Strategic Movement of IP within Multinational Enterprises

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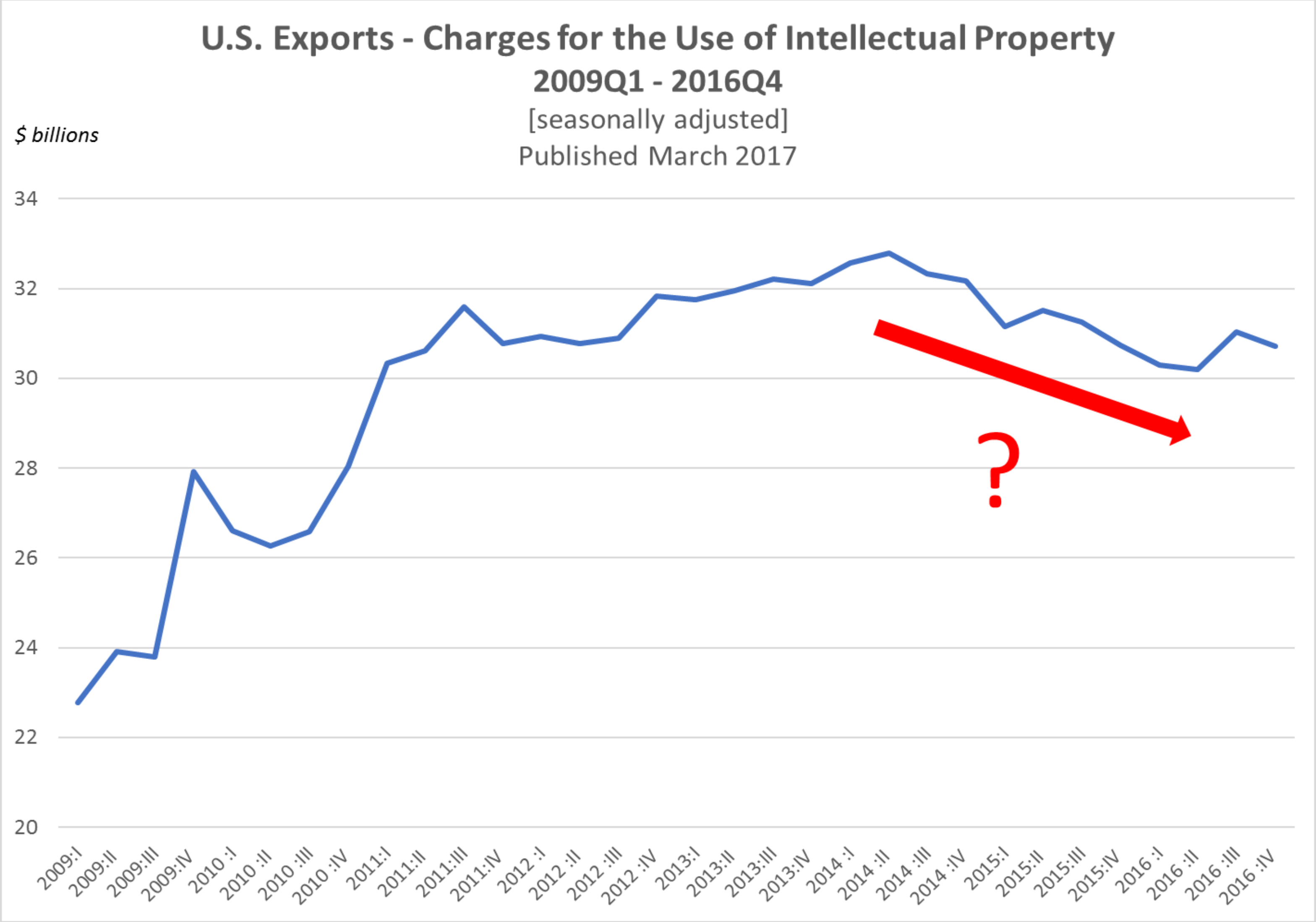
Outline

- Motivation
- How profits are shifted through movement of ownership of intellectual property (IP)
  - Cost sharing agreements (CSAs)
- Data
- Evidence of strategic movement of IP
  - Model
  - Results
- Conclusions

Motivation



Source: U.S. Bureau of Economic Analysis

Motivation

- Until this year, high U.S. corporate tax rate
  - *"The 35% credit to keep my profits offshore"*

    \- Pam Olsen Pricewaterhouse Coopers*

- Movement of IP to offshore tax havens through CSAs

- Redomiciled IP assets can lead to net reductions in U.S. services exports
  - Initially leads to creation of U.S. R&D exports
  - Later leads to absence of U.S. IP exports

* The Tax Cuts and Jobs Act: The New Business Tax Landscape, Brookings Institution, Feb. 13, 2018

Definition of a CSA

An agreement whereby the parties agree to share the costs of developing one or more intangibles in proportion to the share of the reasonably anticipated benefits from exploiting the intangibles assigned to them under the agreement.

Per U.S. Tax Code 1.482-7

How CSAs work

1. U.S. multinational enterprise (MNE) conducts R&D in the United States

2. Parent enters into cost sharing agreement with foreign affiliate

3. By paying into the R&D costs, affiliate earns right to exploit IP assets in certain markets if the R&D is successful

- *Shared IP ownership*
- *Each party assigned rights to portion of worldwide sales*
- *Affiliate payments to parent recorded as U.S. exports of R&D services*
- *Should be valued using arm's length standard*

Taxonomy of a CSA and impact on U.S. balance of payments accounts

1. U.S. parent conducts $500 of R&D in the USA
2. Affiliate "TH" (tax haven) pays 50% of the R&D costs to its parent giving it rights to non-U.S. revenue if R&D is successful. Affiliate share of costs is proportional to its expected share (50%) of resulting worldwide revenue

   $250 U.S. export of R&D services
3. R&D is successful and ownership of the resulting IP asset is shared between the U.S. parent and affiliate TH
4. Once the asset is created, it generates $2,000 in U.S. revenue and $3,000 in foreign revenue

   U.S. FDI income receipts are $3,000 (assuming affiliate TH's costs are zero)

   U.S. exports of R&D services are zero

   U.S. exports of IP services are zero
5. Had the parent retained all rights, U.S. exports of IP services would have been $3,000

Data: Identifying MNEs with CSAs

- Documentation of CSAs difficult to find

X – U.S. Patent and Trademark Office attempt

  - Proposed new regulation in 2004 that would have required U.S. patent holders to report on the attributable owner of IP assets, including the ultimate parent entity

  - Public comments were negative: respondent burden
    - *"We have a patent portfolio with 1,000's of U.S. patents, many that have complex and shared ownership."*
    - *"We have concerns with the burden as well as the feasibility of complying."*

  - Proposed regulation was withdrawn

Data: Identifying MNEs with CSAs

X • Exports of R&D services collected on BEA surveys of trade in selected services and intellectual property (BE-120/125) but presence of CSAs not identified

√ • 10-Ks filed with Securities and Exchange Commission
  - Text searches 2003-2015 for evidence of intrafirm cost sharing
  - Limitations
    - Only publicly listed companies
    - No requirement for companies to report CSAs
    - No standard language used for CSAs
    - Generally no country-specific references
    - Timing/amount of payments not specified

Prevalence of CSAs by industry

	R&D intensive MNEs			
	Total assets ($ billions)	Number		Percent with CSAs
		Total	With CSAs	
Durable goods manufacturing (NAICS 33)	836.1	125	25	20%
Information (NAICS 51)	527.9	33	13	39%
Professional, scientific, and technical services (NAICS 54)	220.7	15	6	40%
Wholesale trade (NAICS 42)	18.4	6	2	33%
Primary industries (NAICS 11)	21.8	2	1	50%
Nondurable goods manufacturing (NAICS 32)*	467.4	17	1	6%
Total	**2,092.3**	**198**	**48**	**24%**

* includes pharmaceutical manufacturing

Other data sources and period covered

- BEA surveys on international trade in selected services and intellectual property (BE-120/125)
  - Charges for the use of IP
- BEA outward activities of MNE surveys (BE-10/11)
  - Profits
  - R&D expenditures
  - Effective host country tax rates
- Years covered
  - 2006-2015

Our hypothesis

If U.S. MNEs are using CSAs to shift income to affiliates in low-tax countries, then having a CSA will be associated with:

1. lower profitability for U.S. parents than for U.S. parents in same industry without a CSA

2. higher profitability for foreign affiliates relative to U.S. parent than for affiliates without a CSA

Motivation for regression specifications

$$Profitability_i = \frac{Profits_i}{Tangible\ assets_i + Intangible\ assets_i}$$

U.S. parents:

(1) $= \alpha + \beta_1 \qquad + \beta_2 \qquad + \beta_3\, CSA_i + \varepsilon$

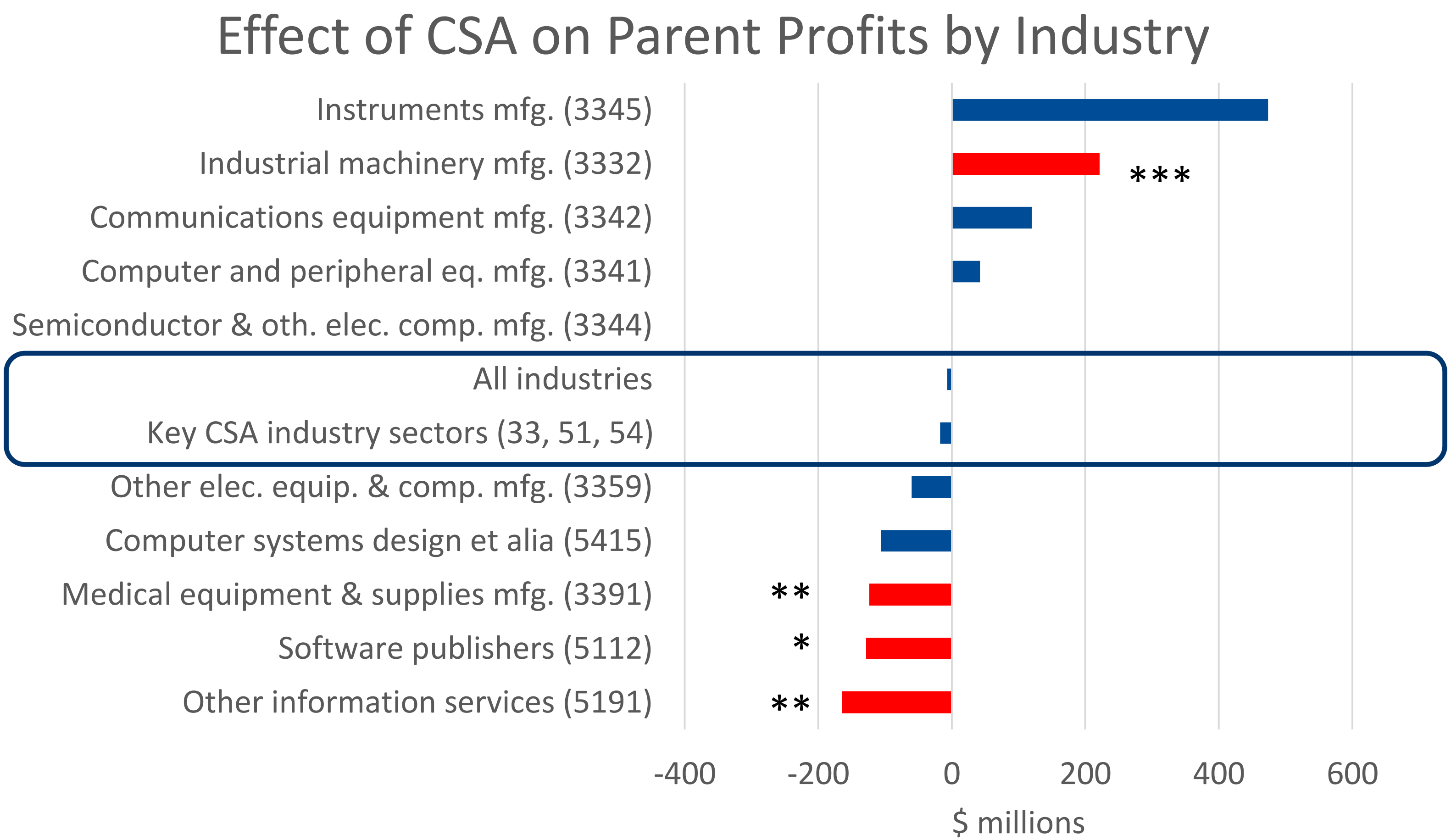
Affiliate (a) – parent (p) difference:

(2) $Profits_a - Profits_p = \alpha + \beta_1\,(Tangible\ assets_a - Tangible\ assets_p) +$
$\beta_2\,(Intangible\ assets_a - Intangible\ assets_p) + \beta_3 \text{Tax rate}_a + \beta_4 CSA_i + \varepsilon$

Regression results summary

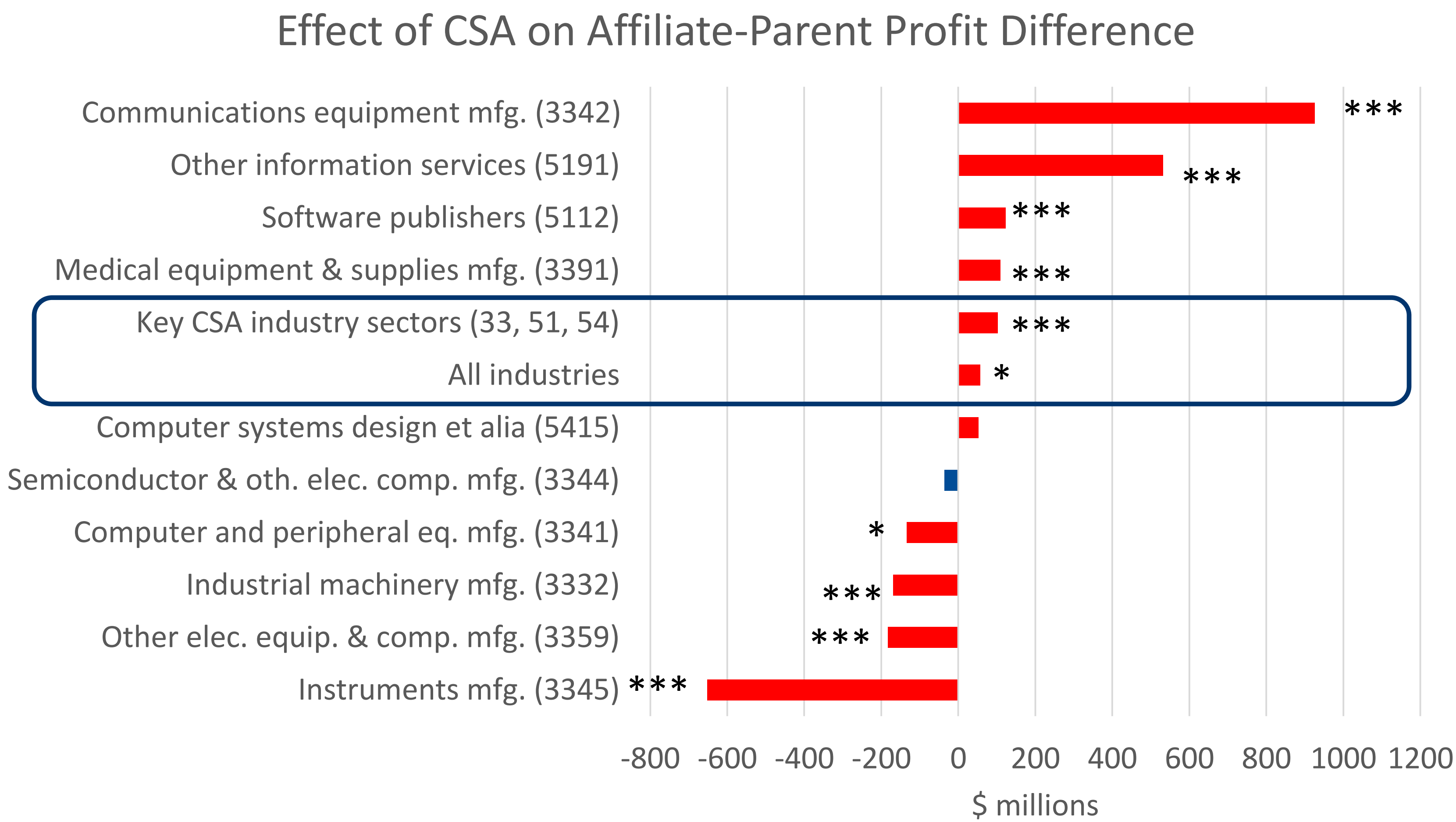
- Parents
  - Mixed results across industries
  - Inconclusive for all industries combined and for all key CSA industry sectors combined
- Affiliate-parent difference
  - Mixed results across industries
  - Generally support our hypothesis
    - Overall, foreign affiliates with CSA earn a premium of $57 million over U.S. parents with similar assets
    - In key CSA industry sectors, the premium is $103 million

Regression results: U.S. parents



* 10% **5% *** 1% level of significance

Regression results: Affiliate-parent difference



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Conclusions

- *Motivation*: Guvenen et al. (2017) profit shifting by U.S. MNEs lowers measured U.S. GDP
- Our research shows how this can happen
  - MNEs use CSAs to strategically move ownership of IP and shift profits
- Identified CSAs using references in 10-Ks
  - A crude indicator (no detail by timing, by size, or by country)
- Regression results
  - Generally consistent with MNEs using CSAs to shift profits abroad
- Looking ahead
  - Hope to get a better measure of CSA from Internal Revenue Service

Thank You!