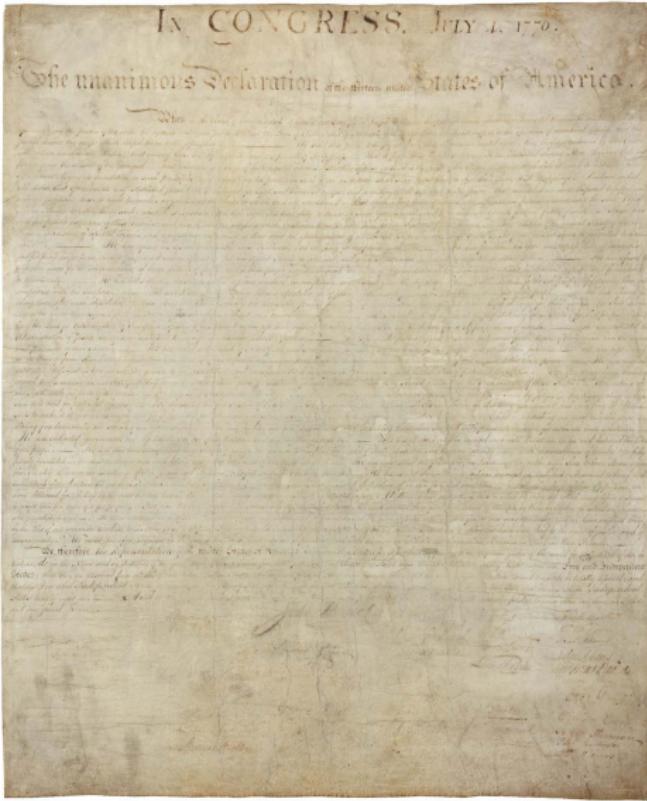
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**Summary:** 90th percentile  
10th percentile

Recognize **cultural views**

that conflict with facts



We hold these truths  
to be self-evident,  
that all men are  
created equal...



Alexis de Tocqueville

By Théodore Chassériau, 1850

Public domain, via Wikimedia Commons



Alexis de Tocqueville  
By Théodore Chassériau, 1850  
Public domain, via Wikimedia Commons

Democratic communities...call for equality in freedom; and if they cannot obtain that, they still call for equality in slavery. They will endure poverty, servitude, barbarism, but they will not endure aristocracy.

1840, Influence of Democracy on the Feelings of the Americans

American politicians present themselves to the public as being just like everyone else, and once they step outside their offices, Americans all wear jeans.

— Jencks p. 53



Source: Wikimedia

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Before next class: Install R

[info3370.github.io/lessonplans/1c/](https://info3370.github.io/lessonplans/1c/)