Quo Vadis Transformative Agreements?

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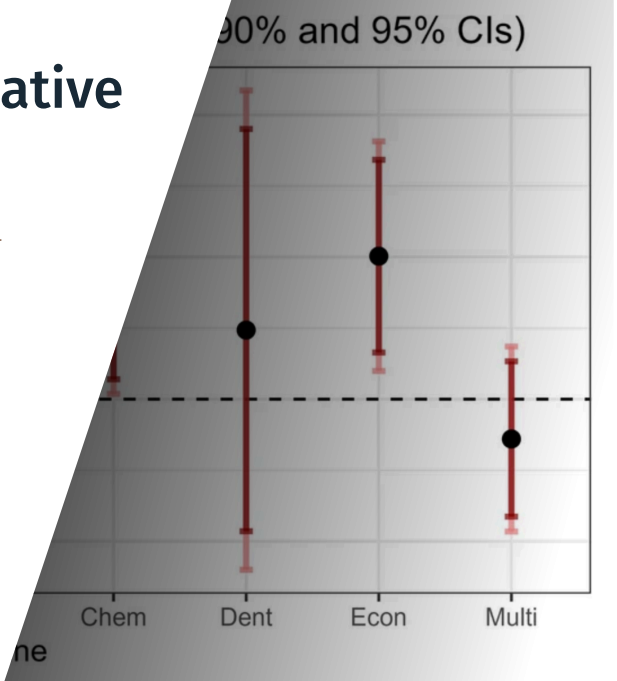

What Are Transformative Agreements?

- **Definition:** Contracts between academic institutions/consortia and publishers to shift publishing models from subscriptions to Open Access (OA) by default.
- **Key Goal:** A systemic transition to OA by combining reading access with the right for eligible authors to publish their articles OA w/o individual charges (APCs).
- **How They Work:** Institutions pay a combined fee covering both subscription and publishing costs. Researchers at participating institutions can publish OA in ‘hybrid’ journals ‘for free.’

What Are Transformative Agreements? II

- **Common Models:**
  - *Read-and-Publish:* Bundles reading access and OA publishing rights.
  - *Publish-and-Read:* Focuses on covering OA publishing, with reading access included.
- **Context:** Promoted by research funders and library consortia as a transitional mechanism to scale up OA.
- **Initially:** TAs meant as transitory bridge to a fully ('gold') OA system
- **Key questions:**
  - What's the current state of TAs?
  - What are there effects
  - What is their future in times of generative AI?

Roadmap today

1. The spread, evolution, and characteristics of TAs
2. The effect of TAs on the publishing ecosystem
3. The future of TAs in a world with Gen-AI (and what about diamond OA?)

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The characteristics of existing TAs

Let's take a closer look

- Examine the landscape of TAs using over 1,000 contracts from the **ESAC Registry**, run by the Max Planck Digital Library
- First study to examine all contract details, not just the overview data
- We scraped the whole database to obtain these information (Aug 24)

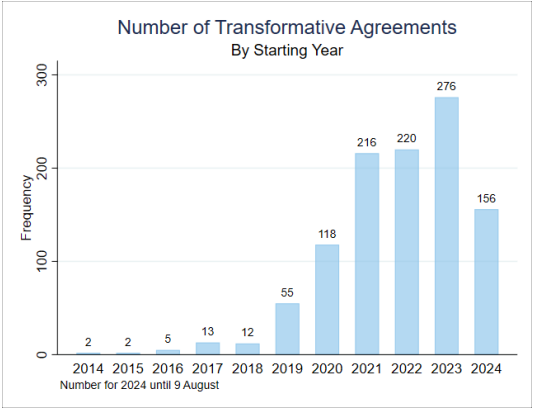
→ 1,075 Transformative Agreements in the sample

- **Caveat**: Self-reported data

Corresponding Paper

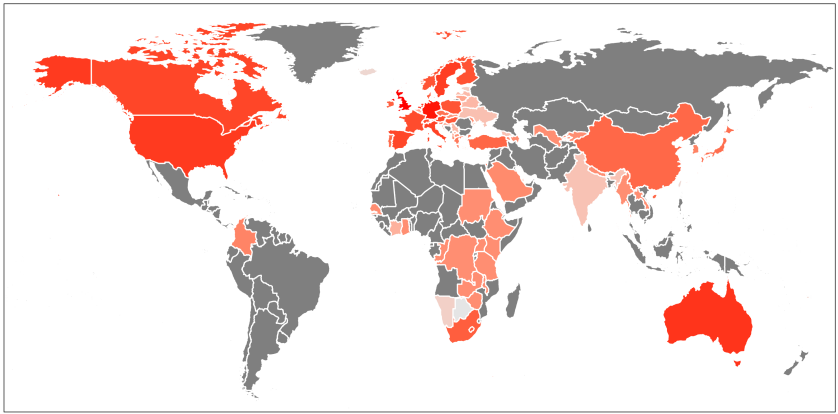
Rothfritz, L., Schmal, W.B., & Herb, U. (2024) : Trapped in Transformative Agreements? A Multifaceted Analysis of >1,000 Contracts. arXiv:2409.20224. *Revise & Resubmit: Quantitative Science Studies.*

TAs Gain Traction...



Aggregate Number of TAs by Year

… among the research powerhouses



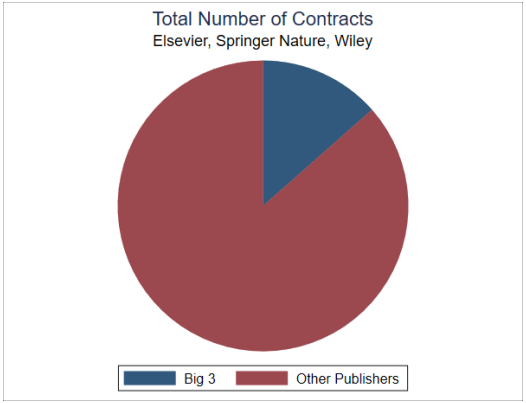
Map of accumulated TA volumes by country

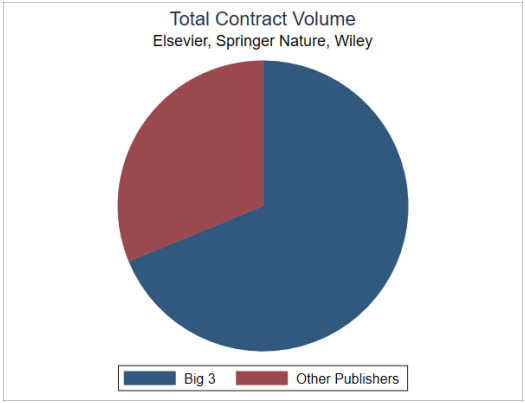
The ’Big 3’ Publishers & TAs

- Elsevier, Springer Nature, and John Wiley & Sons
- Stock-listed companies with large journal portfolios and control over plenty top-journals in various disciplines
- Claim large amounts of library budgets via subscriptions and open access fees
- Many policymakers in academic publishing do not only target open access but a ‘scholar led’ publishing culture
- General hostility towards the large (commercial) publishers in the library community

The TA-Dominance of the ‘Big 3’

Few contracts, high volumes

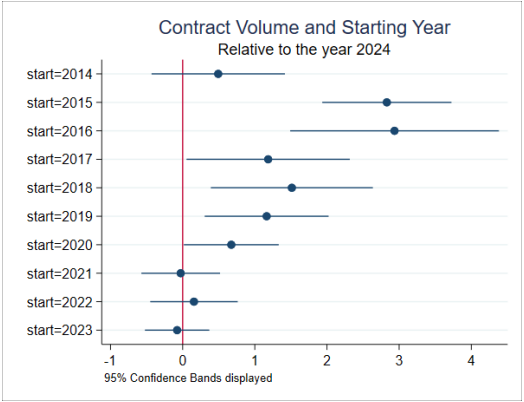




Aggregate Number and Volume of TAs of the ‘Big 3’ publishers

Average TA-size over time

Shift towards smaller publishers



Relationship between Size and Starting Year of TAs

Contract Volume and Length

Evidence for a Matthew Effect

Dependent variable: TA volume (log)				
Coefficient	OLS	OLS	OLS	OLS
log(TA-Duration)	1.286***	0.715***	0.701***	0.514***
	(0.24)	(0.11)	(0.11)	(0.15)
Constant	-4.590***	-1.009	-1.338	-2.257
	(1.49)	(0.80)	(1.17)	(1.56)
Fixed Effects				
Publisher	-	✓	✓	✓
Start year	-	-	✓	✓
Country	-	-	-	✓
R^2	0.088	0.612	0.614	0.734
N	1074	1074	1074	1074

$*p < 0.10, ^{**} p < 0.05, ^{***} p < 0.01$

Big 3 TAs last longer

	Average length of TAs				
	Number	Mean	Std. dev.	Min	Max
Overall	1,075	2.47	1.05	0.33	8
$\mathbb{1}_{big\ 3}$ = 0	930	2.38	1.02	0.33	8
$\mathbb{1}_{big\ 3}$ = 1	145	3.01	1.04	0.50	6

Table: Summary statistics for the length (in years) of TAs

Matthew Effect for TA renewals?

Size matters: Larger TAs more likely to be renewed

Dependent variable: ***New TAs getting a renewal***					
Coefficient	Probit	Probit	Probit	Probit	OLS
⋮	⋮	⋮	⋮	⋮	⋮
Average Marginal Effect of Size					
$\frac{\partial\ \mathbb{1}_{Follow\ up}}{\partial\ log(Size)}$	0.020**	0.036***	0.020*	0.031**	0.030**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Fixed Effects					
Publisher	-	✓	✓	✓	✓
Start year	-	-	✓	✓	✓
Country	-	-	-	✓	✓
Pseudo R^2/R^2	0.050	0.084	0.316	0.442	0.528
N	752	716	643	560	752

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The effect of TAs on publication behavior

Let's take a closer look

- TAs make hybrid OA in important journals cheap and convenient

→ Change of researchers' incentives where to publish

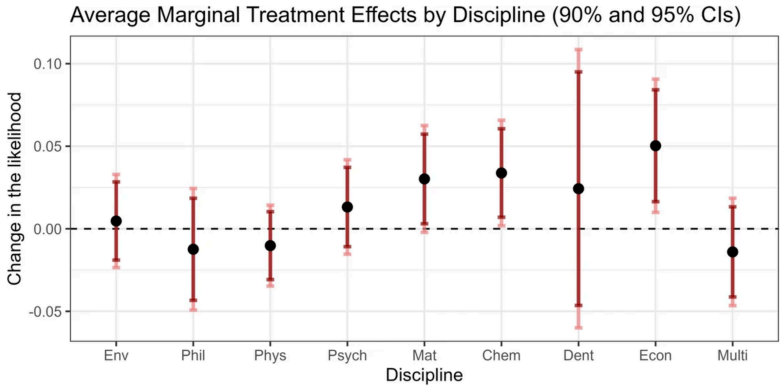
- Without pass-through of TA-fees: Advantage for hybrid OA

Corresponding Papers

Haucap, J., Moshgbar, N. & Schmal, W.B. (2021) : The impact of the German 'DEAL' on competition in the academic publishing market. *Managerial & Decision Economics* 42 (8).
Schmal, W.B. (2024) : How transformative are transformative agreements? Evidence from Germany across disciplines. *Scientometrics* 129.

Publication shifts towards TA journals

Evidence from the German DEAL agreements (Springer & Wiley)



Heterogeneous Effect by Discipline

Effect Heterogeneity: Reasons

- Some disciplines see an influx of publications, other null effects
- Strongest effects of the DEAL TAs in disciplines in which Springer Nature and Wiley held high market shares ex ante
- Null reaction in disciplines with important competing TAs

$\rightarrow$ TAs are a powerful tool to affect market shares

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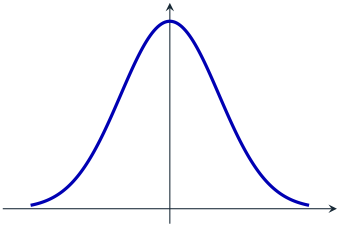
The future of TAs

- Initial idea of TAs: ‘Flipping’ journals to gold OA.
- If that was successful, no more TAs would be needed
- BUT: We observe regular extensions and renewals
- Consortia do not have the bargaining power to push for flippings
- Large publishers continue to claim large revenues. Subscriptions changed to TA-fees

$\Rightarrow$ *As different as the two Twix bars?*

The impact of AI on TAs

- Large Language Models (LLMs) make text generation much easier.
- Economics tells us:
  $\textit{costs} \downarrow \implies \textit{supply} \uparrow$
- AI will lead to a higher supply of medium-quality papers.
- This meets the activities of TA publishers to attract more papers.
- Publications will surge, quality stagnate, and library budgets strained.



AI requires inherent content limitation

- Reviewers start to submit AI (co-)authored reviews $\rightarrow$ higher supply of reviews.
- Publishers streamline production and review processes with AI support.

$\rightarrow$ Faster turnaround times and more efficient publishing process.

$\rightarrow$ Higher publication volumes.

$\Rightarrow$ AI spins the publishing wheel even faster.

- *In a world with abundant content generation, contract designs need incentive-compatible limitation of output*
- *Restrictions only work if inherent and not externally imposed.*

What about Diamond OA

Can it slow down the AI driven publishing wheel?

- Diamond OA: Neither subscriptions nor APCs $\rightarrow$ third party pays.
- Third party (universities, grants, funders, public authorities, firms) covers the costs.
- Solves the 'pay to publish' problem of Gold OA and hybrid OA/TAs.
- But new problems arise: Is it **scalable**, **durable**, and **resilient**?

Corresponding Article

Herb, U. & Schmal, W.B. (2024) : The benefits of diamond are not crystal clear. Research Professional News, 26 September 2024.

Conclusion

- TAs are convenient for researchers and expensive for libraries.
- They affect market power as they attract submissions.
- Same distorted incentives for publishers as in Gold OA.
- Unlikely to ‘flip’ journals – BUT: if TAs are ubiquitous, it’s technically Gold OA.
- With AI, content generation becomes even easier and TAs may foster mass publications due to the ‘pay per paper’ contract design.
- Diamond OA is unlikely to be a large-scale alternative.

Let’s stay in contact

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