

The Underrepresentation of Women in Economics

Betsey Stevenson

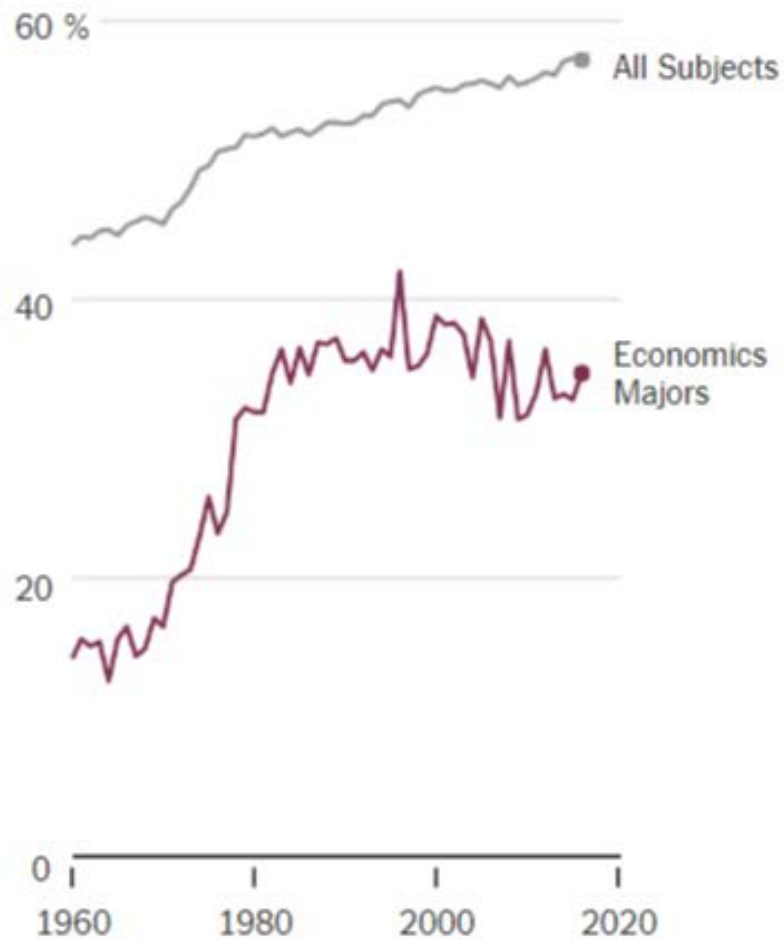
*University of Michigan, Visiting faculty University of Sydney,
CEPR, CESifo, and NBER

Key Facts

- ❑ Women are less likely than men to major in economics
- ❑ In the United States, women are 57 percent of college students and yet only 35 percent of economics majors
- ❑ In Australia, similar patterns hold, with an even greater challenge resulting from declining interest in economics as a field
- ❑ Women are a minority of graduate students in economics, new PhDs and a minority of new assistant, associate, and full professors

Stalled Progress for Women in Economics

After years of increases, the share of women earning undergraduate degrees in economics has begun to decline.



Estimates based on American Community Survey, 2012–

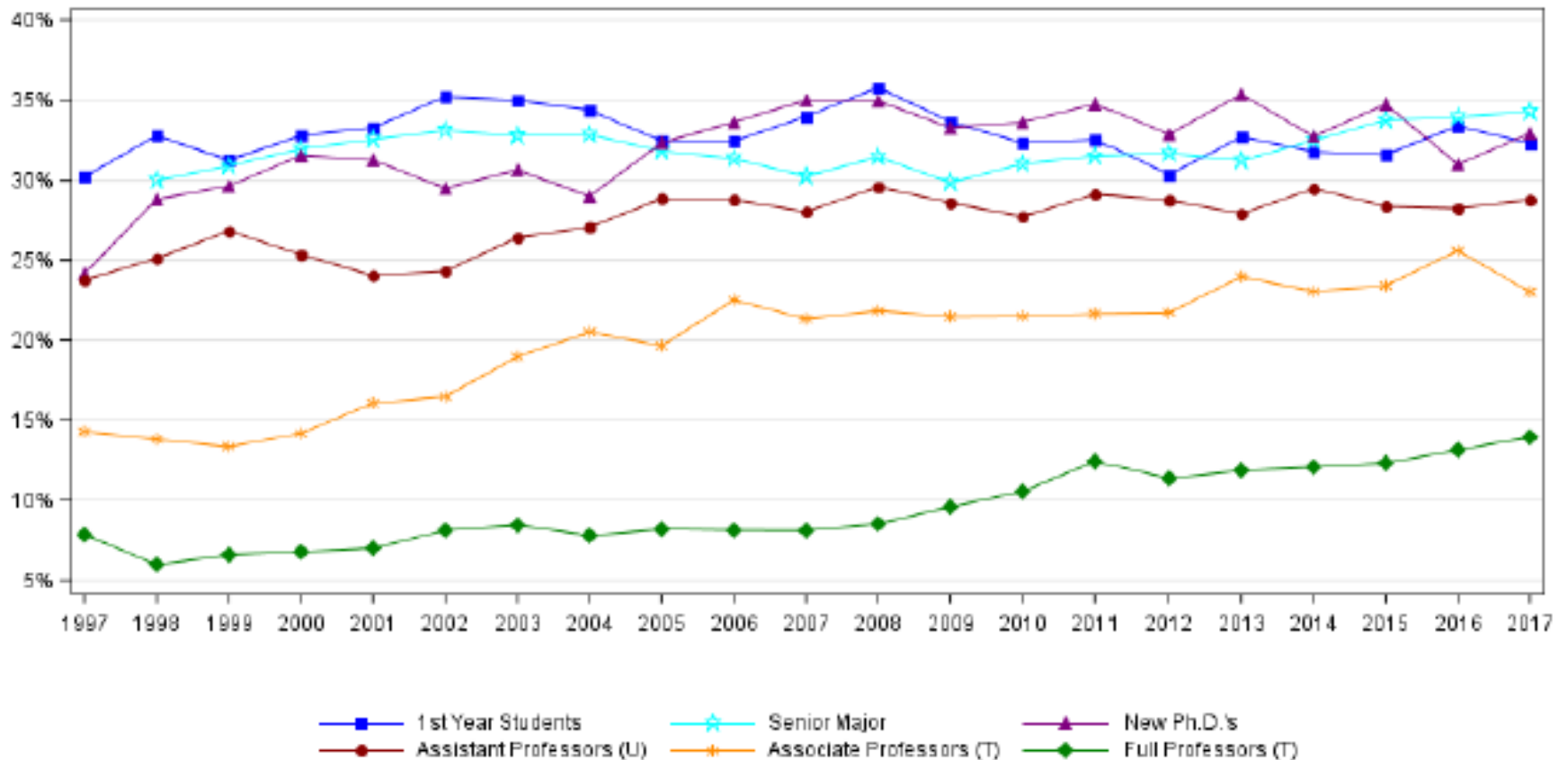
A Problematic Pipeline

- ❑ Few undergraduates
- ❑ Even fewer graduate students
- ❑ And yet fewer female PhDs
- ❑ Yep... even fewer female associate professors
- ❑ Some top economics departments still don't have a single female full professor (e.g. Northwestern)

- ❑ This is not about slow improvement: improvement has stopped!

A Stalled Pipeline: CSWEP Annual Report

Figure 1. Pipeline for Departments with Doctoral Programs:
Percent of Doctoral Students and Faculty who are Women, 1997-2017



Important Questions

❑ Why aren't women studying economics?

- ▶ There's not one answer, there are many.
- ▶ Some potential reasons:
 - They may not be encouraged to study economics
 - They may associate economics with negative stereotypes about what kind of person studies economics
 - They may not be well-informed about economics and the opportunities studying economics creates
 - They may not see role-models that they identify with
 - They may not see economics as an applied field
 - The field may come across as a masculine field

❑ Does it matter that the field is so gender imbalanced?

- ▶ Yes, but let's come back to this.

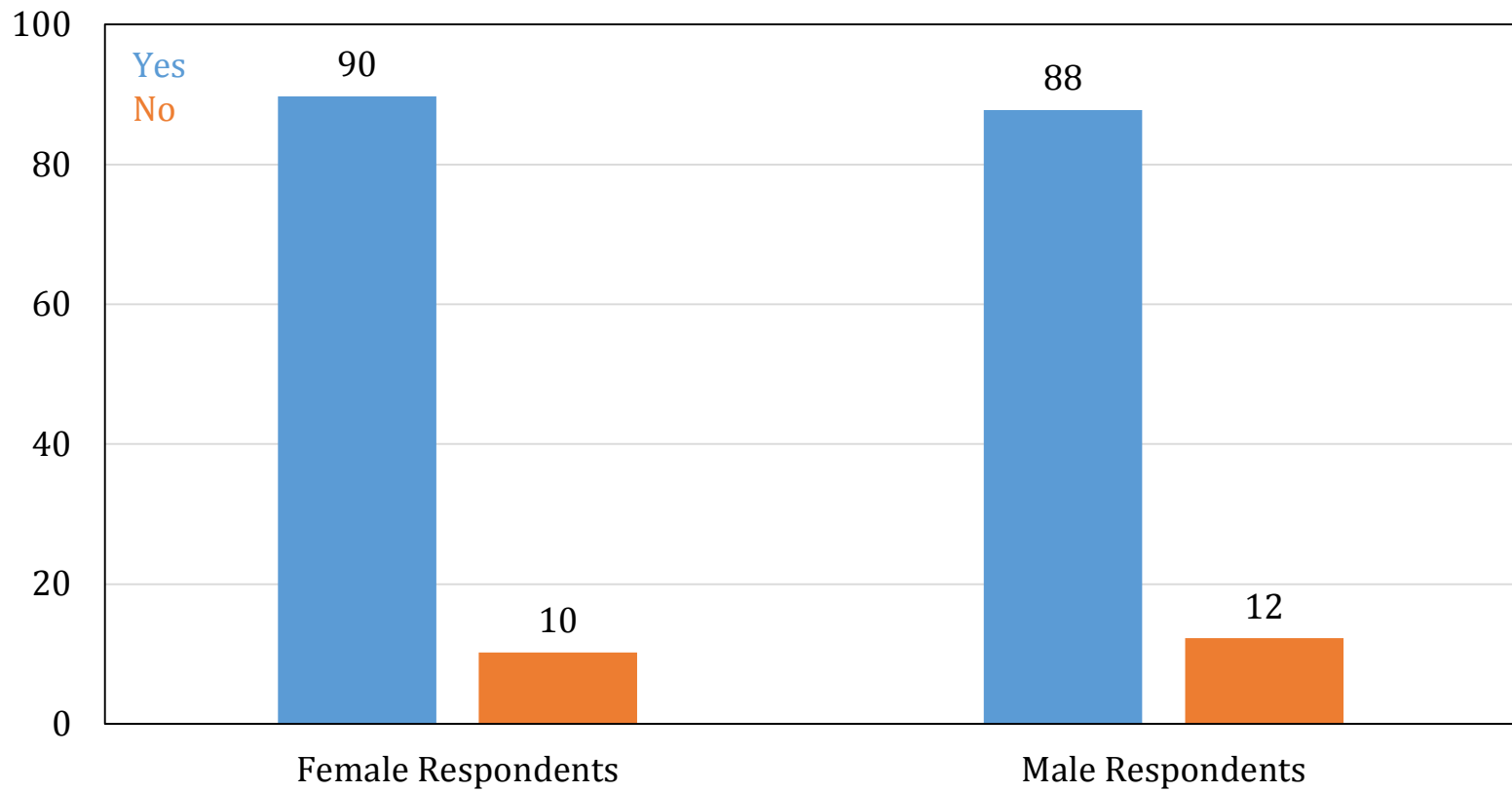
Role Models Matter

- ❑ Role models can be brief encounters
 - ▶ Porter and Serra (2017) show female Principles students are much more likely to continue if exposed to a female alum
 - ▶ Similar findings in physics and computer science on exposure to non-traditional role models
- ❑ Two aspects:
 - ▶ Is this about the gender of the role model?
 - ▶ Or that they break stereotypes about the culture of the field?

Professors Views on Gender Differences in Learning

Do Men and Women Learn Economics Differently?

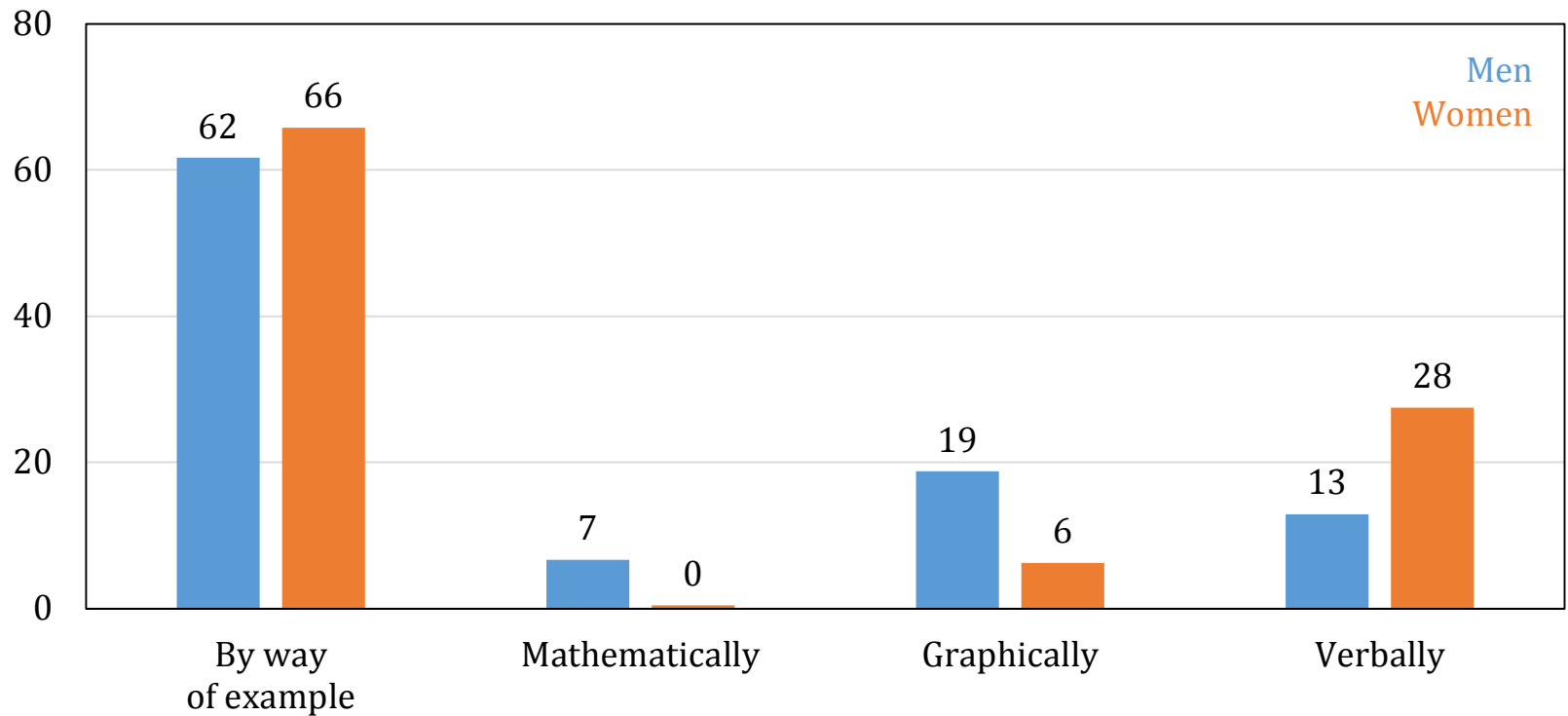
Percent of Respondents



Professors Think Students Learn by Example

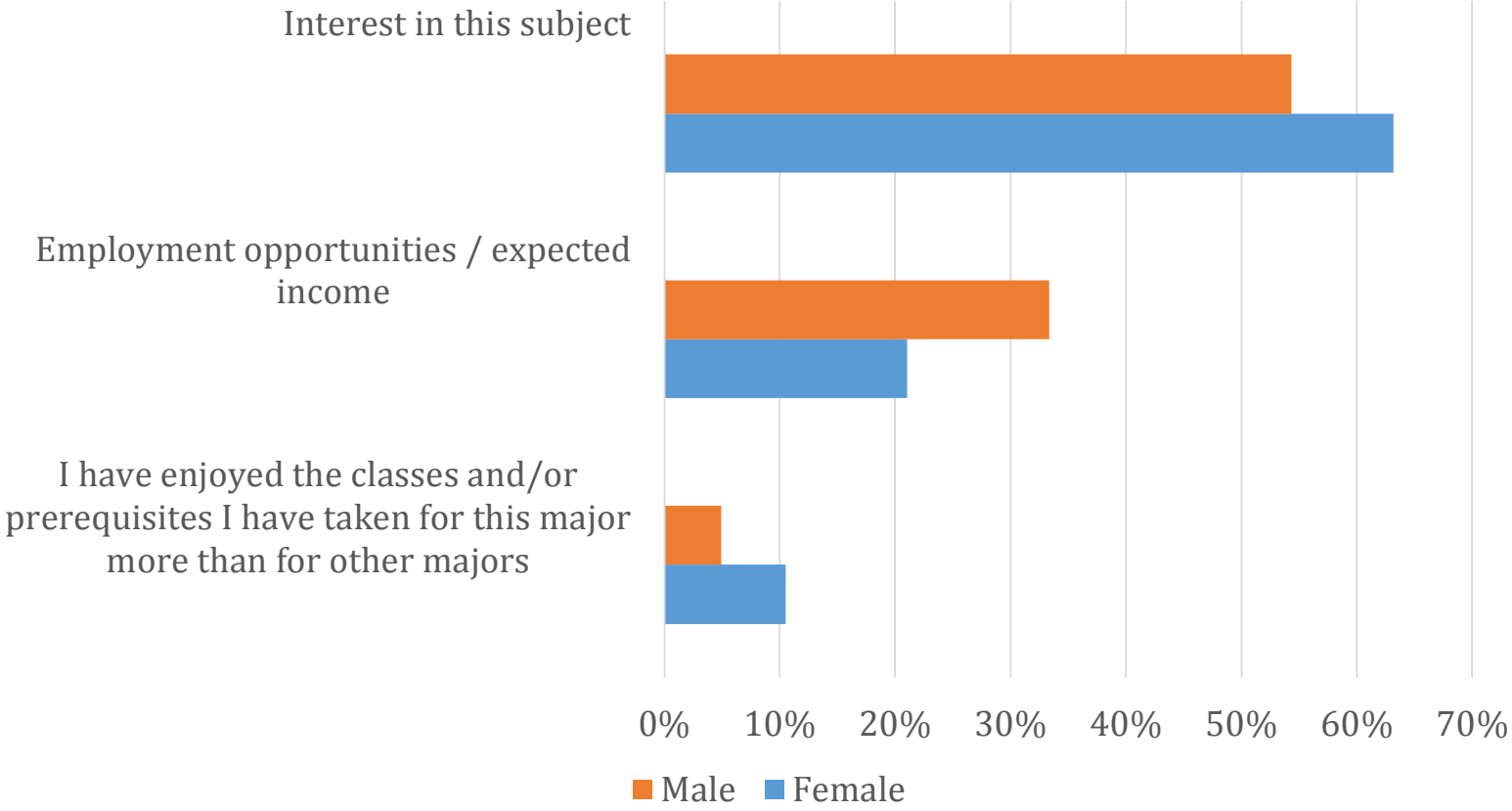
Preference of Explanation, by Student Gender

Percent of Respondents



Students are Driven By Interest, Women Slightly More

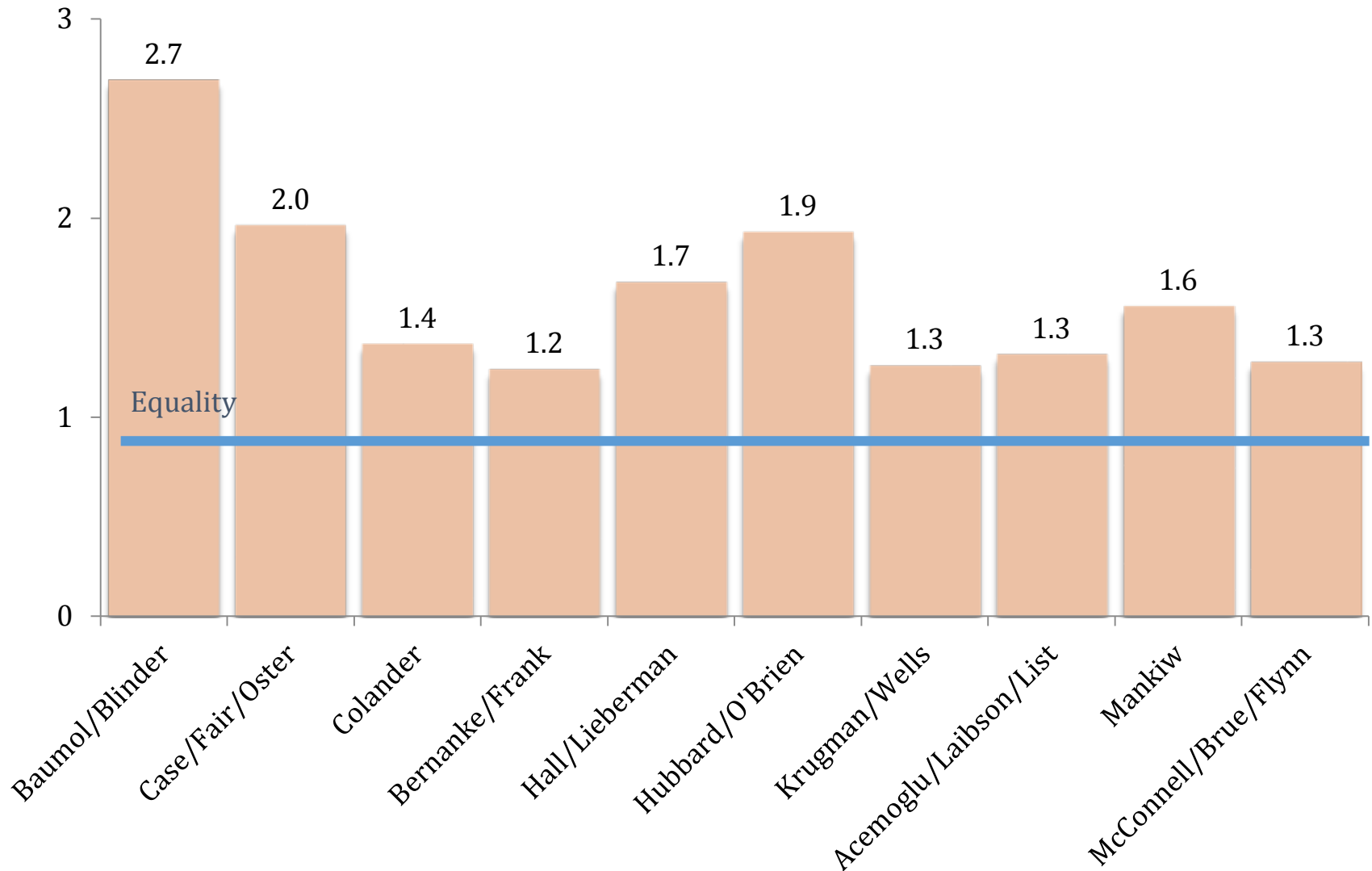
Motivations for Majoring in Economics, by Gender



The Beginning: Introductory Economics Textbooks

- ❑ New research with Hanna Zlotnick: we systematically analyze introductory economics textbooks to assess the ways in which men and women appear
- ❑ What do we find?
 - ▶ Introductory economics textbooks are full of men
 - ▶ Men are three-quarters of the people in economics textbooks, but not because they are all economists
 - ▶ Women in examples take fewer actions, are more likely to be in entertainment, education, or household tasks
 - ▶ Economists that appear are mostly men, but not because they are historic male figures (it's not the men you are thinking of)

Ratio of “He” to “She” in *Principles* Textbooks



Data

Textual analysis of leading *Principles of Economics* textbooks:

1. Acemoglu, Daron, David Laibson, and John A. List. *Economics*. 2nd ed., Pearson, 2017.
2. Bade, Robin, and Michael Parkin. *Foundations of Economics*. 8th ed., Pearson, 2017.
3. Hubbard, Glenn P., and Anthony Patrick O'Brien. *Economics*. 6th ed., Pearson, 2015.
4. Krugman, Paul, and Robin Wells. *Economics*. 4th ed., Worth Publishers, 2015.
5. Mankiw, N. Gregory. *Principles of Economics*. 8th ed., Cengage, 2018.
6. McConnell, Campbell R., Stanley L. Brue, and Sean M. Flynn. *Economics: Principles, Problems, and Policies*. 21st ed., McGraw Hill, 2017.
7. Parkin, Michael. *Economics*. 12th ed., Pearson, 2015.
8. Schiller, Bradley R., and Karen Gebhardt. *The Economy Today*. 14th ed., McGraw Hill, 2015.

Code every mention of a person (real or made up) in each textbook

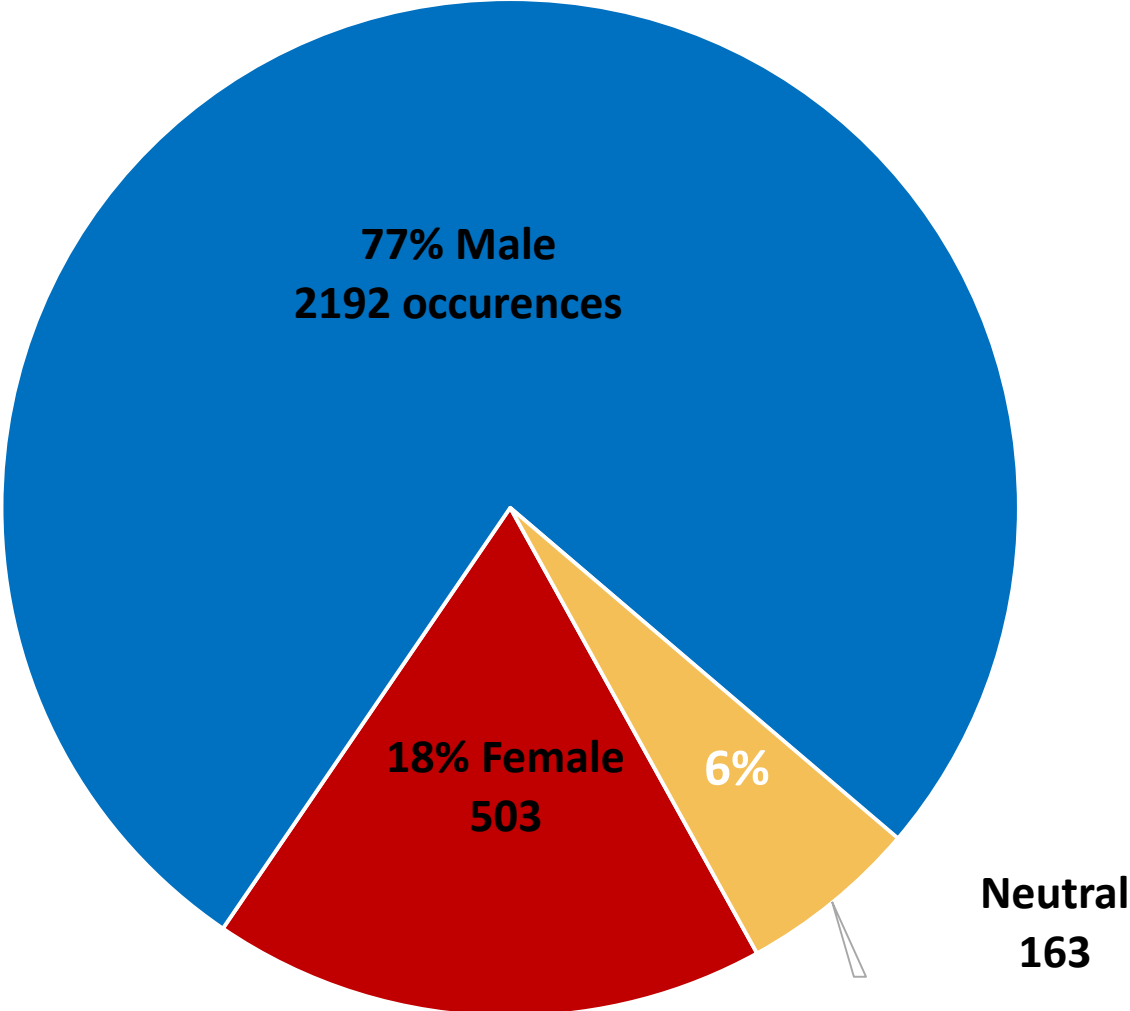
From Text to Data

Tom Brady is a great football player, but why do consumers care what products he uses? They may believe **Brady** has better information than they do about the products he endorses. The average football fan might believe that if **Brady** endorses Under Armour sportswear, maybe Under Armour makes better sportswear. It seems more likely, however, that people buy products associated with **Tom Brady** or other celebrities because using these products makes them feel closer to the celebrity endorser or because it makes them appear to be fashionable.

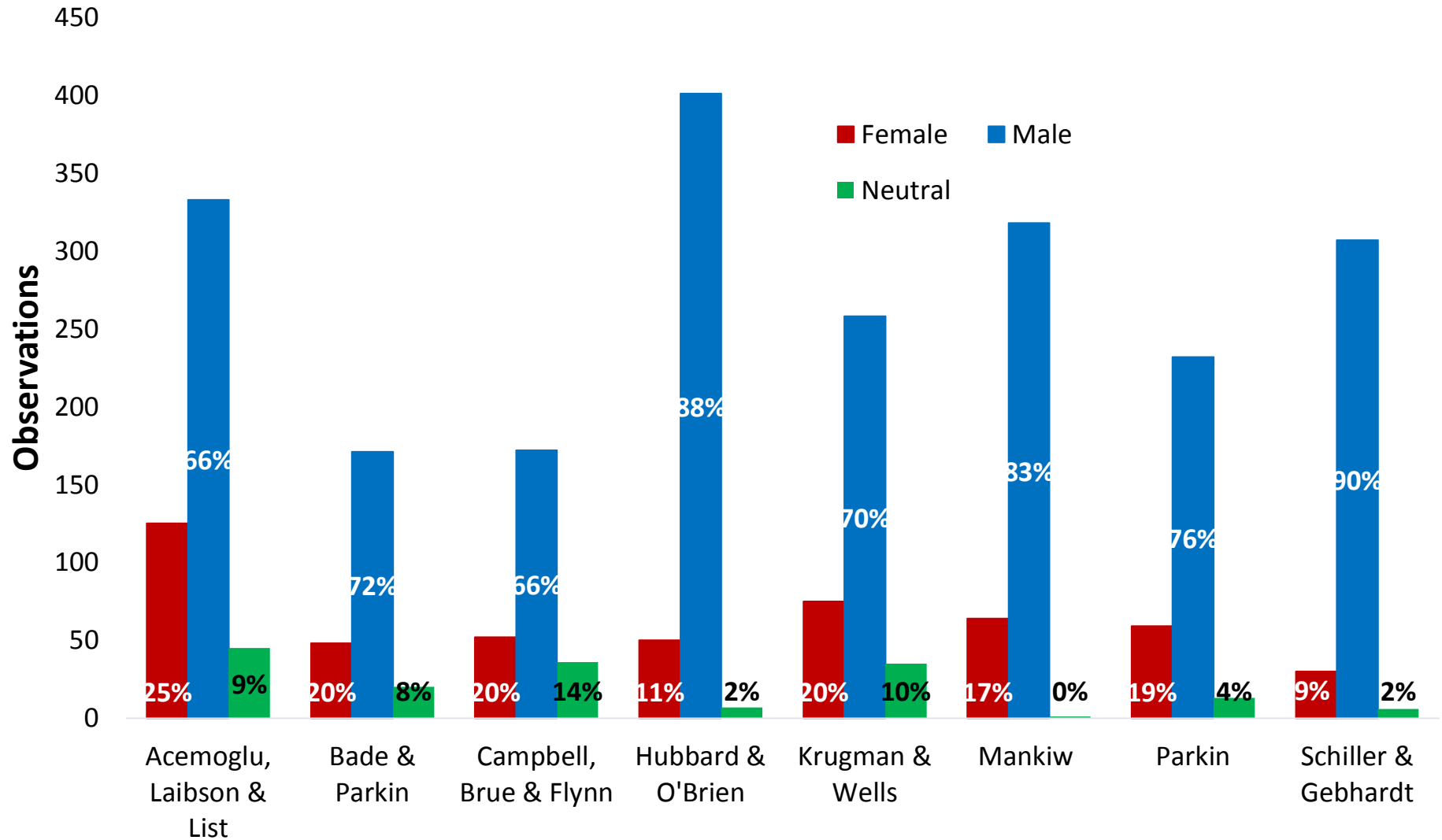
MyEconLab Concept Check

- **Book:** (Hubbard & O'Brien *Economics*)
 - **Gender:** male
 - **Name:** Tom Brady
 - **Type of person:** celebrity
 - **Action:** no action
 - **Occupation:** athlete
 - **Setting:** business
 - **Setting's gender orientation:** blue
 - **Number of women in example:** 0
 - **Number of men in example:** 1
 - **Numerical example:** no
-

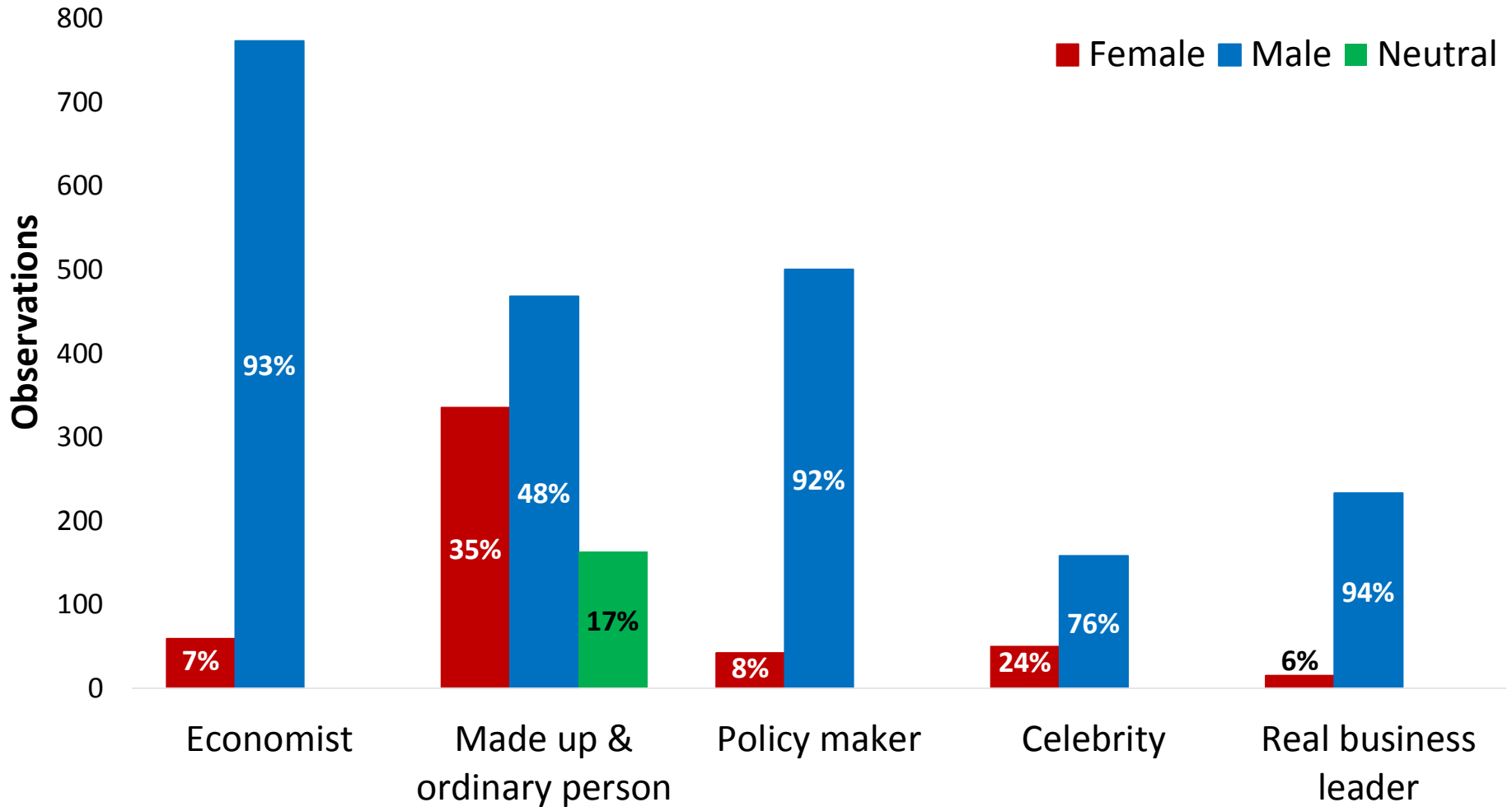
Total Male and Female Mentions



Male and Female Mentions By Text

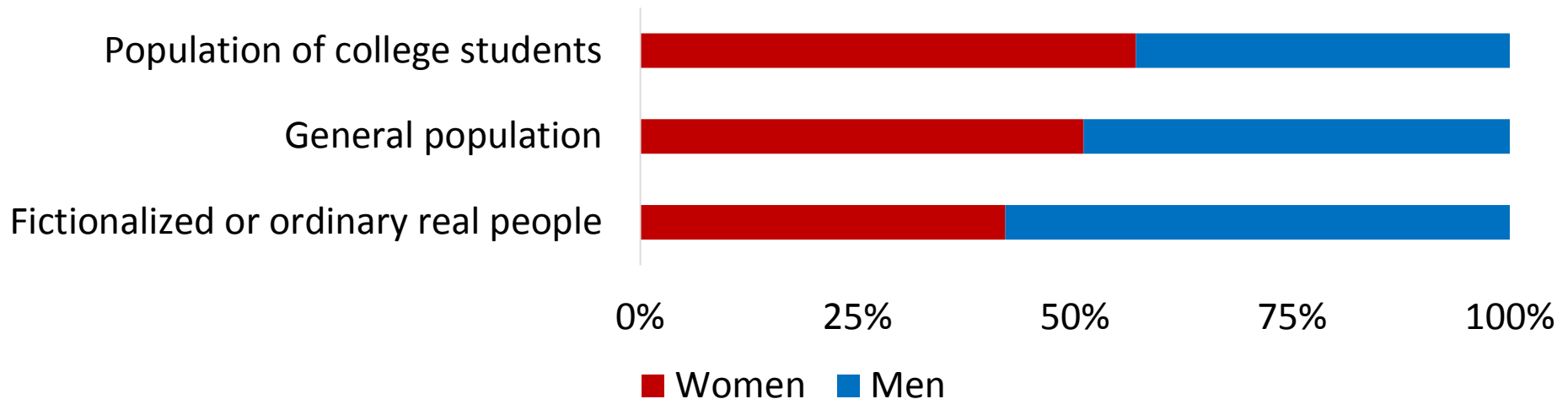


Male and Female Mentions By Category of Person



Fictionalized Accounts

- ❑ Authors have most freedom with made-up name
- ❑ Some authors explicitly use “he or she” or “his or her”
- ❑ 17 percent of made up or ordinary people are made explicitly gender neutral
- ❑ Among the remaining, 58 percent are male
- ❑ Some economist textbook authors may purposely choose male examples; for others, it’s likely implicit



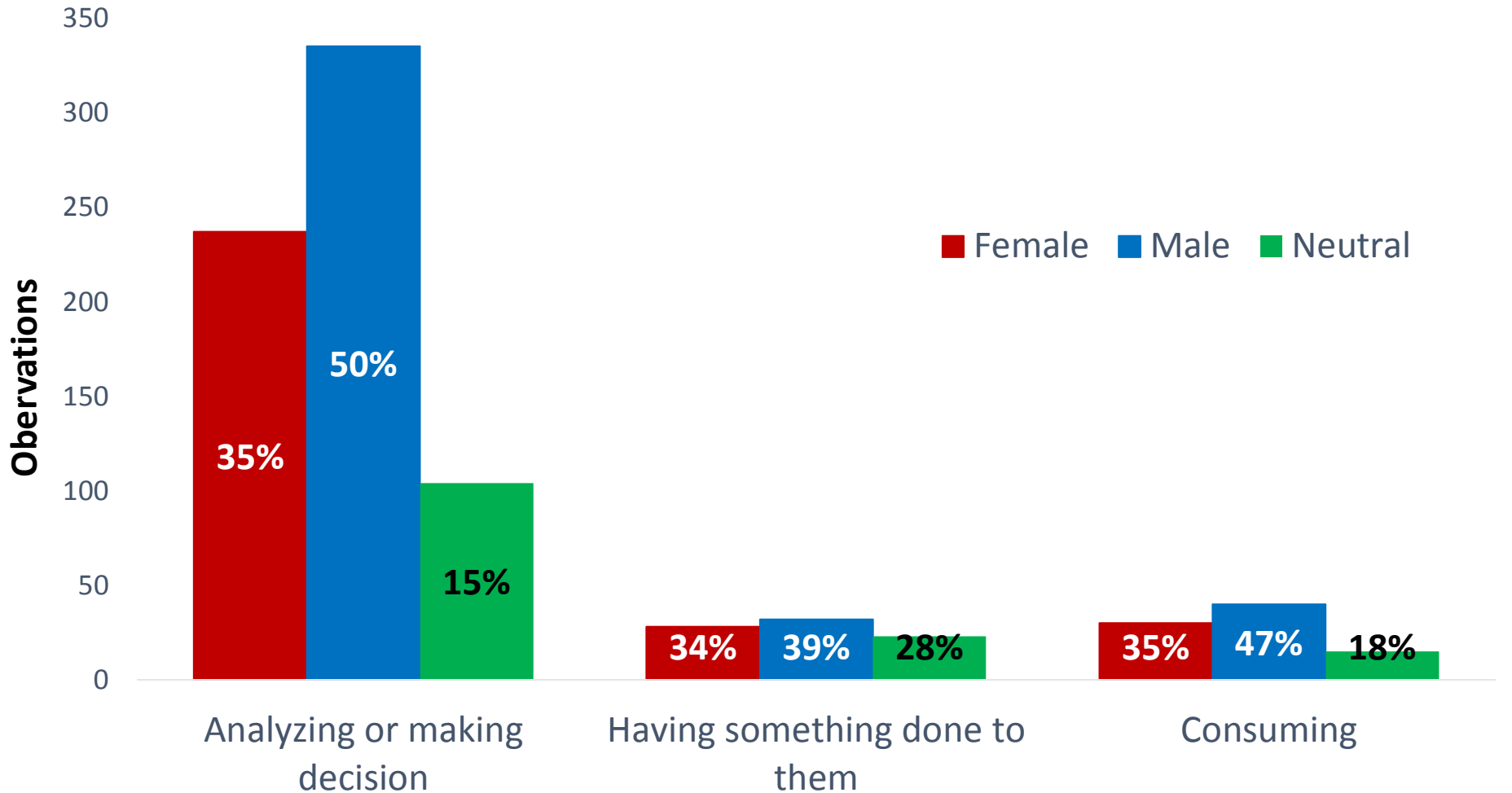
From the preface to *A Course in Game Theory*

AR argues that we should use a “neutral” pronoun and agrees to the use of “he”, with the understanding that this refers to both men and women. Continuous reminders of the he/she issue simply divert the reader’s attention from the main issues. Language is extremely important in shaping our thinking, but in academic material it is not useful to wave it as a flag, as is common in some circles.

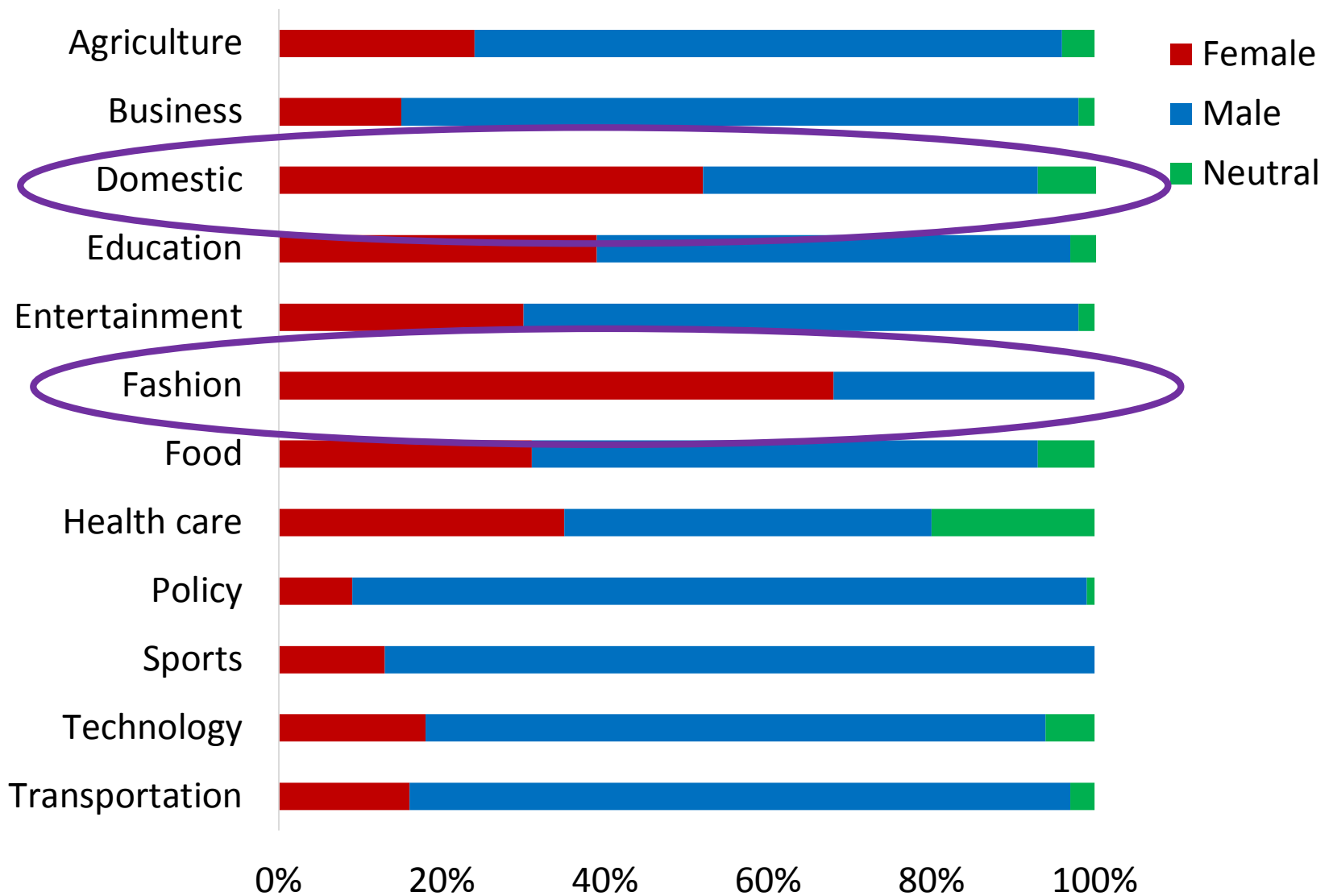
MJO argues that no language is “neutral”. In particular, there is a wealth of evidence, both from experiments and from analyses of language use, that “he” is not generally perceived to encompass both females and males. To quote the *American Heritage Dictionary* (third

A course in game theory. Martin J Osborne, Ariel Rubinstein.
Cambridge, Mass.: MIT Press, 1994.

What do women in examples do?



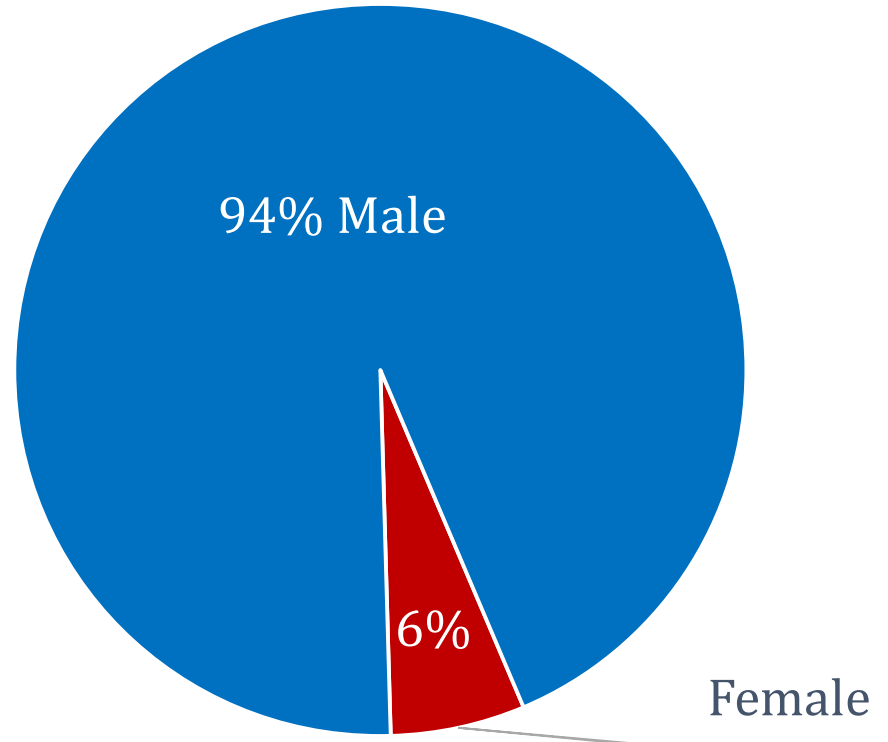
Settings in which men and women appear



Few Female Business Leaders Mentioned

There are only 11 across 7 books

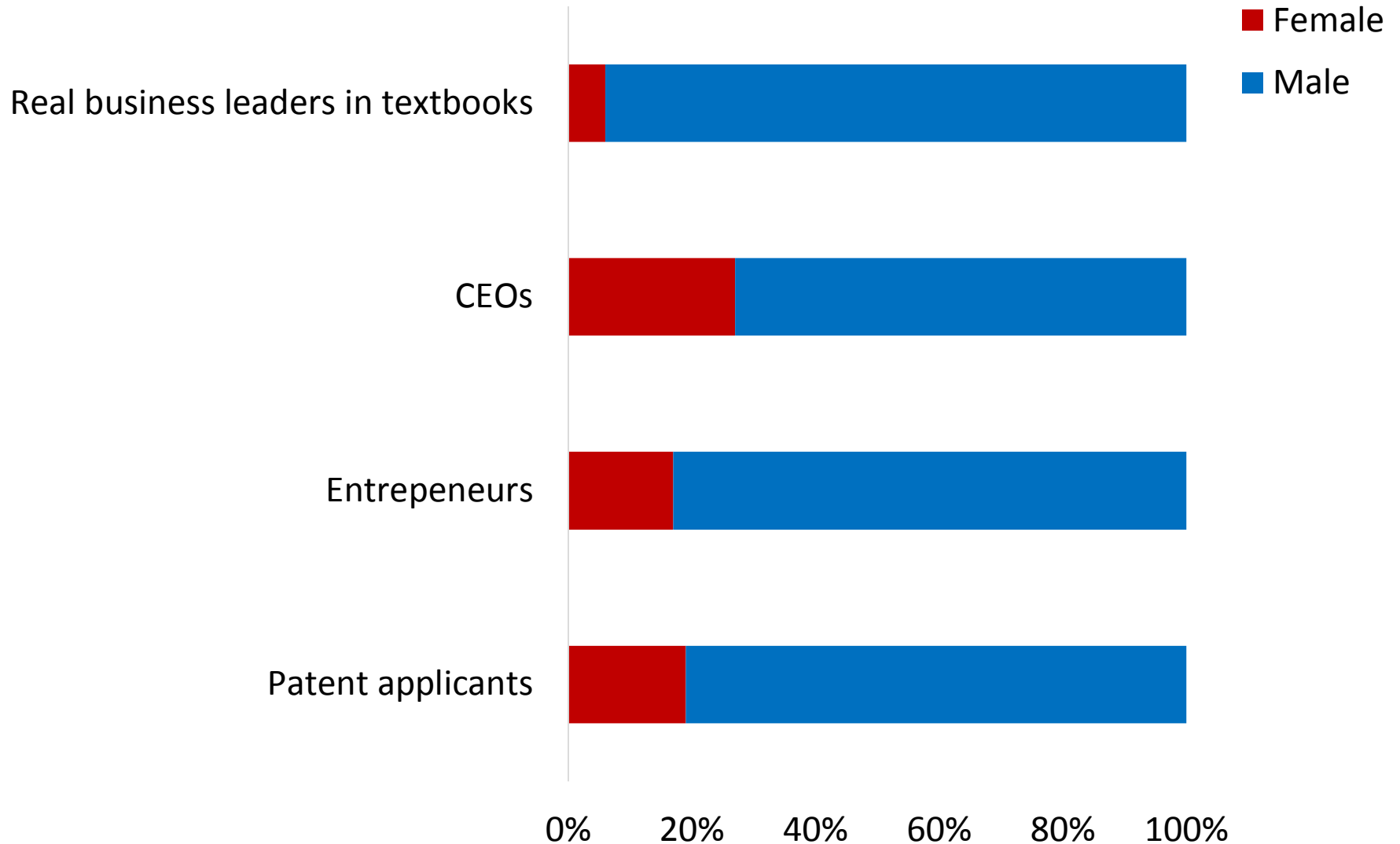
- ❑ Angela Ahrendts
- ❑ Annie Young-Scriver
- ❑ Elizabeth Holmes
- ❑ Katie Bardaro
- ❑ Kiran Mazumdar-Shaw
- ❑ Marion Donovan
- ❑ Marissa Mayer
- ❑ Mary Anderson
- ❑ Mia Bauer
- ❑ Penny Stafford
- ❑ Sally Smith
- ❑ Sheryl Sandberg
- ❑ Virginia Rometty



Male Business Leaders Mentioned in Any Text

- ❑ As with economists, some are well-known but most are not
- The overreliance on business leaders is related to a similar challenge with business school case studies
- ❑ Women own 36 percent of businesses
- ❑ Women are now the [majority](#) of workers in management, professional, and related occupations
- ❑ In 2016, 27 percent of all [CEOs](#) were women, up from 23 percent in 2008.

Business leaders in textbooks compared to real life



Male Inventors

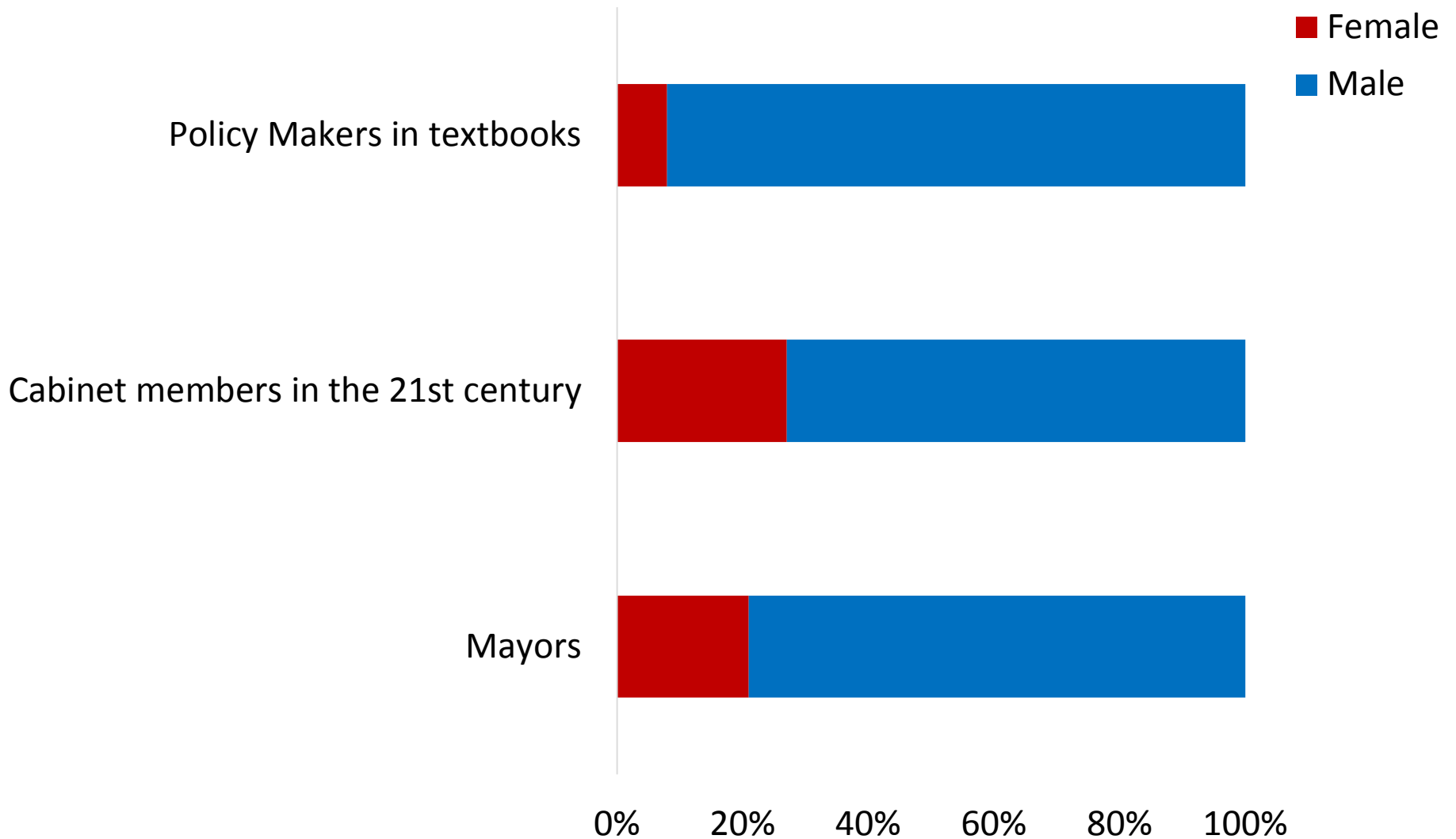
Example of a list of inventors in Hubbard & O'Brien (*Economics*)

Airplane	Orville and Wilbur Wright
Automobile, mass produced	Henry Ford
Automobile windshield wiper	Mary Anderson
Biomagnetic imaging	Raymond Damadian
Biosynthetic insulin	Herbert Boyer
Disposable diaper	Marion Donovan
DNA fingerprinting	Alec Jeffries
FM radio	Edwin Howard Armstrong
Helicopter	Igor Sikorsky
High-resolution CAT scanner	Robert Ledley
Hydraulic brake	Malcolm Lockheed
Integrated circuit	Jack Kilby
Microprocessor	Ted Hoff
Optical scanner	Everett Franklin Lindquist
Oral contraceptives	Carl Djerassi
Overnight delivery service	Fred Smith
Personal computer	Steve Jobs and Steve Wozniak
Quick-frozen foods	Clarence Birdseye
Safety razor	King Gillette
Soft contact lens	Kevin Tuohy
Solid fuel rocket engine	Robert Goddard
Supercomputer	Seymour Cray
Vacuum tube (television)	Philo Farnsworth
Zipper	Gideon Sundback

Policy Makers: Janet Yellen!

- ❑ 8 percent of policy makers listed in textbooks are female
- ❑ Janet Yellen is the dominant mention and appears in all books and is 45 percent of mentions of female policy makers
- ❑ The other 10 women mentioned across the eight books are:
 1. Christina Romer
 2. Christine Lagarde
 3. Hillary Clinton
 4. Lucy Koh
 5. Margaret Thatcher
 6. Margrethe Vestager
 7. Nancy Pelosi
 8. Sandra Day O'Connor
 9. Theresa May
 10. Betsey Stevenson

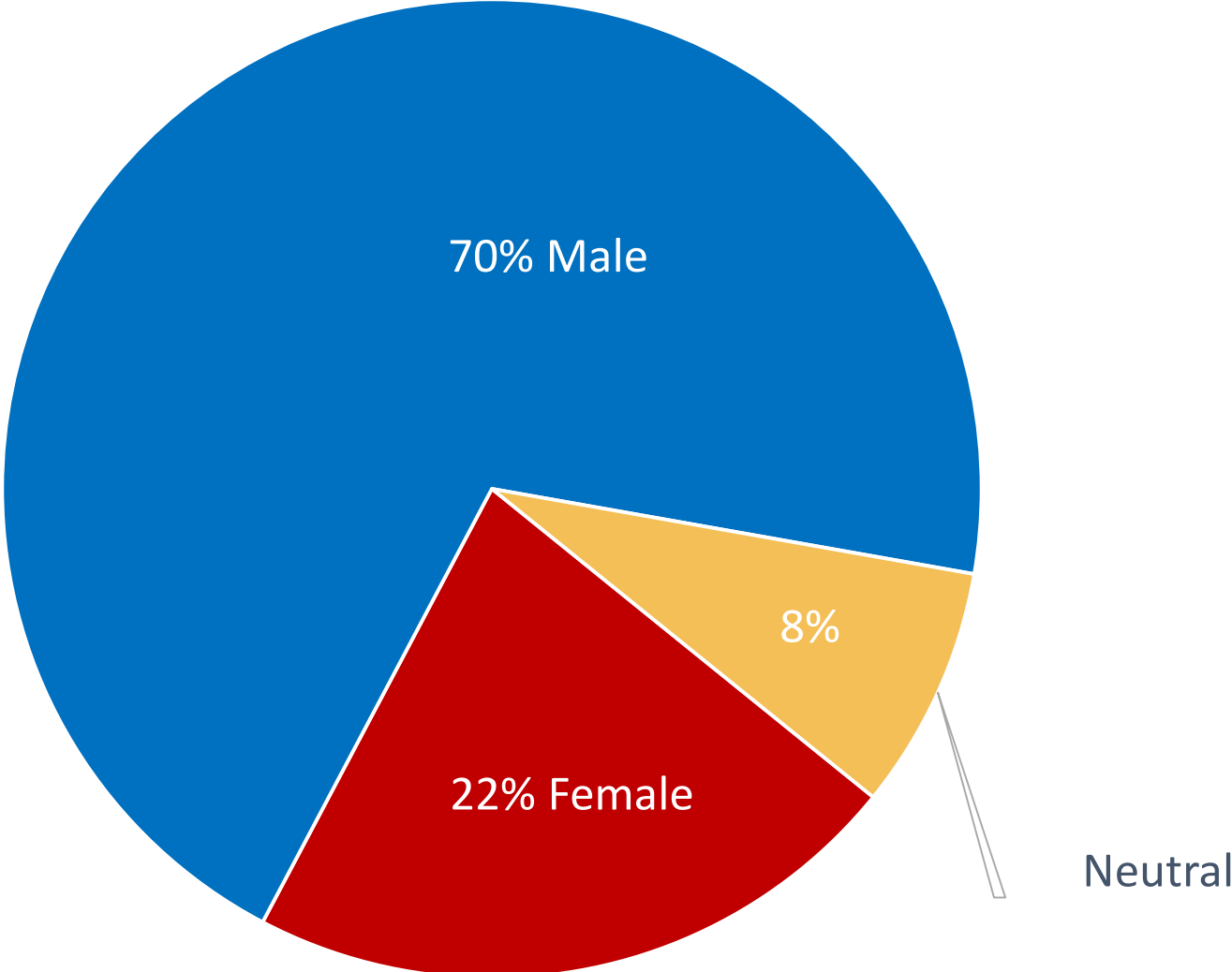
Policy Leaders in textbooks compared to real life



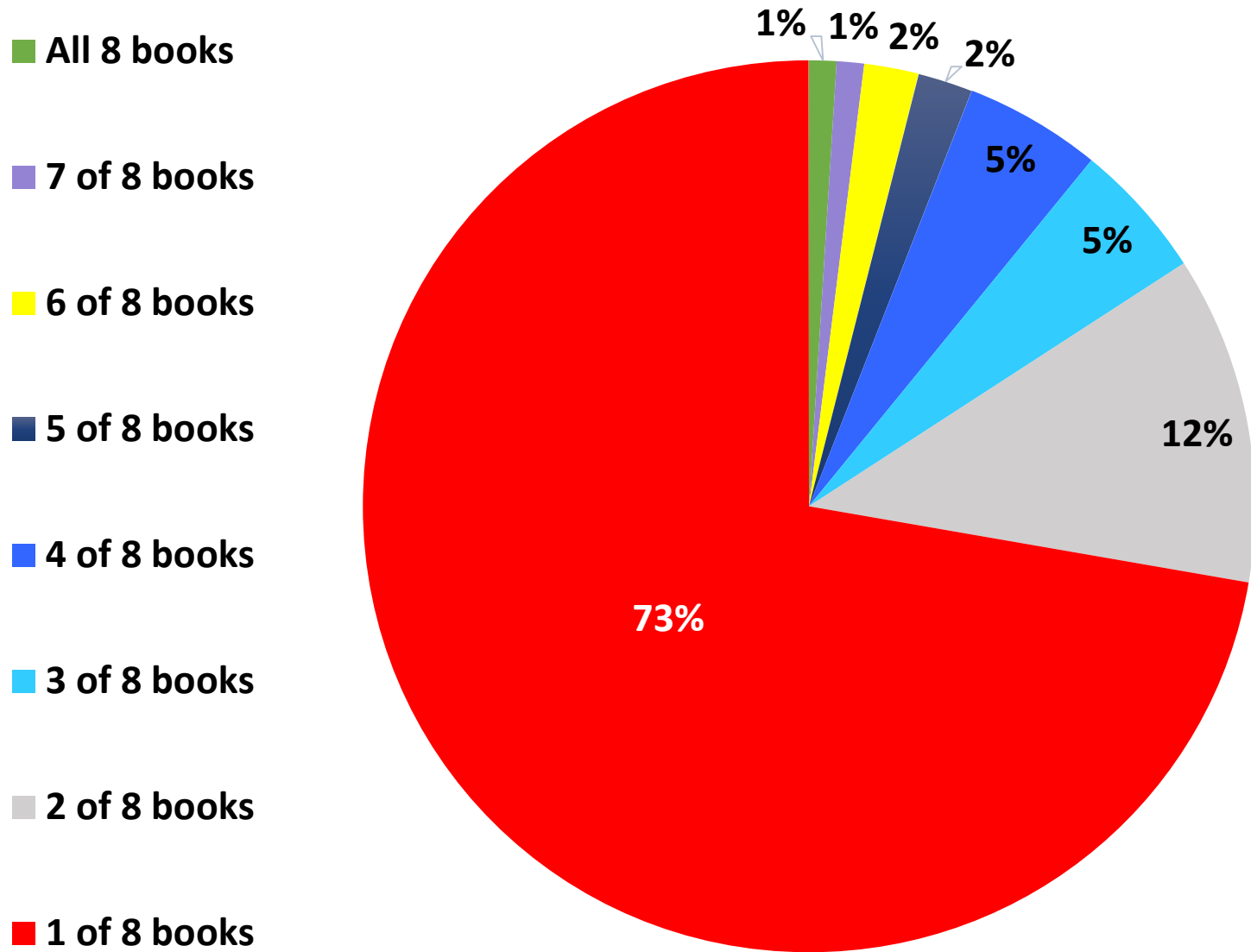
Economists

- ❑ Economists are 29 percent of the people mentioned in an economics textbook
- ❑ Women are outnumbered by men 14 to 1
- ❑ No woman dominates the list, no woman appears in every book;
- ❑ Few men appear in every book, the list of economists are not famous historical economists
- ❑ Eliminate economists from the analysis....

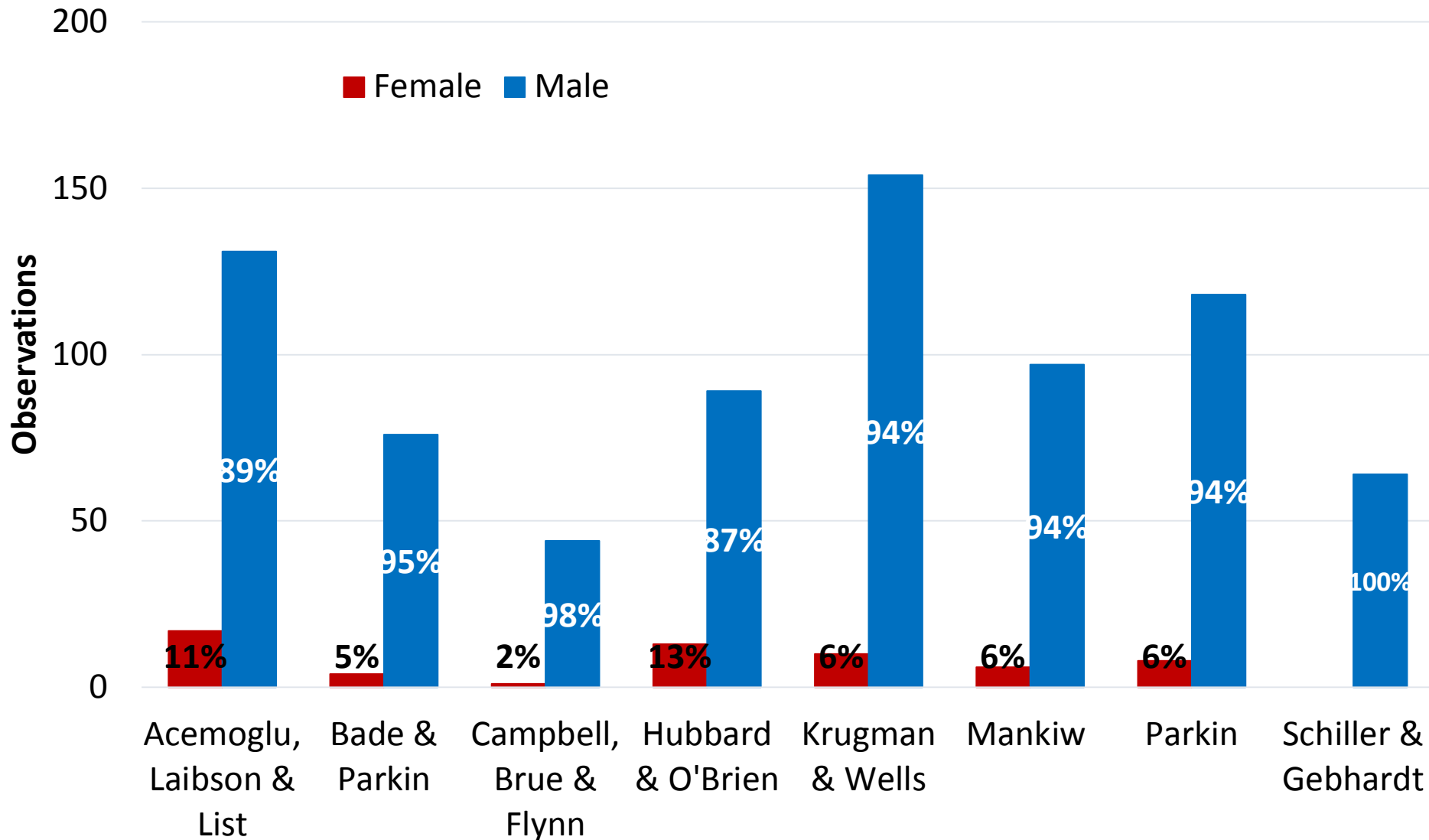
All people *except* economists



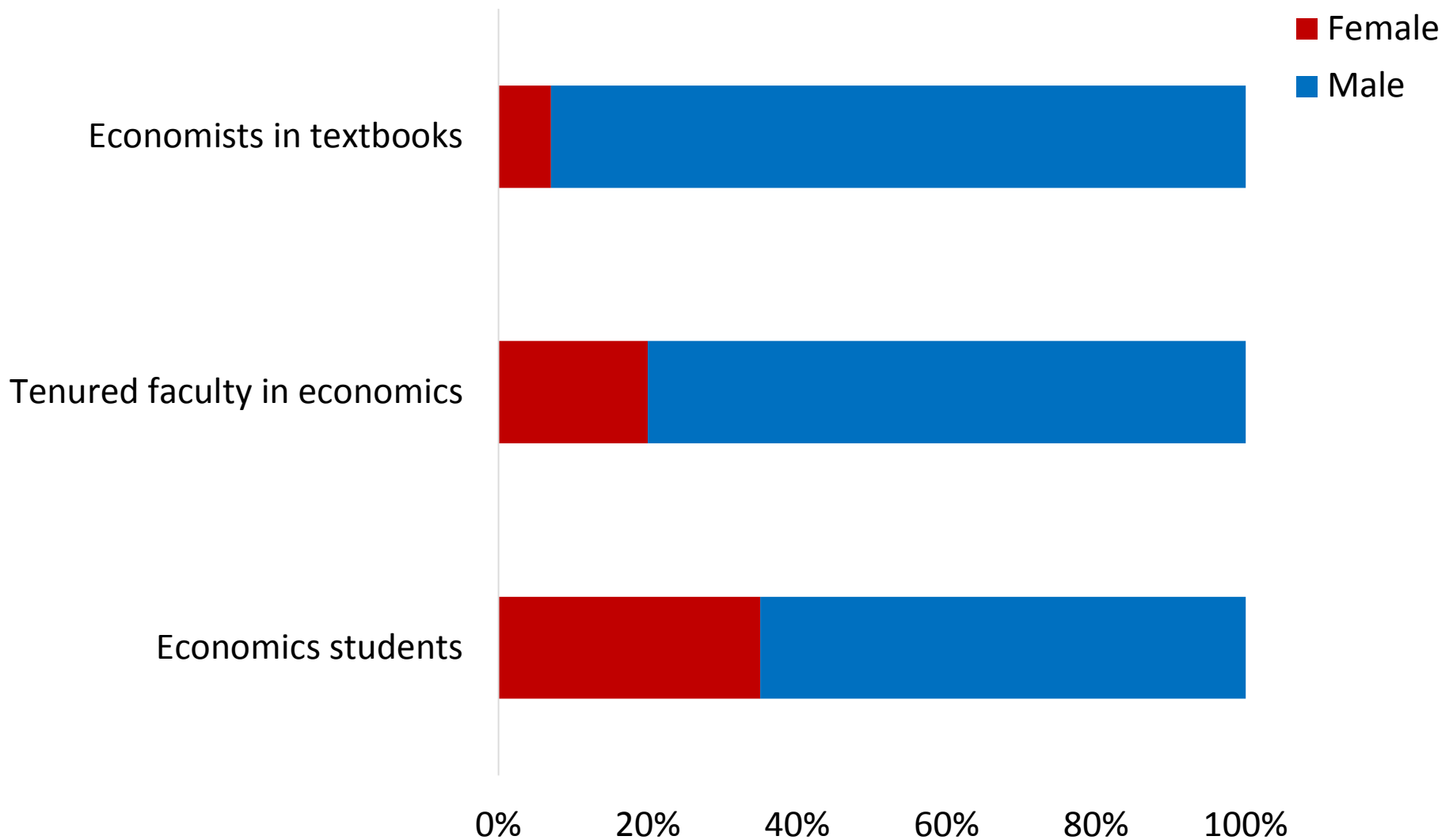
Most Economists Appear in Only One Book



Female economists by book



Economists in textbooks compared to real life



Summary

- ▶ Principles of economics textbooks are full of men
- ▶ That men are three-quarters of the people in economics textbooks is not because they are economists
- ▶ Women in examples take fewer actions, are more likely to be involved in entertainment, education, or household tasks
- ▶ Men are more likely to be in business or policy
- ▶ Economists that appear are mostly men, but not because they are historic male figures (it's not the men you are thinking of)

Why Does it Matter?

- ❑ Research shows that women have different views than men
- ❑ Female policy makers vote differently
- ❑ Female economists favor different policies
- ❑ Research by May, McGarvey, and Whaples (2014 Contemporary Economic Policy) found that there are ****NOT**** gender differences among economists on core concepts and economic methodology—male and female economists all believe in basically the same “economic model” of how people make decisions

Female Economists are Different

- ❑ But when it comes to analyzing the outcomes and considering policy solutions, there are big gender differences
- ❑ Female economists are more likely to favor government-backed redistribution policies
- ❑ They are more likely to view gender inequality as a problem in the U.S. labor market and economics profession
- ❑ They favor government intervention over market solutions more than their male counterparts
- ❑ They want more environmental protection