WORK, WELLBEING, & SCARCITY I

MPA 612: Economy, Society, and Public Policy

February 4, 2019

Fill out your reading report on Learning Suite

PLAN FOR TODAY

Measuring policy outcomes

XYZ Airlines

MEASURING POLICY OUTCOMES

Godwin's law

From Wikipedia, the free encyclopedia

Godwin's law (or **Godwin's rule of Hitler analogies**)[1][2] is an Internet adage asserting that "As an online discussion grows longer, the probability of a comparison involving Nazis or Hitler approaches 1";[2][3] that is, if an online discussion (regardless of topic or scope) goes on long enough, sooner or later someone will compare someone or something to Adolf Hitler or his deeds, the point at which effectively the discussion or thread often ends. Promulgated by the American attorney and author Mike Godwin in 1990,[2] Godwin's law

GODWIN'S LAW FOR STATISTICS

Correlation does not imply causation

Except when it does

Even if it doesn't,
this phrase is useless
and kills discussion

Not everyone found the news believable. “Facepalm. Correlation doesn’t imply causation,” wrote one unhappy Internet user. “That’s pretty much how I read this too… correlation is NOT causation,” agreed a Huffington Post superuser, seemingly distraught. “I was surprised not to find a discussion of correlation vs. causation,” cried someone at Hacker News. “Correlation does not mean causation,” a reader moaned at Slashdot. “There are so many variables here that it isn’t funny.”



David Robinson
@drob

Following

Correlation implies causation, don't @ me

1:12 PM - 22 Jun 2017 from Manhattan, NY

4 Retweets **56** Likes



2 4 56



Tweet your reply



David Robinson @drob · 22 Jun 2017

Replying to @drob

"Correlation implies casuation," the dean whispered as he handed me my PhD.

"But then why-"

"Because if they knew, they wouldn't need us."

5 46 169



John B. Holbein @JohnHolbein1 · Apr 7

Causality isn't achieved; it's approached.

3 1 8

Show this thread



John B. Holbein @JohnHolbein1 · Apr 7

Causality isn't binary; it's a continuum.

1 5 13

Show this thread

CORRELATION VS. CAUSATION

How do we figure out correlation?	How do we figure out causation?
Math and statistics	Philosophy. No math.

THE CAUSALITY CONTINUUM

Differences

Pre-post

Multiple regression

Matching

Diff-in-diff

Natural experiments

Regression discontinuity

RCTs



Correlation

Causation

COMPARING GROUPS

Before vs. after

Treatment vs. control

On their own, neither is sufficient for proving causality

TWO WRONGS MAKE A RIGHT

Difference-in-difference (DD)

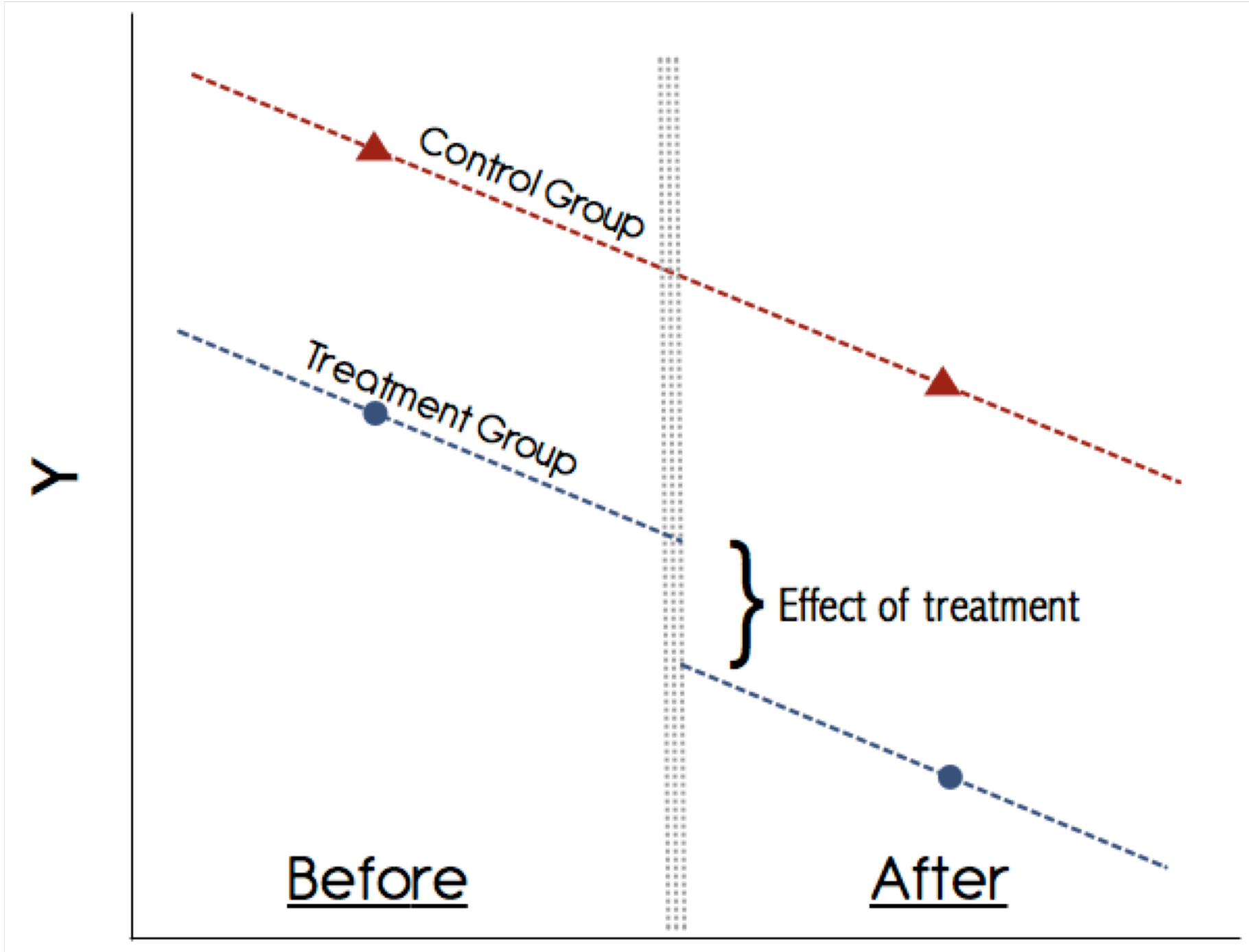
Compare treatment and control groups before and after intervention

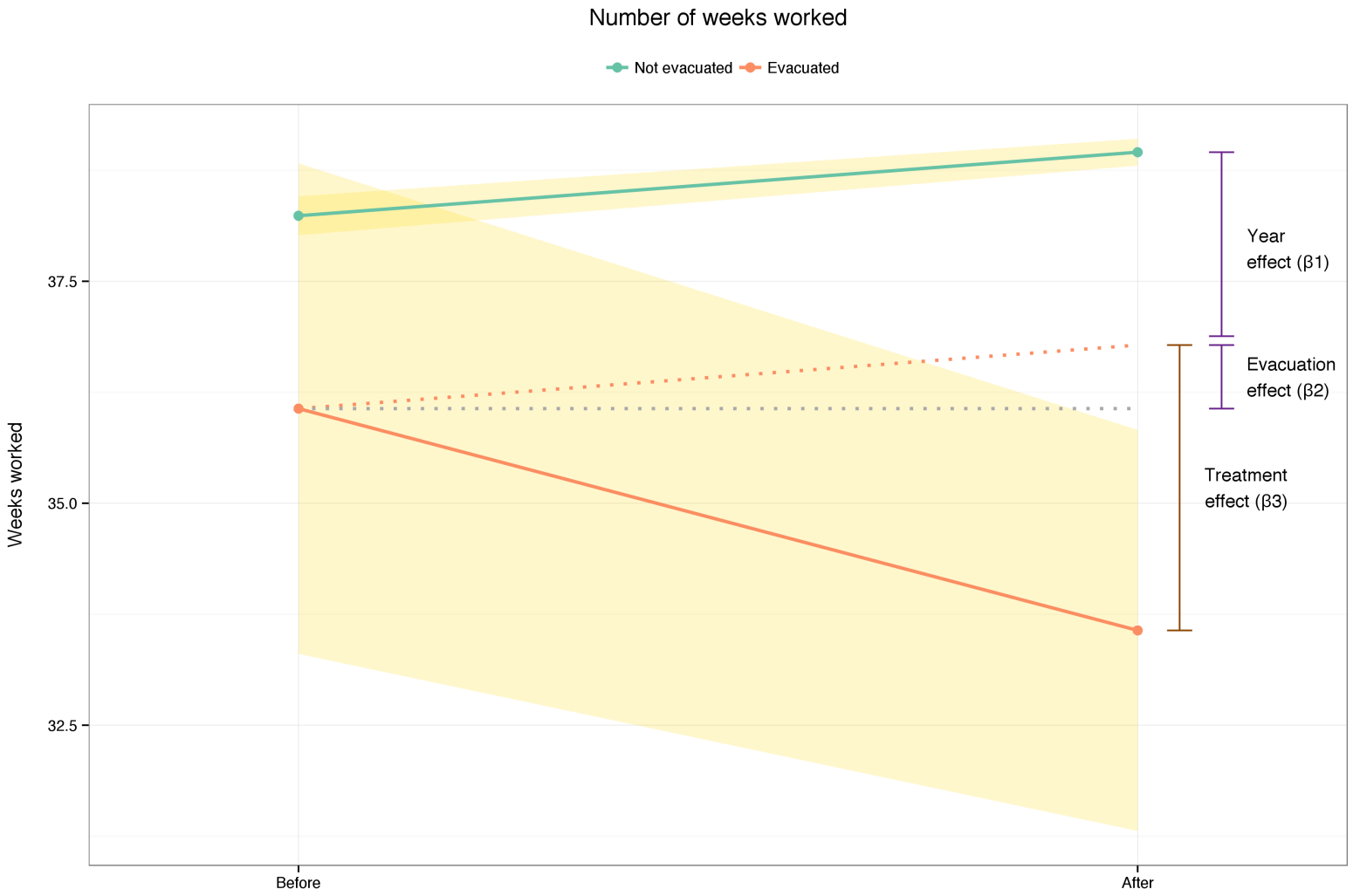
$$\begin{aligned}\text{DD} =& (\bar{x}_{\text{treatment, post}} - \bar{x}_{\text{treatment, pre}}) \\ & - (\bar{x}_{\text{control, post}} - \bar{x}_{\text{control, pre}})\end{aligned}$$

TABLE 5.2.1
Average employment in fast food restaurants before and after the New Jersey minimum wage increase

Variable	PA (i)	NJ (ii)	Difference, NJ – PA (iii)
1. FTE employment before, all available observations	23.33 (1.35)	20.44 (.51)	−2.89 (1.44)
2. FTE employment after, all available observations	21.17 (.94)	21.03 (.52)	−.14 (1.07)
3. Change in mean FTE employment	−2.16 (1.25)	.59 (.54)	2.76 (1.36)

Notes: Adapted from Card and Krueger (1994), table 3. The table reports average full-time-equivalent (FTE) employment at restaurants in Pennsylvania and New Jersey before and after a minimum wage increase in New Jersey. The sample consists of all restaurants with data on employment. Employment at six closed restaurants is set to zero. Employment at four temporarily closed restaurants is treated as missing. Standard errors are reported in parentheses.

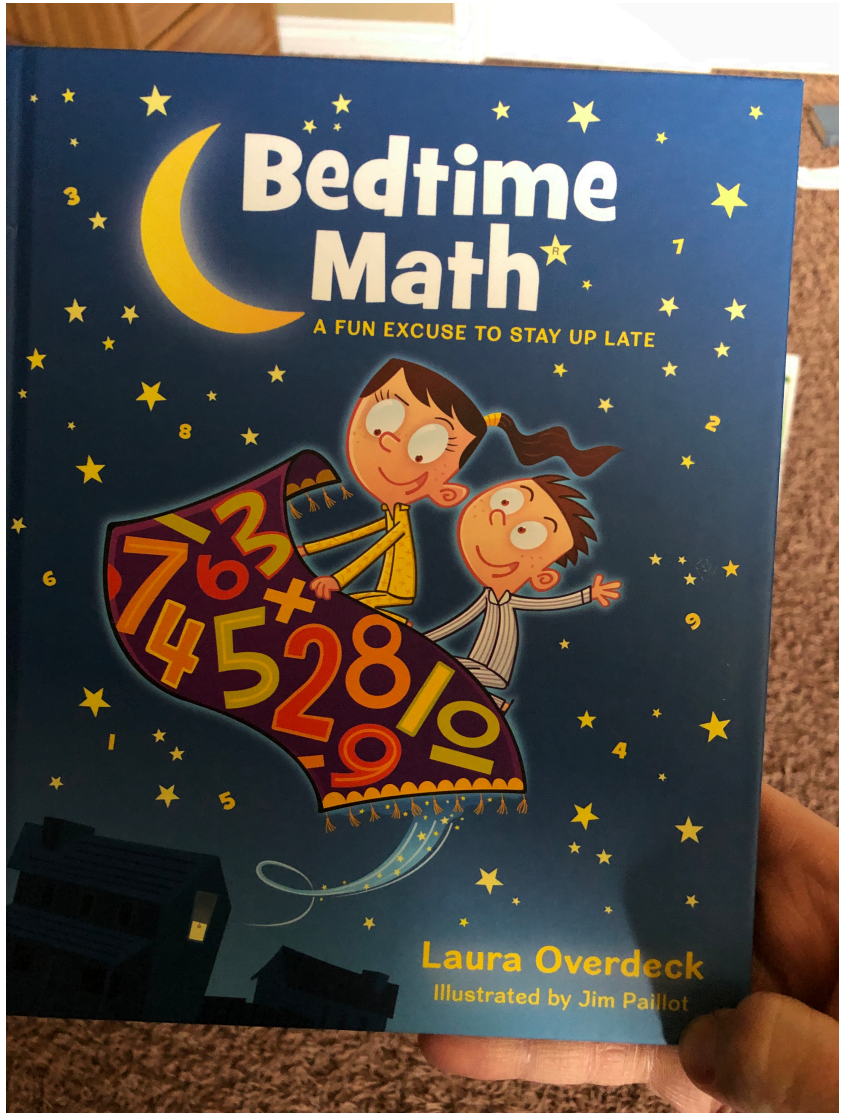

Y
Control Group
Treatment Group
Effect of treatment
Before
After



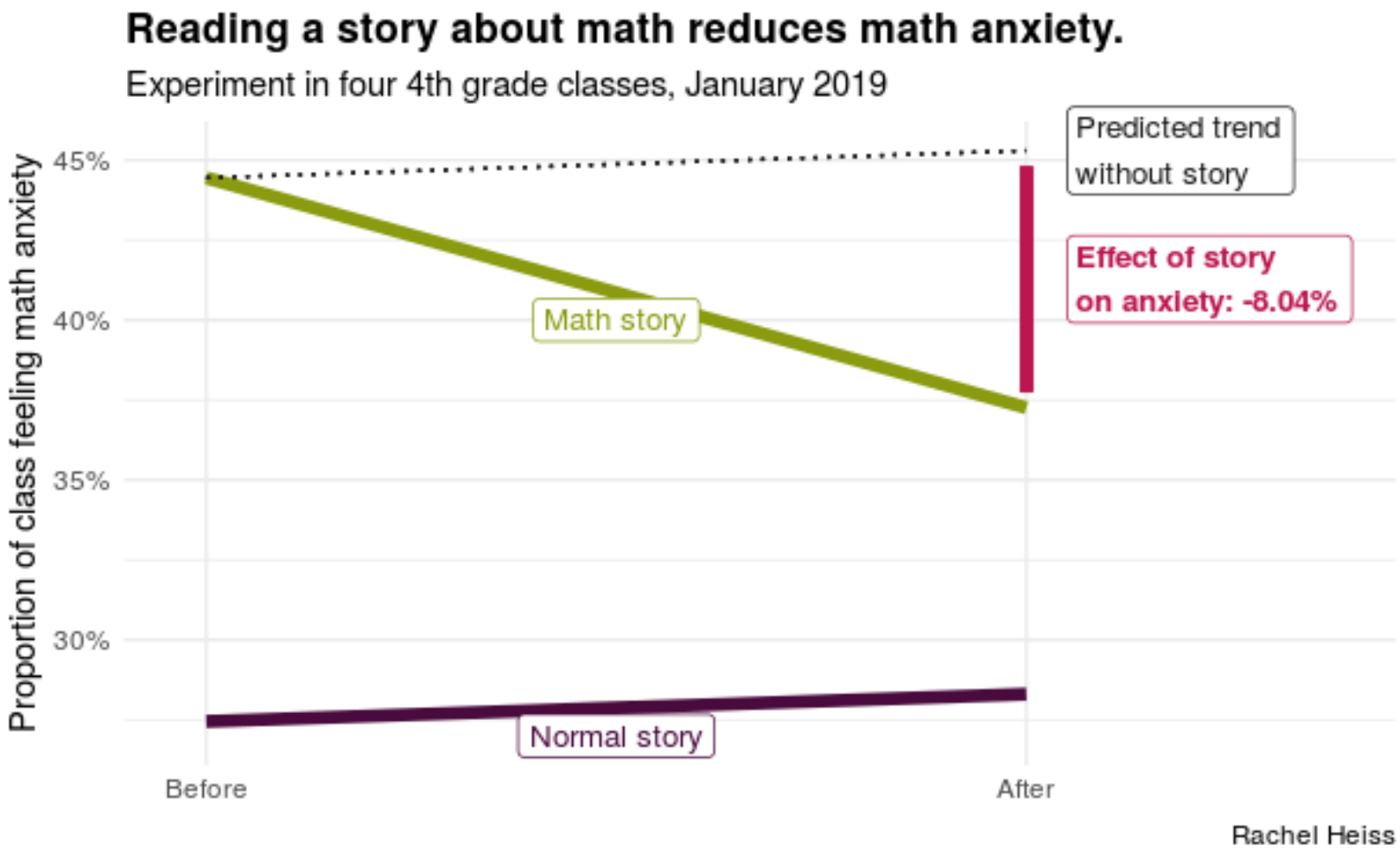
Effect of Katrina on employment

Weeks worked ~
Year +
Evacuated +
Year × Evacuated

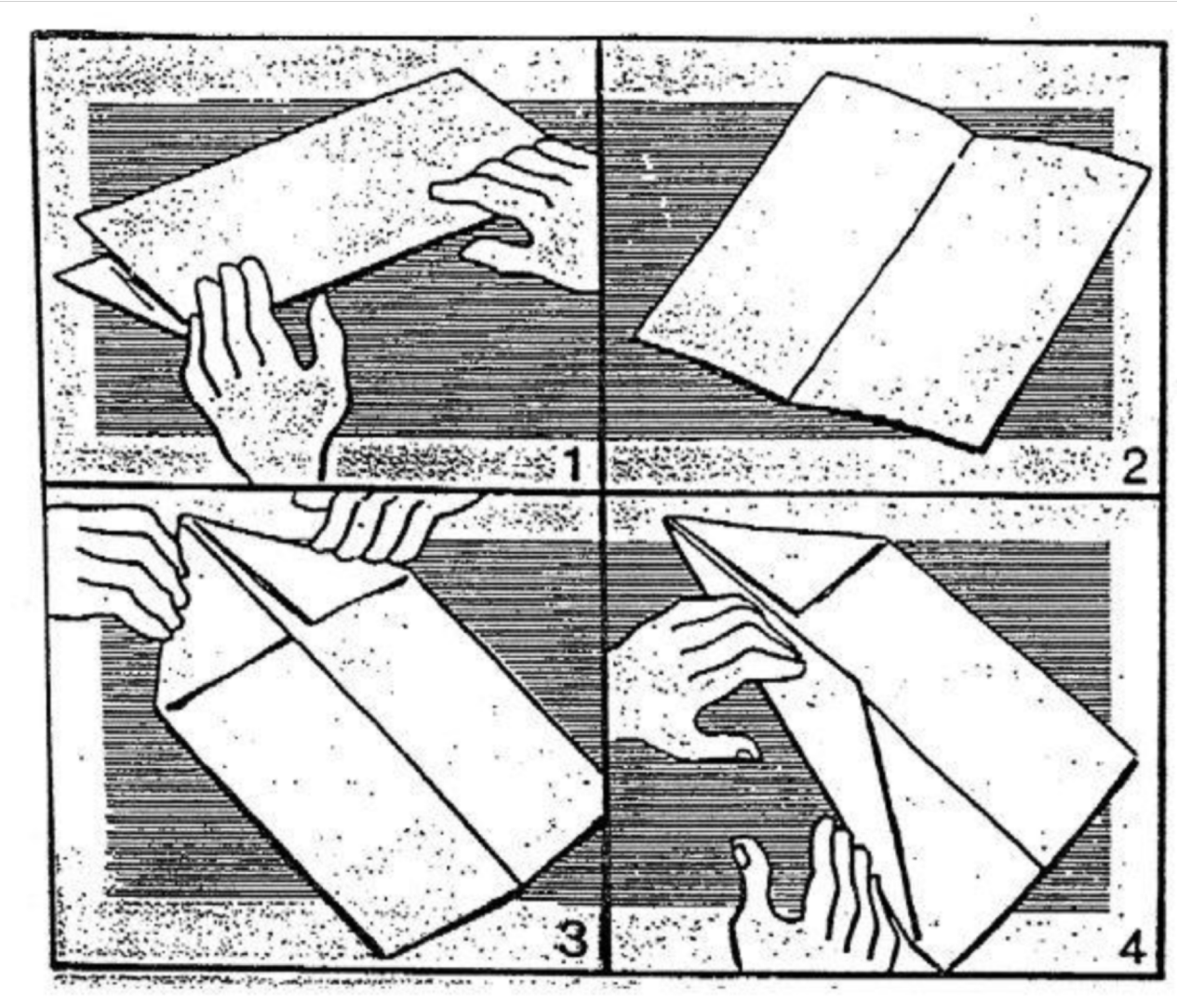
MICROEXPERIMENTS

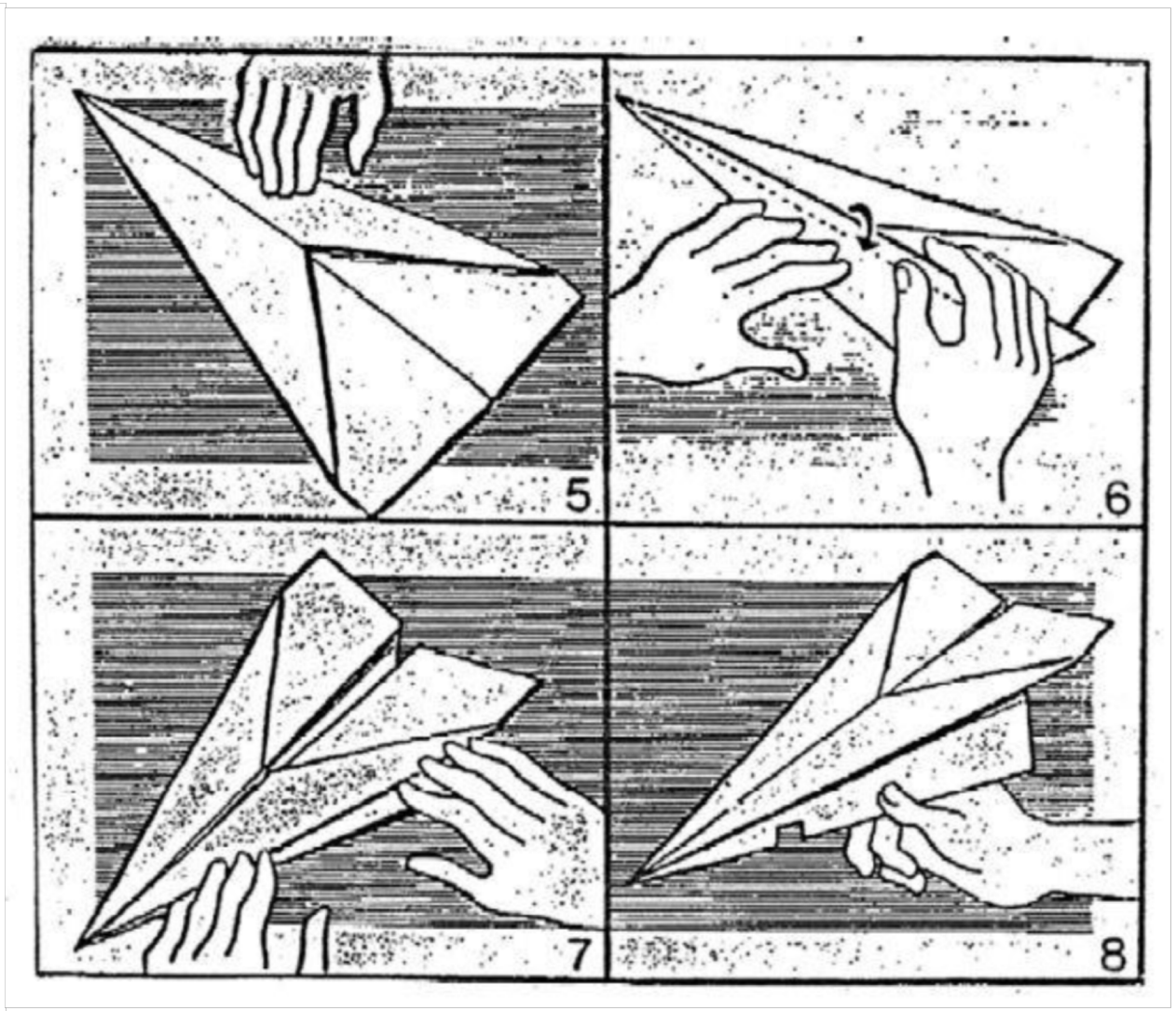


MICROEXPERIMENTS



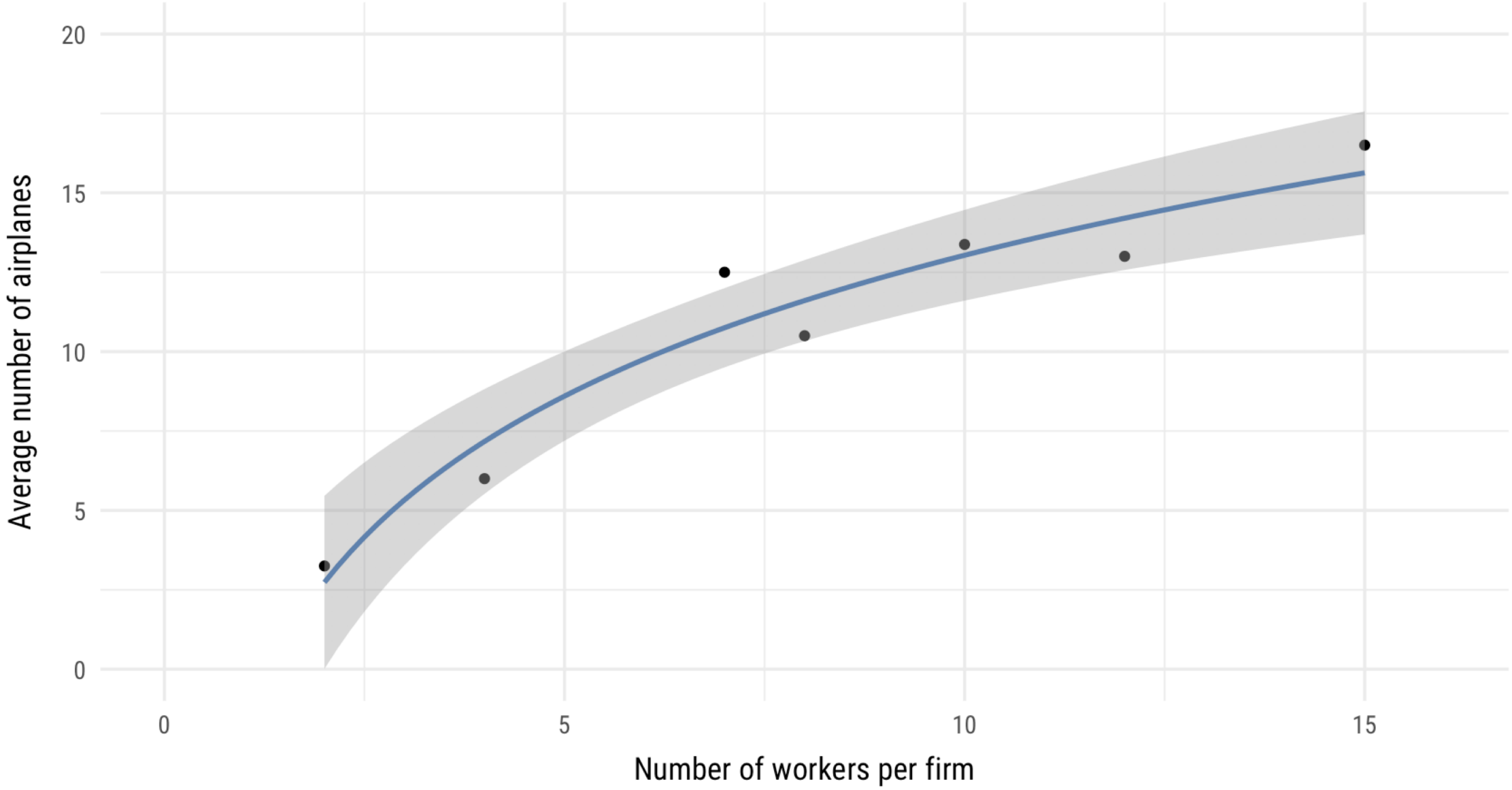
XYZ AIRLINES


1
2
3
4


5
6
7
8

Average number of airplanes produced by 10 firms

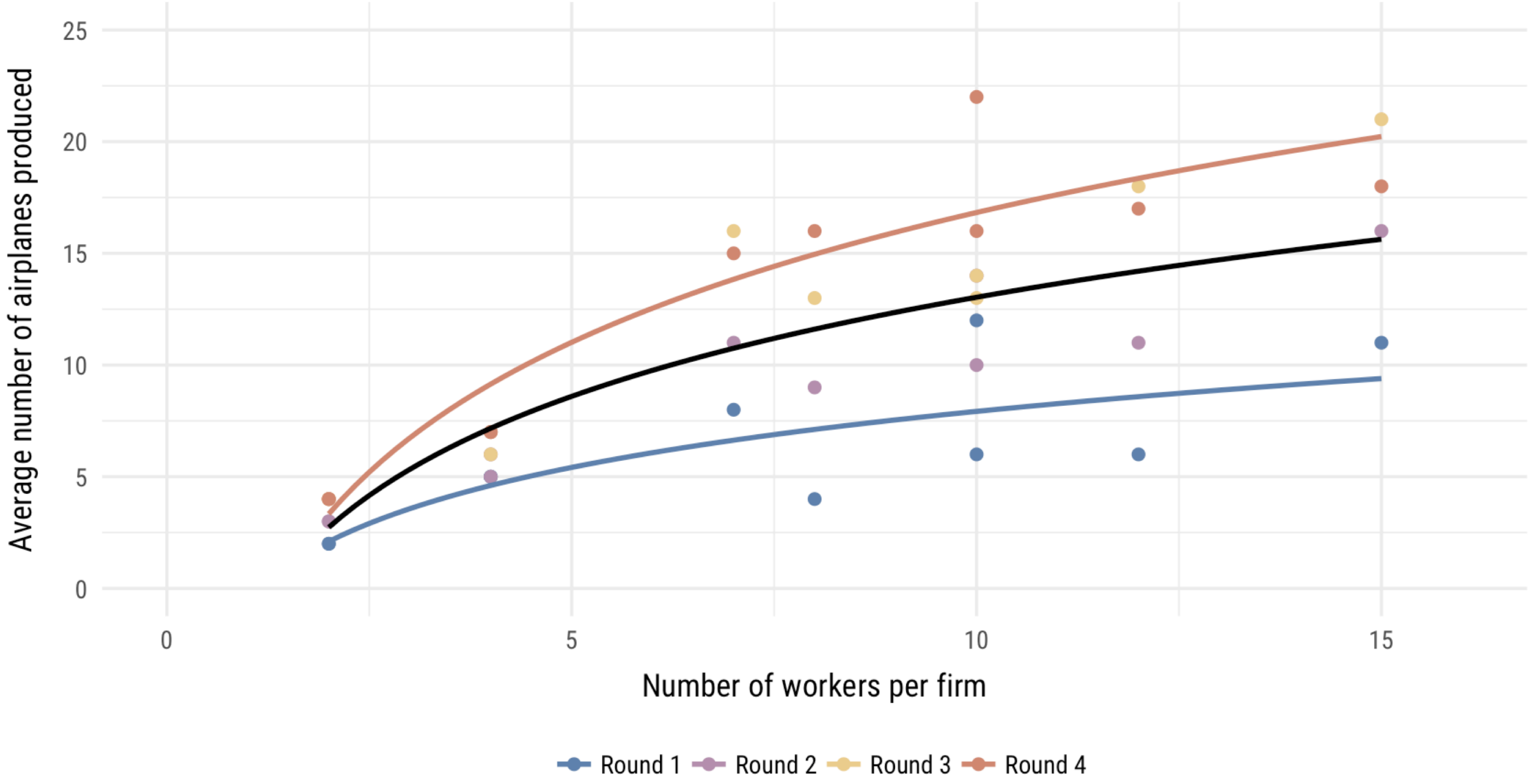
Averaged over 4 rounds; firms varied in size



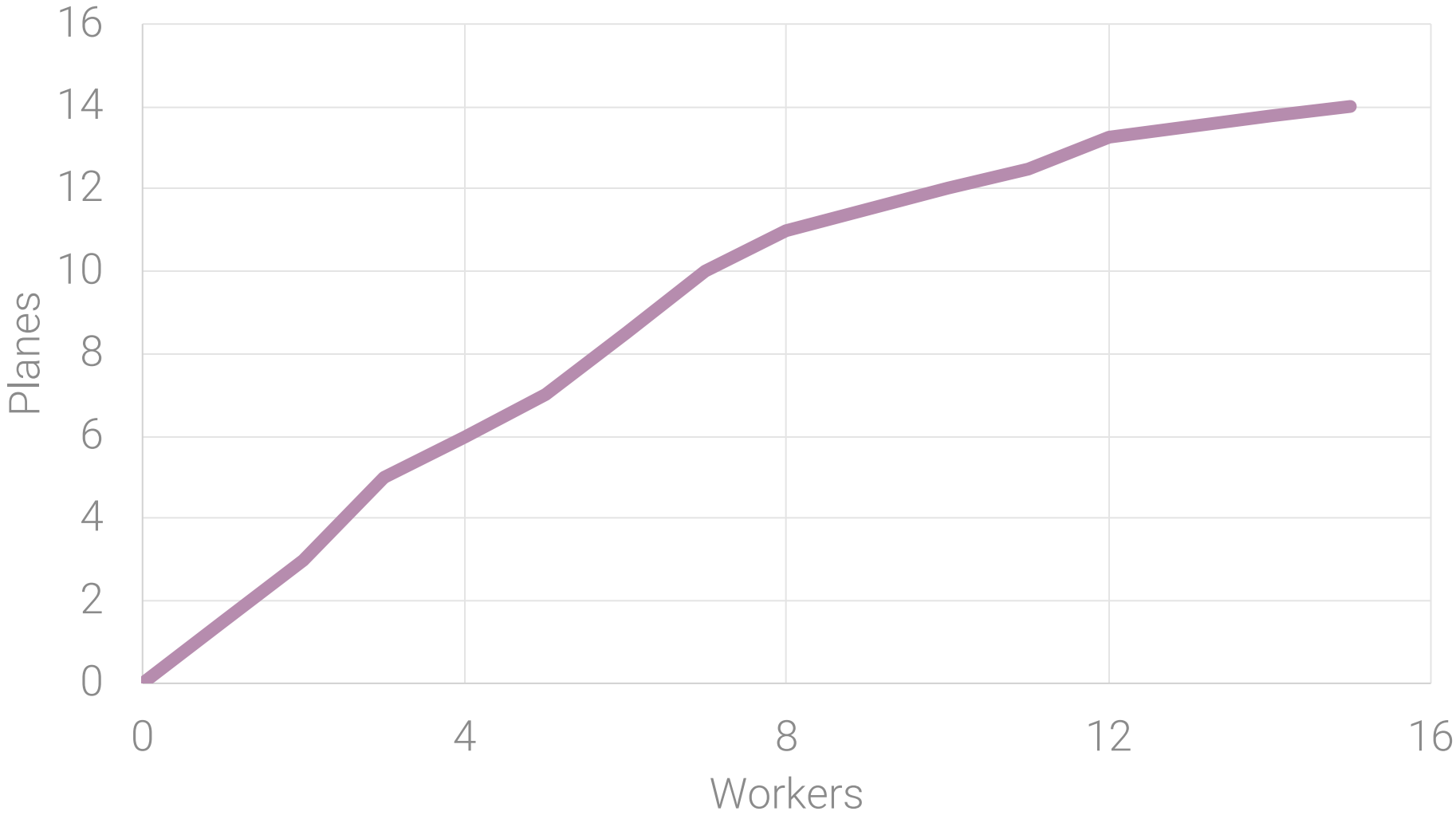
Introductory Microeconomics, 2008
Universidad de los Andes, Colombia

Number of airplanes produced by 10 firms

Firms varied in size



Introductory Microeconomics, 2008
Universidad de los Andes, Colombia



Average product

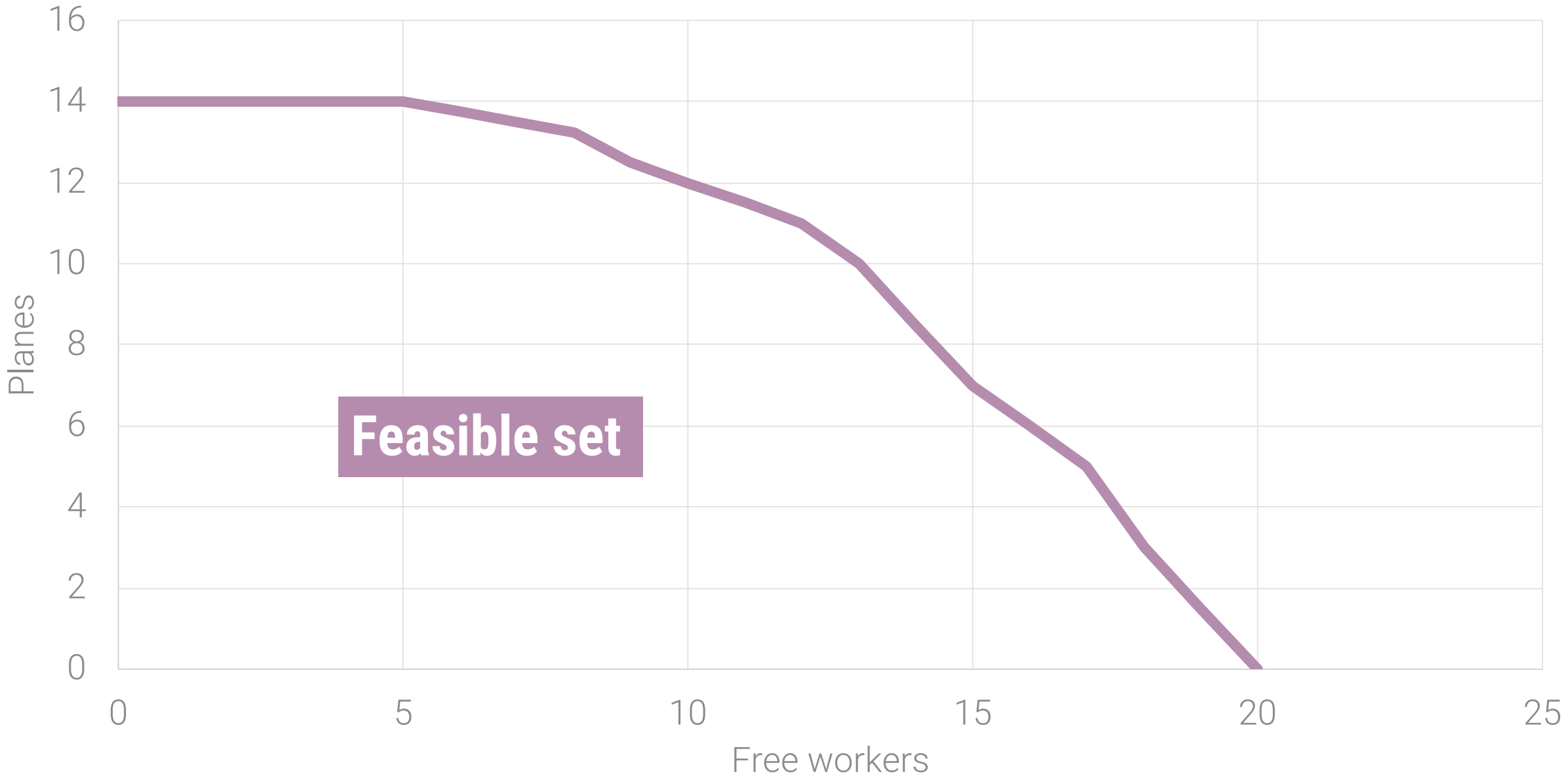
Planes per worker

Marginal product

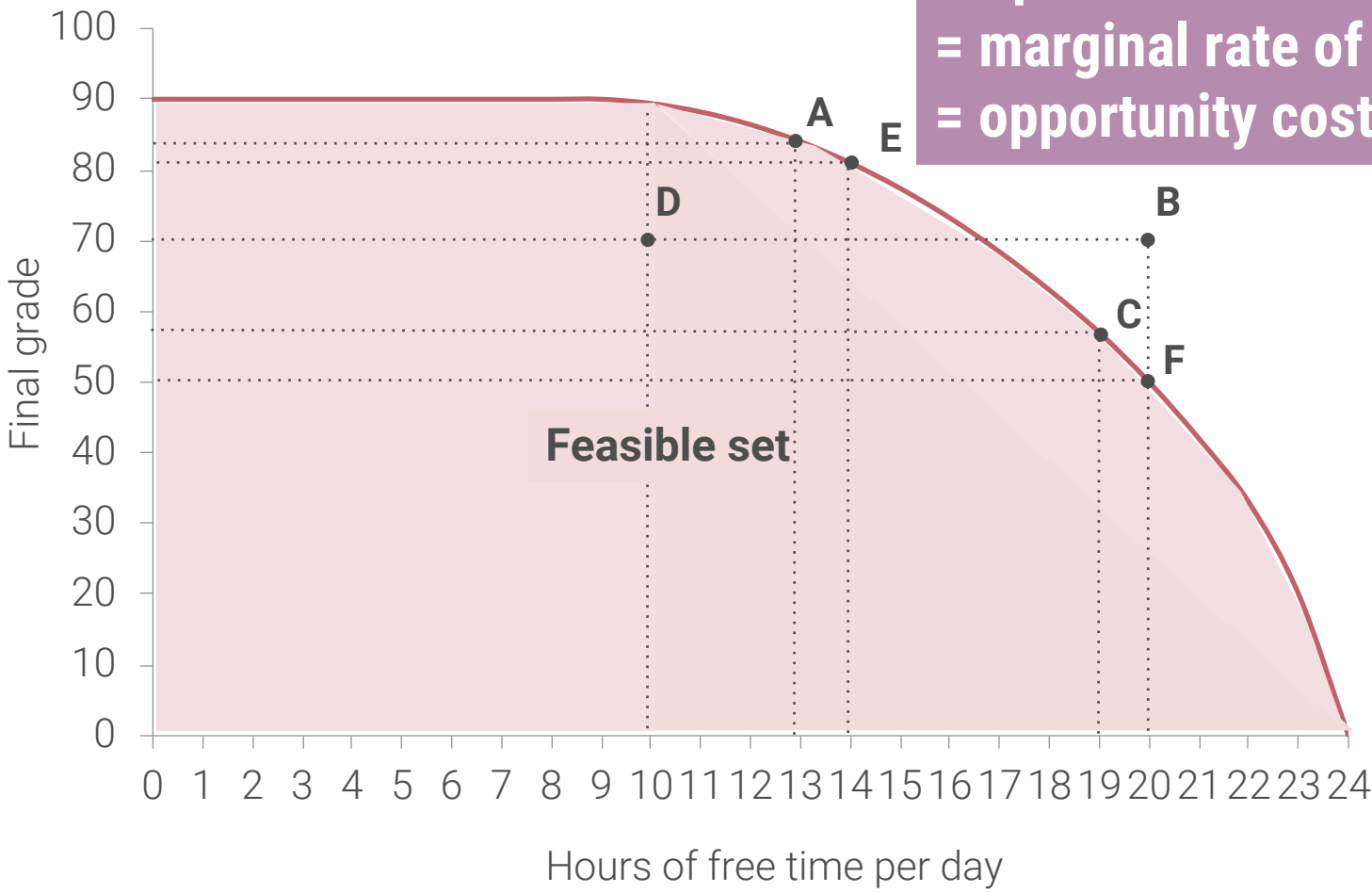
Planes per *additional* worker

Workers	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Planes	0	1.5	3	5	6	7	8.5	10	11	11.5	12	12.5	13.25	13.5	13.75	14

Does marginal product always diminish?


16
14
12
10
8
6
4
2
0
Planes
Feasible set
0
5
10
15
20
25
Free workers

Slope
= marginal rate of transformation (MRT)
= opportunity cost



	A	E	C	F
Free time	**13**	**14**	**19**	**20**
Grade	**84**	**81**	**57**	**50**
Opportunity cost		**3**		**7**



IF YOU SPEND NINE MINUTES OF YOUR TIME TO SAVE A DOLLAR, YOU'RE WORKING FOR LESS THAN MINIMUM WAGE.

OPPORTUNITY COST

The value of the thing you can't do because of a decision

The value of the forgone option


WIGGY WASH
Starting at
$6.95
for first month
EXIT ONLY
EXPRESS DETAI
1