



# Effects of Medicare's Payment Choices.

# Outline

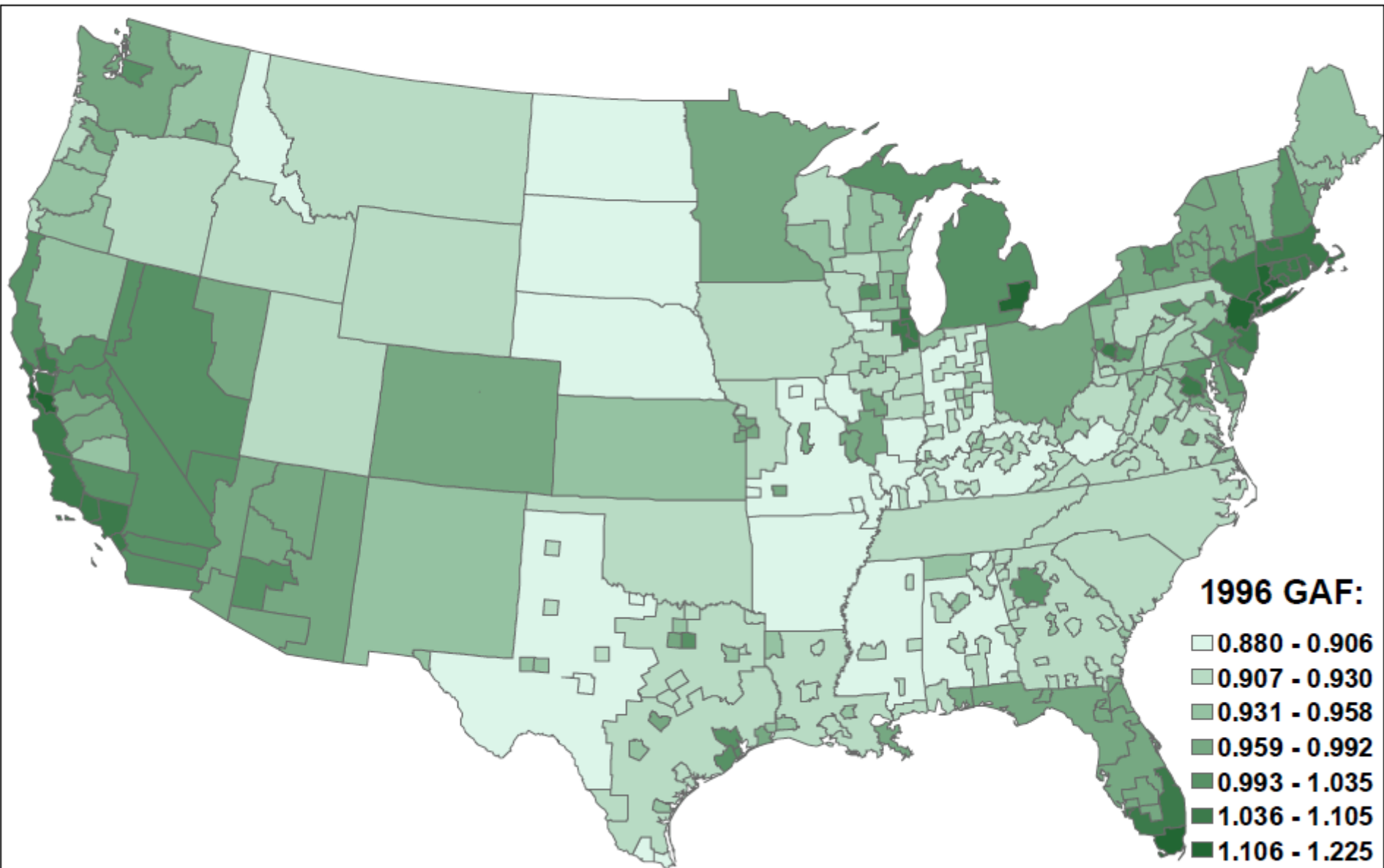
- We've been quite focused on the Medicare program's approach to price setting. What about the private sector?
  
- 1. Public-Private Interactions
  - How do private prices respond to changes in public prices?
    - Across-the-board
    - Relative valuations of services
  - Implications for the “cost-shifting hypothesis”
    - Hypothesis not supported by the data
  
- Supplier-Induced-Demand and the Target Income Hypothesis (TIH)

# Recall the Medicare Payment Formula

$$\text{Reimbursement}_{i,j,t} = \text{Conversion Factor}_{t,c(j)} \times \text{Relative Value Units}_{j,t} \\ \times \text{Geographic Adjustment Factor}_{i,t}.$$

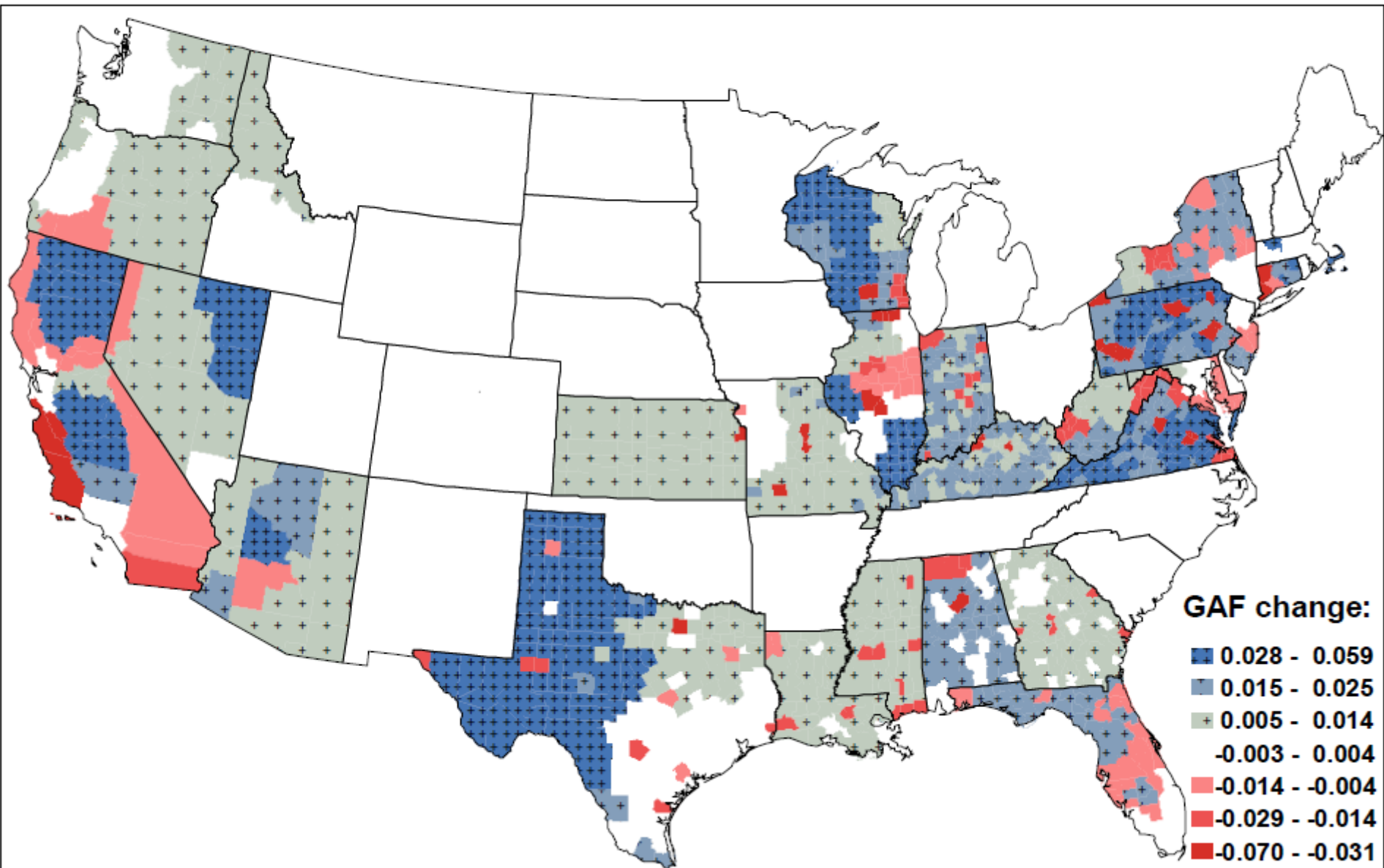
- We're going to investigate how private payments respond to public payments
  - First we'll look at changes in the geographic adjustments
  - Second we'll look at changes in relative payments across services

# 1996 Localities, With Geographic Adjustment Factors

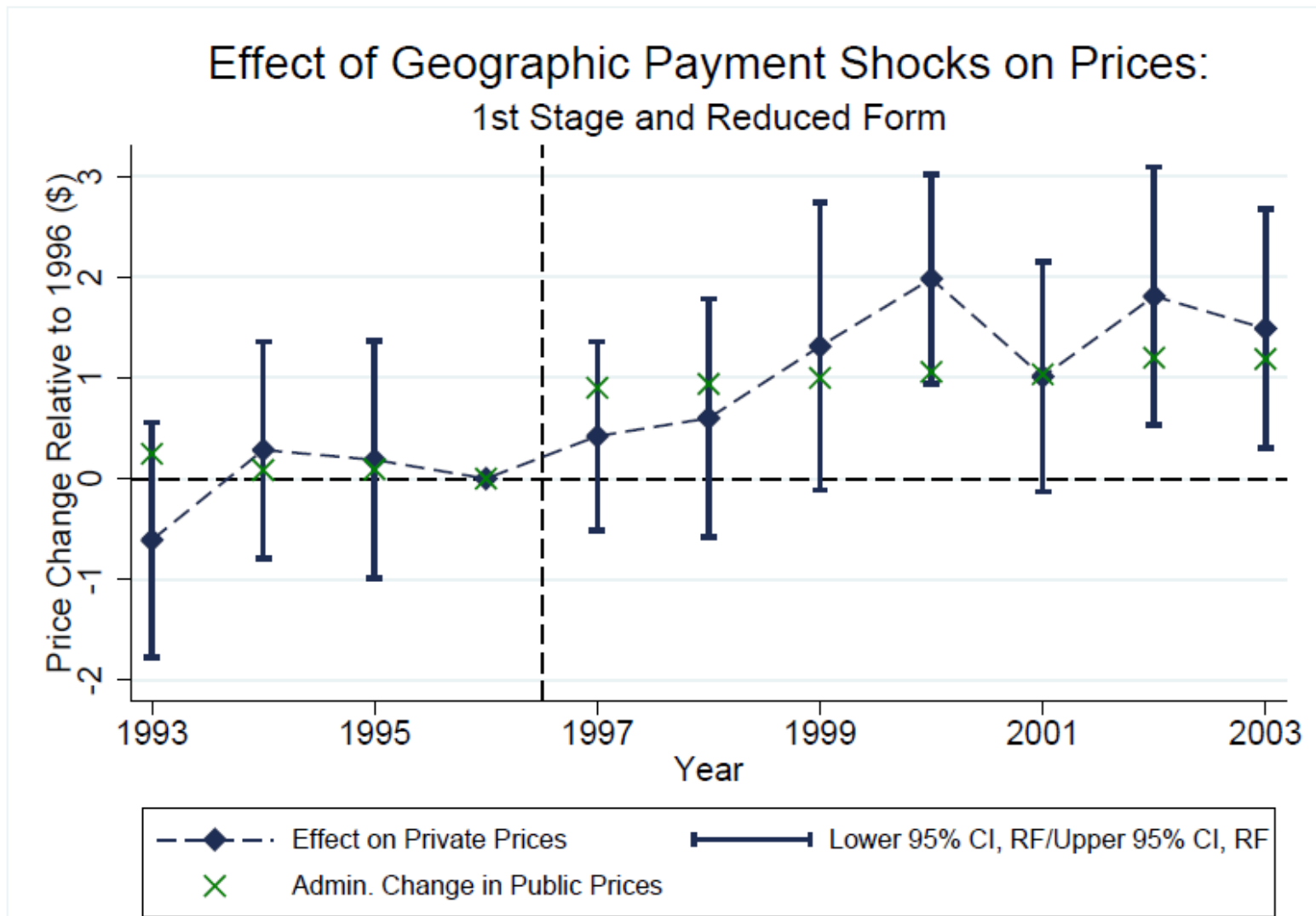





# Changes in GAF Due to The Great Consolidation



The blue dots following 1997 are estimates of the effect of a \$1 change in Medicare's payment rate on the relevant private payment rate.



Source: Clemens and Gottlieb (2017)

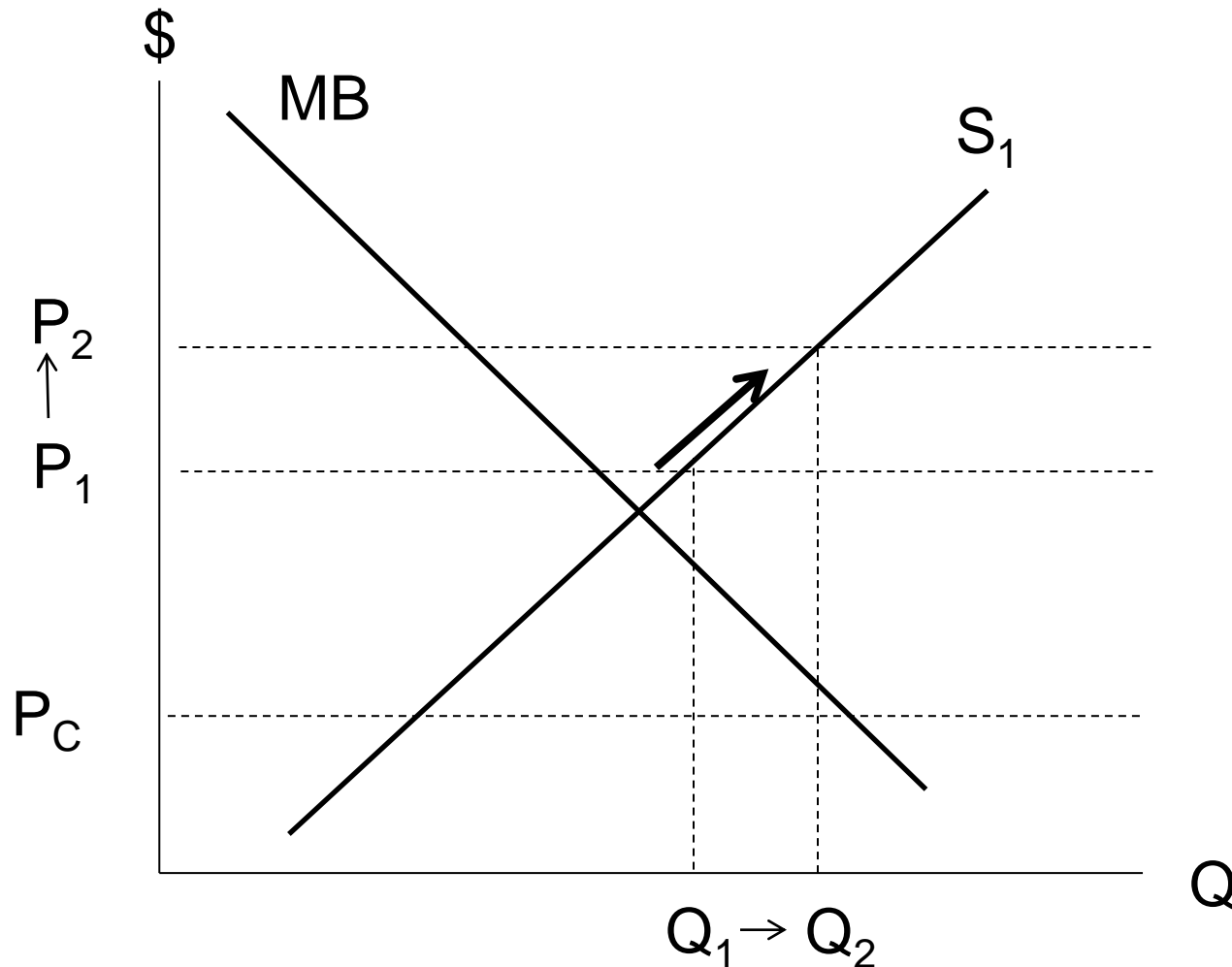


# What Does an Increase in Medicare's Payments Mean for the Private Market?

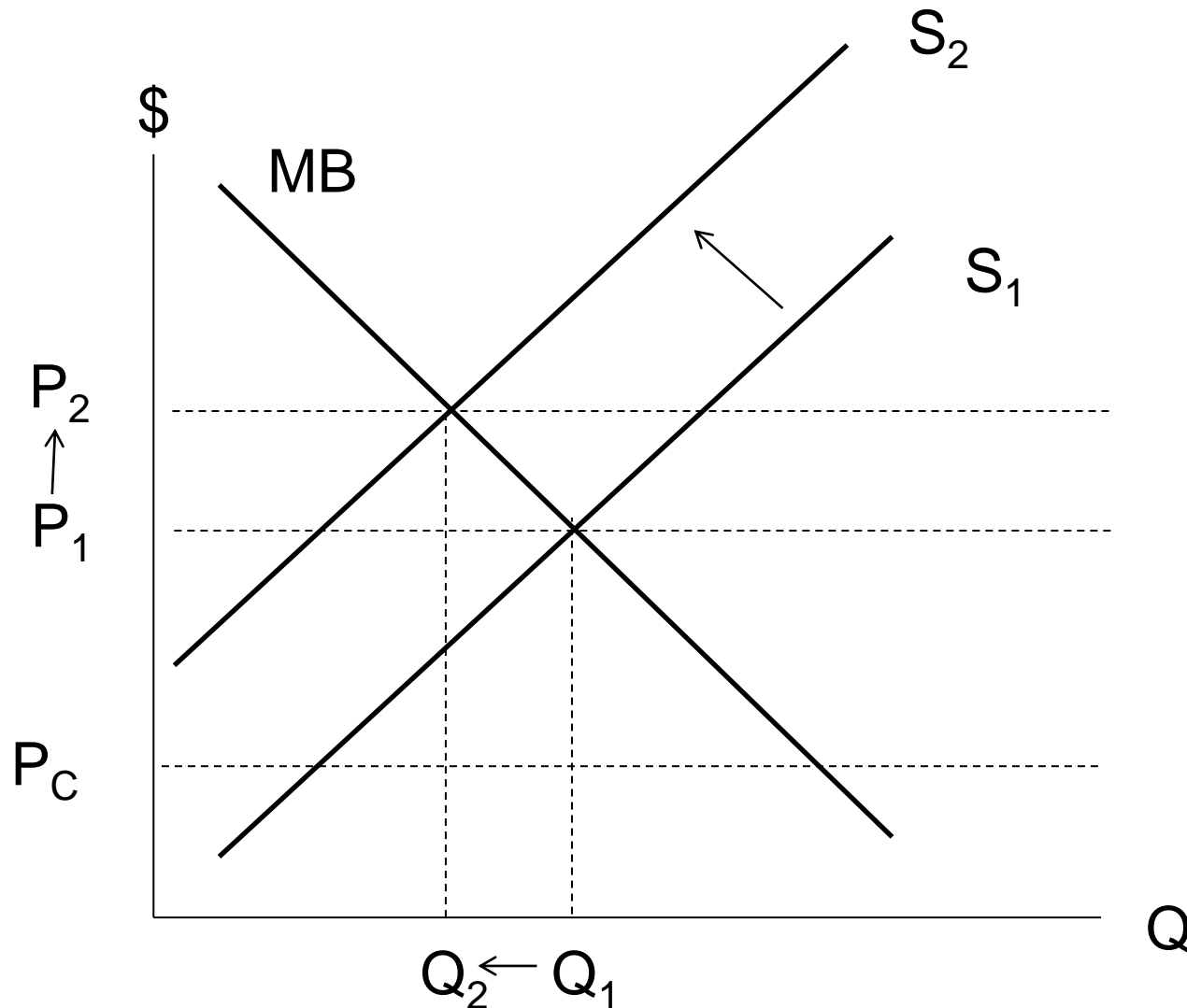
- Analyze in two parts
  - First: Direct effect on public market
  - Second: Indirect effect on private market



# Short-Run Impact of a Medicare Price Increase on the Medicare Market for a Service



# Short-Run Impact of a Medicare Price Increase on the Private Market for a Service



# Implications for Physician Income

- Ex: Geographic shock for General Practitioner in Madison, Wisconsin.
  - Medicare Revenue: \$200,000
    - Medicare payment shock was -7%
    - Loses \$14,000 in revenue
  - Private Revenue: \$200,000
    - \$1 reduction in Medicare led to \$1 reduction in private payments
    - Loses another \$14,000 in revenue
  - Total loss of \$28,000
  - This is **14% of net income** if the net on \$400,000 in revenue is \$200,000.
    - Stakes even higher than when we considered Medicare in isolation

# Relative Price Change: In 1998, payments for procedures were reduced significantly relative to payments for other services



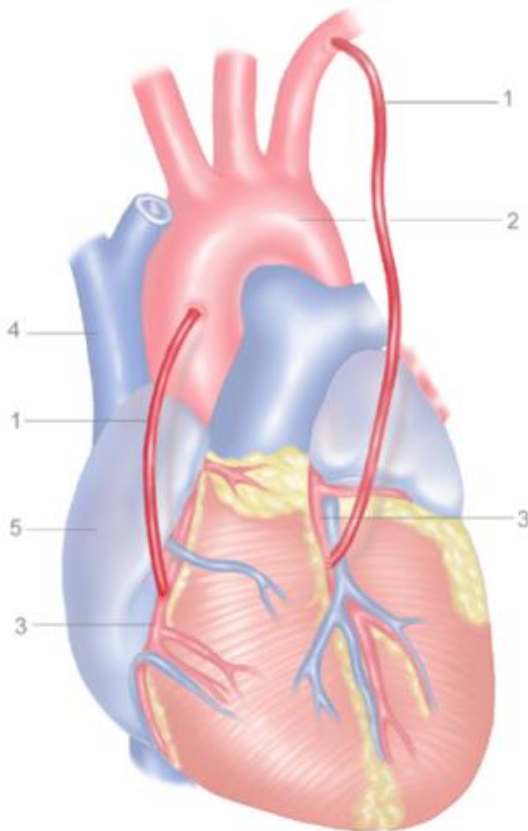
## History of Medicare Conversion Factors

Year	Conversion Factor	% Change	Primary Care Conversion Factor	% Change	Surgical Conversion Factor	% Change	Other Nonsurgical Conversion Factor	% Change
1992	\$31.0010		N/A		N/A		N/A	
1993	N/A				\$31.9620		\$31.2490	
1994	N/A		\$33.7180		\$35.1580	10.0	\$32.9050	5.3
1995	N/A		\$36.3820	7.9	\$39.4470	12.2	\$34.6160	5.2
1996	N/A		\$35.4173	-2.7	\$40.7986	3.4	\$34.6293	0.0
1997	N/A		\$35.7671	1.0	\$40.9603	0.4	\$33.8454	-2.3
1998	\$36.6873							
1999	\$34.7315	-5.3	<i>Initially, the Medicare Physician Payment Schedule included distinct conversion factors for various categories of services. In 1998, a single conversion factor was offset by elimination of the work adjustor and increases in the practice expense and PLI RVUs. The reduction in the 2009 conversion factor was offset by elimination of the work adjustor from the third Five-Year Review. The reduction in the 2011 conversion factor was offset by increases to the practice expense and PLI RVUs resulting from the rescaling of those RVU pools to match the revised MEI weights.</i>					
2000	\$36.6137	5.4						
2001	\$38.2581	4.5						
2002	\$36.1992	-5.4						
2003	\$36.7856	1.6						
2004	\$37.3374	1.5						

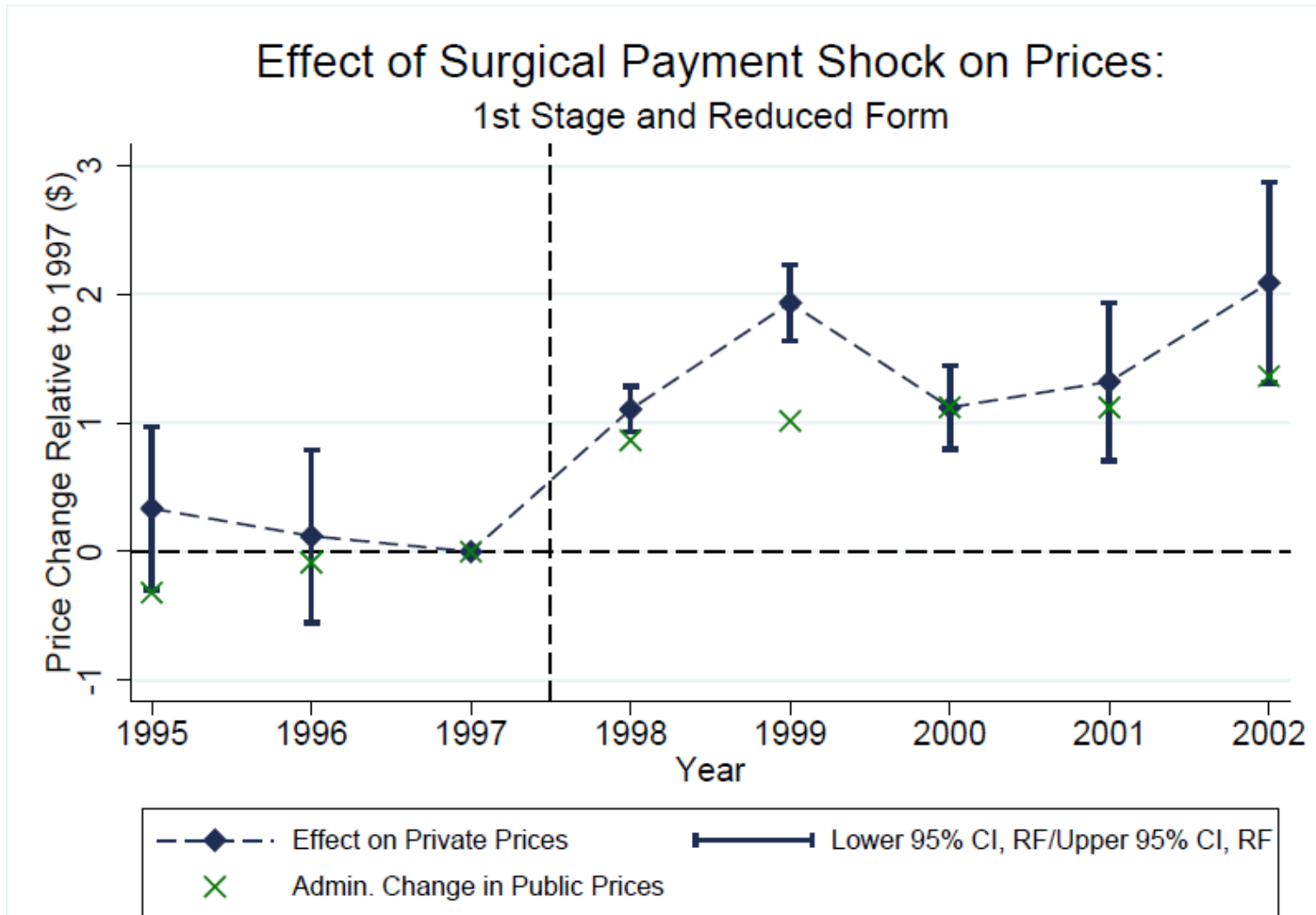
# Example Payment Changes

Coronary Artery Bypass Graft (vein 3): Code 33512. Payment reduced by roughly \$1,500.

30 minute office visit: Code 99213. Total of 2.14 RVUs when provided outside of a hospital. Payment increased by roughly \$10.



The blue dots following 1997 are estimates of the effect of a \$1 change in Medicare's payment rate on the relevant private payment rate.



# Implications for Physician Income

- Ex: Surgery price shock for orthopedic surgeon whose revenue is 75% surgical procedures
  - Total Medicare Revenue: \$400,000
    - Surgery down 11%, other up 6%:
      - Loss of  $\$300,000 \times 11\% = \$33,000$  on surgery side
      - Gain of  $\$100,000 \times 6\% = \$6,000$  on remainder
      - Net loss of \$27,000
  - Again there is a similar reduction on the private side.
  - Total loss could exceed \$50,000!
    - Mirrored by gains for GPs, which was the point

# Why do Medicare's relative price changes so strongly affect private prices?

## ■ Private contracts often written relative to Medicare

- “The fee schedule in many contracts is stated as a percentage of the Medicare rate”
  - Source: Gesme and Wiseman (2010)

## ■ The link between public and private payments is particularly strong when insurers negotiate with small physician groups

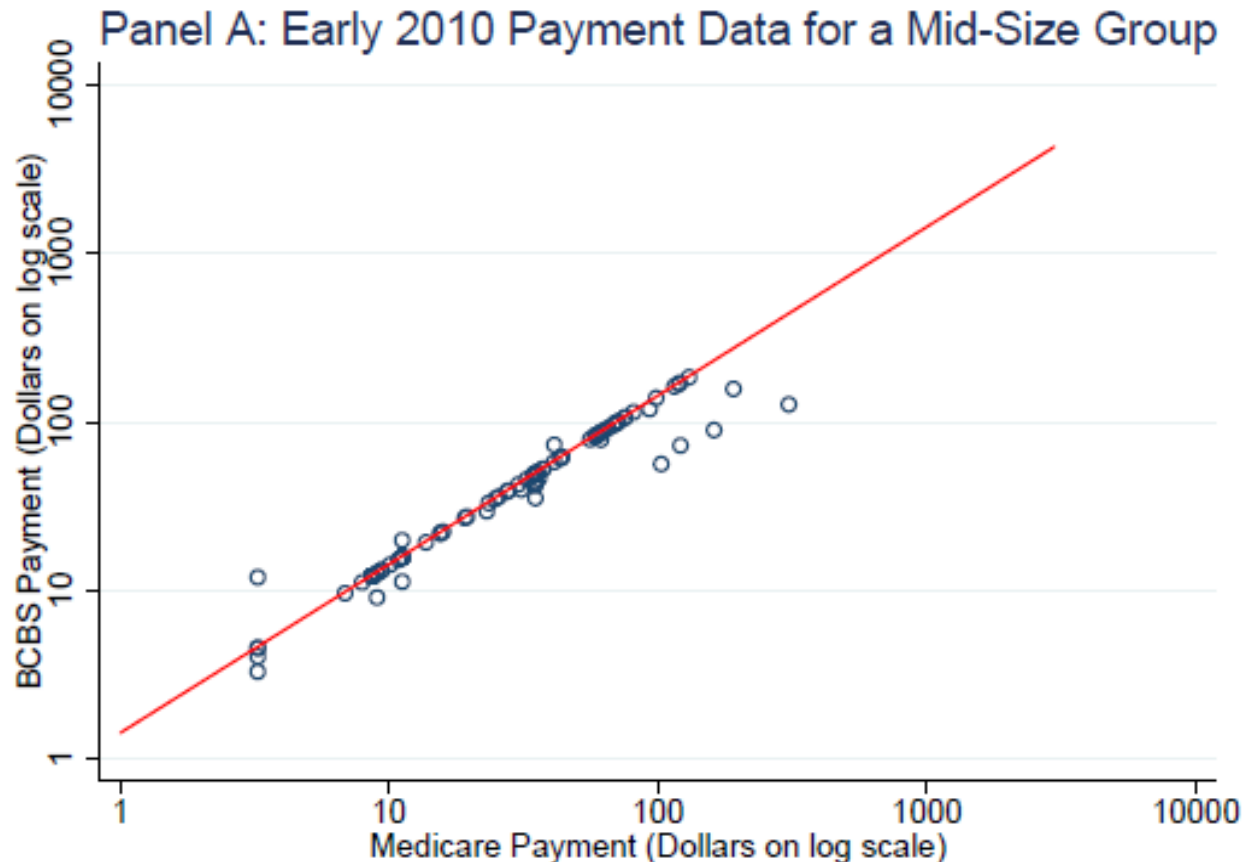
- Bargaining over prices for thousands of services prices is burdensome
- Sole practitioners would have crippling overhead if they worked under multiple billing systems
- Key determinants: how far “off” is Medicare and how many patients' care would be affected



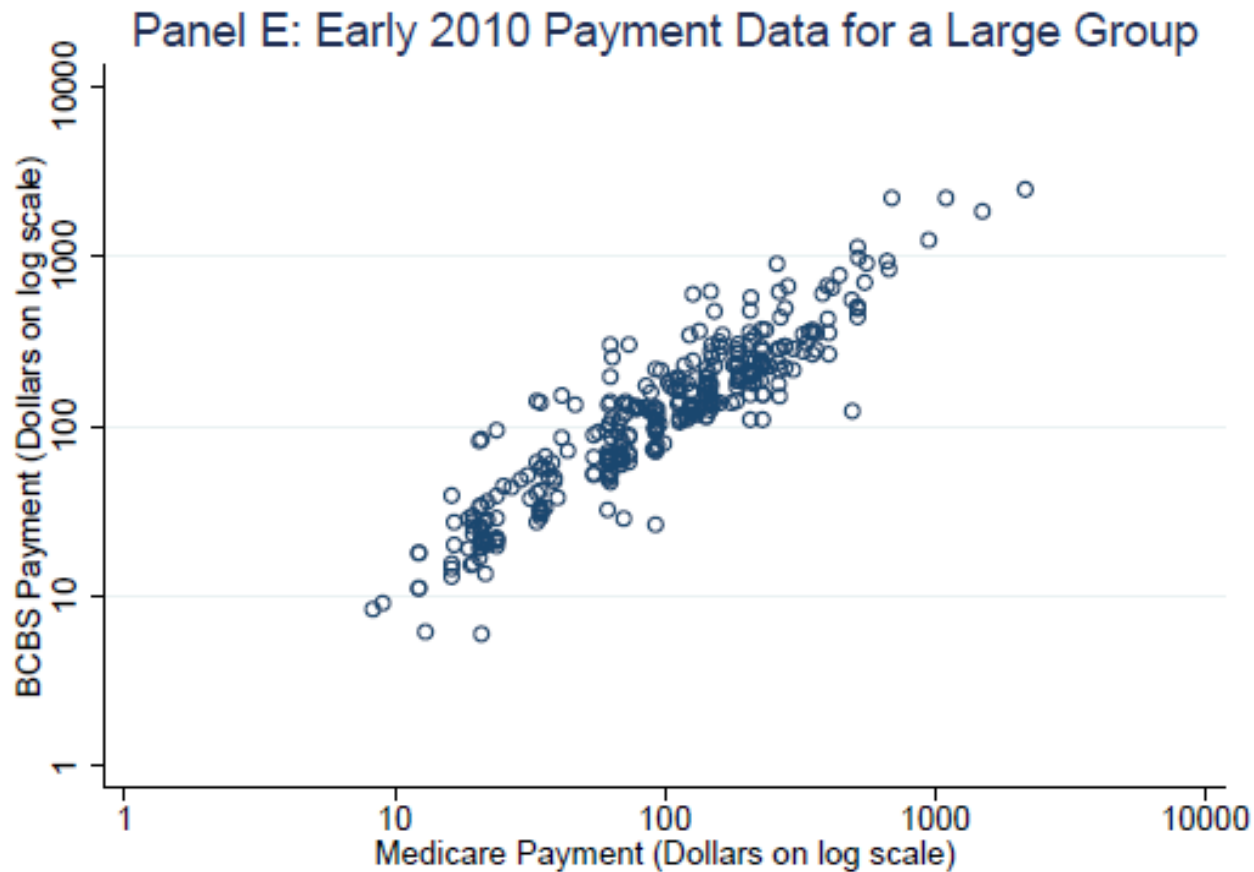
# Implications for payments

- Private contracts often written relative to Medicare
  - “The fee schedule in many contracts is stated as a percentage of the Medicare rate”
    - Source: Gesme and Wiseman (2010)
- Private payment = mark-up x Medicare payment
- $\ln(\text{Private payment}) = \ln(\text{mark-up}) + \ln(\text{Medicare payment})$ 
  - If we plot  $\ln(\text{Private payment})$  against  $\ln(\text{Medicare payments})$
  - The payments written in this way will be on a straight line with a slope of exactly 1.

# Data from Blue Cross Blue Shield of Texas



# Data from Blue Cross Blue Shield of Texas



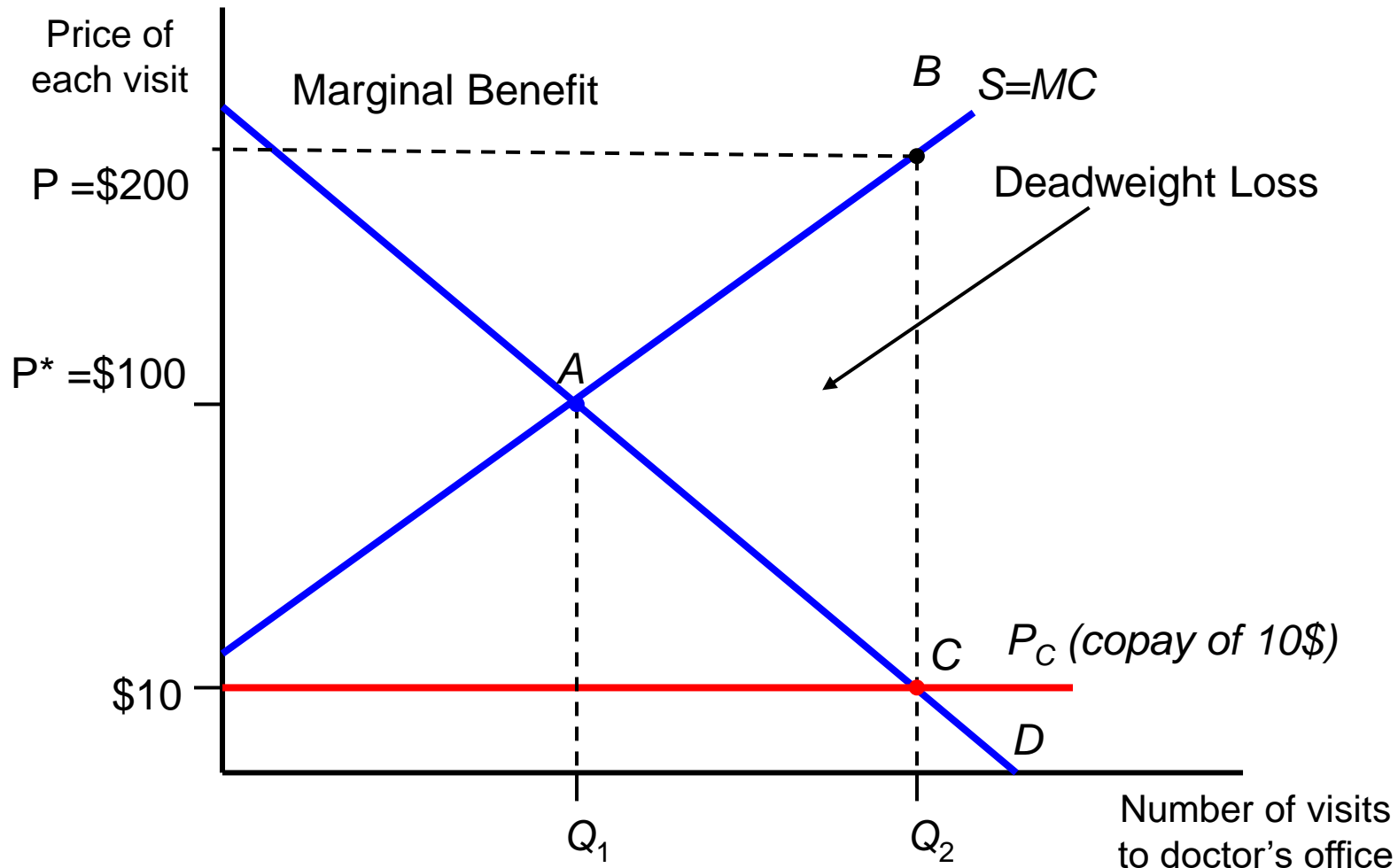
# Data from Blue Cross Blue Shield of Texas

- Deviations from Medicare are much more common in contracts with large groups (billings > \$1 million) than in contracts with small groups (billings < \$200K)

Table 5: Medicare Benchmarking by Firm Size

	(1)	(2)	(3)	(4)
Dependent variable:	<i>Log private reimbursement rate</i>			
Log RVU Change	0.750**	0.882**	0.539**	0.775**
× Post-Update	(0.038)	(0.073)	(0.061)	(0.094)
Log RVU Change		-0.074		-0.140*
× Post-Update × Midsize		(0.098)		(0.069)
Log RVU Change		-0.293*		-0.448**
× Post-Update × Large		(0.117)		(0.102)
<i>N</i>	23,933,577	23,933,577	23,933,577	23,933,577
Weighting:	Service	Service	Dollar	Dollar

The Size of DWL from reference pricing depends on how far off Medicare's rates are.



# Fraction of Blue Cross payments that were Medicare-linked

Table 6: Public-Private Payment Links Across Service Categories

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	<i>Log private reimbursement rate</i>						
	Evaluation	Imaging	Procedures	Tests	Imaging Sub-Categories:		
					Global	Technical	Professional
Log RVU Change	0.841**	0.564**	0.720**	1.066**	0.545**	0.387*	0.982**
× Post-Update	(0.036)	(0.084)	(0.081)	(0.066)	(0.109)	(0.152)	(0.066)
<i>N</i>	12,259,186	3,630,019	4,750,313	1,542,254	1,826,666	209,178	1,594,175
No. of Clusters	221	1,085	1,936	408	408	244	433

Blue Cross follows Medicare for office visits (“Evaluation” services) to a much greater degree than for diagnostic imaging services. This makes perfect sense given the problems with Medicare’s approach to paying for capital intensive services!

Within imaging services, Blue Cross follows Medicare to a much greater degree for the labor-intensive interpretation of the image (the “Professional” component) than for the capital-intensive taking of the image (the “Technical” component)



# Three Ideas To Know

- The “Cost-Shifting” Hypothesis
- The concept of Supplier-Induced-Demand
- The Target Income Hypothesis

# Cost-Shifting Hypothesis

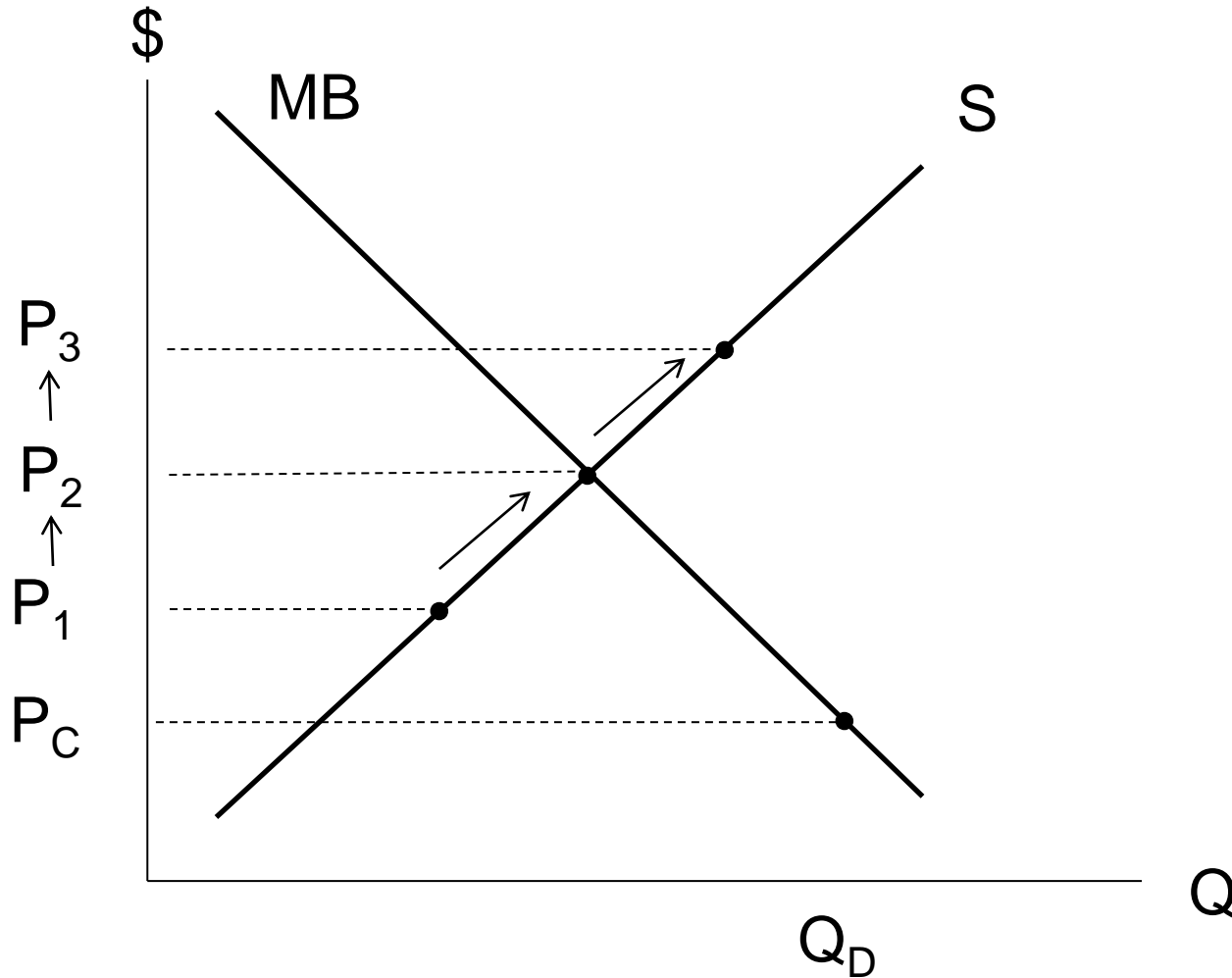
- “In health care ‘cost shifting’ is the idea that lower public payments to providers lead (causally) to higher private payments and health insurance premiums.”
  - Source: The Incidental Economist  
<http://theincidentaleconomist.com/wordpress/a-cost-shift-study-done-right/>
  
- This view shows up frequently in policy discussions.
  - “Cost shifting is certainly a rising contributor to both spreads—cost above inflation, rates above cost trend....
  - Right now, cost shifting is under way in earnest, not only because of bad debts, but also because Medicaid plans all over the country, but particularly in the Sunbelt (Florida, California, and so forth) are cutting provider payments.”
    - Source: Jeff Goldsmith on the Health Affairs blog  
<http://healthaffairs.org/blog/2009/12/09/there-be-dragons-the-fiscal-risk-of-premium-subsidies-in-health-reform/>
  
- The data do not support this hypothesis in the outpatient setting



# Supplier-Induced-Demand

- **Definition:** Supplier-Induced-Demand describes the view that, because physicians have more information than patients about patients' needs, demand is effectively generated by suppliers.
  - “Inducement” has a negative normative connotations
  - Motivated by the view that physicians are obligated to provide a “standard of care”
    - Responses to financial incentives would reflect a failure to live up to this obligation
- We've thought about things differently
  - Insurance makes effective demand “high” whether the patient knows the MB curve or not
  - Generosity of payments shifts us along the supply curve

# Our Standard View of Supply



# Target Income Hypothesis

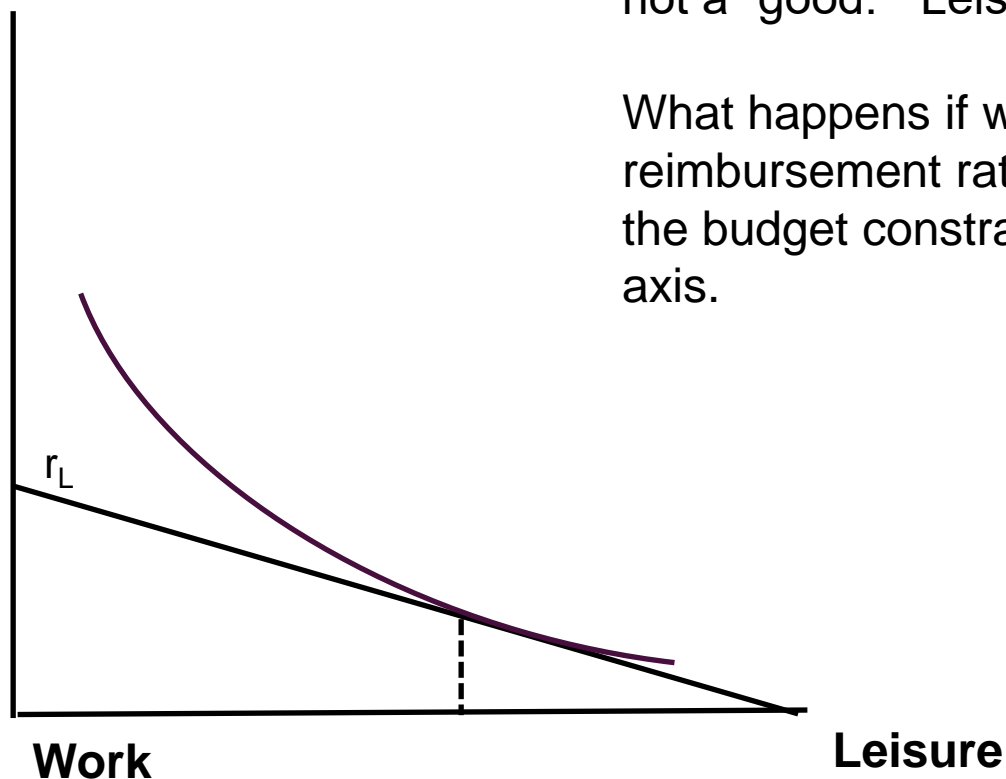
- **Definition:** The target income hypothesis is that physicians respond to payment changes such that their incomes remain at the same “target” before and after the change.
  - This requires the labor supply curve to slope down (or “backward”) rather than up.
  - Is this crazy or just inconsistent with standard evidence on how people respond to incentives?

# How Might Physician Labor Supply Respond To Changes in Reimbursement Rates?

- Physician Labor Supply
  - We've emphasized the "firm" perspective
  - Classic labor supply theory leaves things a bit more ambiguous
    - Labor is a "bad." "Leisure" and "Consumption out of income" are the goods
    - An increase in payment rates has a theoretically ambiguous effect on the quantity of leisure the individual will choose to consume
- Income and Substitution Effects
  - **Substitution Effect:** Wage increase makes leisure "expensive" => substitute towards market goods (work more)
  - **Income Effect:** Wage increase makes you richer => Consumer more other goods *and* leisure (work less)
- Typically the substitution effect dominates (an empirical statement)
  - **E.g.**, Would you work *more* if the tax rate you pay on income goes up?
- Emphasis on income effects is common in health economics circles
  - Target Income Hypothesis

# Hypothetical Responses to Changes in Reimbursement Rates

Market Goods

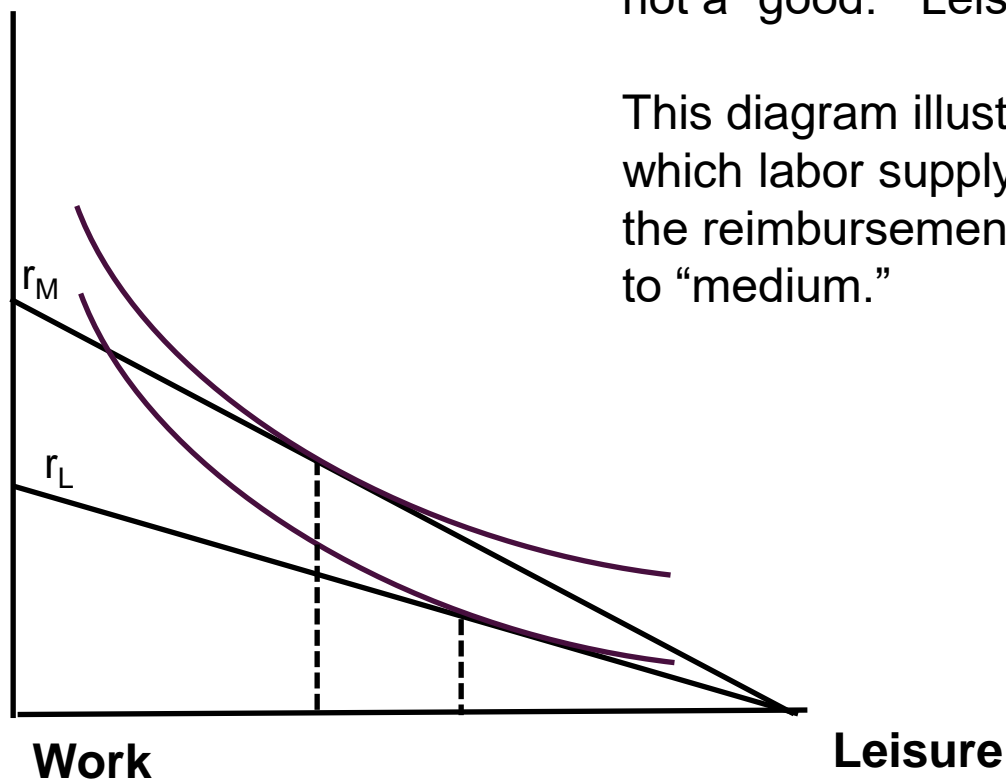


**Key Conceptual Point:** Work is not a “good.” Leisure is the good.

What happens if we increase the reimbursement rate, which rotate the budget constraint up on the y-axis.

# Hypothetical Responses to Changes in Reimbursement Rates

## Market Goods

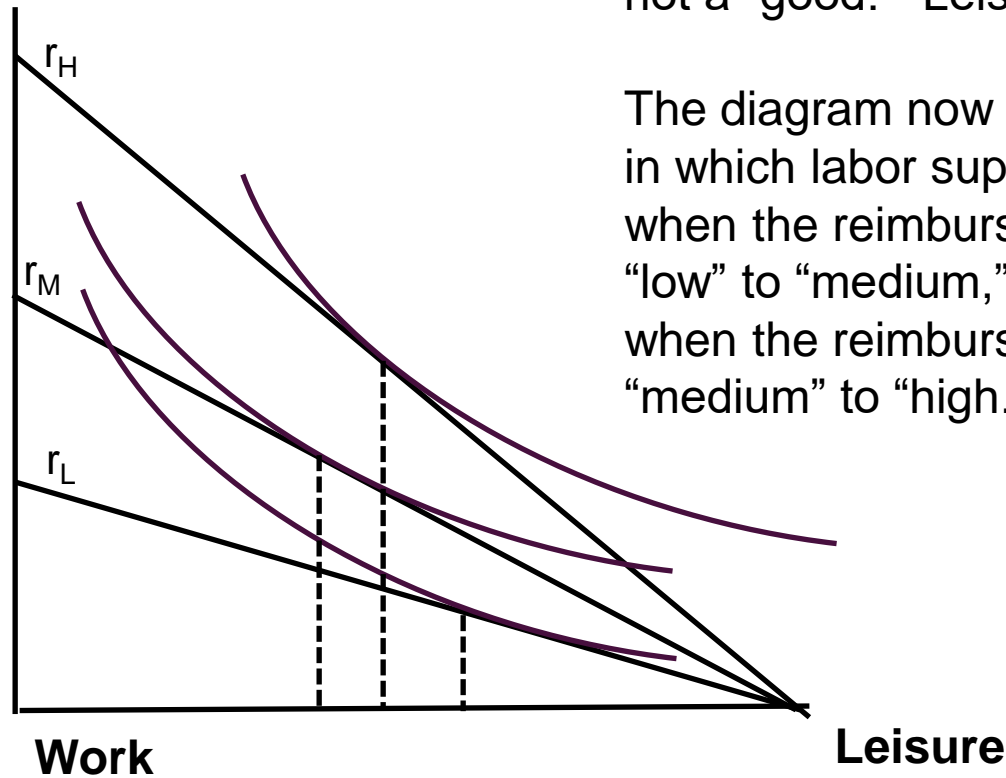


**Key Conceptual Point:** Work is not a “good.” Leisure is the good.

This diagram illustrates a case in which labor supply increases when the reimbursement rises from “low” to “medium.”

# Hypothetical Responses to Changes in Reimbursement Rates

## Market Goods



**Key Conceptual Point:** Work is not a “good.” Leisure is the good.

The diagram now illustrates a case in which labor supply increases when the reimbursement rises from “low” to “medium,” then decreases when the reimbursement rises from “medium” to “high.”

# Changes in GAF Due to The Great Consolidation

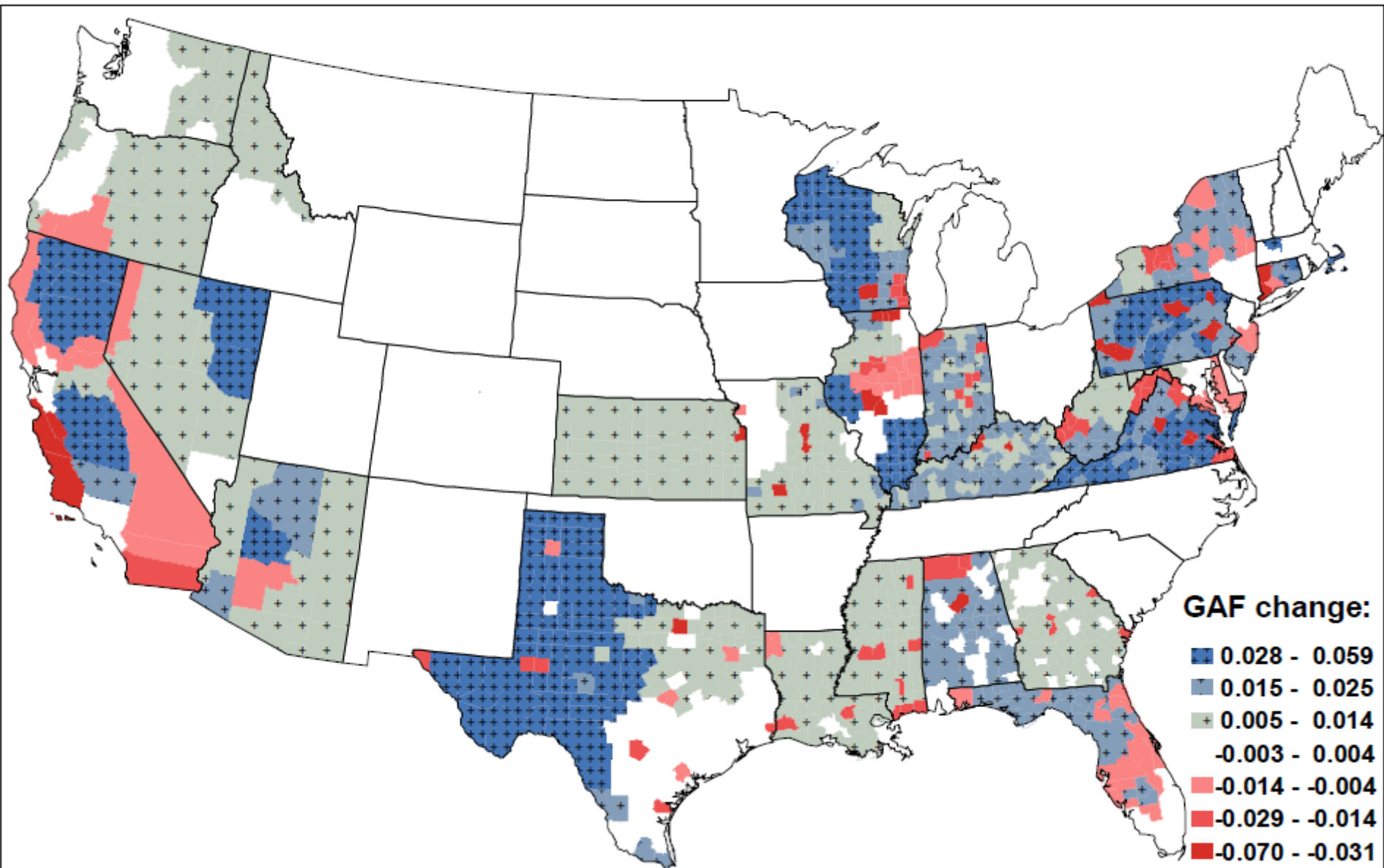
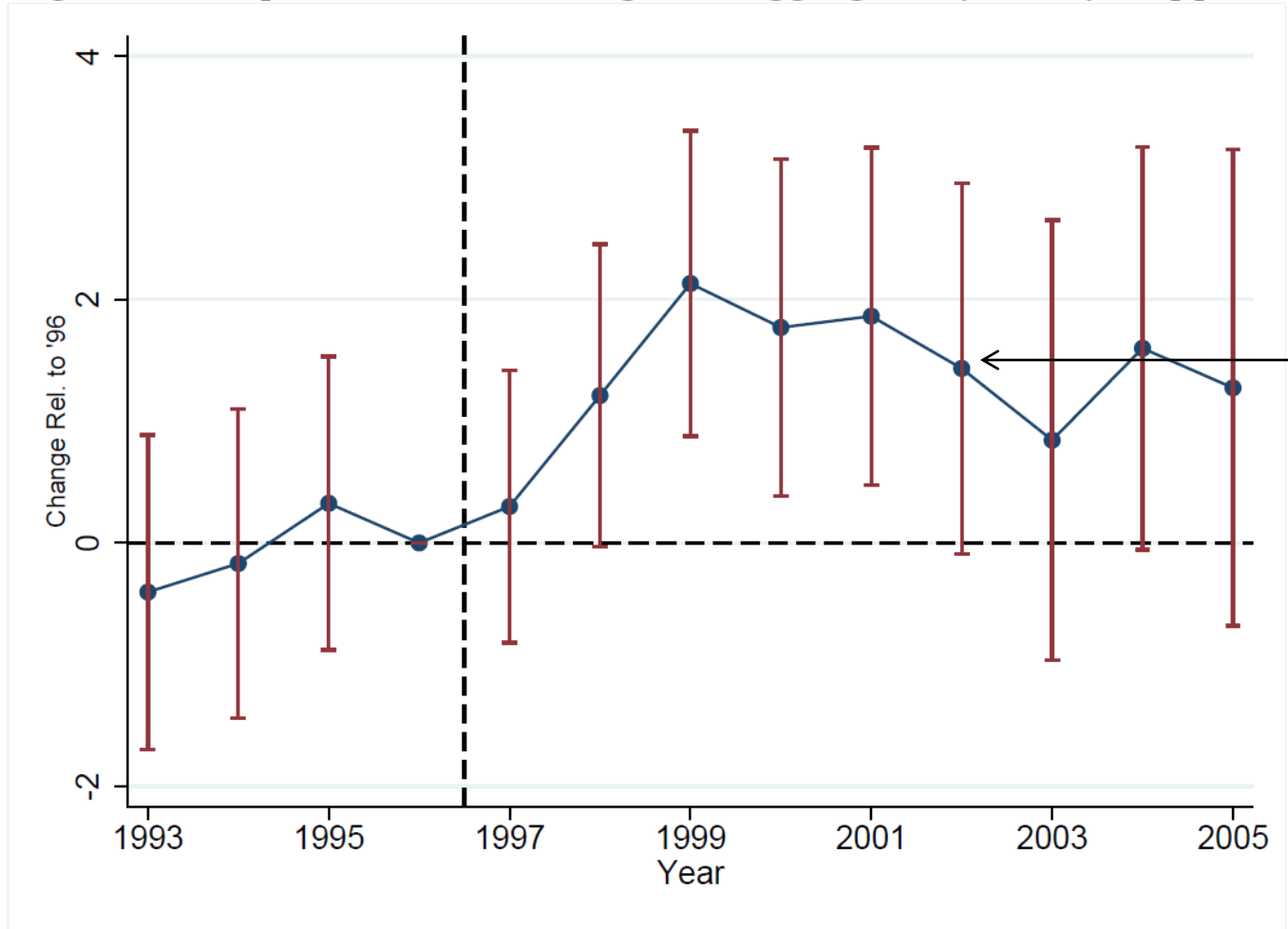




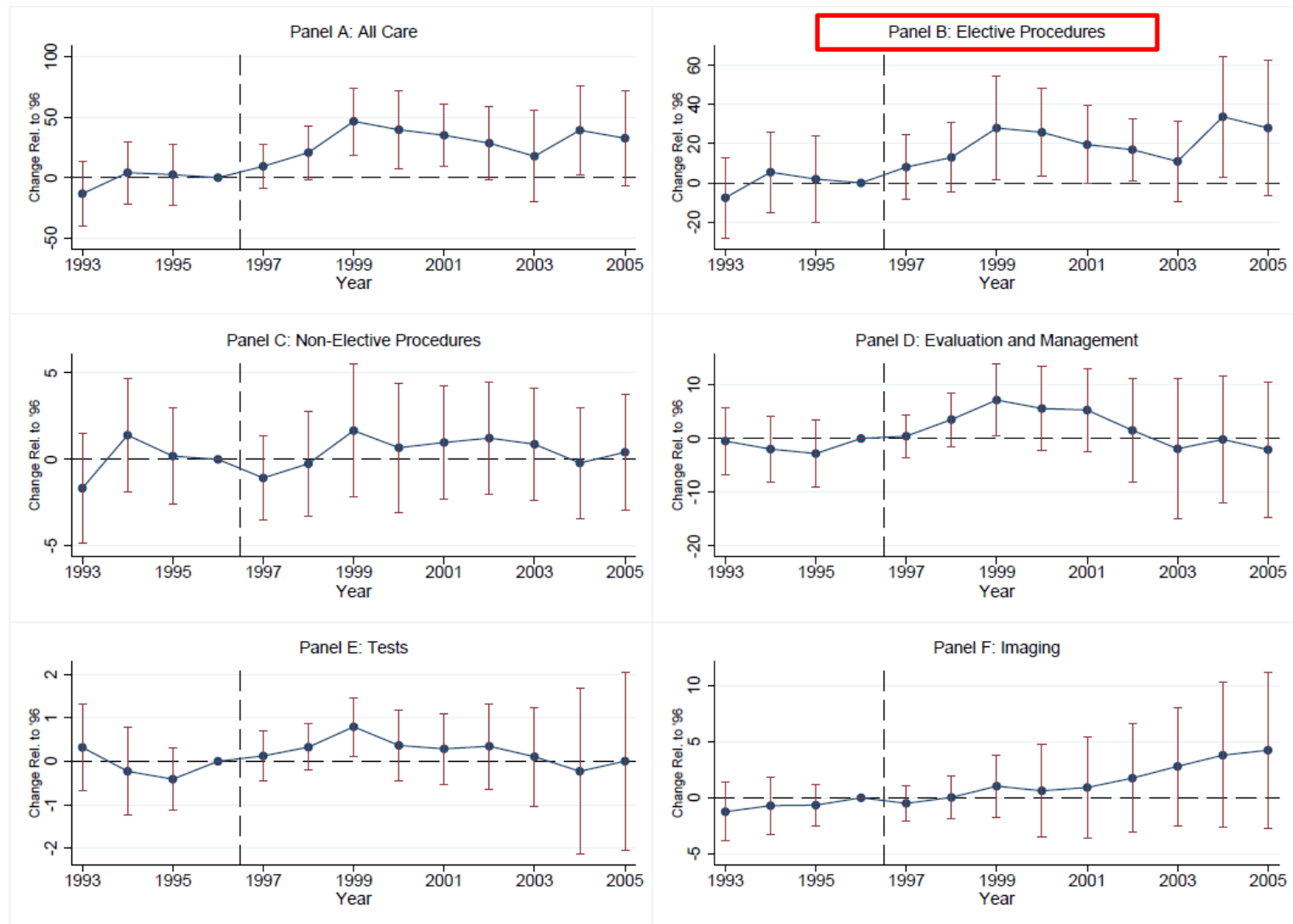
Figure 3: Impact of Price Change on Aggregate Quantity Supplied



The dots following 1996 are elasticities (i.e., the percent change in care provision associated with a 1 percent change in the payment rate)

The elasticity estimates were much larger for elective procedures than for other types of services, which is consistent with what our model of physician behavior predicted

Figure 5: Supply Response by Service Category



# Is the Target Income Hypothesis Plausible?

- Seems unlikely through standard labor supply channels
  - Probably don't "work less" when reimbursements rise
- But much revenue for a physician's practice involves little of the physician's own work
  - Auxiliary tests and services
  - Billing methods
  - Ethical margins may lapse when payments go down

# Additional recent evidence on the effects of payments on service supply

The Impact of Provider Payments on Health Care Utilization of Low-Income Individuals:  
Evidence from Medicare and Medicaid  
Marika Cabral, Colleen Carey, and Sarah Miller  
NBER Working Paper No. 29471  
November 2021, Revised June 2022  
JEL No. I11,I14,I18

## ABSTRACT

Provider payments are the key determinant of insurance generosity within many health insurance programs covering low-income populations. This paper analyzes the effects of a large, federally-mandated provider payment increase for primary care services provided to low-income elderly and disabled individuals. Drawing upon comprehensive administrative payment and utilization data, we leverage variation across beneficiaries and across providers in the policy-induced payment increase in difference-in-differences and triple differences research designs. The estimates indicate that the provider payment reform led to a 6.3% increase in the targeted services provided to eligible beneficiaries, indicating an implied payment elasticity of 1.2. Further, the provider payment reform decreased the fraction of low-income beneficiaries with no primary care visit in a year by 9%, completely closing the gap relative to higher-income beneficiaries with the same observable characteristics. Heterogeneity analysis indicates that the payment increase led to an expansion of utilization for many subgroups, with somewhat larger effects among beneficiaries who are younger, are white, and live in areas with many primary care providers per capita.

# Conclusion

- Medicare is consequential for the health care sector as a whole (due to “spillovers” from the public sector into the private sector)
- We learned how to think about three commonly stated views about health care costs and physician behavior (the Cost-Shifting Hypothesis, Supplier-Induced-Demand, and the Target Income Hypothesis).
- Research on these issues remains active and has been active for several decades.
  - Having a toolkit for thinking analytically about what’s going on is more useful than having the results of a single empirical study!