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EU Savings and Investments Union: Bringing Capital Markets to People and Firms:

Institutional mobility in global capital markets

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Institutional features

Humanly devised rules that shape human interaction (North 1990)

- Law and finance (LLSV)
  - Legal rules and their enforcement determine economic outcomes

- Prior work views institutions as country-level factors
  - Makes sense in many contexts, since laws/institutions are typically organized at country level
    - e.g., quality of the courts, contract enforcement, property rights, culture, etc.
  - "At some level it is ***obvious*** that institutions matter."

Acemoglu and Robinson (2001)

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    Acemoglu and Robinson (2001)
- ***Not*** so obvious in global contexts…
  - Capital is *mobile*
  - Institutional features are ***NOT***! (at least not naturally)
    - Securities laws do not magically transfer across borders
    - Global markets (new frontiers for investment, savings, development, growth)
      - Achilles heal—No single regulator can investigate or enforce laws unilaterally
      - Scatter transactions, assets, records, claimants, and relevant legal entities across different jurisdictions

(think CMU)

Cooperation is ***the*** critical solution—
it mobilizes/extends specific legal rules (and their enforcement) to foreign jurisdictions

Institutional features are no longer inert country-based "silos,"

When economic activities span different jurisdictions (as they do in global markets), institutional features become *interactive* and are *jointly* determined by country-pair relationships:

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Which *specific* strands of Swiss legal system can be mobilized into Hong Kong?
(and vice-versa)

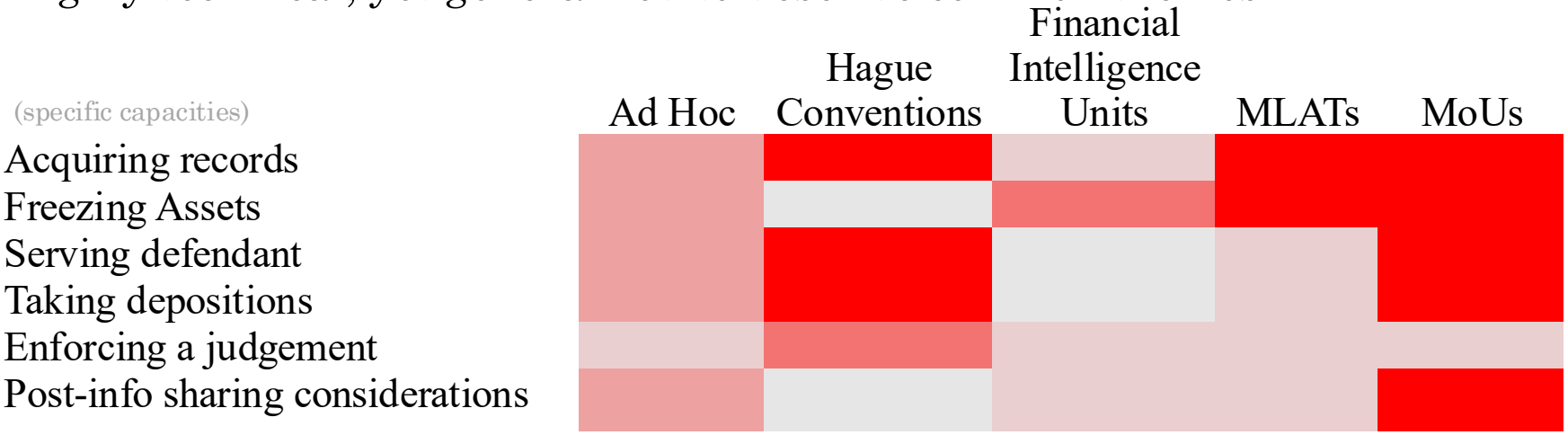
Okay, institutional mobility (via cooperation) is critical and determined by each ***country-pair***...

- ...but how could we possibly test this?
  - we need to systematically which countries' cooperate and when (and which individual capacities!)
- cooperative instruments are observable (***if*** you know what to look for!)
  - (1) Hague Conventions (Evidence/Service)
  - (2) Financial Intelligence Units
  - (3) Ad hoc efforts (e.g. letters rogatory)
  - (4) Mutual Legal Assistance Treaties
  - (5) Memoranda of Understanding (MoUs)

$M\&A_{ijt}=f(cooperation, controls)$

Legal analyses—how regulators use cooperative instruments at different stages of litigation

- Highly technical, yet generalized to describe common themes



- The "Secret Sauce"—section II provides insights based on extensive interactions with high-level 'special forces' (quasi-qualitative methods)
  - Takes you into the world of global securities regulation, through the eyes of the regulator
  - Notably difficult task
    - Inordinate amount of bureaucratic hurdles
    - Regulatory personnel difficult to identify/access
    - Reticent to give details
  - Insights are not easily generated
    - Not as simple as a "black letter" reading of the law
    - Not the product of running regressions
    - Not able to borrow from legal scholars

European Stability Mechanism
WORLD BANK
Bank of England
ISRAEL SECURITIES AUTHORITY
CENTRE FOR ECONOMIC POLICY RESEARCH
Monetary Authority of Singapore
CIRANO Knowledge into action
PLATO Market Innovator (MI3) Academic Conference

Translating legal analyses into empirical tests:
Cross-border M&A

- Search frictions, information issues, and market-related risks hamper M&A
  - Regulatory risks and uncertainties a top concern in cross-border deals (Deloitte 2017; Giambona et al. 2017)
  - Cooperation resolve these economic frictions
    - creates positive shock to supply (target firms) and demand (acquiring firms)
    - (Should increase cross-border M&A)

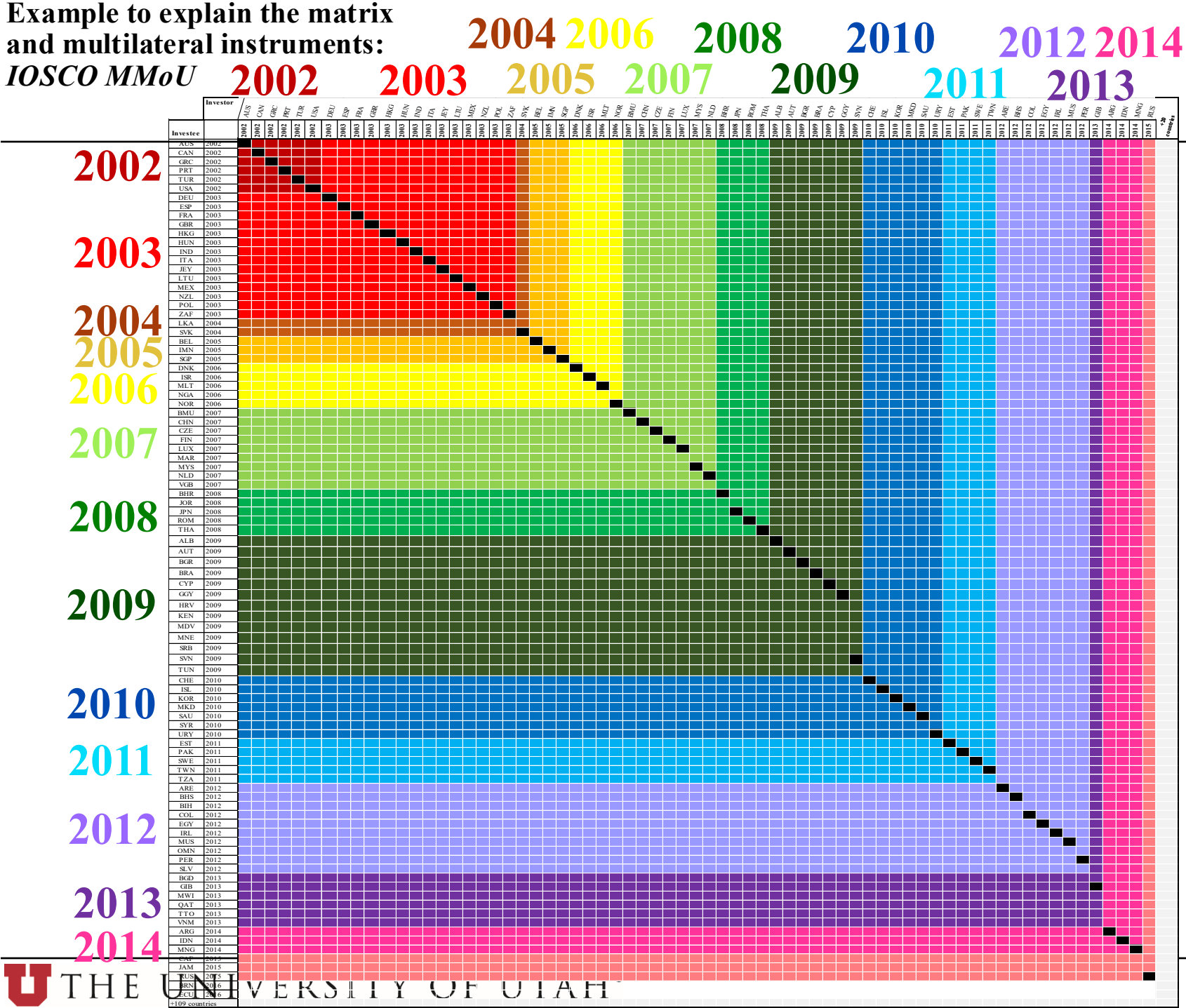
Empirical design

(1) $$M\&A_{ijt} = \gamma_0 + \lambda_1 Cooperation_{ijt} + \sum_{c=2}^{C} \lambda_{ijt}\ Controls + \sum_{i=C+1}^{I} \lambda_{it}\ Acquiror \times\ time\ FEs + \sum_{j=C+I+1}^{J} \lambda_{jt}\ Target \times time\ FEs + \sum_{m=C+I+J+3}^{M} \lambda_m\ Acquiror \times Target\ \ (country\ pair)\ FEs + \upsilon_{ijt}$$

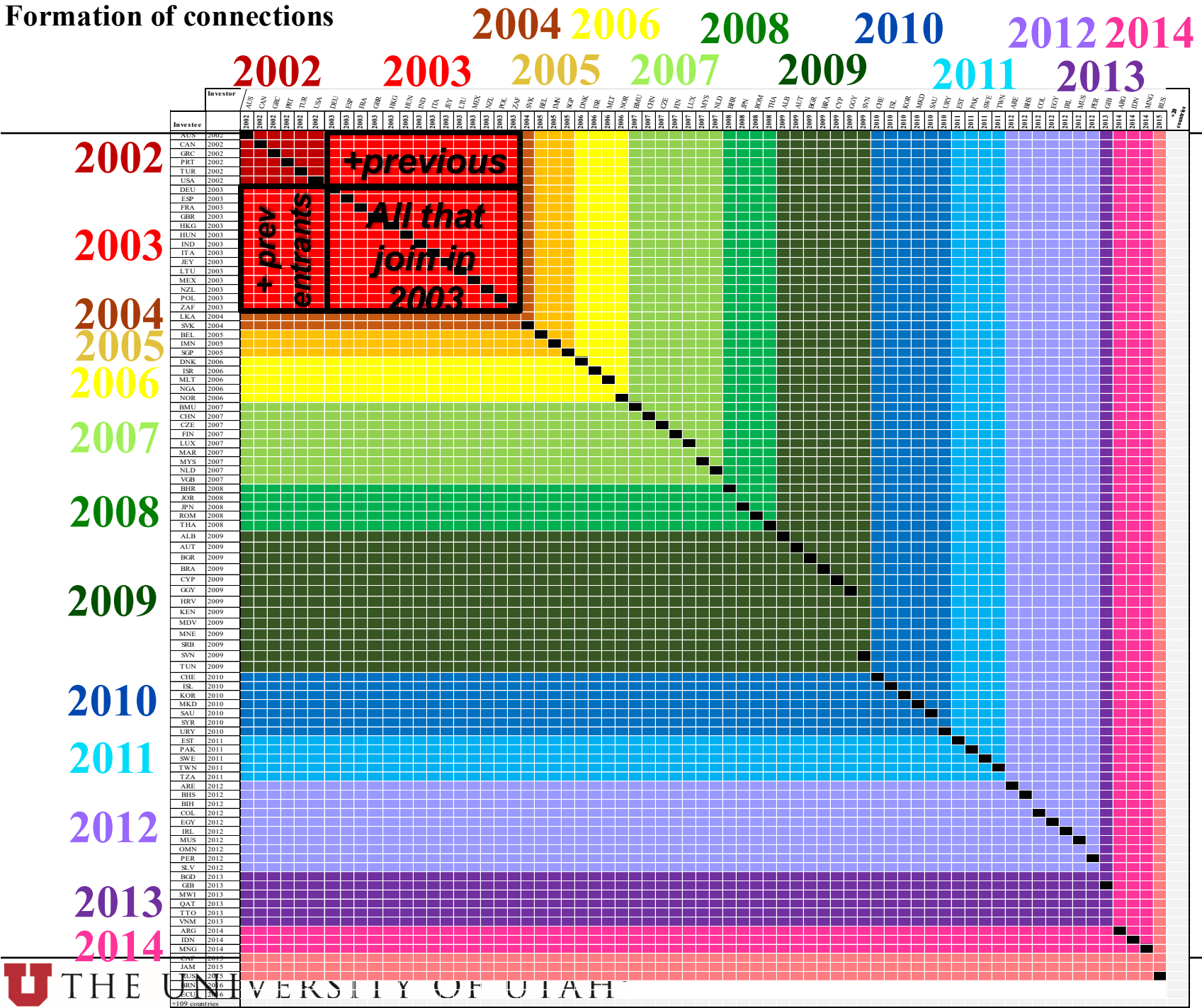
- Countries join at different times
  - Identification benefits
  - Can include comprehensive FEs without being a linear transformation of the treatment
- We emphasize ***multi***lateral configurations
  - Lock-step properties helps mitigate concerns regarding reverse causality and omitted variables

Example to explain the matrix and multilateral instruments:

IOSCO MMoU



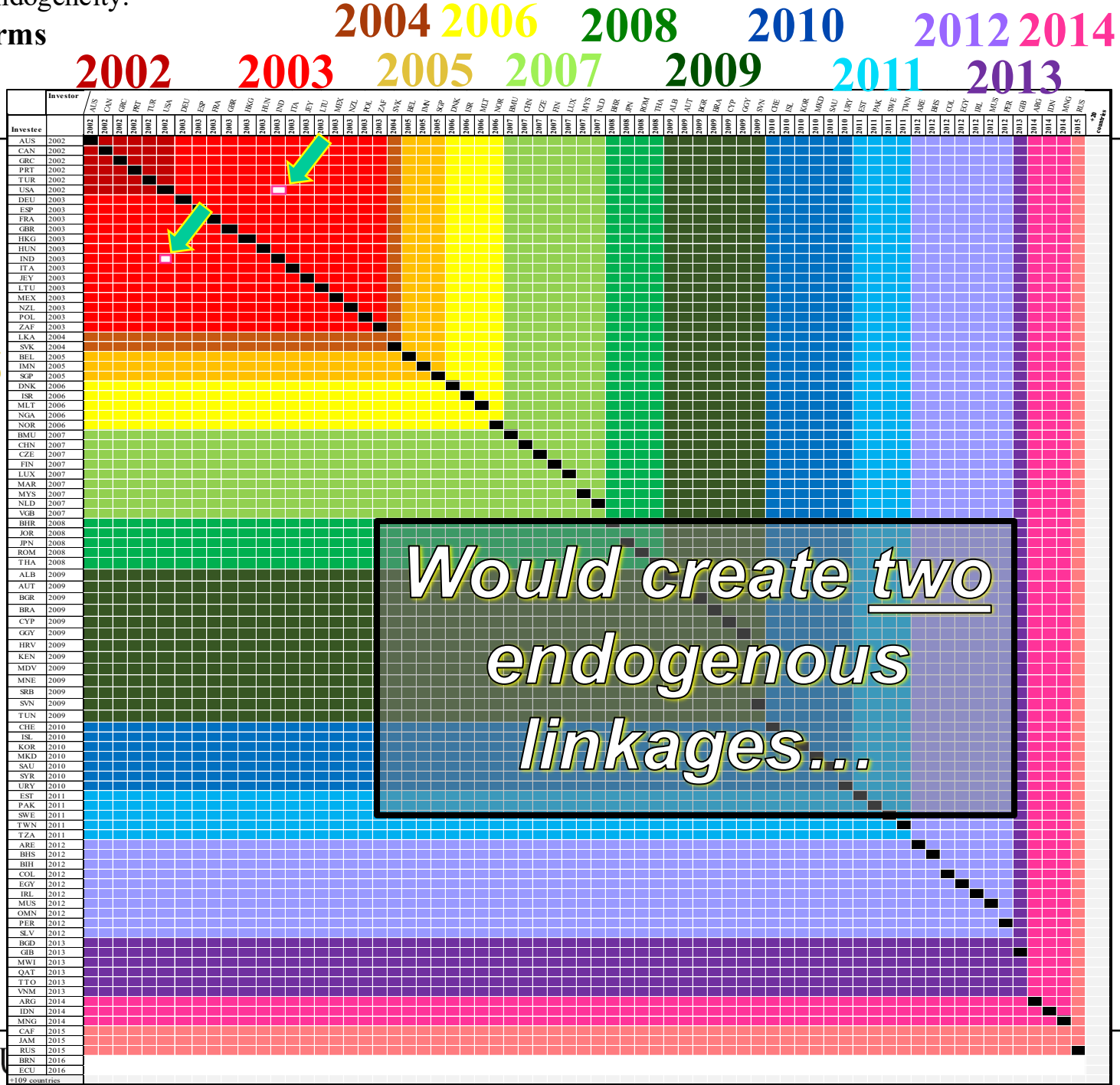
Formation of connections



Hypothetical endogeneity:

US strong-arms

India to join



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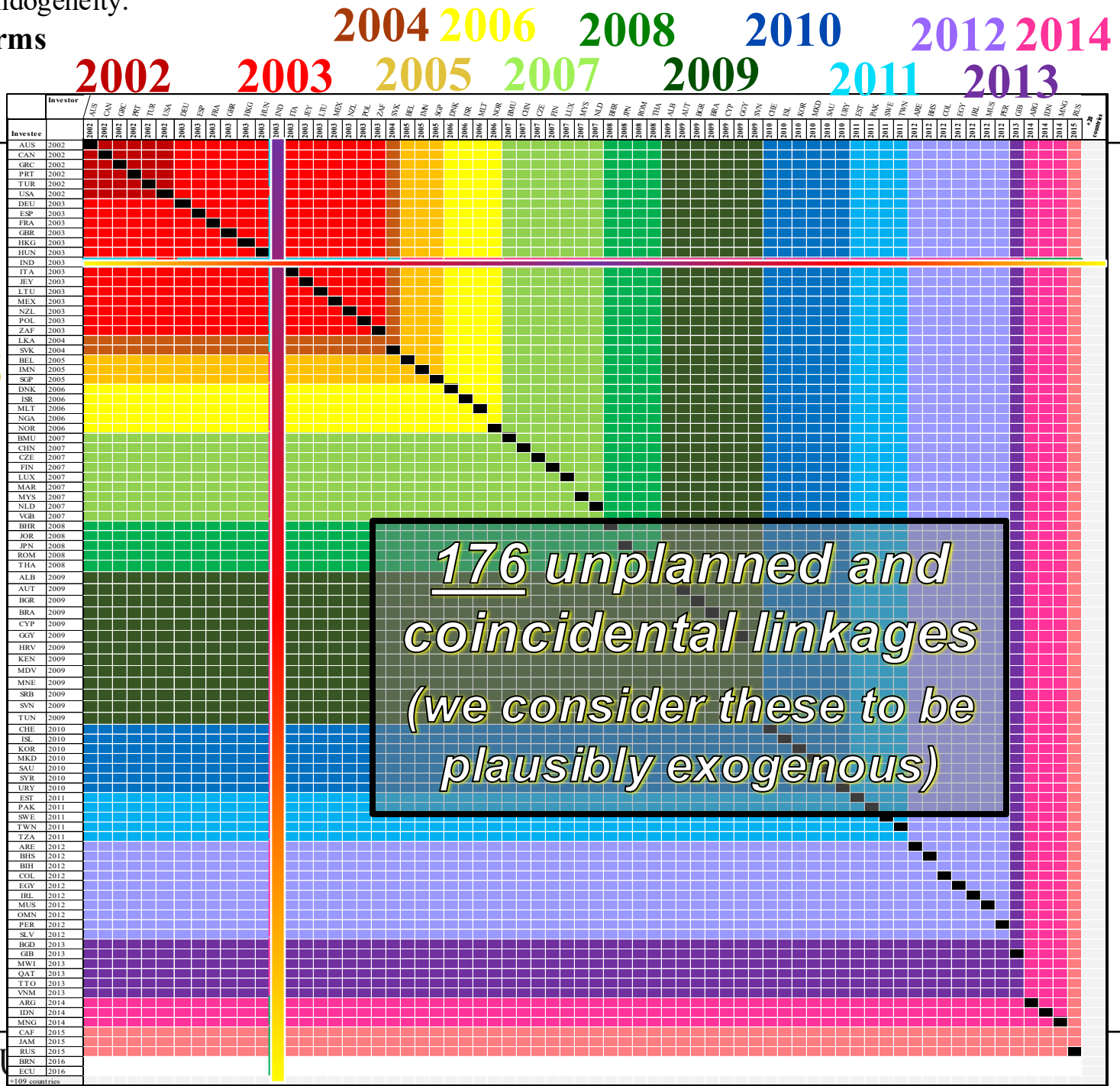
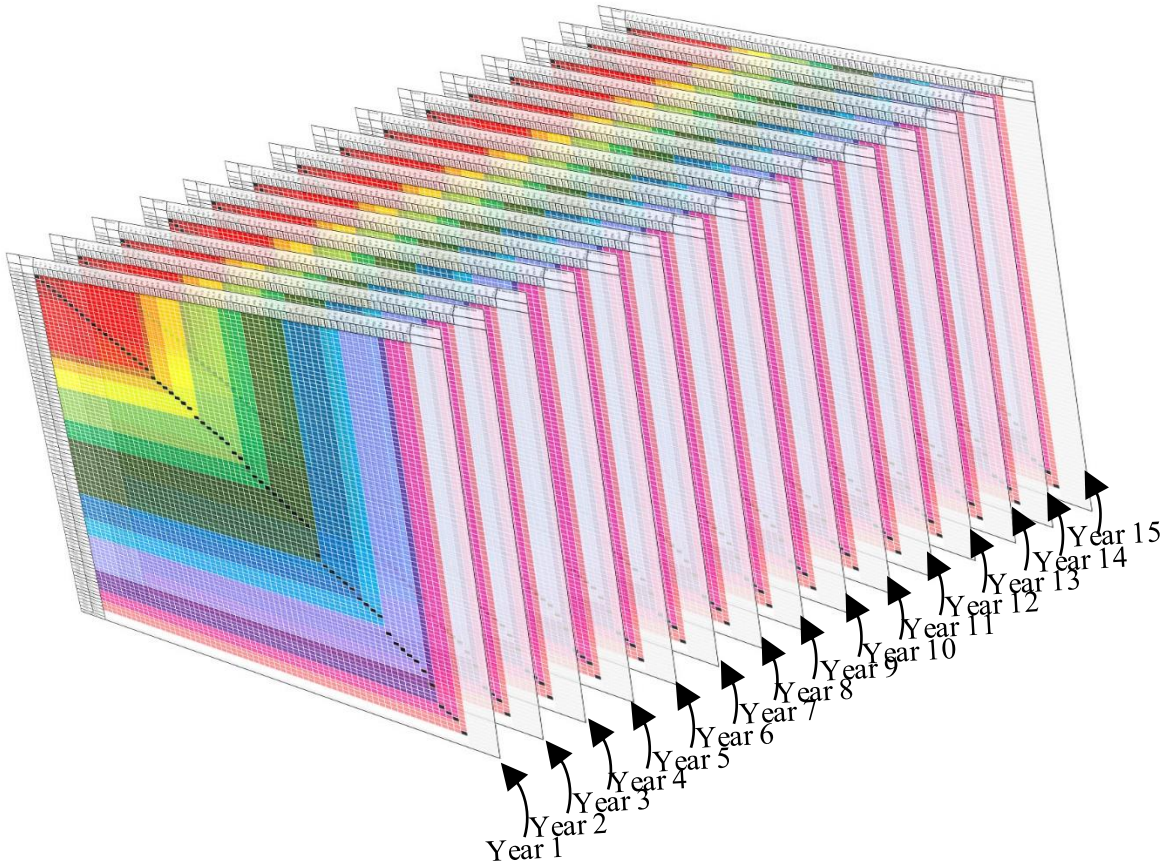


Building a counterfactual with three-way FEs

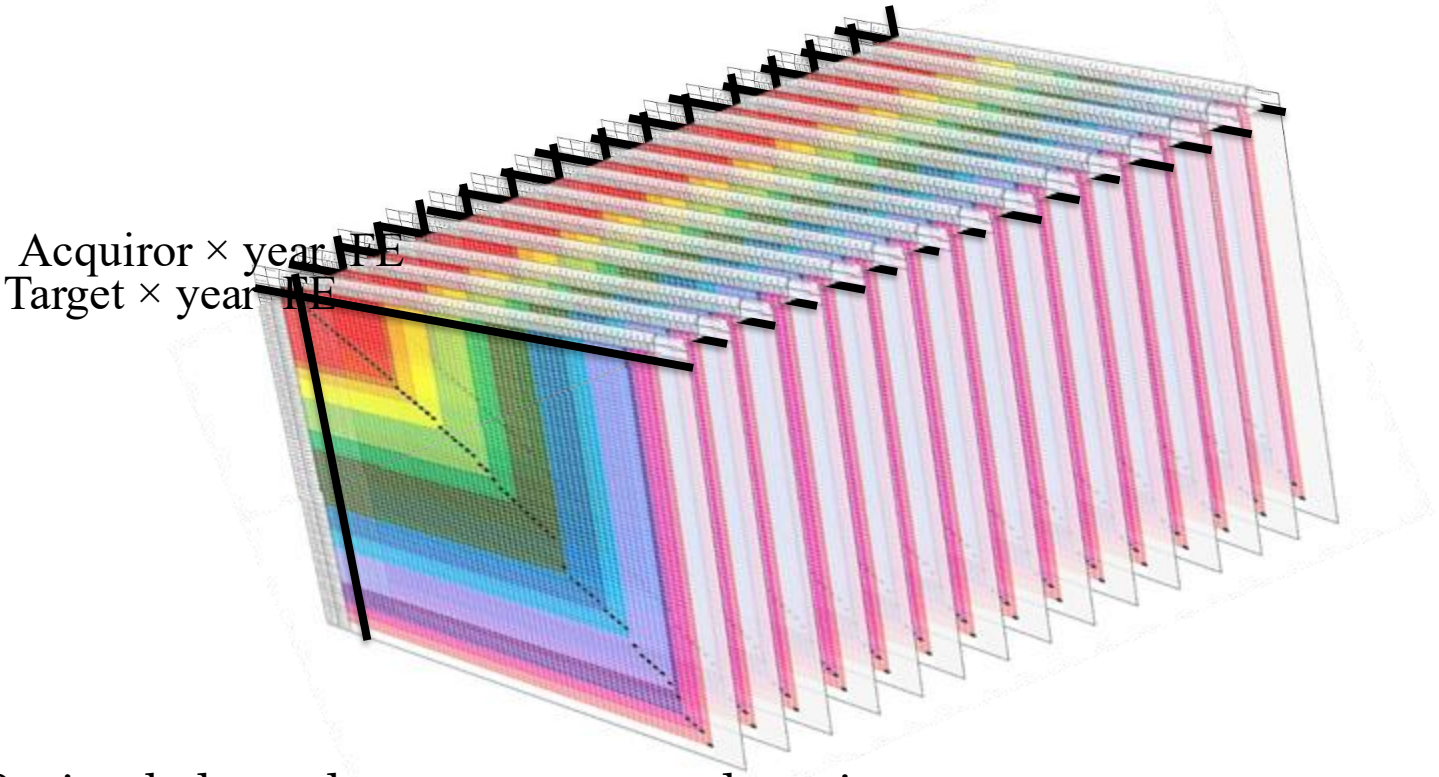
Unit of observation becomes the **country-pair-year**



*Our sample has 27 years

Building a counterfactual with three-way FEs
(inspired by "gravity" model of international trade)

(1) $M\&A_{ijt} = \gamma_0 + \lambda_1 Cooperation_{ijt} + \sum_{c=2}^{C} \lambda_{ijt}\ Controls + \sum_{i=C+1}^{I} \lambda_{it}\ Acquiror \times\ time\ FEs + \sum_{j=C+I+1}^{J} \lambda_{jt}\ Target \times\ time\ FEs + \sum_{m=C+I+J+3}^{M} \lambda_m\ Acquiror \times Target\ \ (country\ pair)\ FEs + \upsilon_{ijt}$



- Design helps rule out counter explanations:
  - Unobserved factors in (1) the acquiror market or (2) the target market
    - time-variant country-level factors (e.g., growth, overvaluation, interest rates, technological innovation, etc.)

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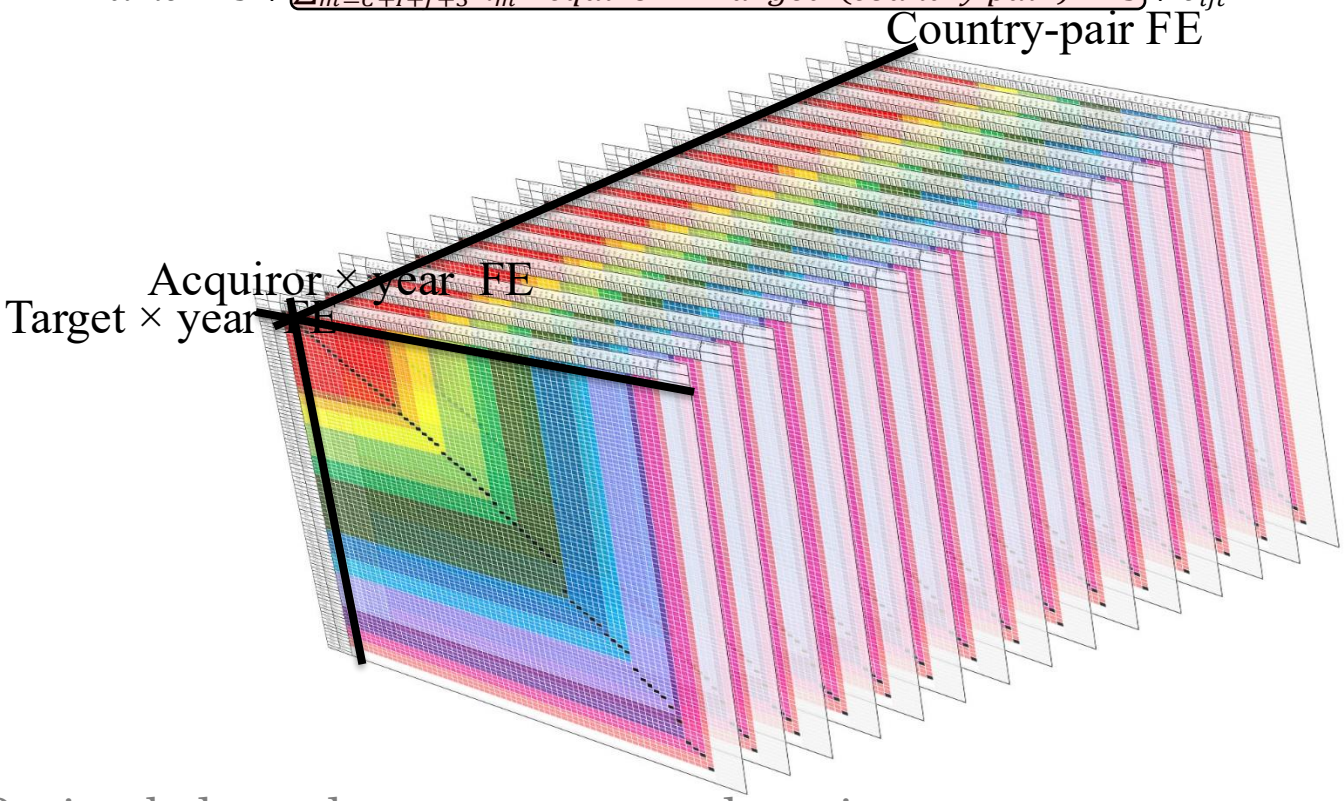


- Design helps rule out counter explanations:
  - Unobserved factors in (1) the acquiror market or (2) the target market
    - time-variant country-level factors (e.g., growth, overvaluation, interest rates, technological innovation, etc.)
  - (3) Time-invariant factors at the country pair level
    - Clearly, HKG-CHN are more likely to have M&A than NZL-ZWE

M&A tests

COOPERATION AND CROSS-BORDER M&A

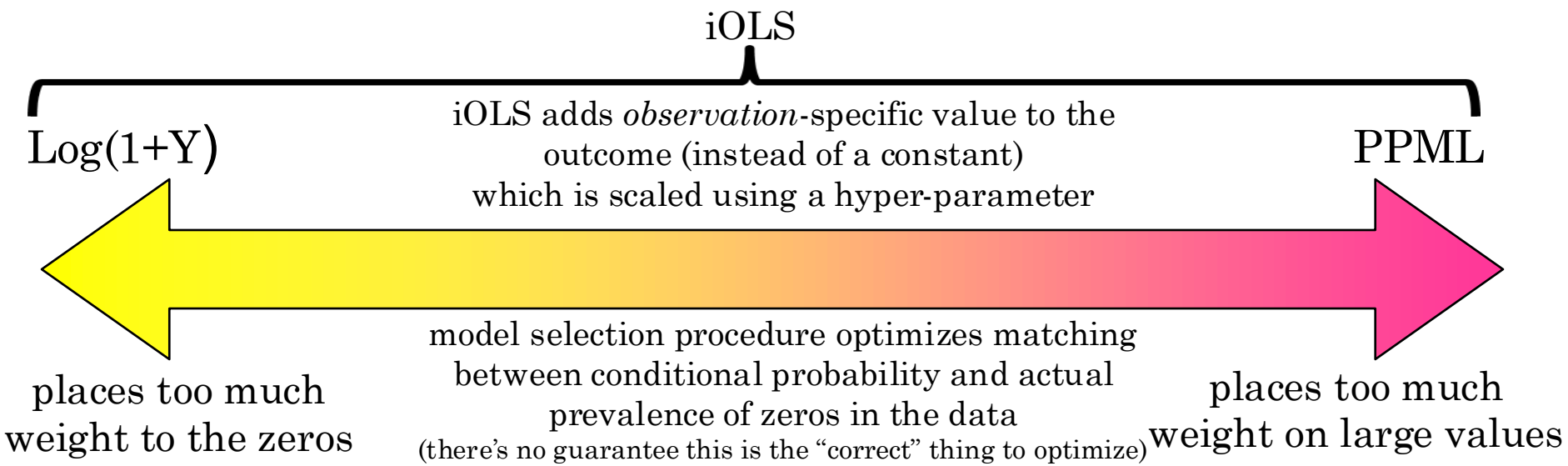
	(1) OLS ln(1+M&A ($US))	(2) iOLS ln(1+M&A ($US))	(3) PPML M&A ($US)
MMoU	0.028***	0.160**	0.283**
	(2.77)	(2.74)	(1.99)
Hague Convention	0.031***	0.445***	0.338*
	(4.87)	(8.61)	(1.73)
Bilateral MoU	0.025**	0.100***	0.070
	(2.48)	(2.95)	(0.75)
FIU	0.038***	0.167***	-0.114
	(4.38)	(3.54)	(-0.80)
Bilateral Trade	0.000***	-0.000	-0.000
	(3.40)	(0.42)	(-0.11)
Bilateral Investment	-0.003	0.121**	-0.026
	(-0.48)	(2.54)	(-0.26)
Trade agreement	0.035***	-0.259***	0.113
	(4.90)	(-7.08)	(0.99)
Tax treaty	0.043***	-0.224***	0.169
	(4.57)	(-3.51)	(1.18)
N	187,920	17,483	21,708
(Pseudo) R^2	0.396	-	0.443
Acquiror×Year	Y	Y	Y
Target×Year	Y	Y	Y
Acquiror×Target	Y	Y	Y

- Other results:
  - Decompose effect into deal frequency and deal size
    - Both increase, but deal size increases more
  - Legal analyses imply instruments often work well in tandem
    - Interactive effects of cooperative instruments
  - Cross-sectional results
    - Somewhat mixed/inconsistent across different instruments
  - Deal-specific tests (mostly-pricing)
    - Weakly supports increases in *Target CAR* and *Target deal premium*

- SDC Platinum M&A 1994-2019 ~$12 Trillion in constant 2020 USD
  - Include only public targets and acquirors (those with Datastream codes)

Potential issues

- Estimation issues—DV commonly takes on "zero" values
  - Can impart bias to log-linear OLS estimates
  - Possible solution: PPML and iOLS (Bellégo et al. 2022) go read this!



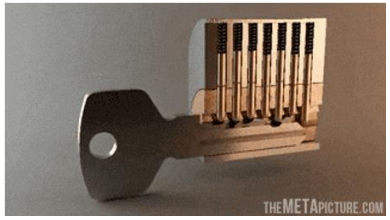
- Staggered diff-in-diff issues
  - Estimates suffer from "bad comparisons" or can be contaminated by treatment effects in other groups [Goodman-Bacon (2021); Sun and Abraham (2021); de Chaisemartin and D'Haultfoeuille (2020); Calloway and Sant'Anna (2020); Borusyak and Jaravael (2017)]

(Academic) Contribution(s)

- We hope it inspires new research ideas and better insights for policymakers
  - Reframes the way we (should) think about institutions in global settings

versus

  - Provides a detailed institutional understanding of how things work
    - Reveals fragility in prevalent theories that fail to fully consider cross-border issues
      - (harmonization, race to the top, extraterritorial law enforcement, bonding etc.)
- Extends literature on cross-border investment patterns, cross-border M&A, and bonding
  - Public regulation is much more important than prior work concludes (Bris and Cabolis 2008)
- Measures abrupt changes in time-series of country pairs:
  - institutional mobility
  - the intensity of regulatory cooperation
  - cross-border enforcement capacity
  - cross-border expropriation risk
  - Staggered, lock-step timing of multilateral arrangements
    - Improves identification and reduces endogeneity concerns
    - ***Precisely*** relevant to capital markets
      - as opposed to other generic "gravity" variables (e.g., geographic distance, shared language etc.), telephone call volume, migration patterns, cultural distances, and (Eurobarometer, "trust") surveys (Gould 1994; di Giovanni 2005; Portes and Rey 2005; Daude and Fratzscher 2008; Guiso et al. 2008, 2009; Cohen et al. 2017)



Implications for the CMU…

- Financial architecture depends critically on efforts to cooperate
  - Prevalent legal theories often fail to consider cross-border issues
    - Theories are fragile in light of critical cross-border frictions
      - Race to the top (Choi and Guzman 1998; Romano 2001; and Stulz 2009)
      - Extraterritorial application focuses on congressional intent or normative desirability rather than what is practically possible (Beyea 2011; Painter 2011)
      - Bonding neglects practicalities of applying foreign laws
    - Not as simple as legal "harmonization" (Simmons 2001; Pistor 2002)
      - challenges still arise with conduct that straddle two countries

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