The Equilibrium Effects of Information Deletion: Evidence from Consumer Credit Markets

by Liberman, Neilson, Opazo, and Zimmerman

Discussion by Christopher Palmer
MIT Sloan & NBER

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A classic argument

Senator Kindheart

- ~~Totally unfair that some borrowers had a nasty shock with permanent implications!~~
- Redistribution can be efficient!
- ~~Banks are evil!~~

Senator Hardnose

- ~~They did too deserve it!~~
- ~~Moral hazard!~~
- ~~Unfair to good types!~~
- Will raise borrowing costs!
- Net welfare can decrease!

- Argument playing in *90% of countries* (Elul Gottardi 2015)

  → need structure to evaluate welfare claims

Research Question

- Presumably, deleting default flags is good for people with default flags and bad for people who might be assumed to have default flags.
- Pooling interest rate should be higher than average interest rate before
- What happens to total borrowing?
- What happens to total welfare?
- "Yeah, but it's worth it." "…is it?"

- (usual IO logic: if P.D. increases Q then welfare improving)

Mandated Pooling Policies Ubiquitous

- Post office pools prices geographically
- GSEs pool mortgage rates geographically
- Fair Lending Act pools protected classes
  - Anti-discrimination labor laws more broadly
- Obamacare pools pre-existing conditions
- Deletion policies pool those with old flags
- CARD Act Reclassification restrictions

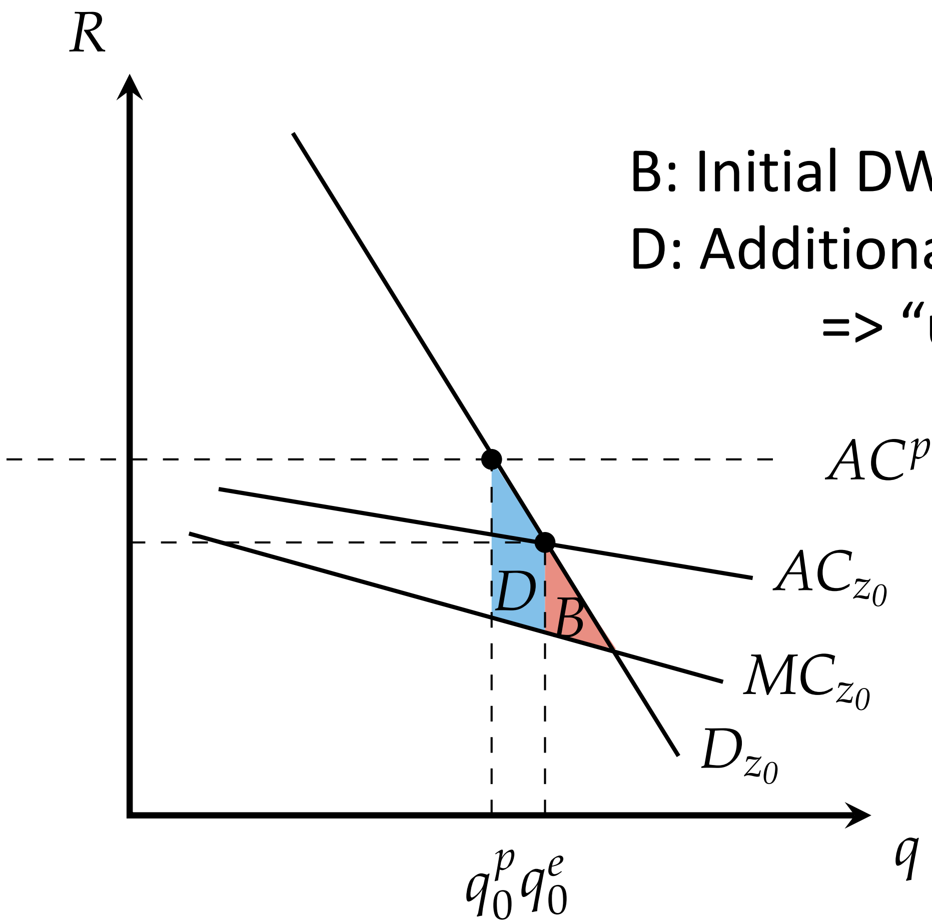
- Two motivations:
  1. those getting subsidized are deserving
  2. redistribution can be efficient

Deletion Lit: Means, not an End

- Generally not about deletion per se but about effect of credit or information
- Bos, Breza, Liberman (2018 RFS): Employers prefer employees without defaults
- Herkenhoff, Philipps, Cohen-Cole (2018 WP): Better consumer credit access => higher paying jobs + entrepreneurs take out more loans
- Dobbie et al. (2017 WP): Employers don’t care about bad credit reports
- This paper: What about this phenomenon of deletion itself? Not take as given. ¿Overall welfare consequences?

Measuring Triangles: Low-risk

Low-cost market

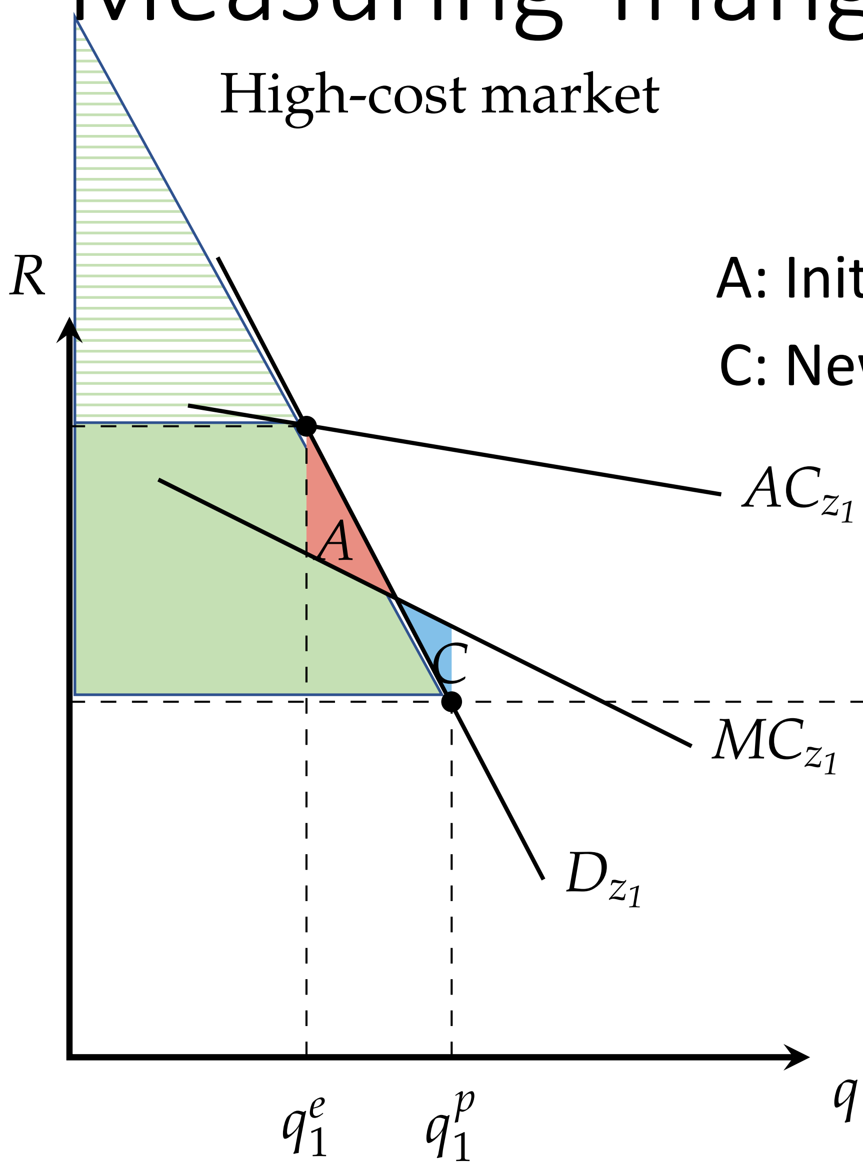


B: Initial DWL of adverse selection

D: Additional DWL of adverse selection

=> “unfair” to high types

Measuring Triangles: High-risk



A: Initial DWL of adverse selection

C: New DWL of adverse selection

…could be C<A, C>A

Core Results

- Chile deleted default information from credit reports in a one-time move in 2012
- No obvious moral hazard: confess and forsake model
- Borrowing costs go up
- Defaulters benefit
- People that look like defaulters suffer
- People who really don’t look like defaulters unaffected
- Total borrowing goes down
- Total welfare goes down

1. Note on Use of Machine Learning

- Early papers in finance using ML tried to say "We built a better mousetrap and our predictions are awesome!"
  - Boring. Want to summarize partial effects instead.
- Next papers: evaluate distributional consequences of machine learning (e.g. Fuster et al., 2017), solve otherwise intractable models (e.g. Duarte JMP)
- This paper: use machine learning to impute unobserved costs, proxy for what bank might do.
  - Cool. Would be so nice to validate, but cool.
  - Also: Dobbie et al. (2018) shows banks seem to focus more on default than marginal profit.

2. Aggregate Welfare?

- Economists: Care about aggregate welfare because if net welfare goes up, then there is a system of transfers that could achieve a Pareto improvement.
  - This not situation where lump-sum transfers are feasible.
  - Is aggregate welfare the right metric?
- Liberals: Care about protecting those with worst outcomes; ex-ante that might be any one of us.
  - Doesn’t Senator Kindheart probably know that aggregate welfare is going down ex-post? But wants to provide insurance?
- Conservatives: Only want Pareto improvements.

When in ~~Rome~~ Zion: Attend Sun School

1 For the kingdom of heaven is like unto a man that is an householder, which went out early in the morning to hire labourers into his vineyard.

2 And when he had agreed with the labourers for a penny a day, he sent them into his vineyard.

3 And he went out about the third hour, and saw others standing idle in the marketplace,

4 And said unto them; Go ye also into the vineyard, and whatsoever is right I will give you. And they went their way.

5 Again he went out about the sixth and ninth hour, and did likewise.

6 And about the eleventh hour he went out, and found others standing idle, and saith unto them, Why stand ye here all the day idle?

7 They say unto him, Because no man hath hired us. He saith unto them, Go ye also into the vineyard; and whatsoever is right, that shall ye receive.

8 So when even was come, the lord of the vineyard saith unto his steward, Call the labourers, and give them their hire, beginning from the last unto the first.

9 And when they came that were hired about the eleventh hour, they received every man a penny.

10 But when the first came, they supposed that they should have received more; and they likewise received every man a penny.

11 And when they had received it, they murmured against the goodman of the house,

12 Saying, These last have wrought but one hour, and thou hast made them equal unto us, which have borne the burden and heat of the day.

13 But he answered one of them, and said, Friend, I do thee no wrong: didst not thou agree with me for a penny?

14 Take that thine is, and go thy way: I will give unto this last, even as unto thee.

15 Is it not lawful for me to do what I will with mine own? Is thine eye evil, because I am good?

Matthew 20:1-15

Jesus' Implicit Assumptions

1. There is no moral hazard, or any perceived moral hazard is overstated.
2. No adverse selection either: not getting hired until the 11th hour is exogenous.
3. Everyone gets hired here: labor demand is inelastic.

- Then we shouldn't whine about redistribution.
- If you don't think a given interest rate is low enough, then don't accept the contract.
- But don't complain somebody else is getting cross-subsidized with some of your surplus.
- Story changes when some people don't get hired because of pooling policy. Now have a better claim of harm.
- Need structural model to compare across people.

3. "We both know what we know"

- Welfare analysis relies on uniform pricing
- Regression results look at heterogeneity
- Would there really be pooling after the change? Or A.C. pricing within a type before the change even?
- Majority of credit is extended by banks. They still have information + could use old versions of registry data?
  - Dobbie et al. logic: predictions pretty good, maybe flag itself less impt
- Can you talk through how welfare estimates might be different without average cost pricing?

Conclusion

- Deleting adverse information benefits risky looking at expense of safe looking
- Could increase aggregate welfare, but in Chile, didn’t
- Is aggregate welfare the right object of interest?
- That said, economics should be about measuring triangles