WORK, WELLBEING, AND SCARCITY

MPA 612: Economy, Society, and Public Policy

January 30, 2019

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PLAN FOR TODAY

Incentives

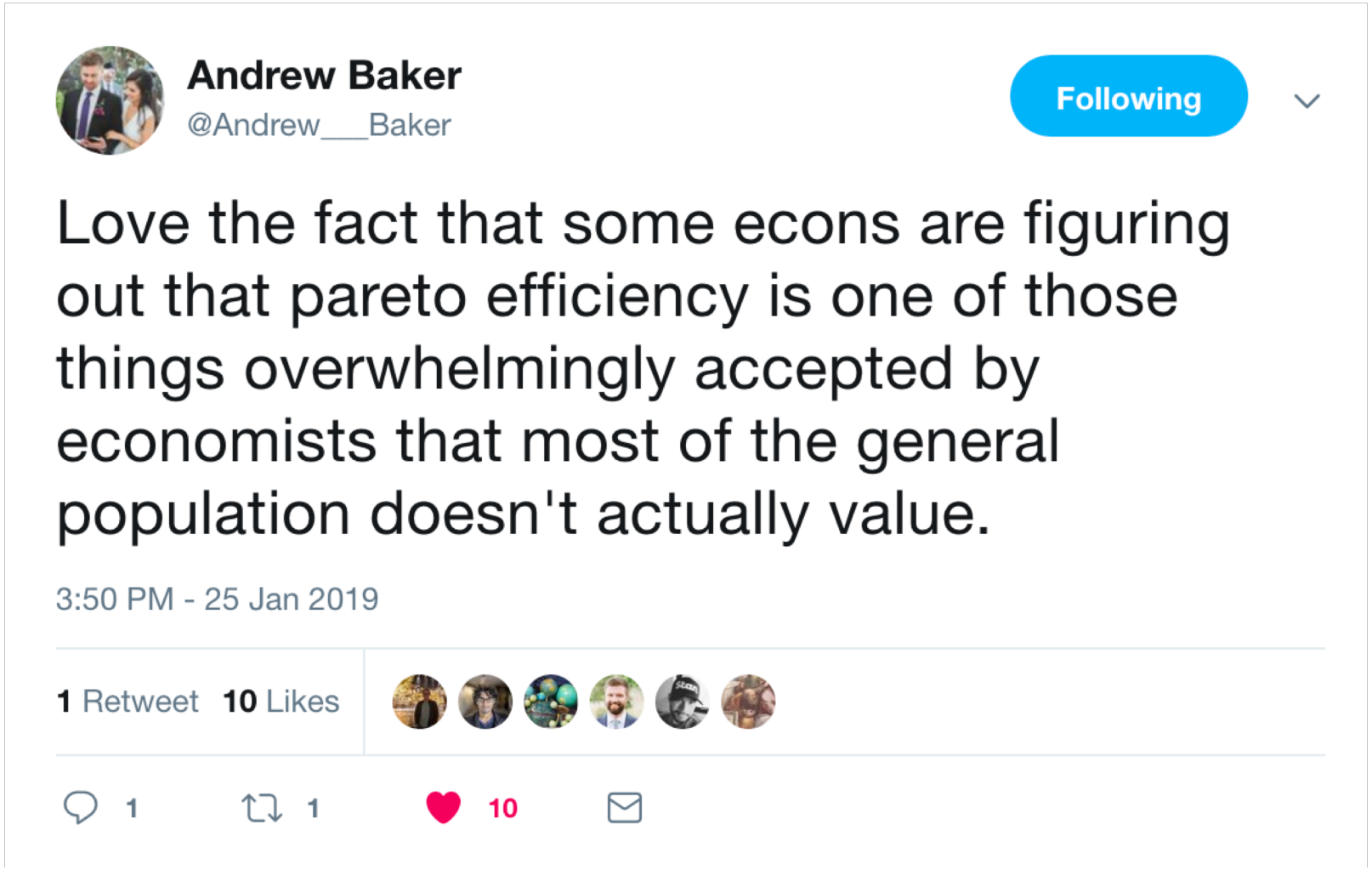
Pulling policy levers

Economic models

XYZ Airlines

Preferences and tradeoffs

IS PARETO THE BEST STANDARD?



INCENTIVES

WHY DO PEOPLE DO WHAT THEY DO?

People get utility from doing stuff

Extrinsic rewards

Intrinsic rewards

These can get distorted and crowded out!

WHY CARE AS AN MPA?

Good policy uses incentives to channel behavior toward some desired outcome. Bad policy either ignores incentives or fails to anticipate how rational individuals might change their behavior to avoid being penalized.

Naked Economics, p. 39

PERVERSE INCENTIVES

IMPORTANCE OF INCENTIVES

People respond to what you signal

You get what you measure

Daycares and late pickups

Blood donors

Taxes

Favors

Thanksgiving

Playgroups and daycares

MLMs

NED and democracy promotion

Extrinsic rewards can crowd out intrinsic motivations

Don’t violate important social relationships by reducing services to a market transaction

Pay enough or don’t pay at all

PULLING POLICY LEVERS

TRAGEDY OF THE COMMONS

		Farmer 2	
		Use water normally	Double water use
Farmer 1	Use water normally	6, 6	2, 8
	Double water use	8, 2	3, 3

TRAGEDY OF THE COMMONS

50% tax on doubled use		Farmer 2	
		Use water normally	Double water use
Farmer 1	Use water normally	6, 6	2, 4
	Double water use	4, 2	1.5, 1.5

IS THAT TAX FAIR?

Procedurally?

Substantively?

Rawlsianly?

CHANGES IN TAXES

		Firm owner	
		Pay normal tax	Hire lawyers for loopholes
Government	Moderate tax rate	100, 500	85, 495
	High tax rate	150, 450	90, 490

NASHES MATTER

Government tries to get to (High taxes, Pay normal rate)

Firms hire lawyers

New outcome is worse for everyone

Policies must be a Nash equilibrium

ELASTICITY AND RESPONSIVENESS

$$\varepsilon = -\frac{\%\text{ change in demand}}{\%\text{ change in price}} \qquad \varepsilon = -\frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

% change in demand that follows a 1% change in price

Q ↑ P ↓
or
Q ↓ P ↑

ϵ = 2: ”If price increases by 10%, quantity decreases by 20%”

ϵ = 0.5: ”If price increases by 10%, quantity decreases by 5%”

$\epsilon = \infty$ = Perfectly elastic	Any change in price moves quantity to 0	Identical goods *Two vending machines*
$\epsilon > 1$ = Elastic	Changes in price change the quantity a lot	Goods with substitutes *Diet Coke*
$\epsilon = 1$ = Unit elastic	Changes in price change the quantity the same	
$\epsilon < 1$ = Inelastic	Changes in price change the quantity a little	Goods with few substitutes *AIDS medicine*
$\epsilon = 0$ = Perfectly inelastic	Changes in price do nothing to the quantity	Survival goods *Water in the desert*

ϵ, TAXES, & PREFERENCES

Taxing things changes their prices

Changing prices changes quantities demanded

Taxing elastic goods will make quantities go down a lot and decrease tax revenues

Taxing inelastic goods will make quantities go down slightly and not hurt revenues

Category	Type	Calories per serving	Price per 100 g ($)	Typical spending per week ($)	Price elasticity of demand
1	Fruit and vegetables	660	0.38	2.00	1.128
2	Fruit and vegetables	140	0.36	3.44	0.830
15	Grain, pasta, bread	1,540	0.38	2.96	0.854
17	Grain, pasta, bread	960	0.53	2.64	0.292
28	Snacks, candy	433	1.13	4.88	0.270
29	Snacks, candy	1,727	0.68	7.60	0.295
30	Milk	2,052	0.09	2.32	1.1793
31	Milk	874	0.15	1.44	1.972

If P↑ by 10%, Q↓...

8.3%

2.7%

19.72%

GENERAL TAX GUIDANCE

Tax inelastic products unless you're tying to change consumption

Soda? Cigarettes? Alcohol? Property?

Those who can afford to avoid taxes will try to avoid them

HOW TO AVOID UNINTENED CONSEQUENCES

Policy change shouldn't change preferences in bad ways

Israeli daycare | NCLB testing | ACA part-time hours

Policies must be a Nash equilibrium

ECONOMIC MODELS

Y THO?

Why the h*ck am I making you think about game theory?

The world is never this simple!

The predictions are obvious!

Models purposefully shrink the world so we can measure and predict things in it

No economic model can be a perfect description of reality. **But the very process of constructing, testing and revising models, forces economists and policymakers to tighten their views about how an economy works.** This in turn promotes scientific debate over what drives economic behavior and what should (or should not) be done to deal with market failures.

Sam Ouliaris, IMF

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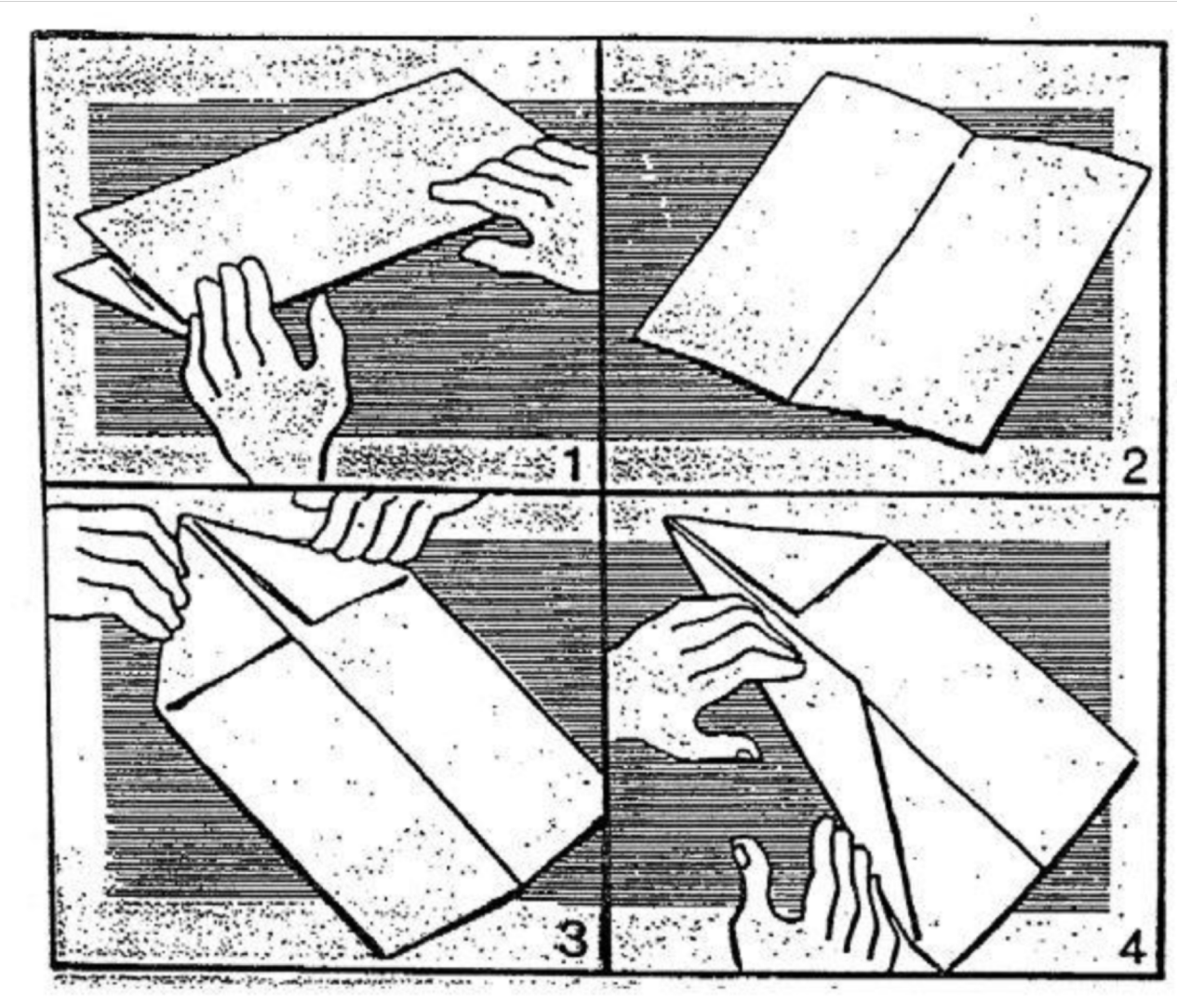
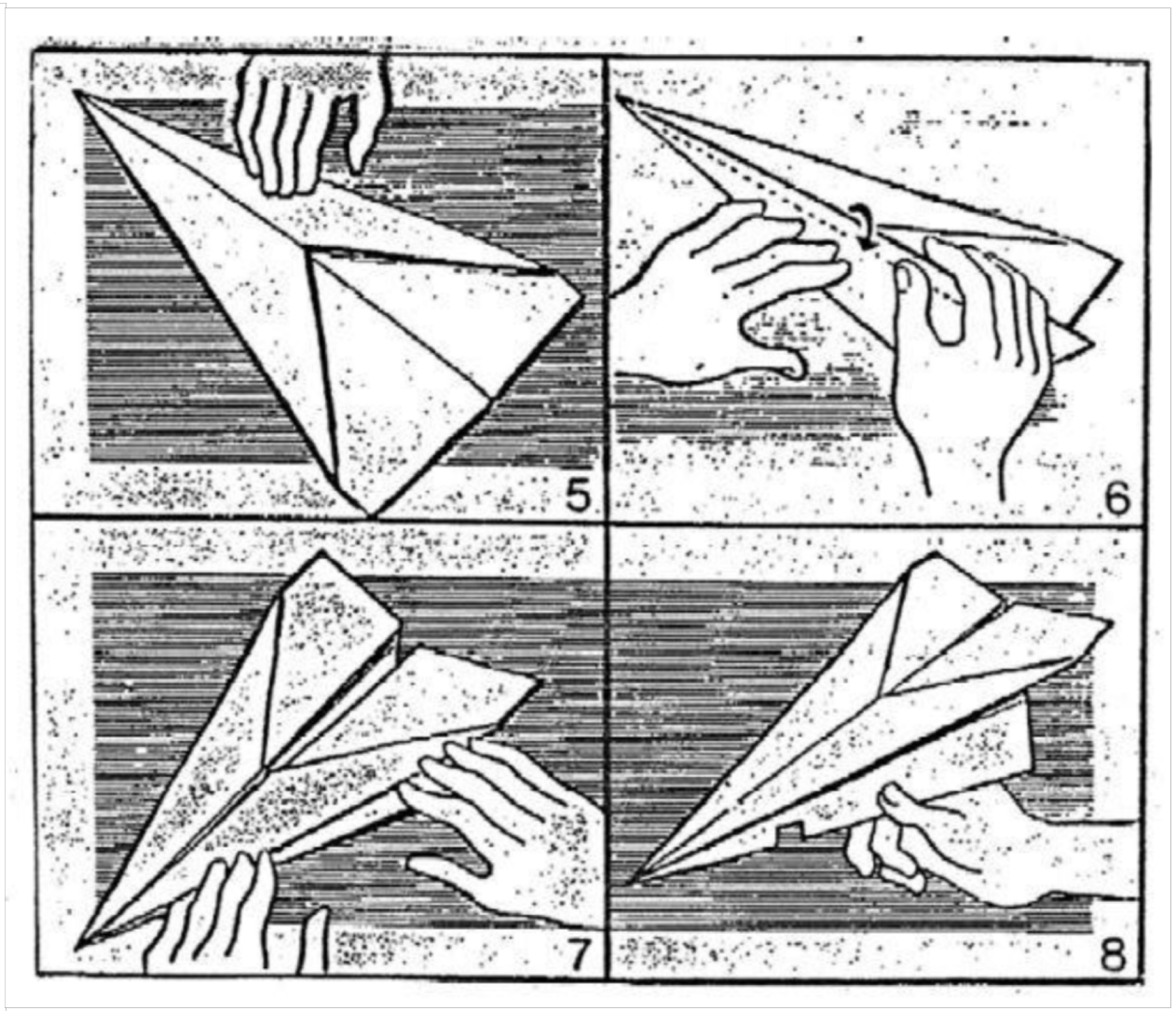
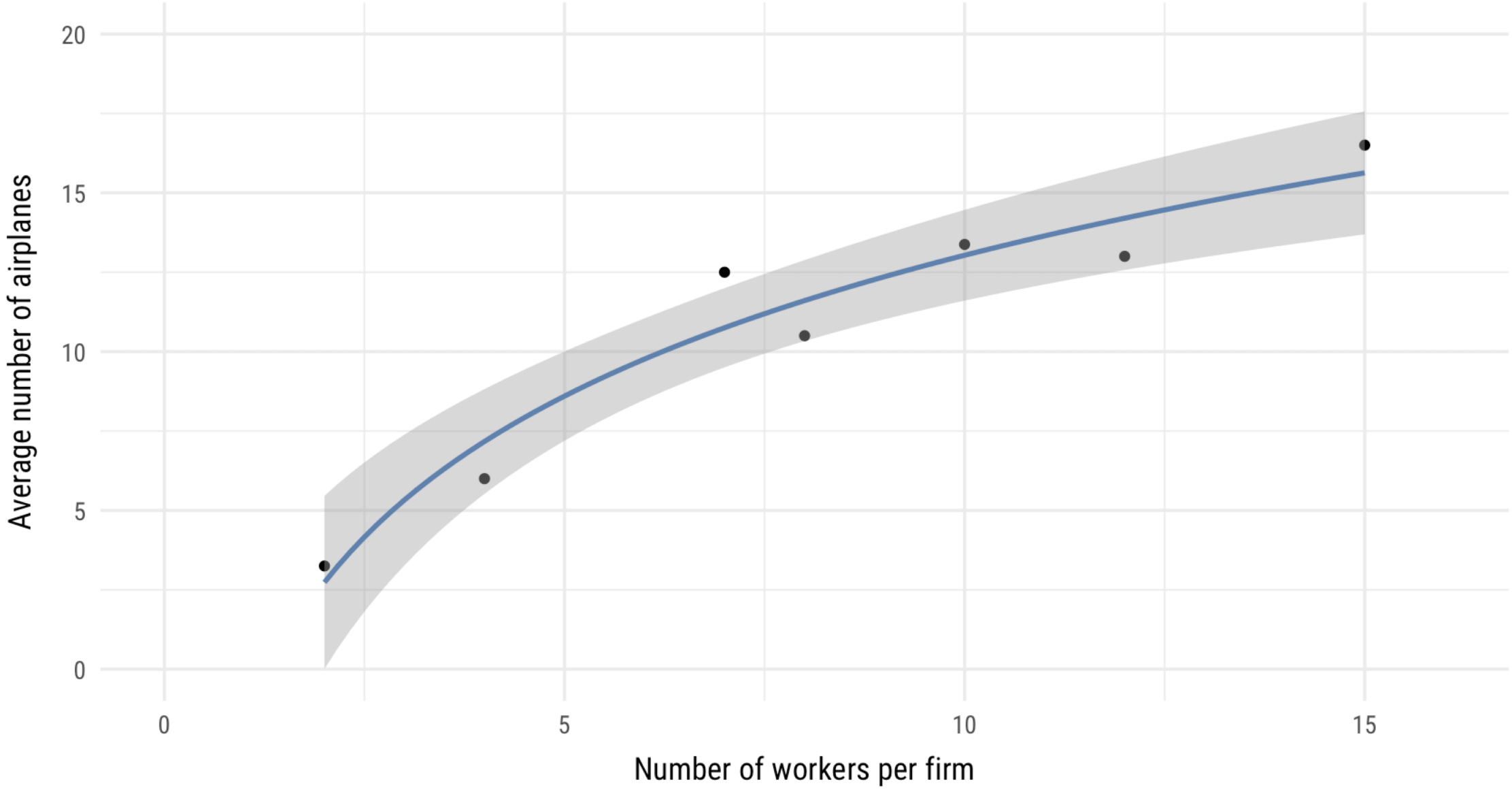
XYZ AIRLINES


1
2
3
4


5
6
7
8

Average number of airplanes produced by 10 firms

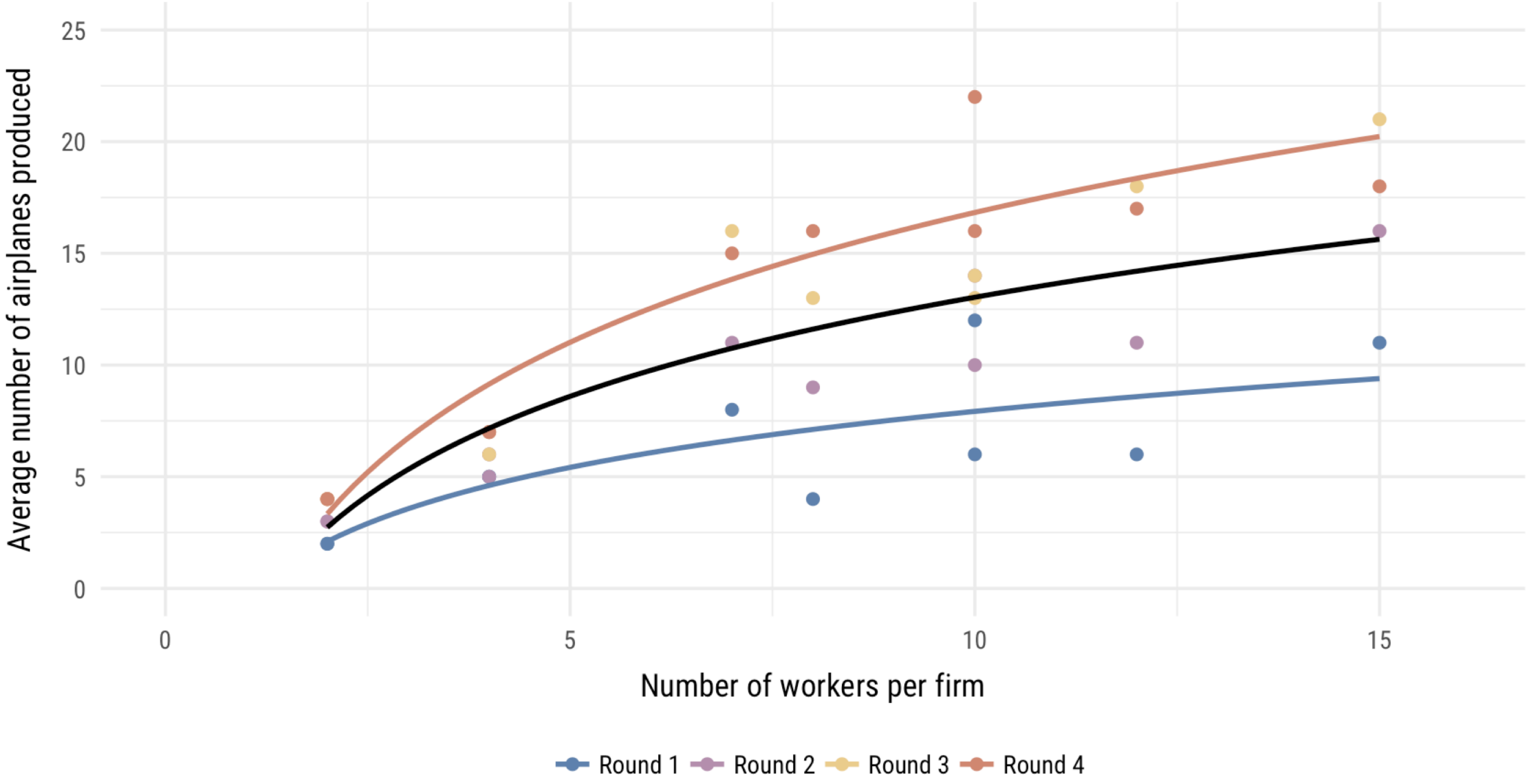
Averaged over 4 rounds; firms varied in size



Introductory Microeconomics, 2008
Universidad de los Andes, Colombia

Number of airplanes produced by 10 firms

Firms varied in size



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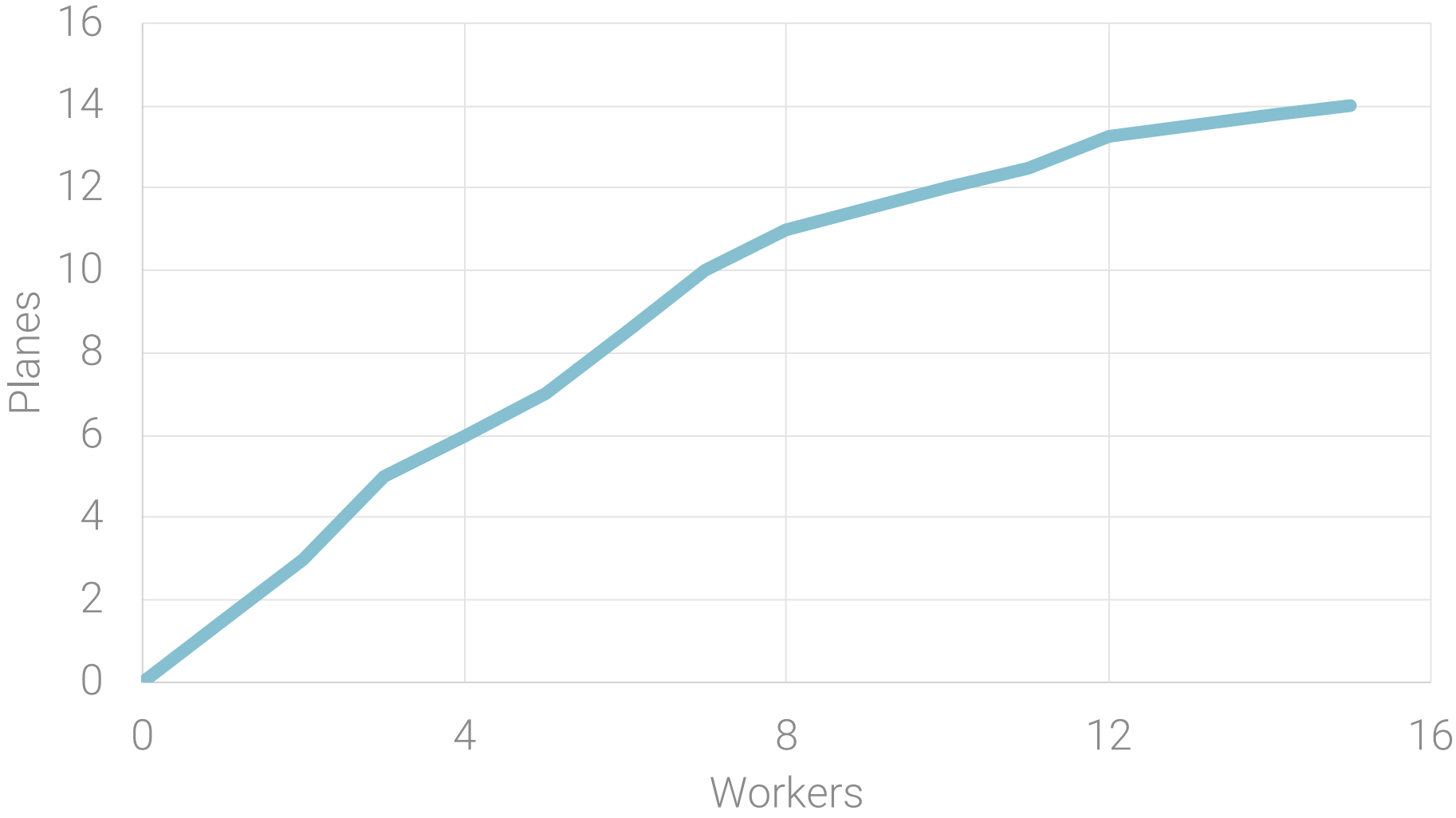


Average product

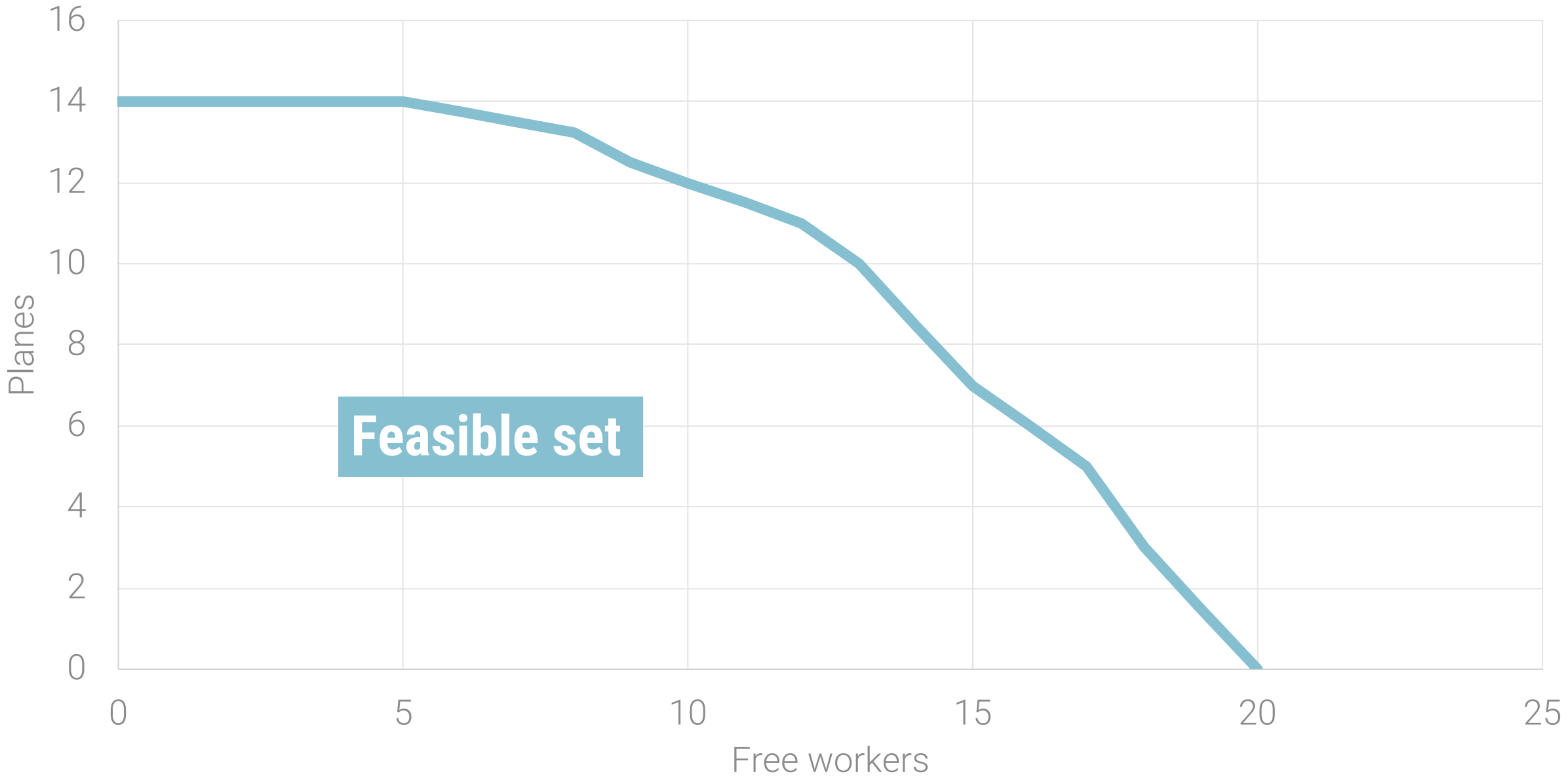
Planes per worker

Marginal product

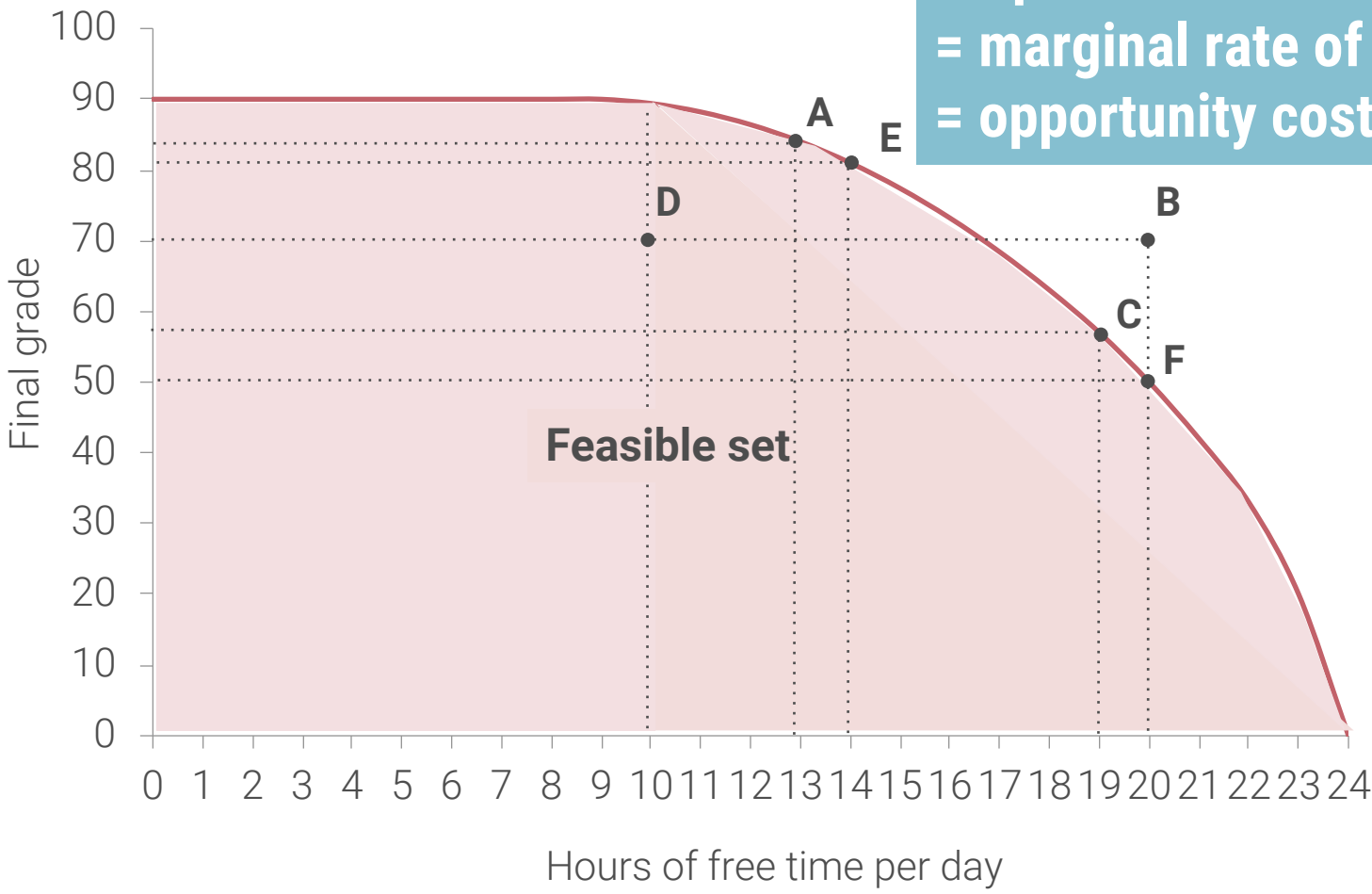
Planes per *additional* worker

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

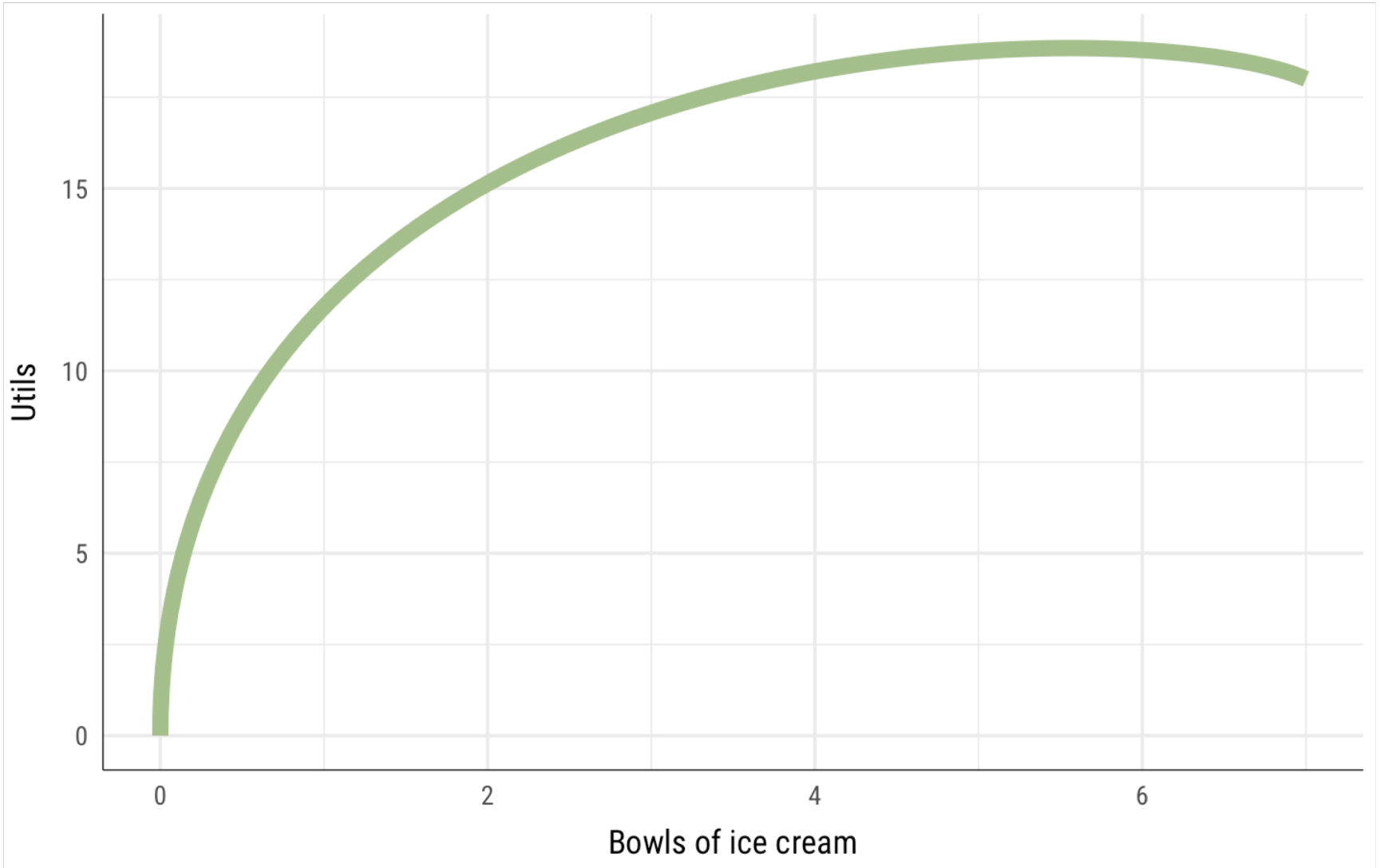
Cost for theater concert	$25	
Value of park concert *to you*	$15	
Economic cost of theater	$40	
Value of theater concert *to you*	$50	$35
Your choice	Theater	Park

PREFERENCES & TRADEOFFS

UTILITY

Happiness points

Diminishing marginal utility



UTILITY BUNDLES

Theoretical combination of goods that provide same level of utility

$$u(x_1, x_2)$$

$$u(x_1, x_2) = x_1 x_2$$

UTILITY BUNDLES

$$u(x_1, x_2) = x_1 x_2$$

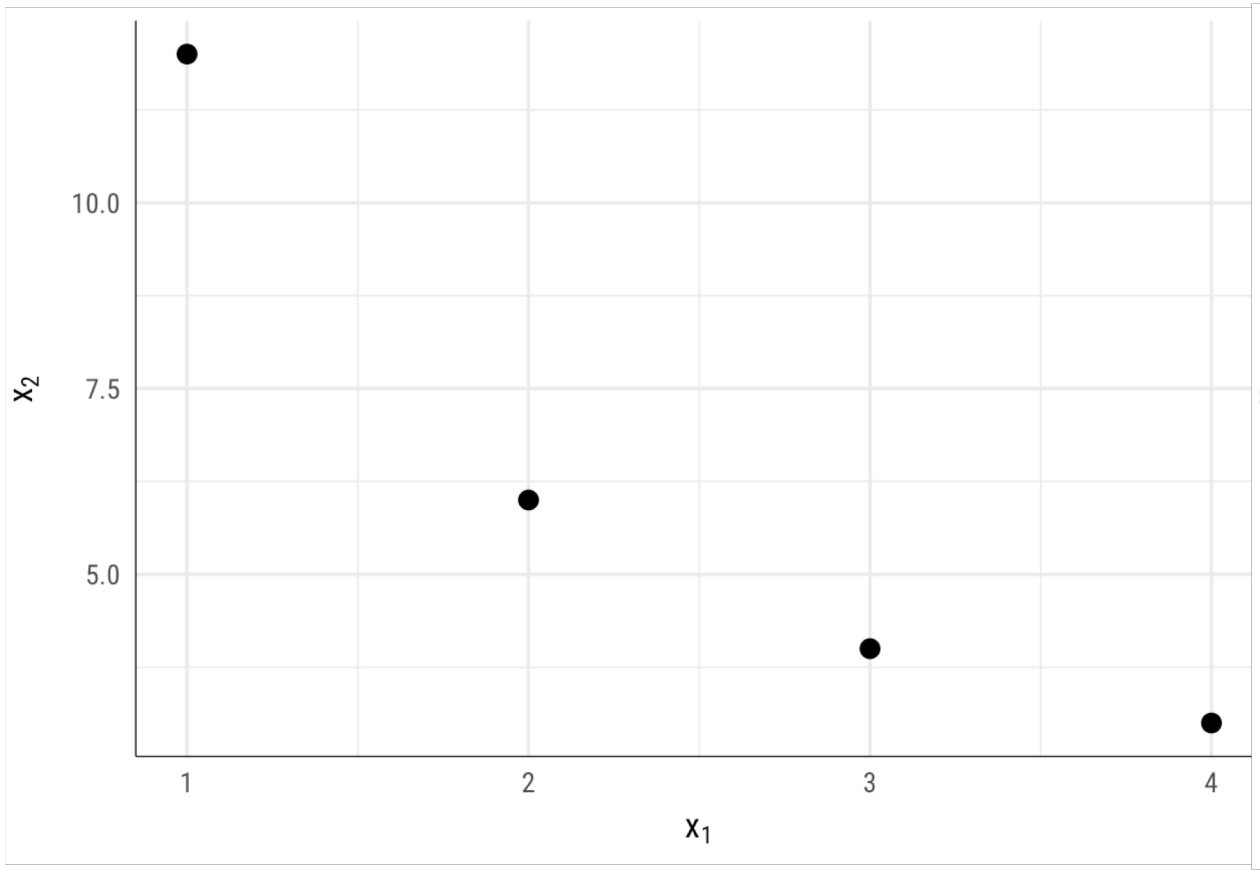
$u(1, 2)$ **2**

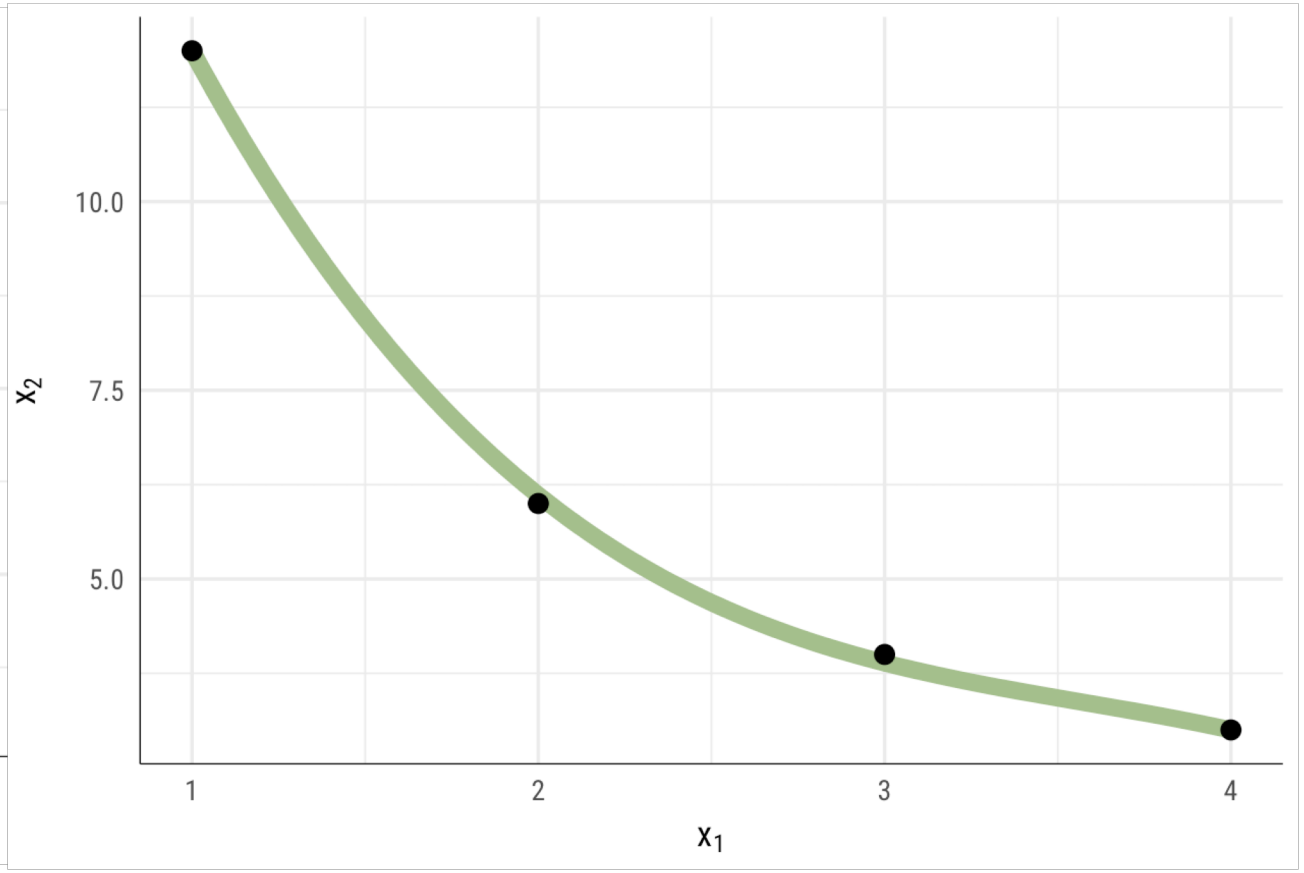
$u(100, 3)$ **300**

$u(4, 1)$ **4**

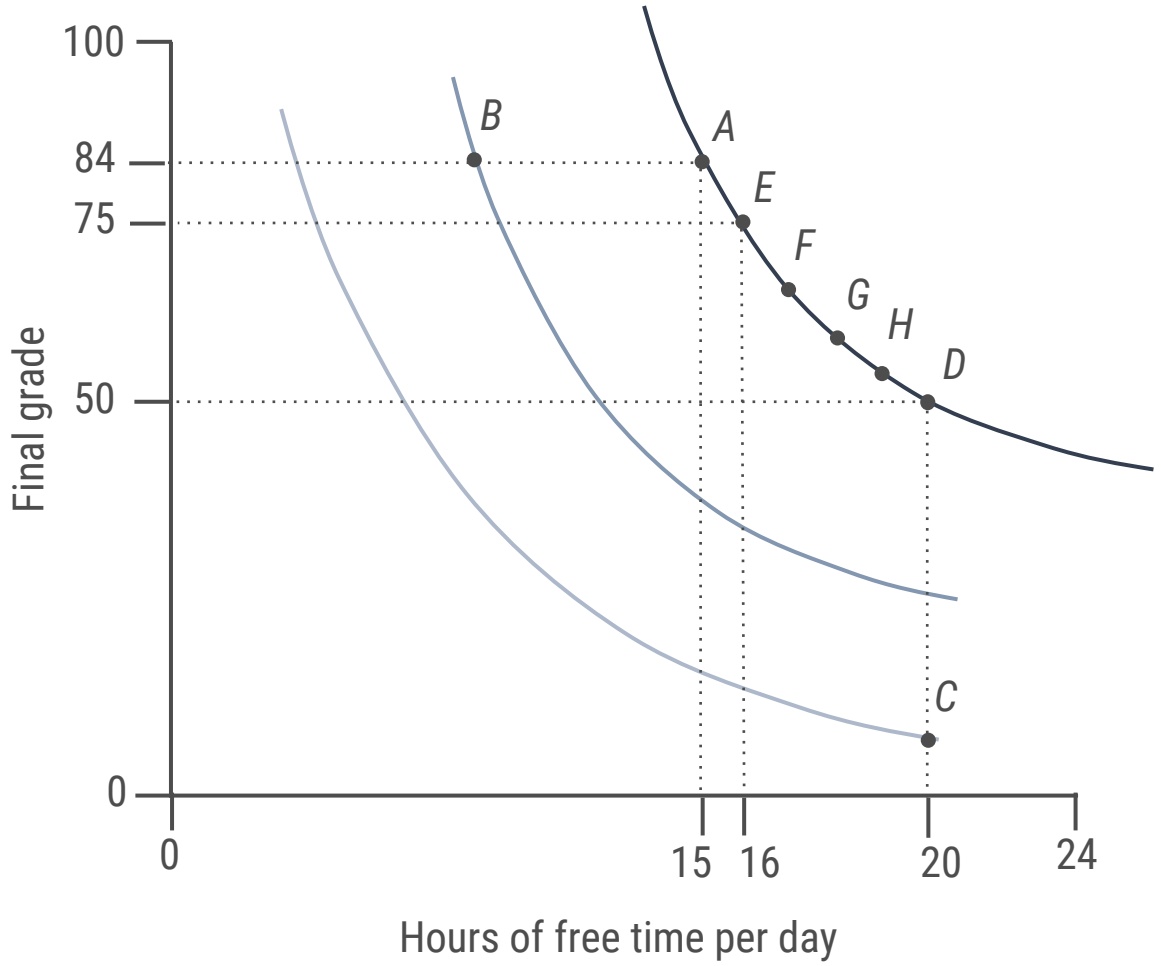
What combinations of inputs will produce 12 utils?

$$u(x_1, x_2) = x_1 x_2$$

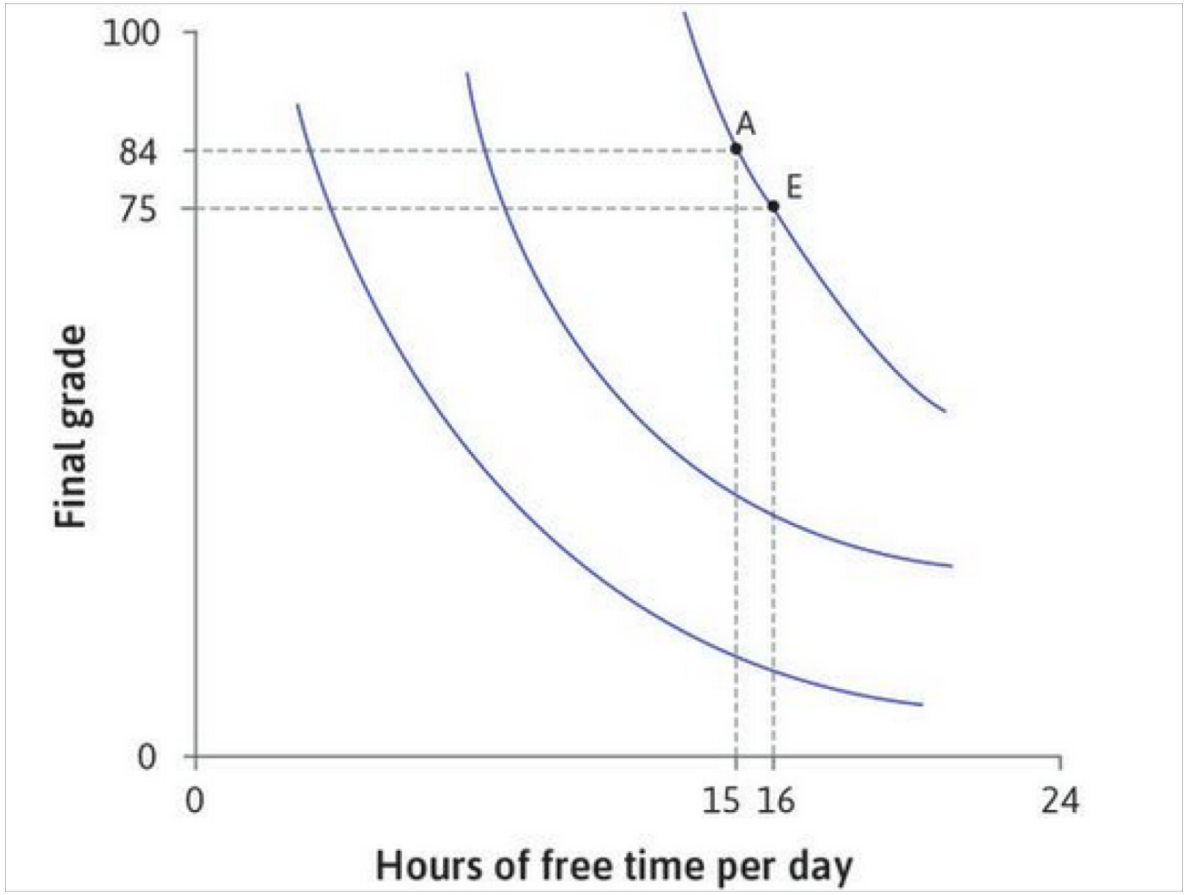

10.0
7.5
5.0
x_2
1
2
3
4
x_1


10.0
7.5
5.0
x_2
1
2
3
4
x_1

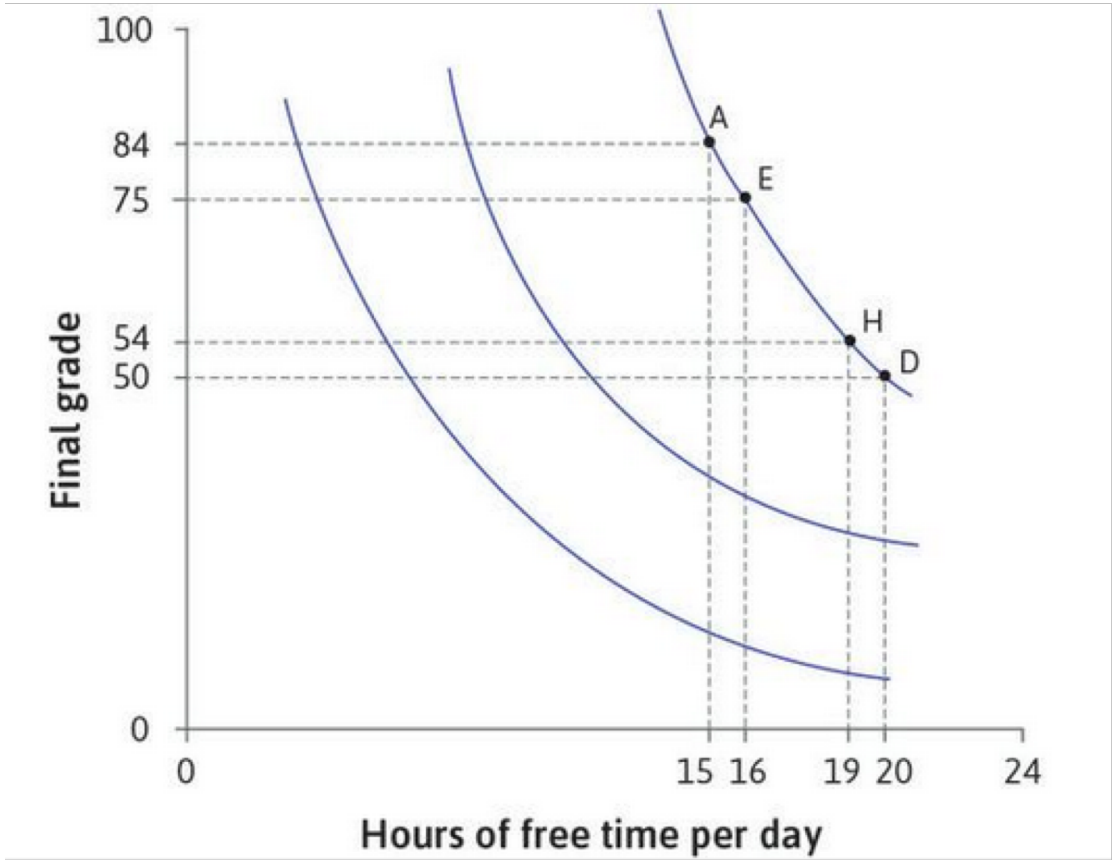
INDIFFERENCE CURVES



Slope of indifference curve = marginal rate of substitution (MRS)



MRS at A = 9



MRS at H = 4

Marginal rate of substitution (MRS)

Theoretical tradeoff between inputs

Slope of indifference curve

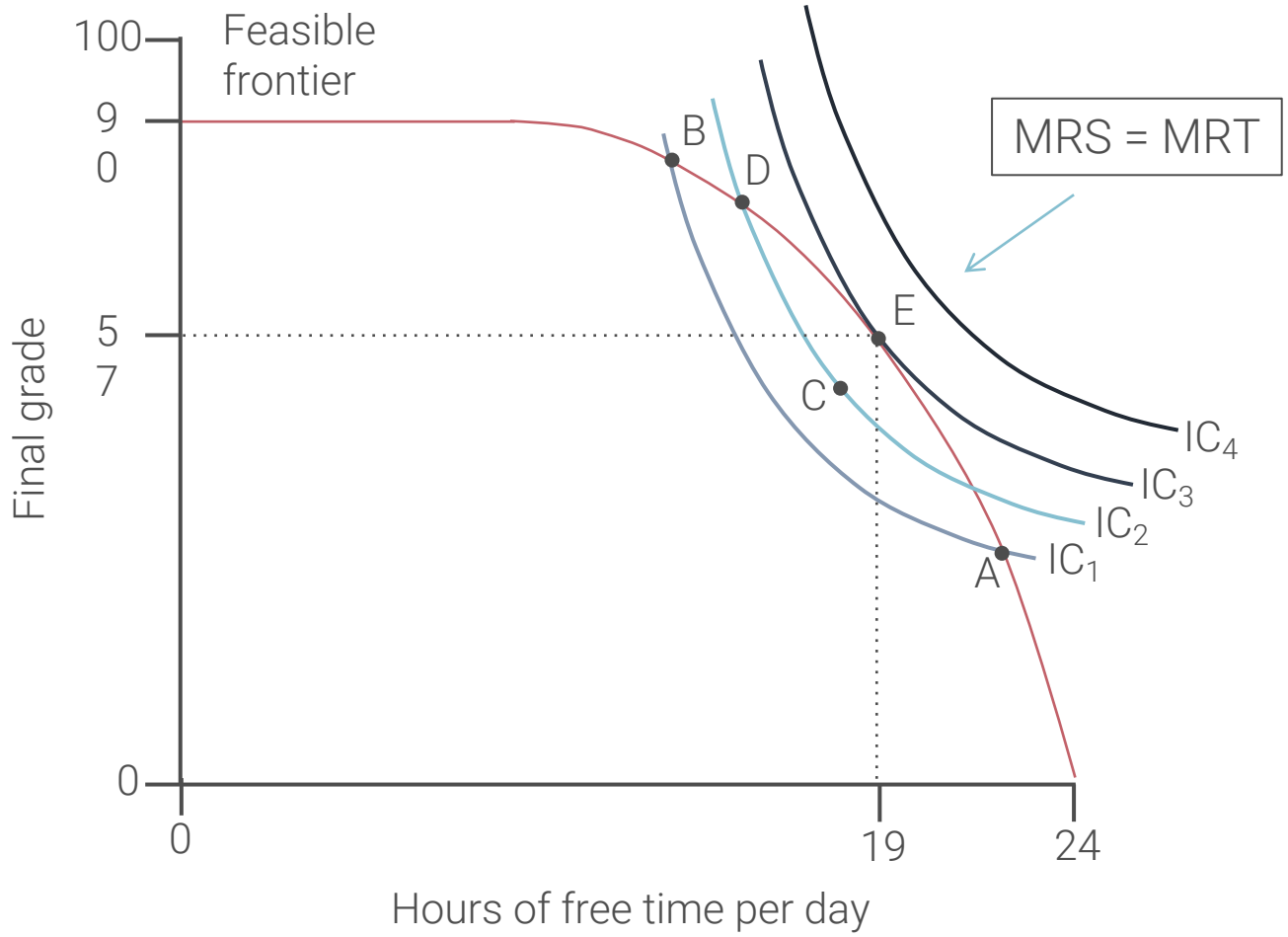
Marginal rate of transformation (MRT)

Actual tradeoff between inputs constrained by feasible frontier

Slope of feasible frontier

What's the best number of workers to use / planes to make?

What's the best combination of hours studied / free time?


100
9
0
5
7
0
Final grade
Feasible
frontier
B
D
E
C
A
MRS = MRT
IC4
IC3
IC2
IC1
0
19
24
Hours of free time per day

MRS = MRT =
most utility
Planes
Free workers
0
2
4
6
8
10
12
14
16
0
5
10
15
20
25