KILLER ACQUISITIONS

forthcoming in the *Journal of Political Economy*

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TPRI Panel "Acquisitions by Dominant Firms"

September 12, 2020

KILLER ACQUISITIONS

- ▶ Central Idea
  - ▶ Market incumbents have incentives to acquire and "kill" innovative targets
  - ▶ Preempt the "gale of creative destruction" to protect existing profits
- ▶ Main Empirical Findings
  - ▶ Development rate decreases 23.4% for acquired overlapping drug projects
  - ▶ Results concentrated in markets with low present/future competition
  - ▶ 5.3% to 7.4% of all pharma acquisitions are killer acquisitions (50 per year)
- ▶ Alternative Interpretations?
  - ▶ Lack of development is **not** due to **optimal project selection**.
  - ▶ Lack of development is due to **real termination** not delayed development.
  - ▶ Killer acquisitions are **not tech acquisitions**: no increase in similar drugs.
  - ▶ Killer acquisitions are **not acquihires**: most leave; stayers less productive.

Do "Killer Acquisitions" Exist?
FTC Against Mallinckrodt (Questcor)

FEDERAL TRADE COMMISSION
PROTECTING AMERICA'S CONSUMERS

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Mallinckrodt Will Pay $100 Million to Settle FTC, State Charges It Illegally Maintained its Monopoly of Specialty Drug Used to Treat Infants

▶ "By acquiring Synacthen, Questcor harmed competition by preventing another bidder from trying to develop the drug … to challenge Questcor's monopoly over ACTH drugs."

▶ "Questcor has extinguished a nascent competitive threat to its monopoly."
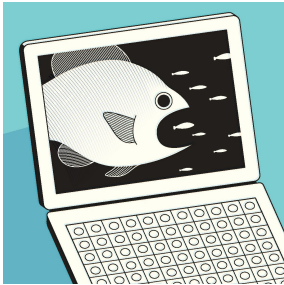
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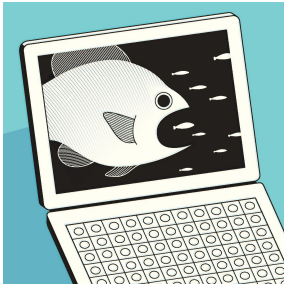
THE WALL STREET JOURNAL.

The New York Times

"This happens because antitrust regulators are stuck in an outdated view of the world, while the Internet giants are more attuned to their **nascent** competitive threats." —NYTimes, Aug 16, 2016
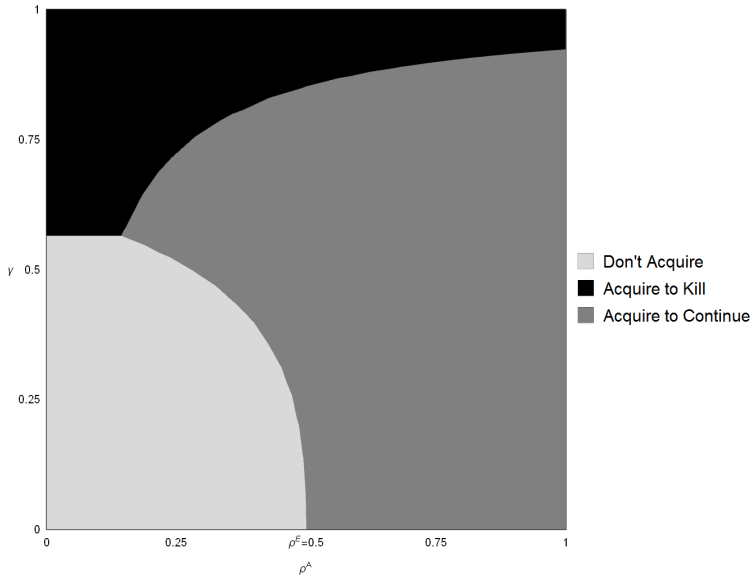
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"If you're an app, are you better off getting acquired or competing against one of the big platforms?" While getting acquired can be "a very good win for the founders, that might be at the expense of a more competitive landscape." says Scott Stern —WSJ, Aug 9, 2017

OPTIMAL ACQUISITION STRATEGIES

Legend:
- Don't Acquire
- Acquire to Kill
- Acquire to Continue

Axis labels: γ (vertical), ρ^A (horizontal), $\rho^E = 0.5$

Example for Overlap

More than sixty (60) different drugs are available to treat hypertension. They are divided into six (6) major classes, which act at different points in the cascade of events that drive up blood pressure.

Drugs most commonly prescribed for hypertension and how they work

ADRENERGIC INHIBITORS (INCLUDES ALPHA BLOCKERS AND BETA BLOCKERS) BETA BLOCKERS SLOW THE HEART AND REDUCE THE FORCE OF ITS CONTRACTIONS; ALPHA BLOCKERS RELAX BLOOD VESSELS.

CALCIUM CHANNEL BLOCKERS RELAX BLOOD VESSELS.

ACE INHIBITORS RELAX BLOOD VESSELS BY TURNING OFF PRODUCTION OF ANGIOTENSIN II, A CHEMICAL THAT CAUSES THE ARTERIES TO CONSTRICT.

ANGIOTENSIN II RECEPTOR BLOCKERS RELAX BLOOD VESSELS BY BLOCKING THE ACTION OF ANGIOTENSIN II.

VASODILATORS CAUSE THE MUSCLES IN THE WALLS OF THE BLOOD VESSELS TO RELAX, ALLOWING THE ARTERIES TO DILATE.

DIURETICS INCREASE THE EXCRETION OF WATER AND SALT THROUGH THE KIDNEYS, LOWERING THE BLOOD VOLUME AND BLOOD PRESSURE. RELAX BLOOD VESSELS.

- **1 Therapeutic class**: Hypertension, or Antihypertensives

- **6 Mechanism of Actions**: how can we treat hypertension?
  - Adrenergic Inhibitors
  - Calcium Channel Blockers
  - ACE Inhibitors
  - Angiotensin II Receptor Blockers
  - Vasodilators
  - Diuretics

MAIN RESULT: PROJECT DEVELOPMENT POST ACQUISITION

| | Development Event = 1 | | | |
	(1)	(2)	(3)	(4)
I(Acquired) × I(Post) × Overlap	-0.037***	-0.033**	-0.029*	-0.041**
	(0.013)	(0.014)	(0.015)	(0.019)
I(Acquired) × I(Post)	-0.020***	-0.016**	-0.017**	-0.024**
	(0.006)	(0.007)	(0.009)	(0.010)
I(Acquired) × Overlap	0.004	0.009	0.026**	
	(0.008)	(0.009)	(0.011)	
I(Acquired)	-0.002	-0.004	-0.011	
	(0.004)	(0.005)	(0.012)	
Observations	143,569	143,569	143,569	143,569
R-squared	0.038	0.256	0.294	0.370
Vintage FE	Y	Y	Y	Y
Age FE	Y			
Age FE X Therapeutic Class X MOA		Y	Y	Y
Originator [Target Company] FE			Y	
Project FE				Y

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▶ Takeaway: "Killer acquisitions" reduce development.

▶ Propensity Reweighting   ▶ Pre-trends   ▶ Broader Overlap

EARLY-STAGE ANTITRUST AND FTC REVIEW

▶ FTC Review – Hart-Scott-Rodino (HSR) Antitrust Improvements Act
  ▶ No report: < 50 million (as adjusted)
  ▶ Selected report: [50, 200] million with both parties having big assets/sales
  ▶ Mandatory report: > 200 million (as adjusted)
▶ Analysis design
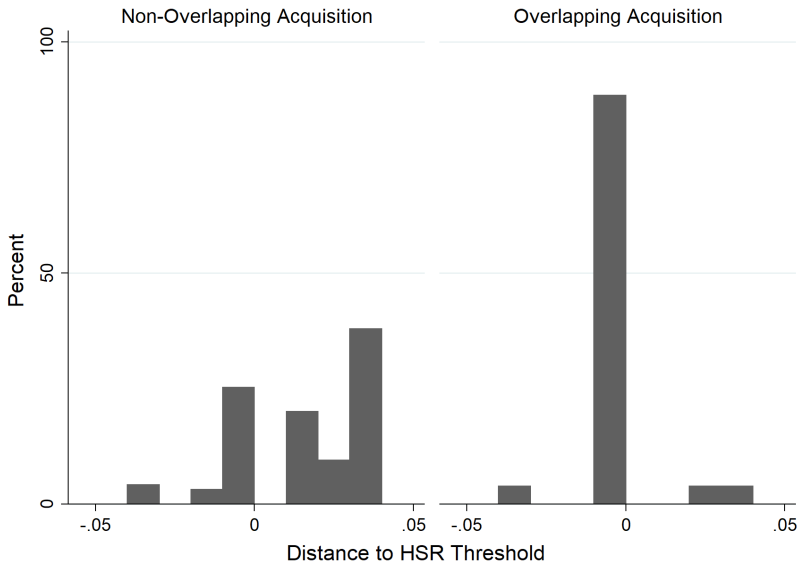 ▶ Examine acquisitions and drug development decisions near the threshold

	10% Below Threshold	10% Above Threshold	Diff	T-statistics
Active	3.57%	7.58%	-4.00%	-1.176
Launched	1.79%	9.09%	-7.31%	-2.293**
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DO KILLER ACQUISITIONS EVADE ANTITRUST SCRUTINY?

Non-Overlapping Acquisition

Overlapping Acquisition

Percent

Distance to HSR Threshold

Cunningham (LBS), Ederer (Yale), Ma (Yale)

Concluding Remarks

▶ What this paper says

  ▶ Incumbents acquire entrepreneurial targets and terminate innovation
  ▶ Particularly when products overlap and there is little competition

    ▶ ... and even when innovative project is qualitatively superior
    ▶ ... and even when incumbent has large synergies

  ▶ Suggestive evidence that killer acquisitions occur below the antitrust radar

▶ What this paper does **not** say

  ▶ All acquisitions are "killer acquisitions"
  ▶ Killer acquisitions are necessarily welfare-reducing

▶ Results have implications for

  ▶ Startup exit
  ▶ Creative destruction
  ▶ Antitrust policy