

What to expect when you are expecting: Are health care consumers forward-looking?

Audrey Guo, and Jonathan Zhang
(Journal of Health Economics, 2019)

EC 782 Presentation 2020

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Brief Overview

- Terminology
- Intuition
- Summary
- Analysis
- Critique

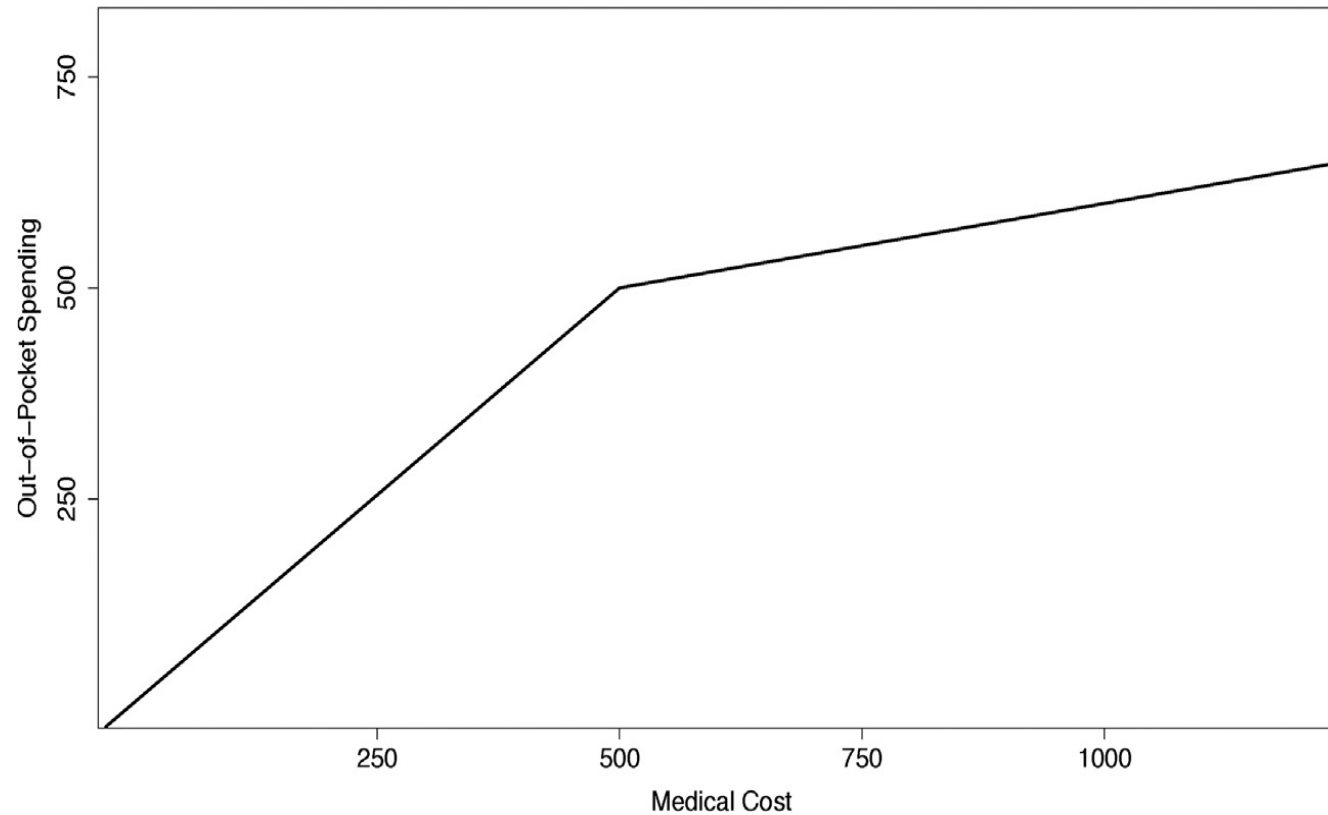
Terminology

- Deductible: “[it] require consumers to pay 100% of medical expenses up to the deductible amount out-of-pocket before any coinsurance begins.”
- Coinsurance: The percentage of costs of a covered health care service you pay (20%, for example) after you've paid your deductible. [HealthCare.gov]
- Hitmonth: “[it] is the calendar month that the father becomes eligible for coinsurance.”

e.g. Annual deductible of \$500. You have spend \$480 until yesterday. Today you have to pay \$30 for your flu shot. How much will you be paying eventually? What is your Hitmonth?

Intuition

- Assume that delivery is going to cost you more than your deductible (\$500) in November.



Intuition

- Assume that delivery is going to cost you more than your deductible in November.
- Are you going to consume more medical goods in December than in October or before?
- Neoclassical economist would comment: *“you should have anticipated this and behaved differently as soon as the pregnancy was detected.”*
- However, what if people are not perfectly forward looking?

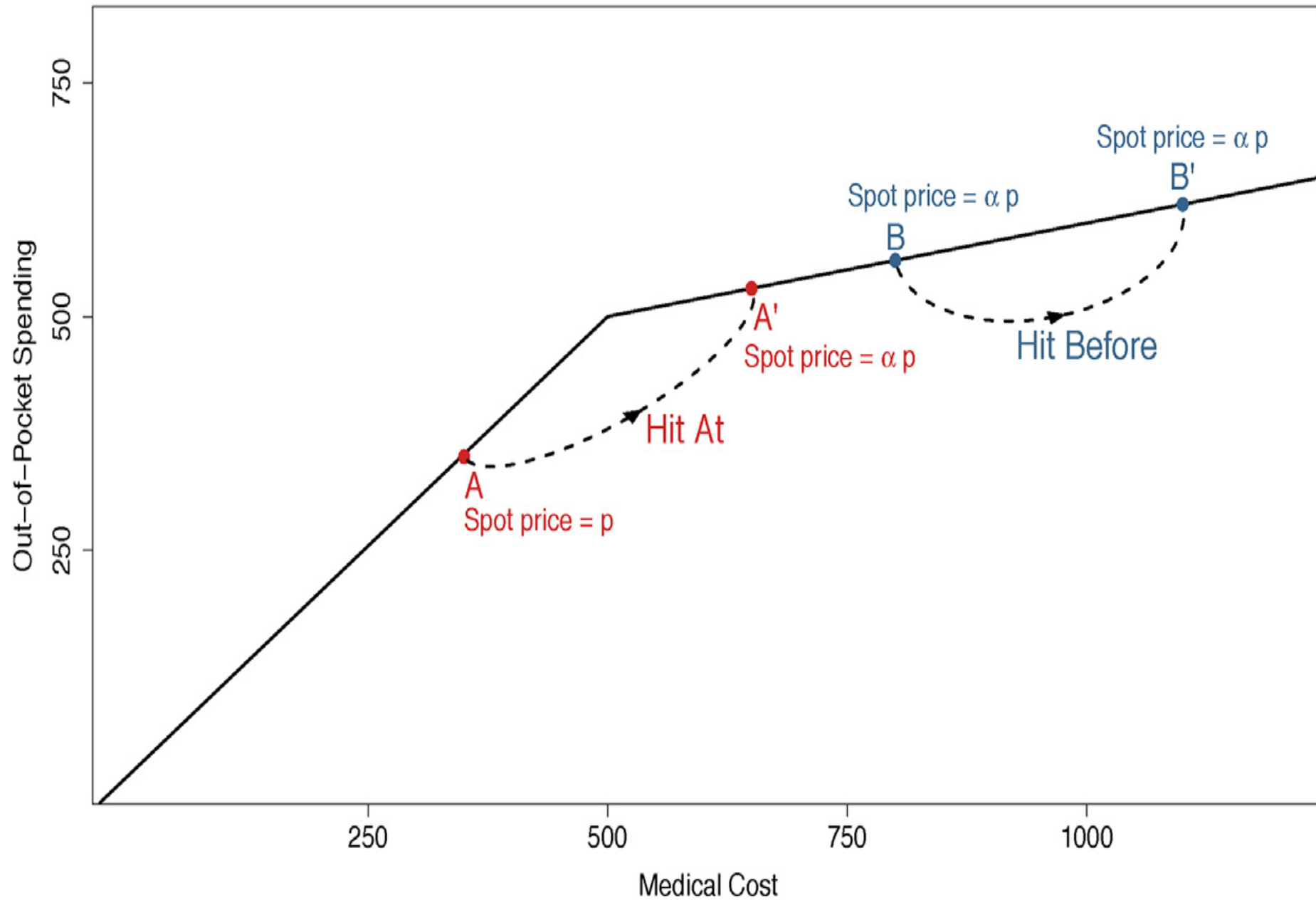
Summary

- The authors find that people are not perfectly forward looking, i.e. myopic.
- Elective procedures made the difference, so it corroborates the result.
- “[This result tells us that we should consider people’s] myopic behavior when studying the medical utilization responses to health insurance.”

Analysis

- Data: IBM MarketScan data with benefit plan features.
cf) you also have an access to these data!

Analysis



Analysis (DID)

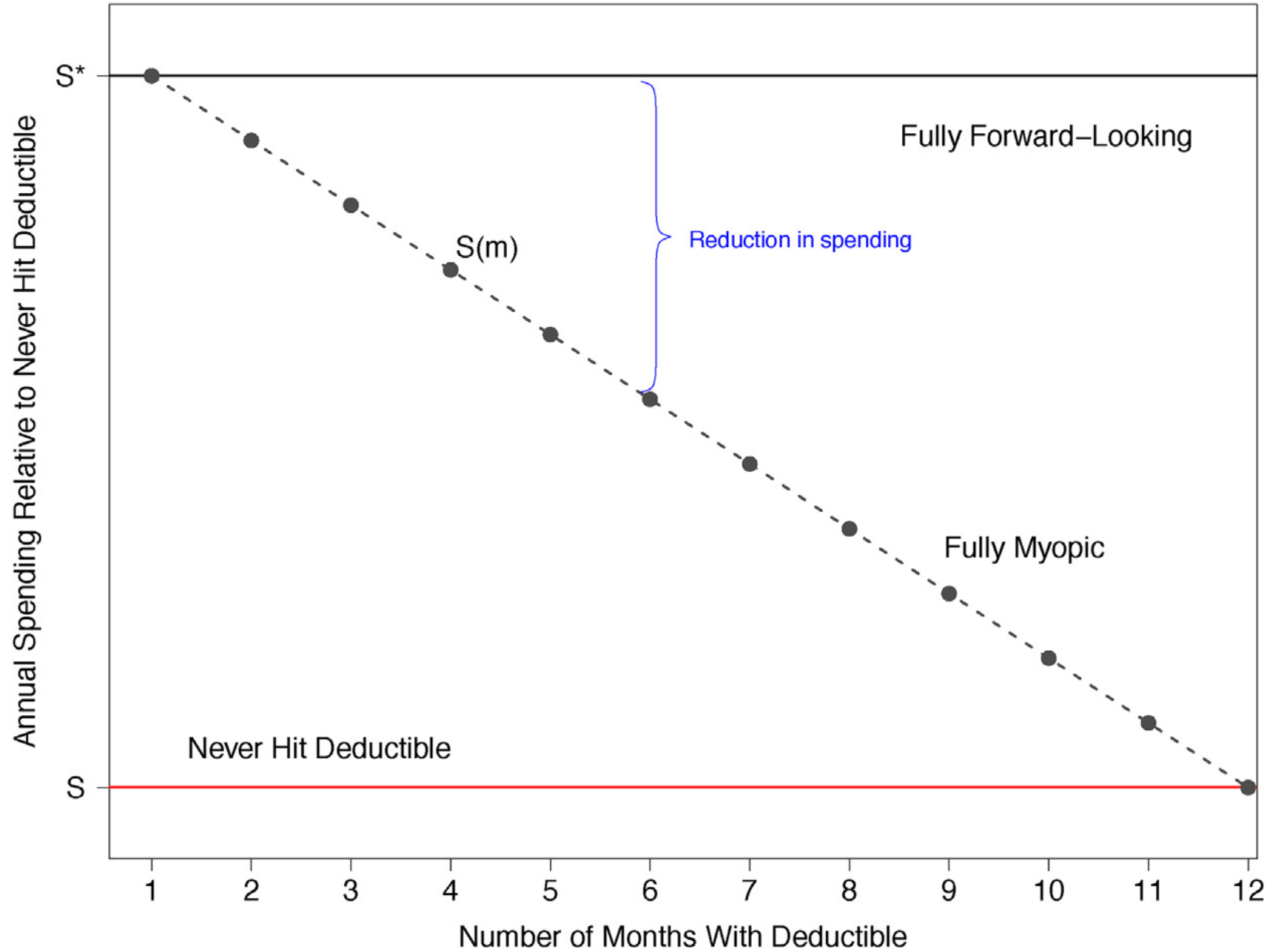
Table 8

Difference-in-differences for post-birth and deductible plans.

Dependent variable:	Log spending	Util count
<i>DedPlan</i>	0.02 ^{***} (0.01)	0.02 ^{***} (0.003)
<i>PostBirth</i>	0.01 ^{**} (0.01)	0.002 (0.003)
<i>DedPlan</i> × <i>PostBirth</i>	0.04 ^{***} (0.01)	0.01 ^{***} (0.003)
<i>N</i> =	6,215,048	6,215,048

Notes: Estimated regressions coefficients are reported from the following specification: $Y_{i,m} = \beta_0 \text{DedPlan}_i + \beta_1 \text{PostBirth}_{i,m} + \beta_2 \text{DedPlan}_i \times \text{PostBirth}_{i,m} \alpha_m + \theta' X_{i,m} + \epsilon_{i,m}$. $Y_{i,m}$ denotes the dependent variable for father i in calendar month m . Log spending is defined as the $\log(1 + s)$ where s denotes all medical spending during the calendar month. Utilization count is defined as the number of unique medical visit days. DedPlan_i is a dummy for being on a plan with an annual deductible, and $\text{PostBirth}_{i,m}$ is a dummy for the calendar months that occur on or after the birth month. $X_{i,m}$ denote the baseline controls including calendar month fixed effects. Standard errors are in parentheses.

Analysis (IV)

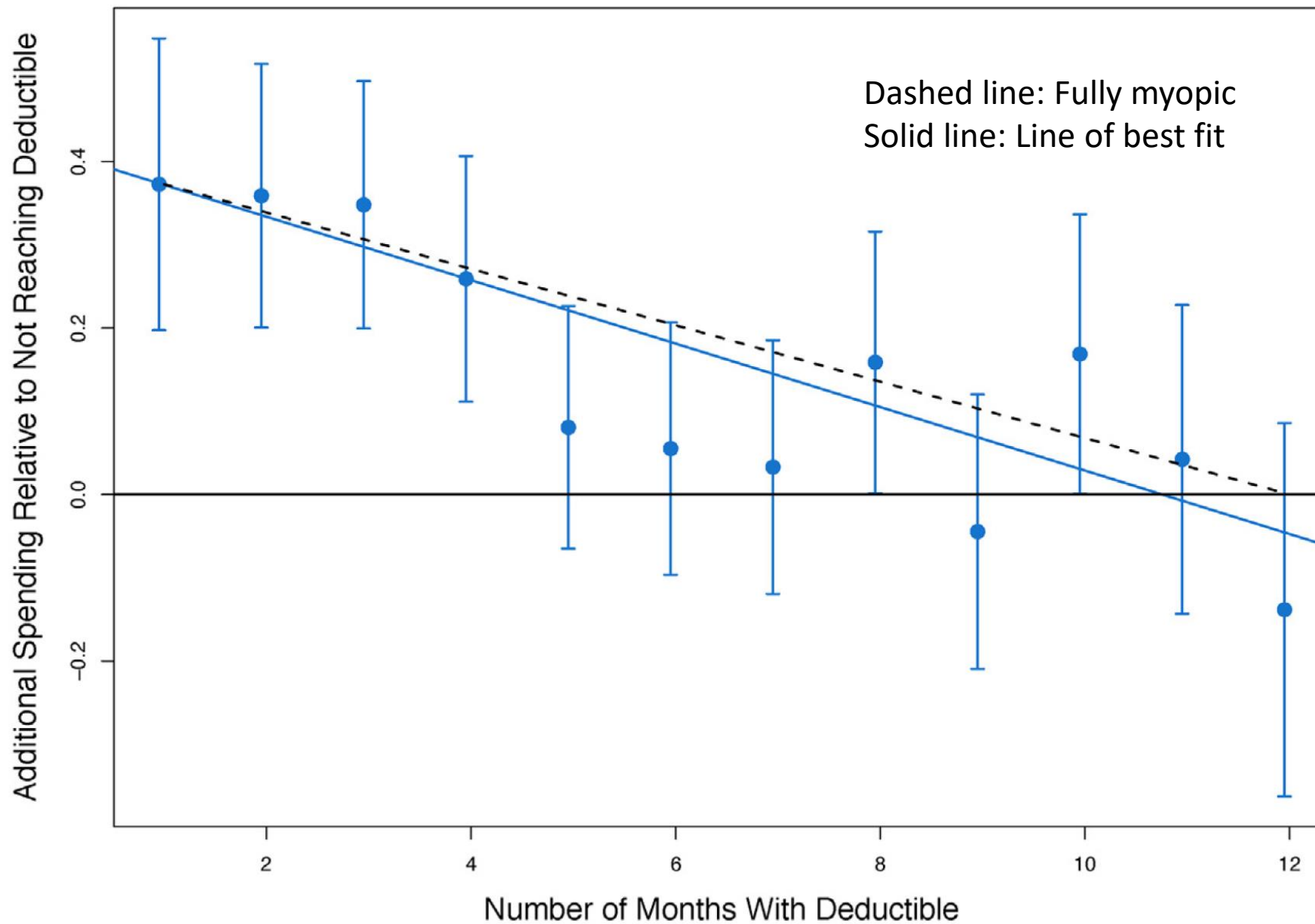


Analysis (IV)

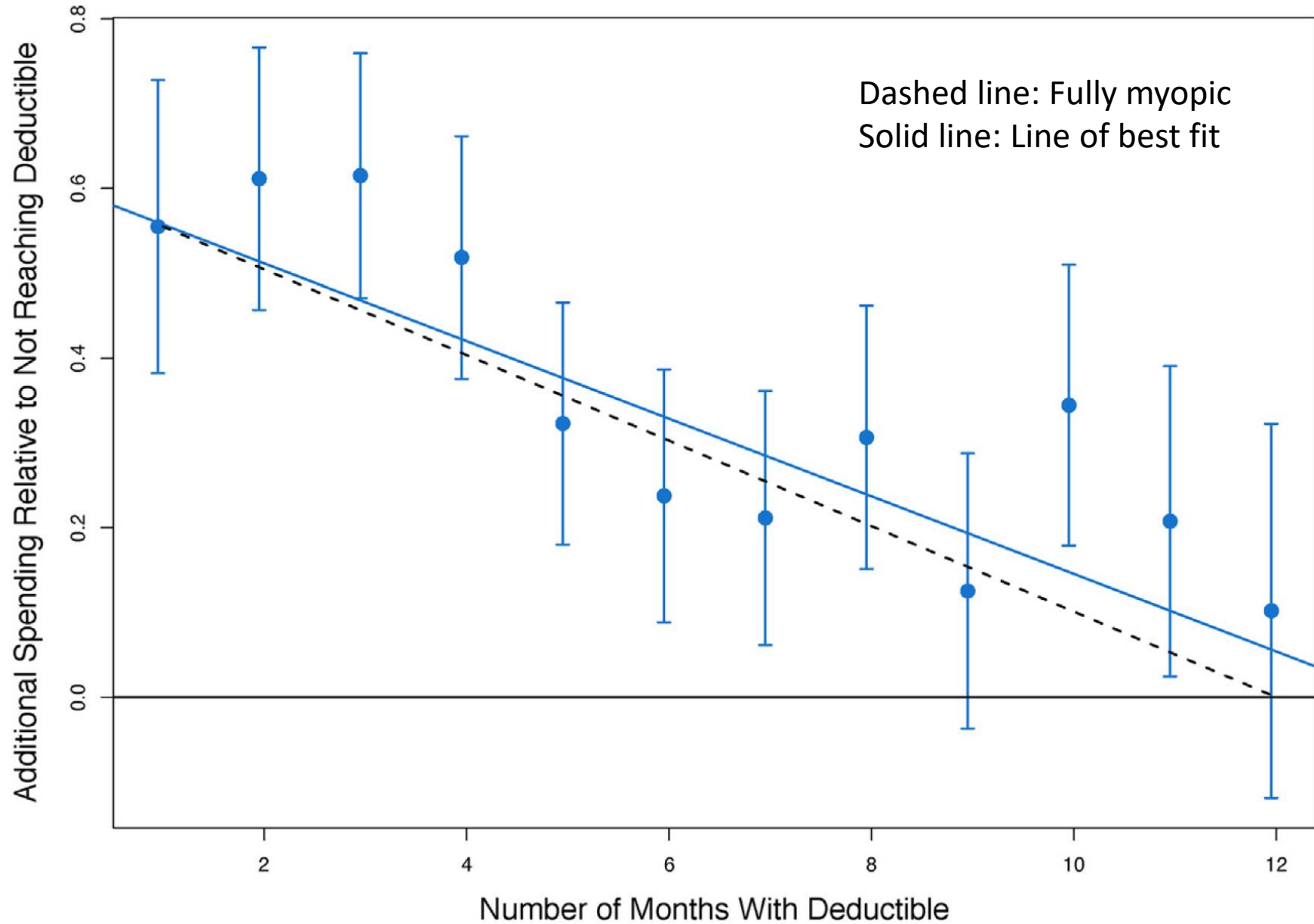
- $AnnualSpend_i = \beta^m 1\{HitMonth_i = m\} + X_i\theta + \epsilon_i$
- However, HitMonth is likely to be endogenous, as particularly forward-looking fathers will hit the deductible earlier and spend more.
- Instrument β^m with $1\{BirthMonth_i = m\} \cdot FamilySize_i$ and $1\{BirthMonth_i = m\} \cdot 1\{DependentClaim_i > 0\}$
- Is these IV valid?

Result

IV: Birth Month X Family Size (Primary Sample)



IV: Birth Month X Dependent Claim Dummy (Primary Sample)



Result

Critique

- This paper is not fully neoclassical nor fully behavioral. However, I would say it is farther from neoclassical.
- Thus, I will try to give a critique as a neoclassical economist.

Critique (Intuition)

- *The cost of delivery is quite random, i.e. expecting mothers may have complications that would incur a lot of cost.*
- *If liquidity constraint is binding, and if the marginal benefit from medical consumption is smaller than marginal benefit from dealing with potential complication, then people would want to save on medical consumptions before delivery.*
- *In other words, one would refrain from visiting doctors for trivial illnesses, when his wife is expecting. This is to save money in case of potential complication during delivery.*

Critique (Being a bit more formal)

- *Assume that:*
 1. *Individuals face liquidity constraint.*
 2. *Individuals value safe delivery of both mother and baby more than anything else.*
 3. *Safe delivery incurs cost and the cost is random.*

Critique (Being a bit more formal)

1. Individuals face liquidity constraint.

2. Individuals value safe delivery of both mother and baby more than anything else.

3. Safe delivery incurs cost and the cost is random.

- 2 implies that one would pay a lot of money in case of complication during delivery.*
- However, due to 3, one do not know ex-ante if the cost will be high.*
- Even more, 1 keeps one from borrowing money.*
- As a result, one would save money (or consume less medical good compared to equilibrium quantity) to prepare for potential complication.*
- After delivery, one do not need to save money as he did previously, so he may increase his medical spending. (There is no uncertainty regarding the delivery cost)*

Questions

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