

# THE FIRM

PMAP 8141: Economy, Society, and Public Policy

October 3, 2019

*Fill out your reading report  
on iCollege!*

# PLAN FOR TODAY

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Maximizing utility

Income and substitution effects

Power and inequality

Firms

XYZ Car Sales

Owners, managers, and employees

# MAXIMIZING UTILITY

# Marginal rate of substitution (MRS)

**Theoretical** tradeoff between inputs

Slope of indifference curve

$$MRS = \frac{dy}{dx} = \frac{\Delta y}{\Delta x} = \frac{P_x}{P_y} = \frac{MU_x}{MU_y} = \frac{\partial u/\partial x}{\partial u/\partial y}$$

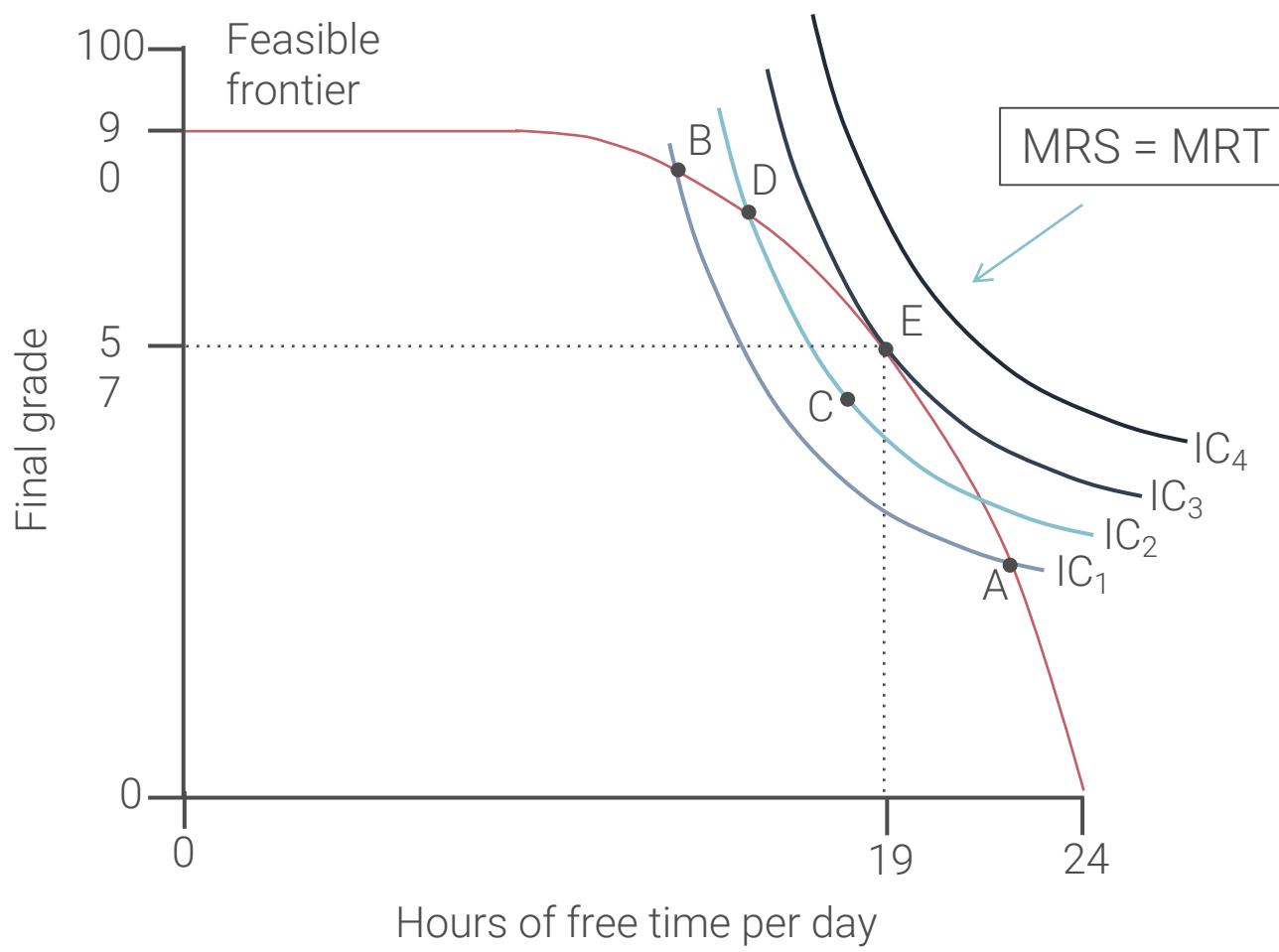
# Marginal rate of transformation (MRT)

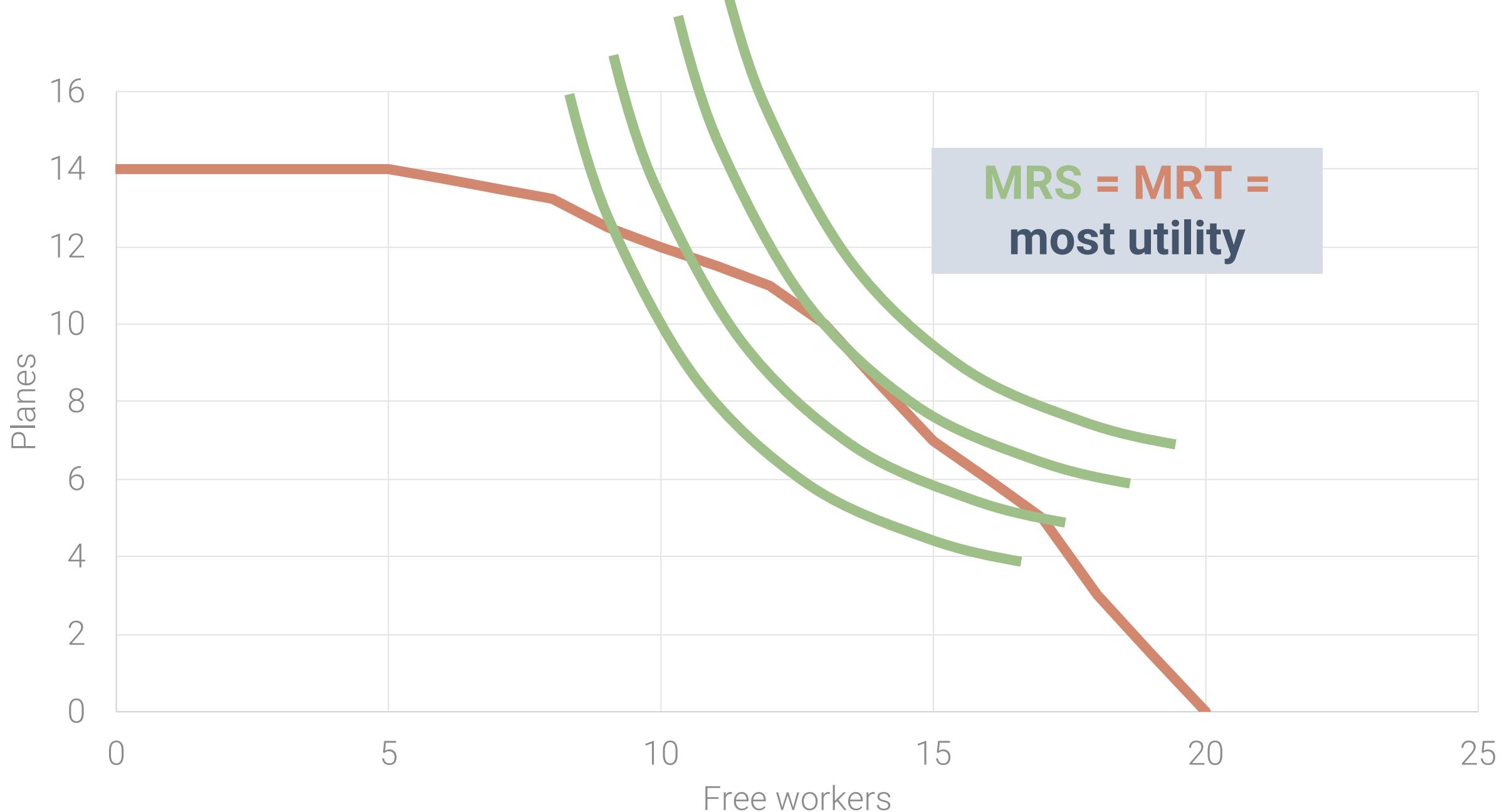
**Actual** tradeoff between inputs  
constrained by feasible frontier

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?**





# UTILITY MAXIMIZATION

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0. Plot indifference curve

1. Figure out feasible set or MRT  
(budget line)

2. Use calculus and prices to figure  
out ideal MRS  
( $\Delta y / \Delta x = \text{price } x / \text{price } y = MUX / MUy$ )

3. MRT = MRS and solve for x and y

**Waffles (x)**

\$1

**Calzones (y)**

\$2

**Utility**

$u = xy$

**Budget**

\$20

**Waffles (x)** \$3

**Calzones (y)** \$6

**Utility**  $u = x^2y$

**Budget** \$60

**Waffles (x)** \$3

**Calzones (y)** \$1.50

**Utility**  $u = x^2 - \frac{1}{4}y$

**Budget** \$45

**Waffles (x)** \$1.50

**Calzones (y)** \$4

**Utility**  $u = x \times y^2$

**Budget** \$90

# INCOME & SUBSTITUTION EFFECTS

# Why do we even care about indifference curves?

Indifference curve meeting budget line =  
**where happiness meets reality**

Policies change individual budget lines and move people to different indifference curves

## Normal goods

As income increases, you buy more

## Inferior goods

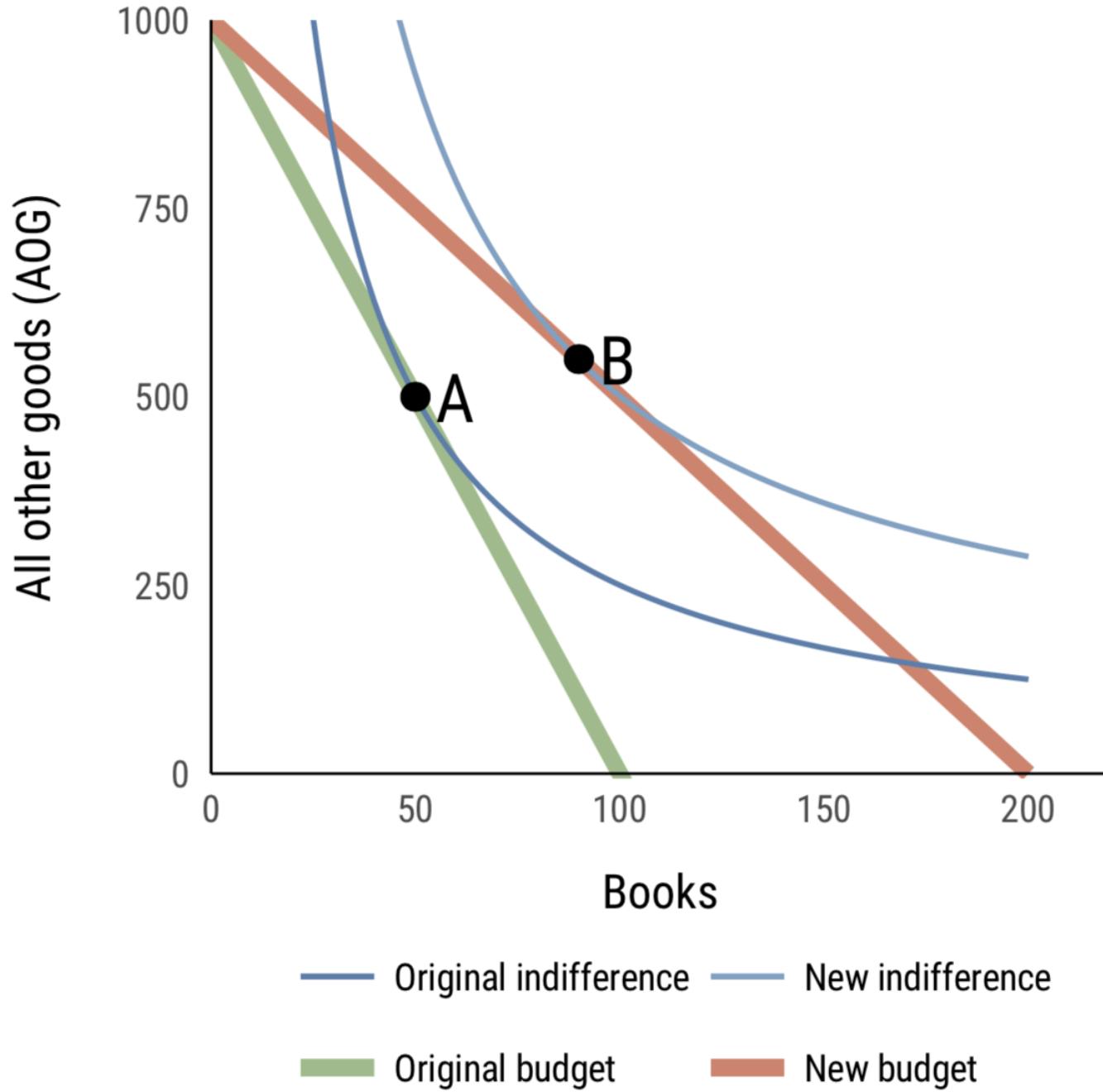
As income increases, you buy less

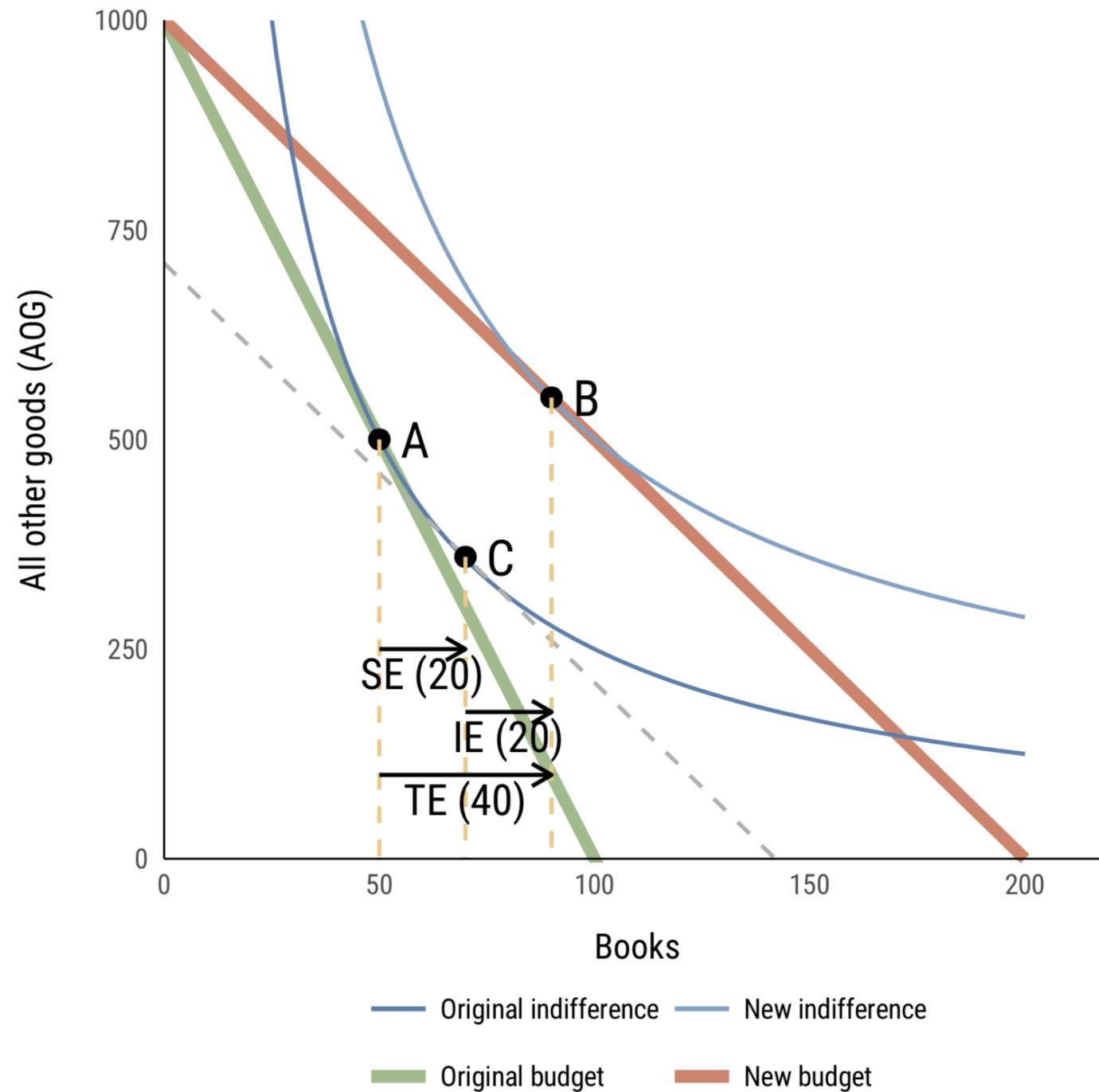
## Income effect

Movement **to** a new indifference curve  
because of a change in income or feasibility

## Substitution effect

Movement **along** the same indifference curve  
because of a change in the mix of inputs



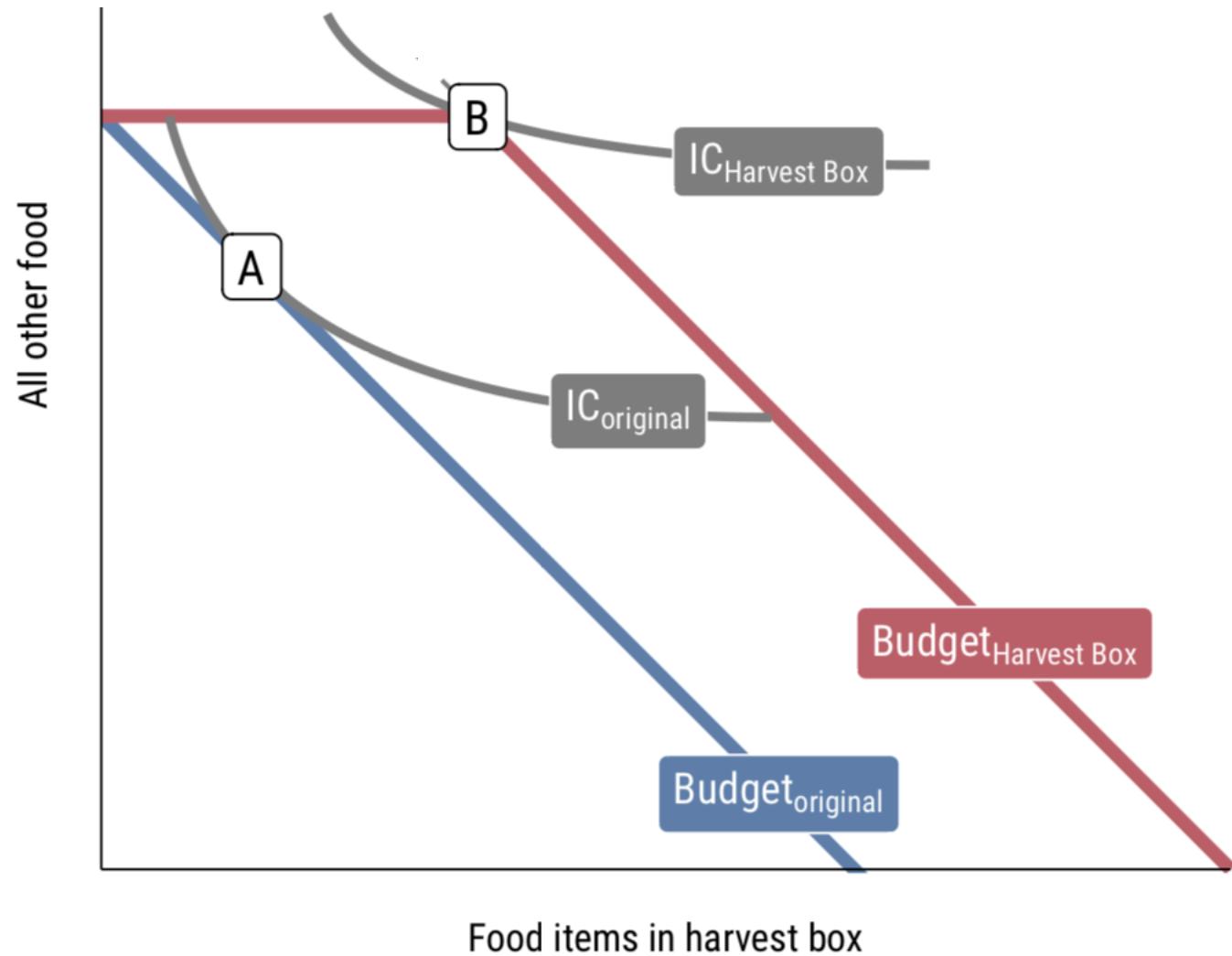


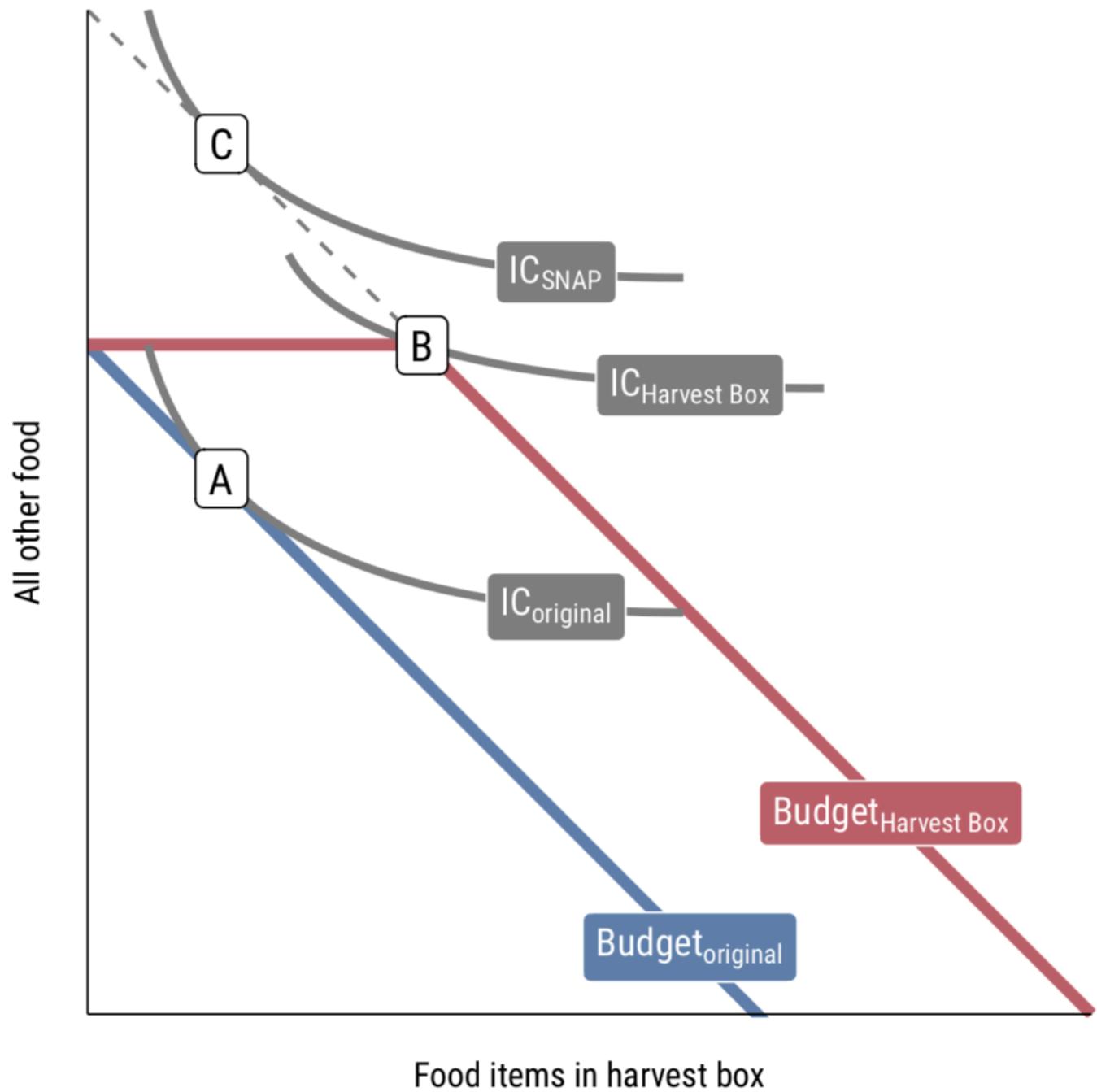
# Trump wants to slash food stamps and replace them with a 'Blue Apron-type program'



White House budget director Mick Mulvaney explained on Feb. 12 how the Trump administration hopes to save money on food aid. (The Washington Post)

When announcing the program, Secretary of Agriculture Sonny Perdue stated that “It maintains the same level of food value as SNAP participants currently receive, provides states flexibility in administering the program, and is responsible to the taxpayers.” In response, Kathy Fisher, policy director at Philadelphia’s Coalition Against Hunger stated “We know SNAP works now, when people can choose what they need. How they would distribute foods to people with specialized diets, or [to people in] rural areas ... It’s very expensive and very complicated.”





# POWER AND INEQUALITY

# GINI COEFFICIENT

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0-1 scale

\$10,000

0 = Perfect equality

\$20,000

1 = Perfect inequality

\$50,000

0.3ish = medium

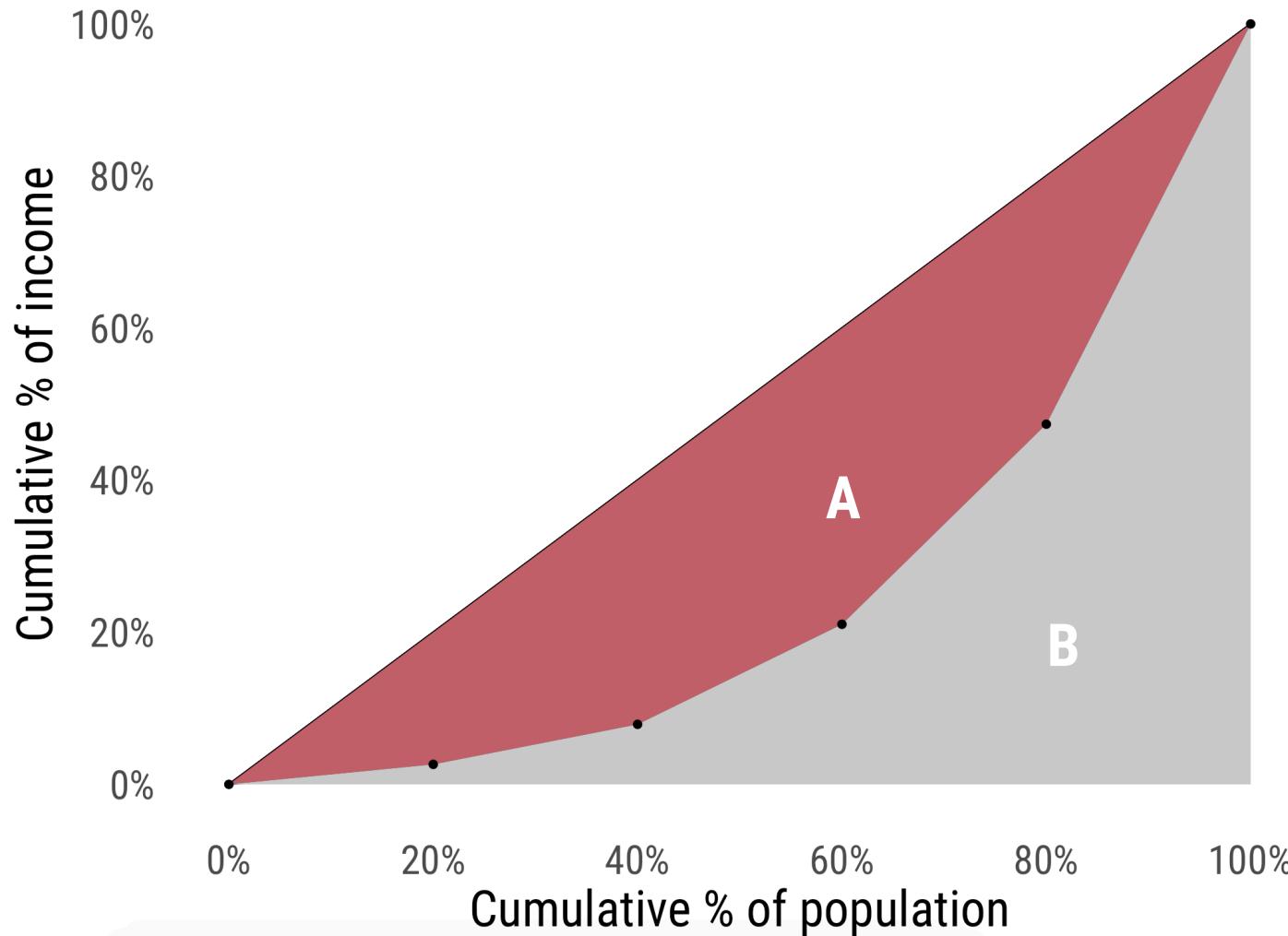
\$100,000

0.5+ = high

\$200,000

# GINI COEFFICIENT

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$$\frac{A}{A + B}$$

**0.484**

# SHORTCUT

$$\frac{2}{\text{mean income}} \times \text{Cov}(\text{income}, \text{cumulative \% of population})$$

# FIRMS

# WHAT DO FIRMS DO?

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Employ people

Purchase inputs to provide  
goods and services

Set prices higher than  
cost of production

# HOW ARE DECISIONS MADE?

## In markets

Choices emerge with no centralized planning

"[The market] is in fact a very Eden of the innate rights of man. There alone rule Freedom, Equality, Property."

Karl Marx, *Capital*, chapter 6

## In firms

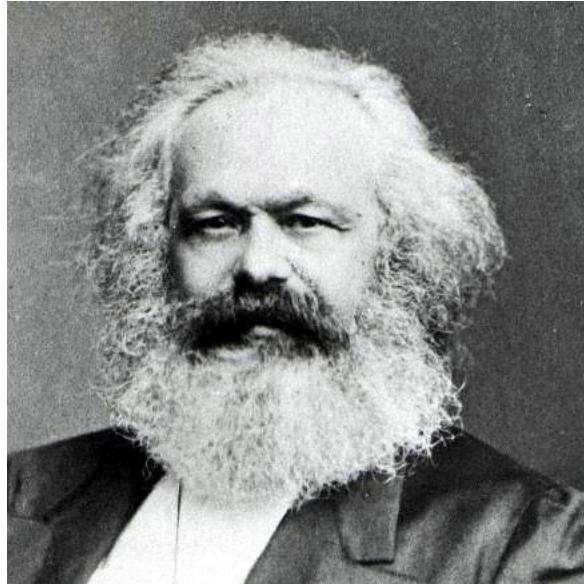
Decisions are centrally planned

"If a workman moves from department Y to department X, he does not go because of a change in prices but because he is ordered to do so."

Ronald Coase, "The Nature of the Firm"

# CONSEQUENCES OF AUTHORITY

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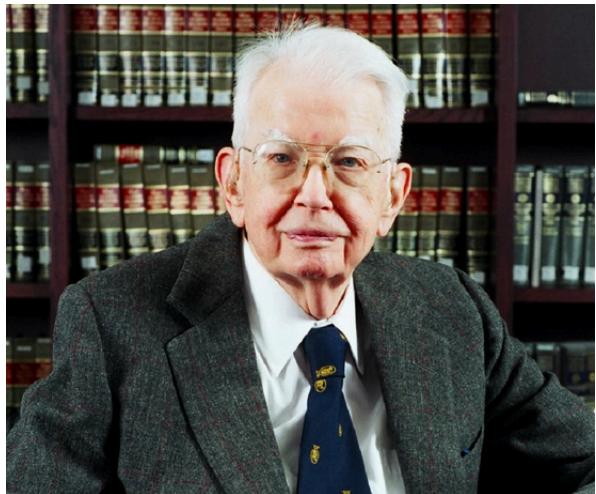


**“The directing motive, the end and aim of capitalist production, is to extract the greatest possible amount of surplus-value, and consequently to exploit labour-power to the greatest possible extent.”**

Karl Marx, *Capital*, chapter 13

# CONSEQUENCES OF AUTHORITY

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**Costs of transacting in a market lead to the natural emergence of firms to deal with them. Firms make markets more efficient.**

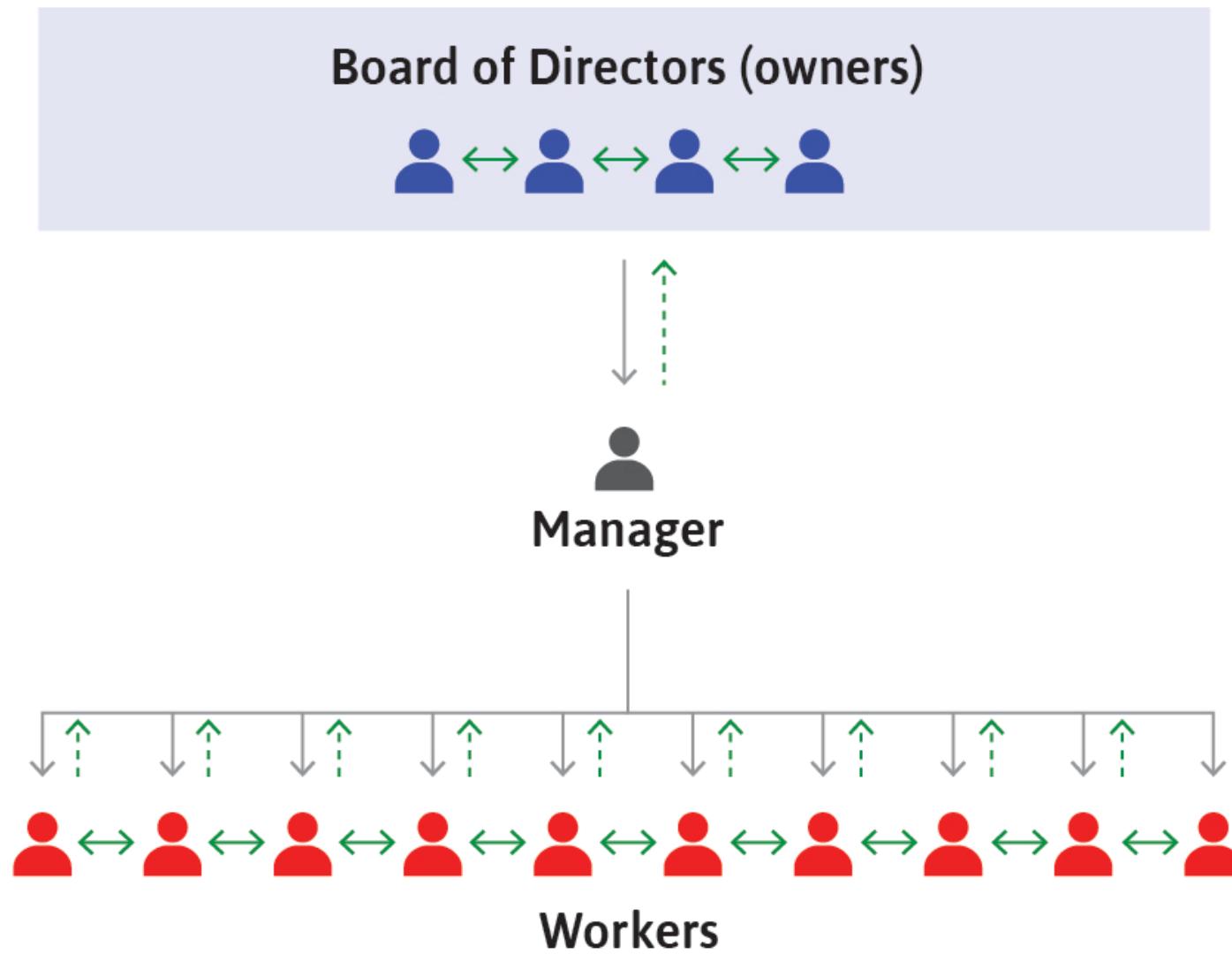
**“The firm in a capitalist economy  
is a miniature, privately owned,  
centrally planned economy.”**

ESPP 6.2

**“...islands of conscious  
power in this ocean of  
unconscious cooperation”**

D. H. Robertson, *The Control of Industry*

# ORGANIZATIONAL STRUCTURES



Ownership?

Strategy?

Implementation?

Nonprofits?

Governments?

# ORGANIZATIONAL STRUCTURES

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Proposal power

Enforcement power

Centralize

Implementation power

Decentralize

**XYZ CAR SALES**

Lemons are resold for \$500

Good cars are resold for \$2,500

≈50% of cars are lemons

# ASYMMETRIC INFORMATION

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**Adverse selection**  
**Hidden knowledge**

Lemons

Insurance

Death spirals

**Moral hazard**  
**Hidden action**

Repairs

Crime prevention

Reaching exact incentives

# ASYMMETRIC INFORMATION

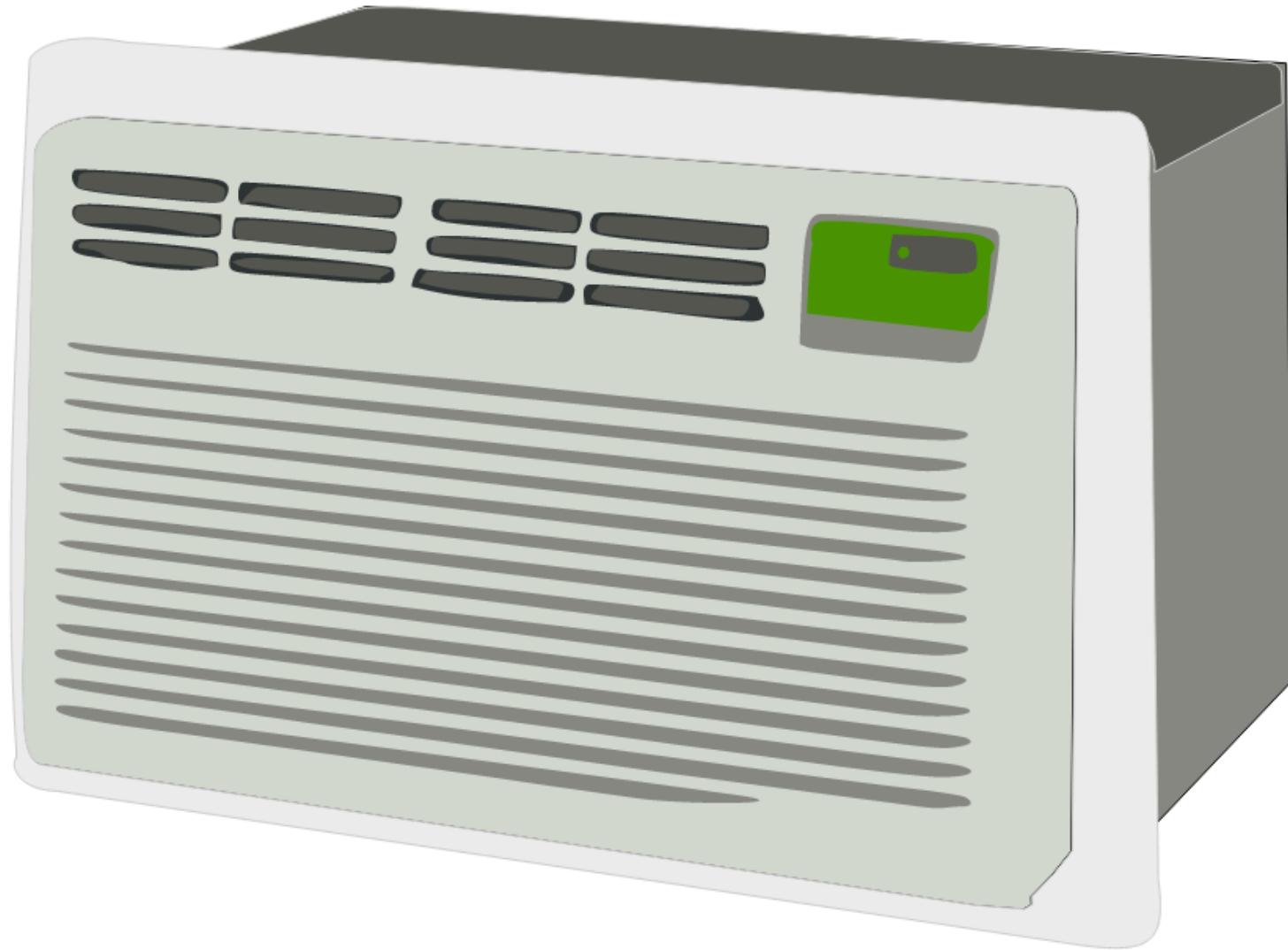
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**Adverse selection**  
Fix with screening

I'm going skydiving next week so I'll get insurance

**Moral hazard**  
Fix with monitoring

I have insurance so I'll take up skydiving



# EXPLANATIONS GO BOTH WAYS

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**OWNERS, MANAGERS,  
AND EMPLOYEES**

# PRINCIPAL-AGENT PROBLEMS

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Principal gives an agent (1) authority, (2) autonomy, and (3) discretion to do something for them

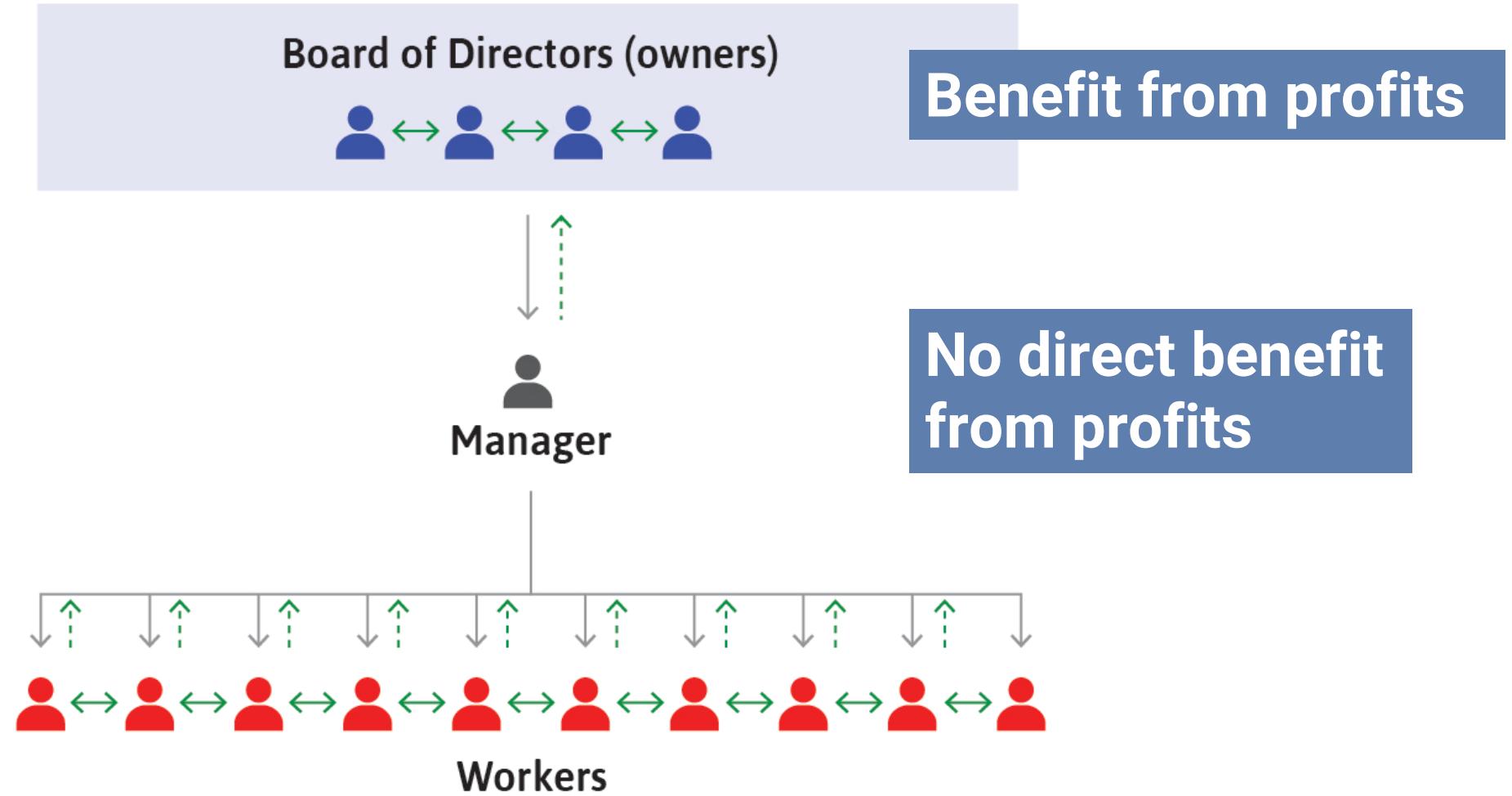
Principal lacks information to make sure agent does it

Agent's preferences don't always align with principal's

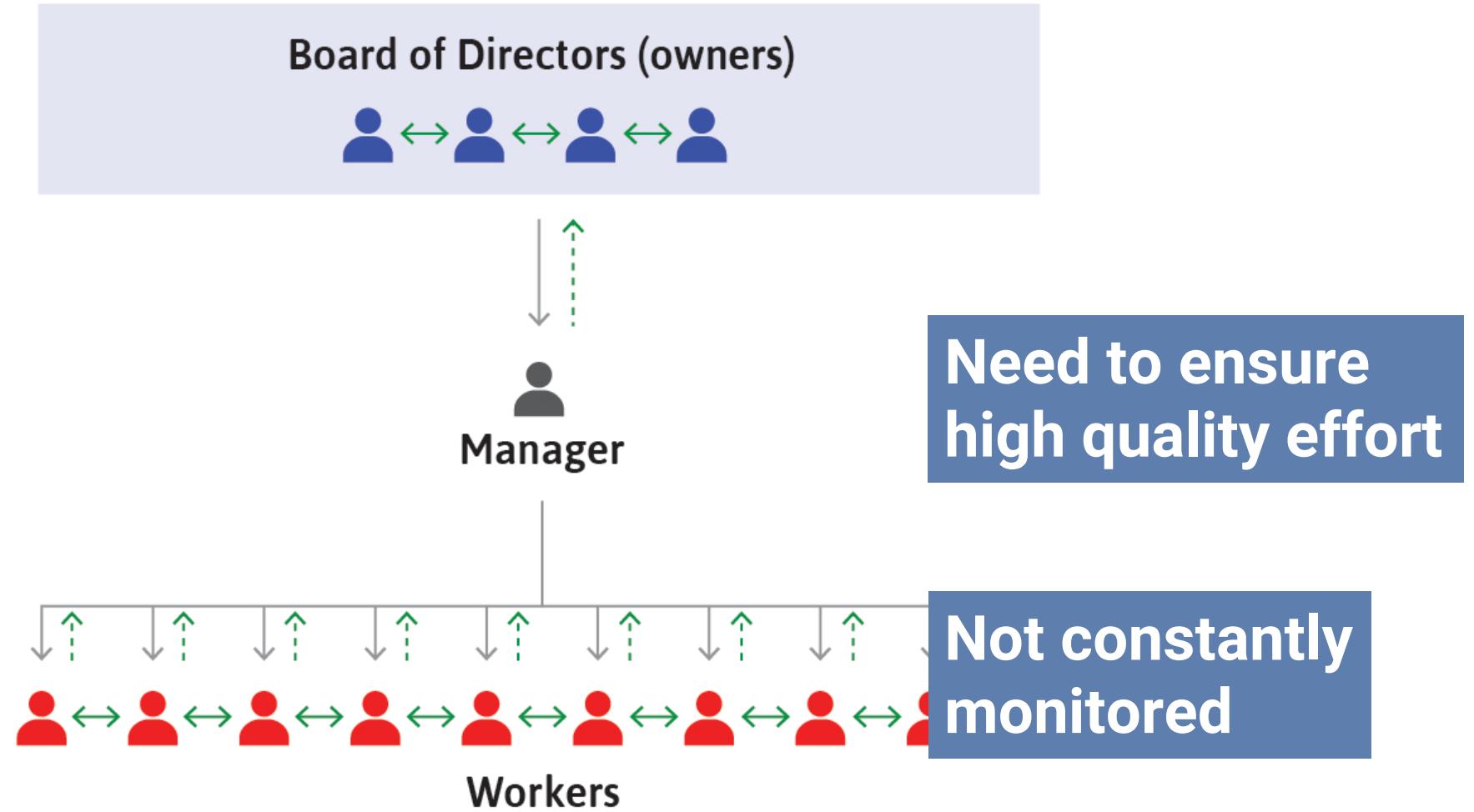


<b>Principal</b>	<b>Agent</b>	<b>Action that is hidden and not covered in the contract</b>
Employer	Employee	Quality and quantity of work
Banker	Borrower	Repayment of loan, prudent conduct
Owner	Manager	Maximization of owners' profits
Landlord	Tenant	Care of the apartment
Insurance company	Insured	Prudent behavior
Parents	Teacher/doctor	Quality of teaching and care
Parents	Children	Care in old age

# CONFLICTS OF INTEREST



# CONFLICTS OF INTEREST



# How do you align everyone's interests?

## Contracts!

A legal document or understanding that specifies a set of actions that parties to the contract must undertake

Temporary, limited transfer of authority in labor markets

# INCOMPLETE CONTRACTS

**Contracts are inherently incomplete**

Relationships are inherently asymmetric

Tasks based on unknown future

Tasks difficult to measure

Piece rate pay for MPA/MPP jobs?

# But workers still work! Why?

Norms

Feelings of responsibility

Calling

Public service motivation

**For economists:  
fear of being fired**

**Next time!**