

MARKET FAILURES

PMAP 8141: Economy, Society, and Public Policy

October 31, 2019

*Fill out your reading report
on iCollege!*

PLAN FOR TODAY

Markets and institutions

Trading and prices

Public goods

External effects

Addressing external effects

MARKETS AND INSTITUTIONS

What is a market?

An institution used for organizing society

“A way of connecting people who may mutually benefit by exchanging goods or services through a process of buying and selling.”

What is the free market?

Can markets be used to govern anything?

Firms?

Governments?

Nonprofits?

Families?

Neoliberalism

“an ideology that rests on the assumption that individualized, arms-length market exchange can serve as a metaphor for all forms of human interaction”

<https://tompepinsky.com/2013/12/04/defining-neoliberalism/>

Should markets do everything?

ARGUMENTS AGAINST MARKETS

Other institutions more
effective and equitable

Intrinsic crowding out

Repugnant markets

REPUGNANT MARKETS

Stuff that shouldn't be exchanged in a market because doing so violates norms

Organs

Babies

People

Votes

Cadavers

Horse meat

ARGUMENTS AGAINST MARKETS

Other institutions more effective and equitable

Intrinsic crowding out

Repugnant markets

Merit goods

M E R I T G O O D S

Stuff that everyone should get automatically outside of markets because of norms

Education

Security

Healthcare

Transportation

Culture

ARGUMENTS AGAINST MARKETS

Other institutions more effective and equitable

Intrinsic crowding out

Repugnant markets

Merit goods

TRADING AND PRICES

ARGUMENTS FOR MARKETS

They are great at producing and distributing goods and services

They are great at allowing for specialization

Avocados and olive oil

SPECIALIZATION + TRADE

Comparative advantage

Opportunity cost is lower than other party's

Absolute advantage

Cost is lower for one party

GAINS FROM TRADE

Expanded PPF

Both parties can do more; allows for more growth

Fairness though...

ARGUMENTS FOR MARKETS

They are great at producing and distributing goods and services

They are great at allowing for specialization

Through prices, markets send signals about scarcity

PRICES ARE MESSAGES

“When markets work well, prices send messages about the real scarcity of goods and services”

Prices coordinate activity and behavior among complete strangers

PRICES ARE MESSAGES



Friedrich Hayek

We all make decisions
based on information

Markets produce prices

Prices guide our decisions

We don't need to know about all
global economic and political trends!

Prices are all someone needs to know to take action in an economy

MESSAGES OF WHAT?

Prices shape what we consume

Seasonal fruit; droughts, floods, wars

Prices shape production
and innovation

US Civil War and cotton

McRibs, Extra Most Bestest, HFCS

**How should
prices be set?**

**What happens if prices
are systematically wrong?**

**When prices do not
capture the effects of
individual actions,
markets fail**

Public goods

Externalities

Monopolies

Missing markets

Asymmetric information

PUBLIC GOODS

PUBLIC GOODS

Excludable

You can stop people
from using it

Rival

You using it makes it so
others can't use it

PUBLIC GOODS

	Excludable	Not excludable
Rival	Private goods/bads	Common Pool Resources
Not rival	Club goods	Public goods/bads

RIVALRY AND EXCLUDABILITY

A free public lecture held at a university

Noise produced by aircraft around an airport

A forest used by the community
to collect firewood

Hamilton tickets

A public park

Bird/Lime/Uber scooters

PUBLIC GOODS ARE TRICKY

Public goods are underprovided

Public goods are a multi-party
game theory dilemma

Free riding and hare hunting

Public goods are
positive externalities

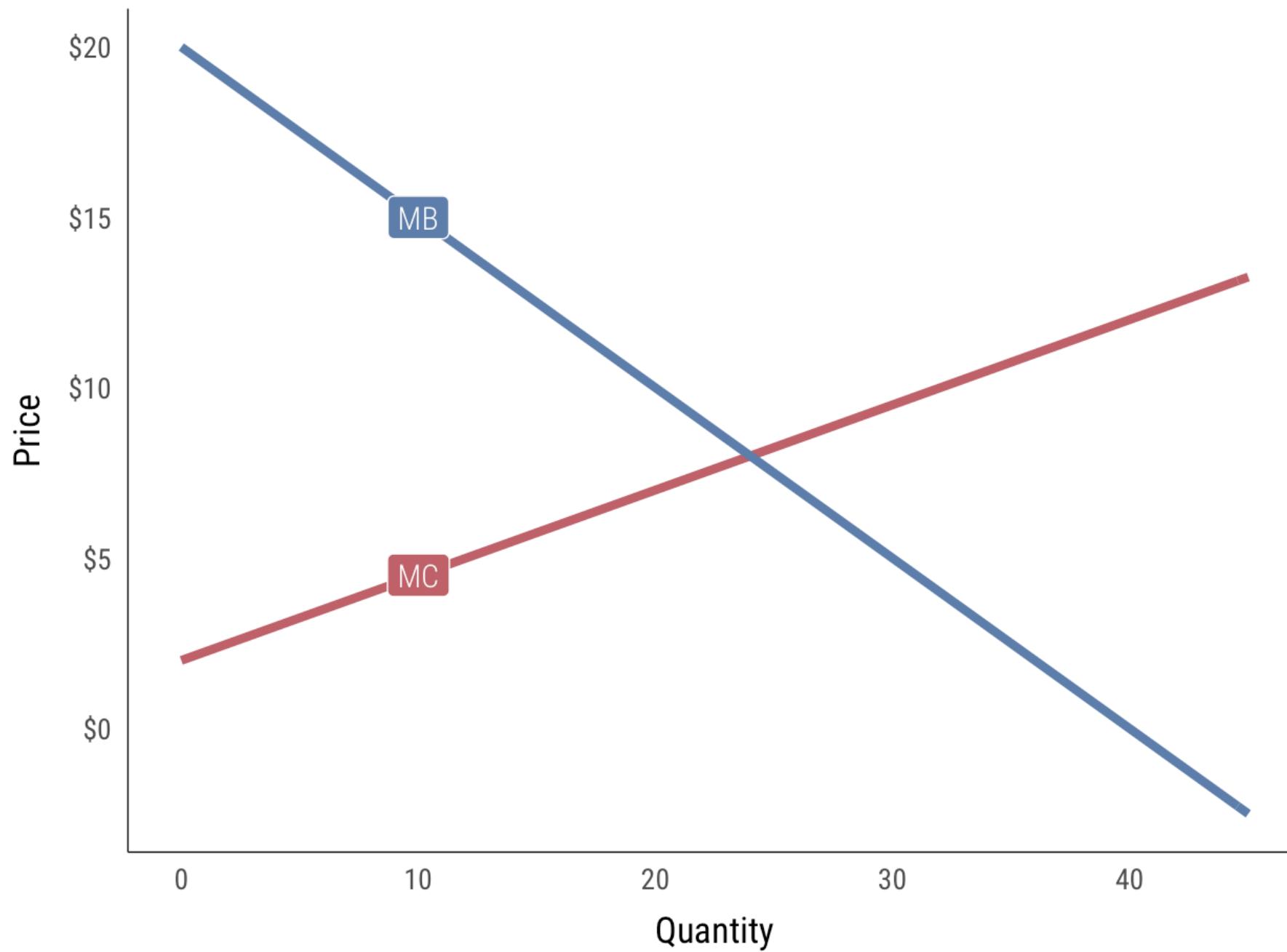
EXTERNAL EFFECTS

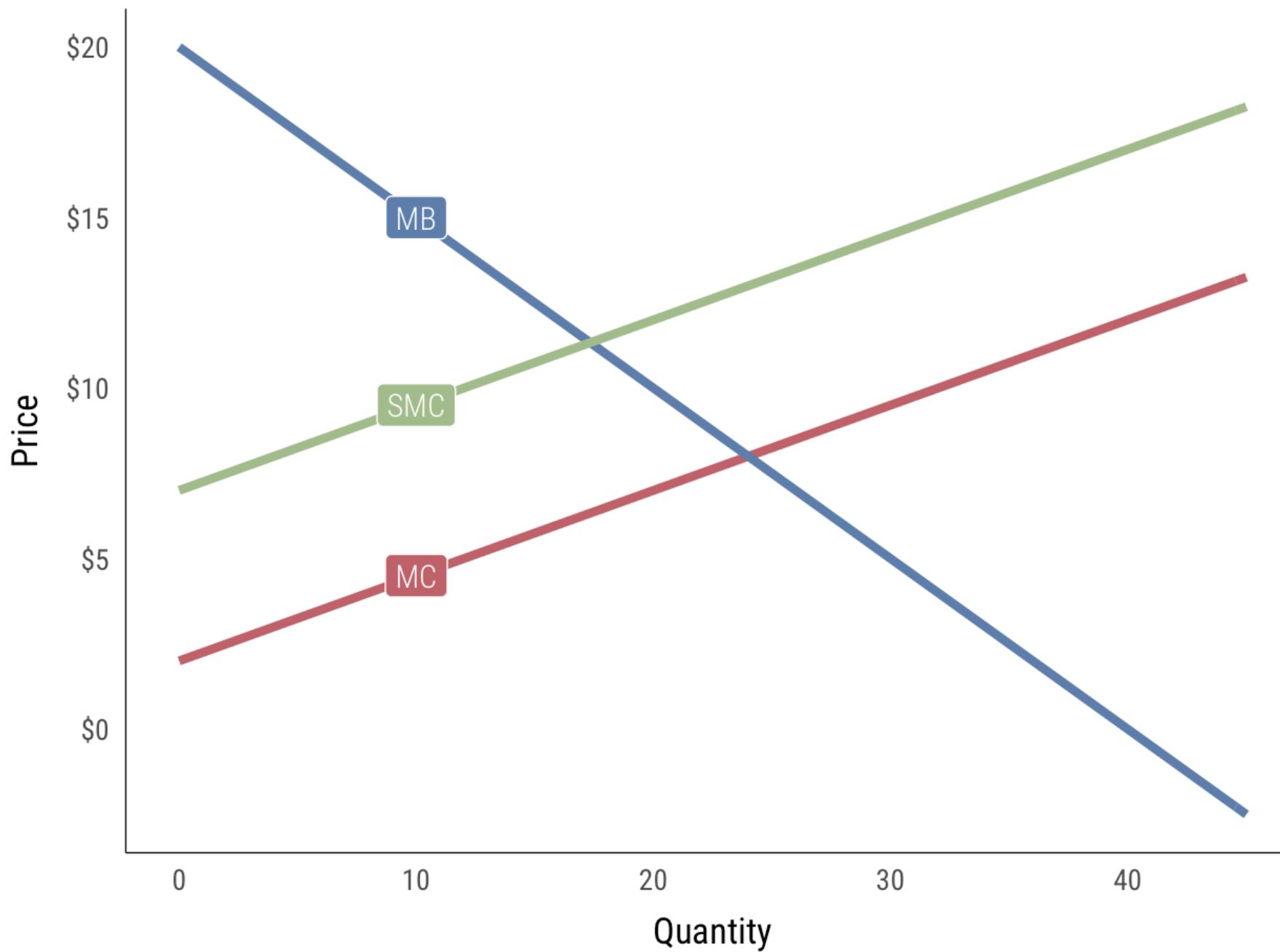
EXTERNAL EFFECTS

(aka externalities)

**A cost or benefit to
someone who did not
choose that cost or benefit**

Social marginal cost/benefit







EXAMPLES

Pollution

Vaccinations

Cell phones and driving

Car alarms

Internet bandwidth

Research

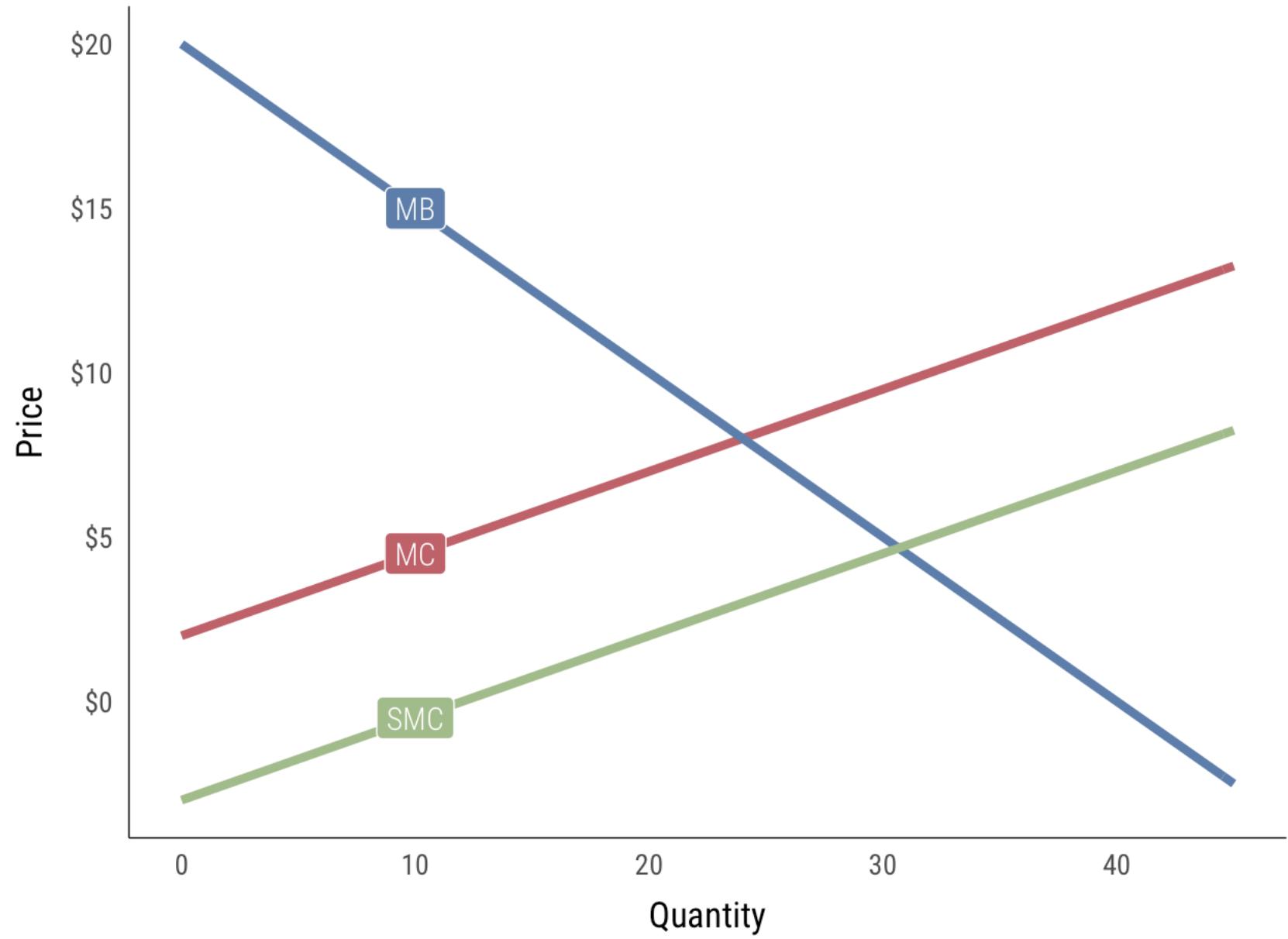
Education

Positive production effects

SMC below MC

Basic research

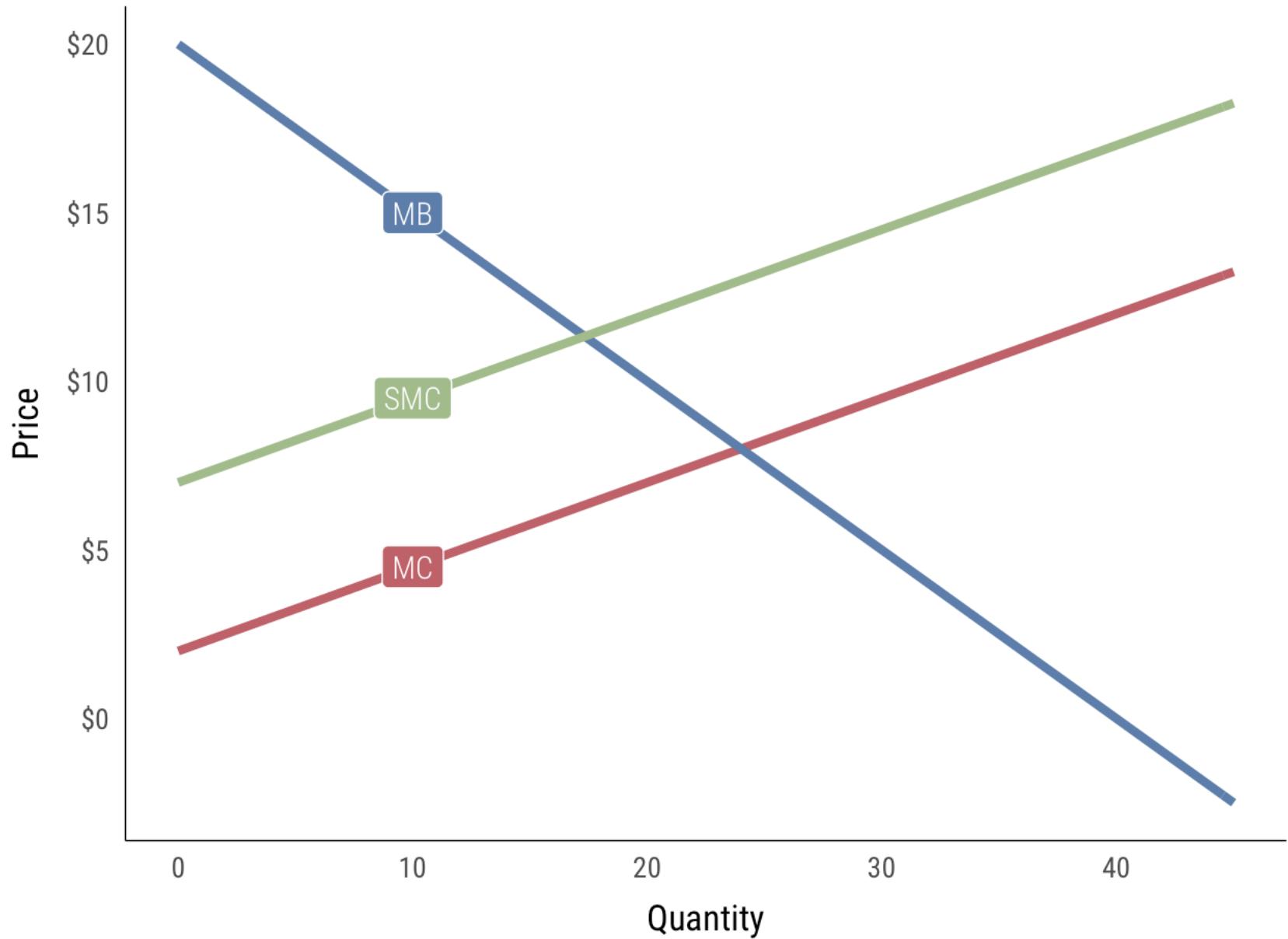
NSF, NIH, NEA



Negative production effects

SMC above MC

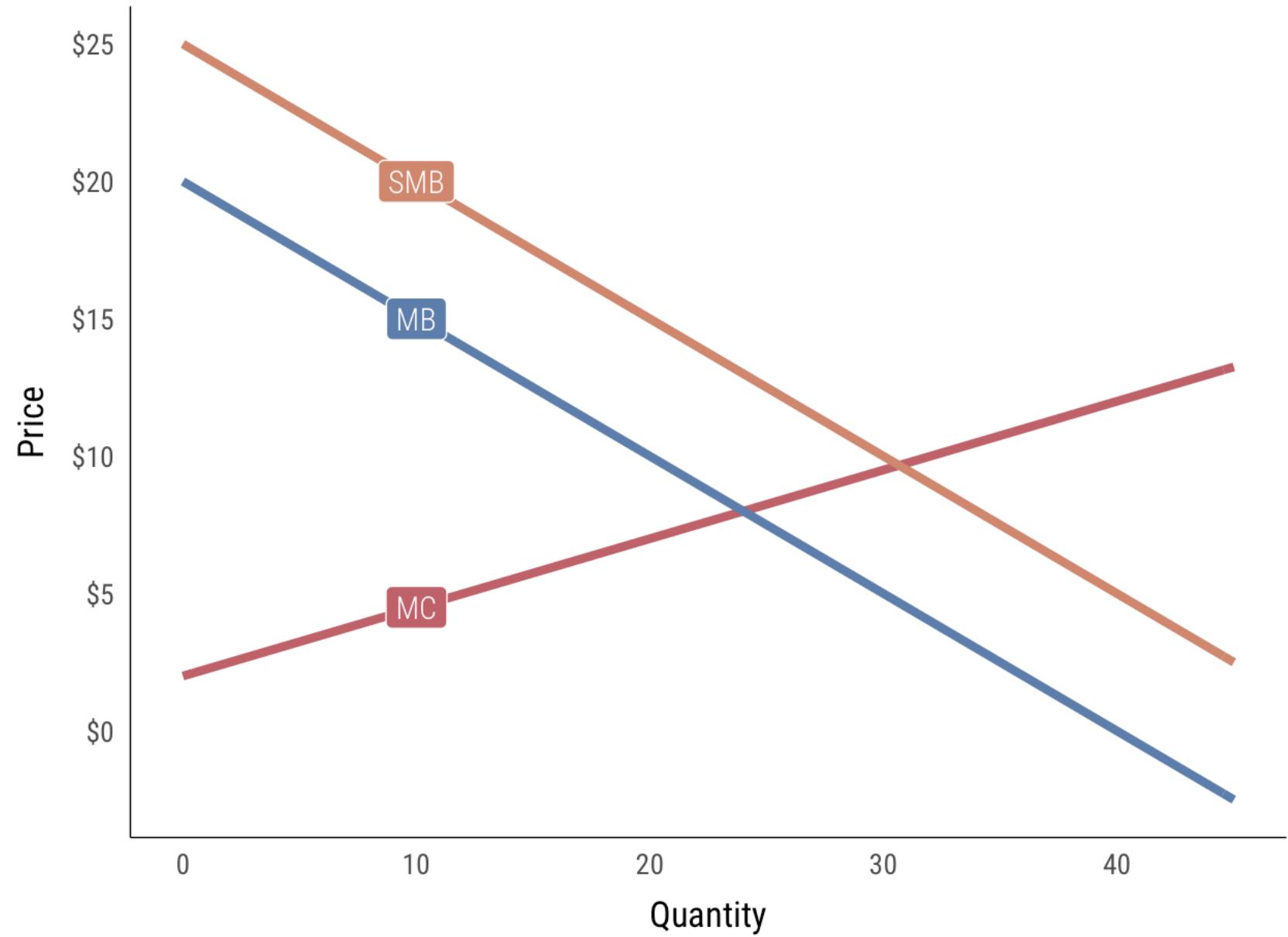
Pollution



Positive consumption effects

SMB above MB

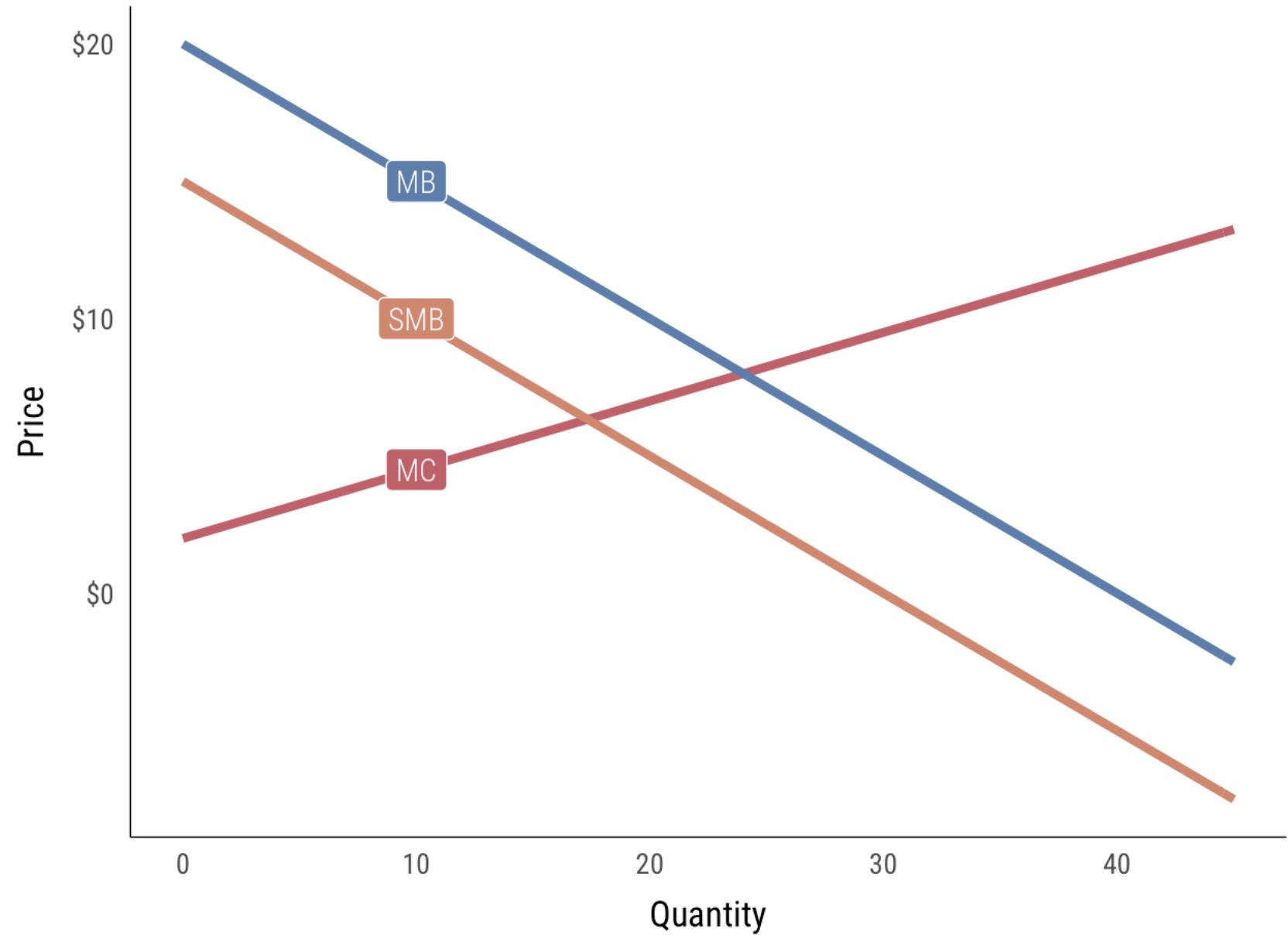
Car alarms



Negative consumption effects

SMB below MB

International
airline travel



EQUITY AND FAIRNESS ISSUES

Environmental Research Letters

LETTER • **OPEN ACCESS** • **IOPSELECT**

Which came first, people or pollution? Assessing the
disparate siting and post-siting demographic change
hypotheses of environmental injustice

Paul Mohai^{1,3} and Robin Saha²

Published 18 November 2015 • © 2015 IOP Publishing Ltd

[Environmental Research Letters, Volume 10, Number 11](#)

[Focus on Environmental Justice: New Directions in International Research](#)



Inequity in consumption of goods and services adds to racial–ethnic disparities in air pollution exposure

Christopher W. Tessum, Joshua S. Apte,¹ Kimberley A. Mullins, David A. Paolella, S. Sumil K. Thakrar, Julian D. Marshall, and

PNAS published ahead of print March 11, 2019 [htt](#)

Edited by Susan Hanson, Clark University, Worcester, November 2, 2018

Fine particulate matter ($\text{PM}_{2.5}$) air pollution exposure is the largest environmental health risk factor in the United States. Here, we link $\text{PM}_{2.5}$ exposure to the human activities responsible for $\text{PM}_{2.5}$ pollution. We use these results to explore “pollution inequity”: the difference between the environmental health damage caused by a racial–ethnic group and the damage that group experiences. We show that, in the United States, $\text{PM}_{2.5}$ exposure is disproportionately caused by consumption of goods and services mainly by the non-Hispanic white majority, but disproportionately inhaled by black and Hispanic minorities. On average, non-Hispanic whites experience a “pollution advantage”: They experience ~17% less air pollution exposure than is caused by their consumption. Blacks and Hispanics on average bear a “pollution burden” of 56% and 63% excess exposure, respectively, relative to the exposure caused by their consumption. The total disparity is caused as much by how much people consume as by how much pollution they breathe. Differences in the types of goods and services consumed by each group are less important. $\text{PM}_{2.5}$ exposures declined ~50% during 2002–2015 for all three racial–ethnic groups, but pollution inequity has remained high.

ADDRESSING EXTERNAL EFFECTS

GENERAL PROBLEM WITH EXTERNALITIES

Someone isn't paying enough

SOLUTION TO ALL EXTERNALITY PROBLEMS

Internalize the externality

Make SMC/SMB part of the equation so that the price fully reflects the external costs and benefits of a party's actions

Parking Is Hell (Ep. 118)

March 13, 2013 @ 6:47pm
by Katherine Wells



LISTEN NOW:

▶ ART19 00:00 / 35:12



Private sector solutions

Public sector solutions

Market-ish solutions

Private sector solutions

Merging and acquiring

Natural governance

Coasian bargaining

MERGING AND ACQUIRING

The polluting firm buys
the downstream firm
(or vice versa)

What gets internalized?

NATURAL GOVERNANCE

**Buyers or producers fix and
govern the externality on their own
(invisible hand)**

What gets internalized?

COASIAN BARGAINING

Use private property +
negotiations to fix everything



Ronald Coase

COASIAN BARGAINING

"My favorite example of the Coase Theorem in action relates to airline seats. **A lot of people like to complain about airline passengers who recline, taking away precious knee-room. But Coase would have said there's a simple solution to this problem:** pay the person in front of you not to recline. If you value your knee space more than he values the option to lean back, the seat will stay upright where it belongs. There's no need for the government, or the airline, to intervene to protect your knees."

COASIAN BARGAINING

Coase Theorem part #1

**Property rights + bargaining
= everything is fixed**

Coase Theorem part #2

**It doesn't matter who
has the property rights**

WHO SHOULD PAY?

Person reclining or person behind them?



Chris Wilson

@WilsonWPA

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People Who Recline Their Airplane Seats Are
Monsters [@outsidemagazine](#)



Stop Reclining Your Seat on Airplanes

There's one thing I hate about flying, and it's not the overpriced tickets or the baby crying three rows ahead of me in economy class.

[outsideonline.com](#)

2:52 PM - 18 Mar 2019



Josh Barro

@jbarro

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If you're not supposed to recline the seat, why do they give you a button for reclining the seat, and why do they specify particular times at which reclining is prohibited?

Chris Wilson @WilsonWPA

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WHO SHOULD PAY?

Person reclining or person behind them?

Parking lot owners or drivers?

Factories or fishermen?

Government or downwinders?

WHO SHOULD PAY?

THE RIO DECLARATION ON ENVIRONMENT AND DEVELOPMENT (1992)

PRINCIPLE 16

National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.

Is the “polluter pays” principle fair?

BUT THERE ARE PROBLEMS...

Assignment
Who gets blamed and who pays?

Holdouts
One person can veto

Free riders
Individuals will underinvest

Transaction costs
Negotiations are hard and costly

COASIAN BARGAINING

Great for small-scale, localized externalities that are trackable

Good luck fixing global climate change or curing cancer

Public sector solutions

Regulations

Pigouvian taxation

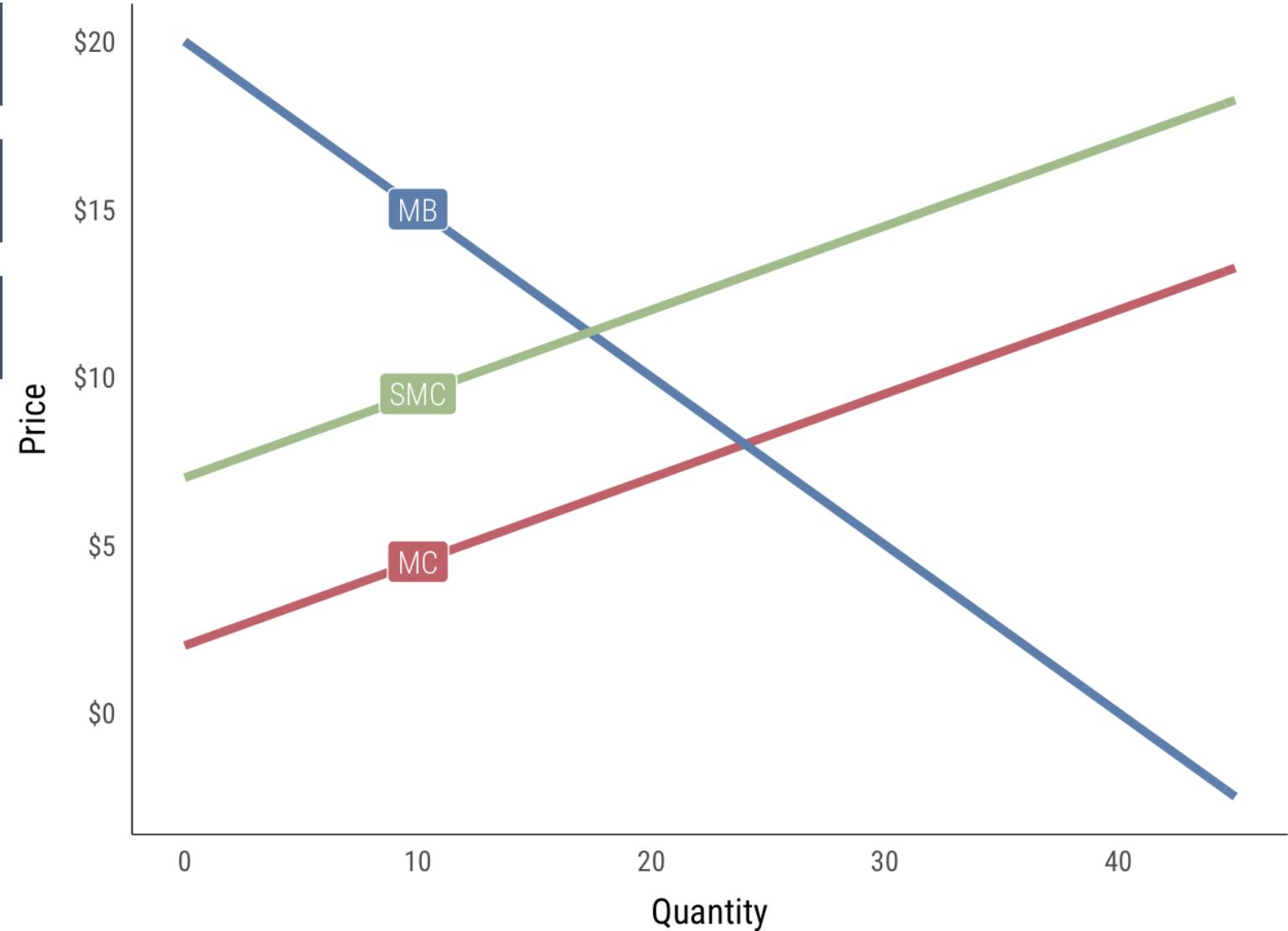
Pigouvian subsidies

REGULATIONS

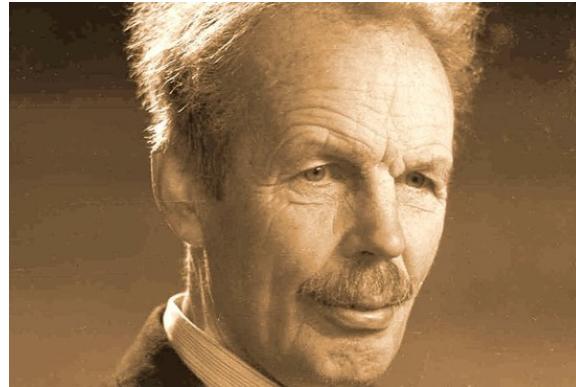
Use laws to limit Q

Shift MC \uparrow to SMC

Reduce Q and DWL



PIGOUVIAN TAXATION

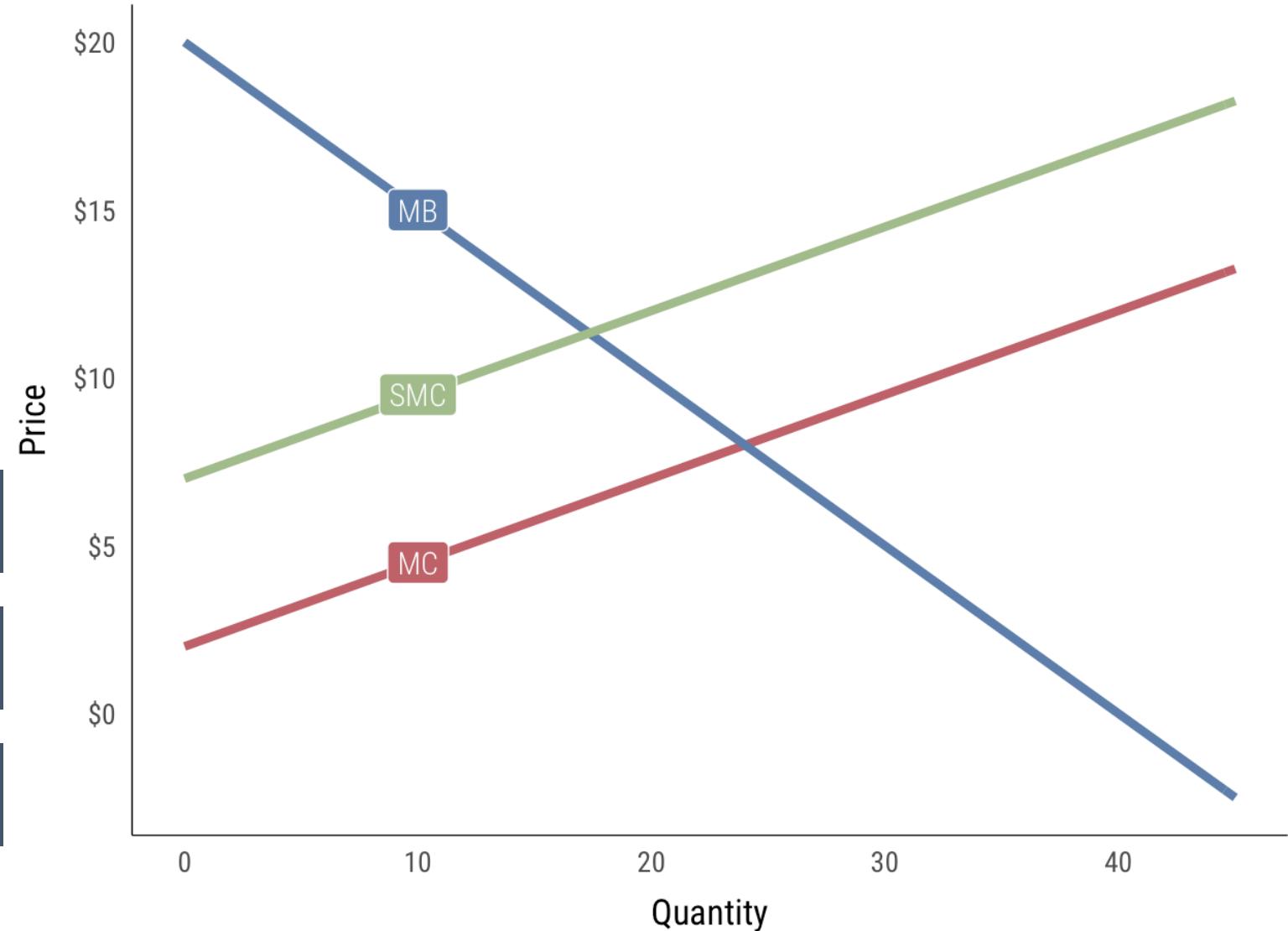


Arthur Pigou

Tax amount of damage

Shift MC \uparrow to SMC

Reduce Q and DWL

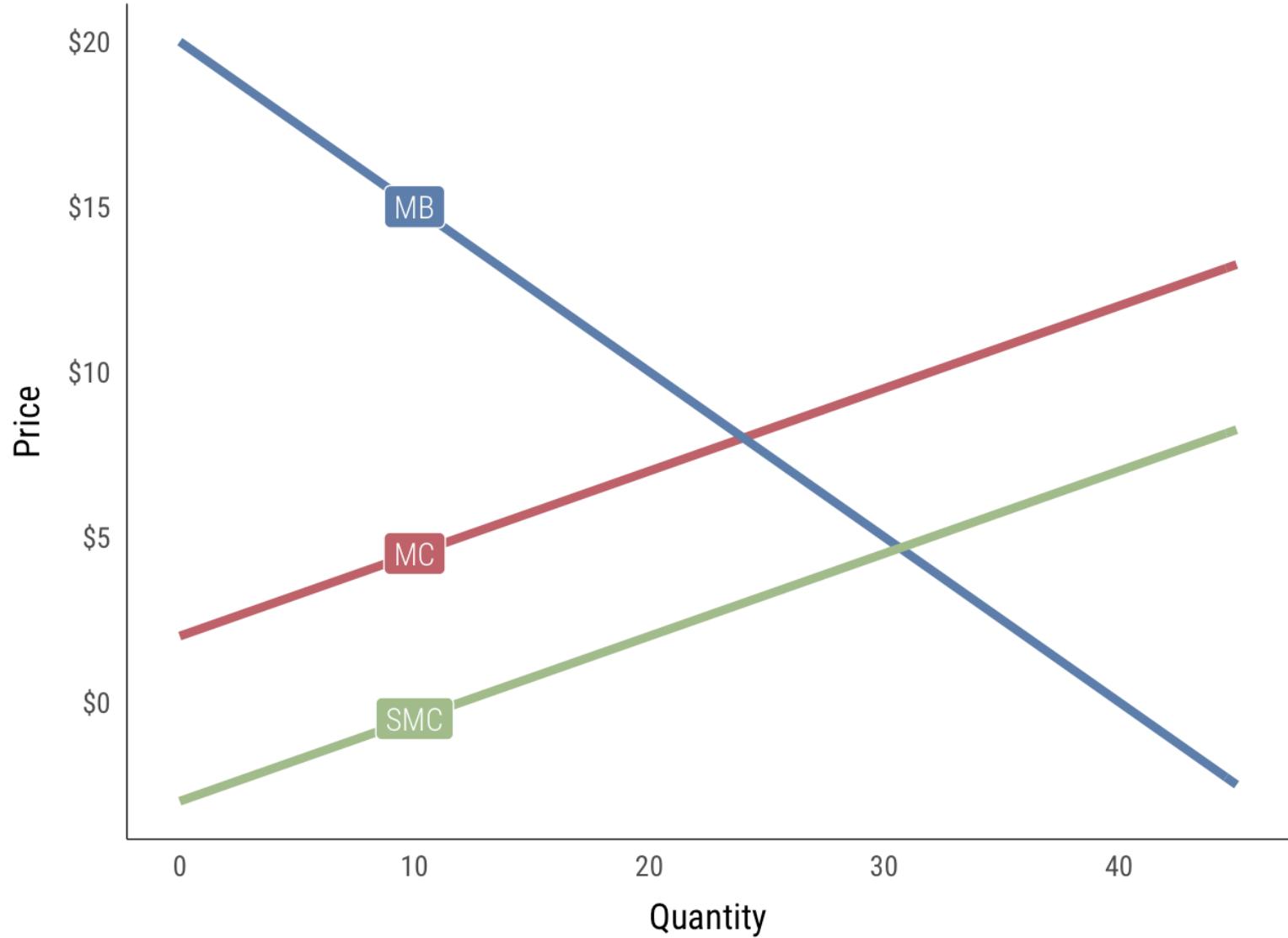


PIGOUVIAN SUBSIDIES

Pay amount of benefit

Shift MC ↓ to SMC

Increase Q and
social surplus



BUT THERE ARE PROBLEMS...

Harm hard to measure
Who is hurt the most?

Costs hard to measure
How much does the damage cost society?

Power and politics
Powerful can make powerless pay