

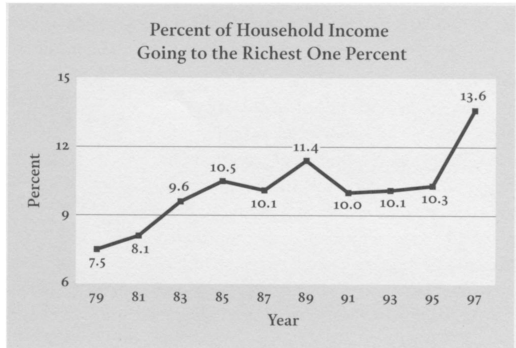
# Studying Social Inequality with Data Science

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 distribution relative to households at the same percentile 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>
U.K. (1995)	85	68	72
U.S. (1997)	100	100	100

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**Question:**

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

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Canada (1994)	105	80	92
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**Question:**

Where would  
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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 etlichen zw dir vñ vñ  
mit in all gemain  
se ozeb hin zu einern nam  
Dñ klach mit der vñ dar an  
Das tet der vil wun man  
Dñ al: er an den nam gestug  
Wazers mer dan genug  
Dñ ein nach vil graz

In dem heren nam floz  
Das vuez vil liuz w all d' schaz  
Genug zeterubchen heren gar. dñ  
w rogt auf si mit groz eze  
**D**es amalech dy haidenchaft  
Dñ wolt mit in streiten  
Iz dy amalechten  
wegirde nalt en gem dem mer

The Israelites  
Collecting Manna  
from Heaven  
Austria  
About 1400–1410

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

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How should we distribute the manna?

# An **empirical** question

What distribution do we have?

Table 1  
Income inequality and economic output in  
various countries during the 1990s

Country (and year of the ninetieth to the tenth percentile)	Ratio of holdhold income at the 90th to 10th per- centile <sup>a</sup>	GDP per capita as a percent of U.S. level in 1998 <sup>b</sup>	Life expec- tancy at birth (1995 est.) <sup>c</sup>
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
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Middle-income LIS nations			
Russia (1995)	9.4	21 (?)	65.0
Mexico (1998)	11.6	25	NA

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

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People Sorted  
by Income

Higher income ↑





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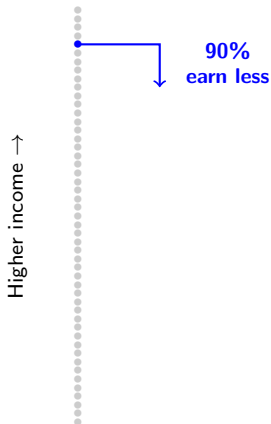


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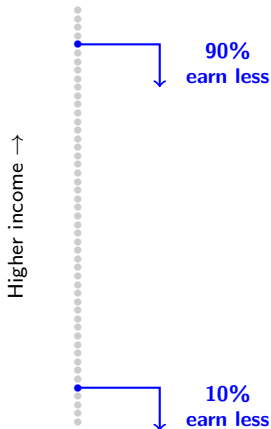
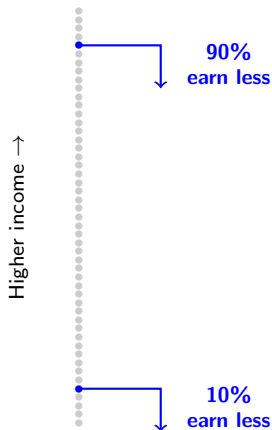


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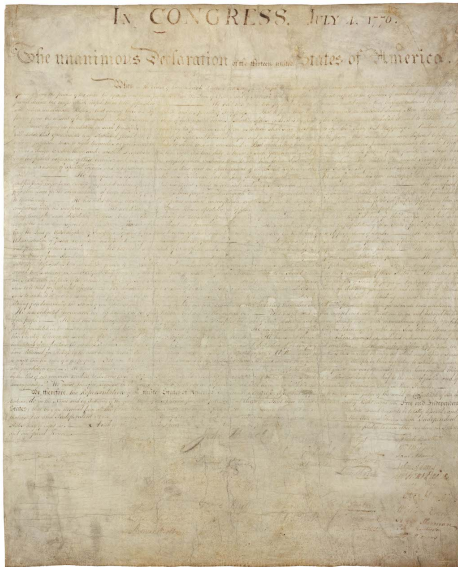
## People Sorted by Income



Summary:  $\frac{90\text{th percentile}}{10\text{th percentile}}$

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