Treaty Shopping, Race to the Bottom, and Treaty Cascades

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  - Cascades: New BTT Formation $\Rightarrow$ More Treaty Shopping Risks

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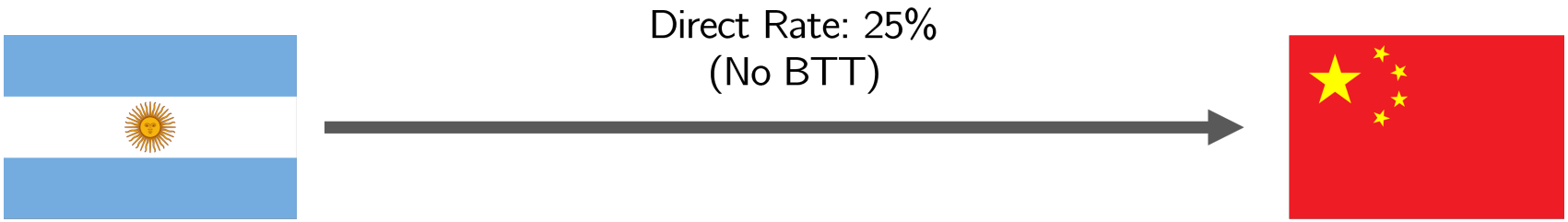
- BTTs as vehicles for tax avoidance through profit-shifting
  - \$200-300 billion annual loss (Garcia-Bernardo and Janský 2022)

Tax Treaty Shopping: Interest Payment from Argentina to China (2017)



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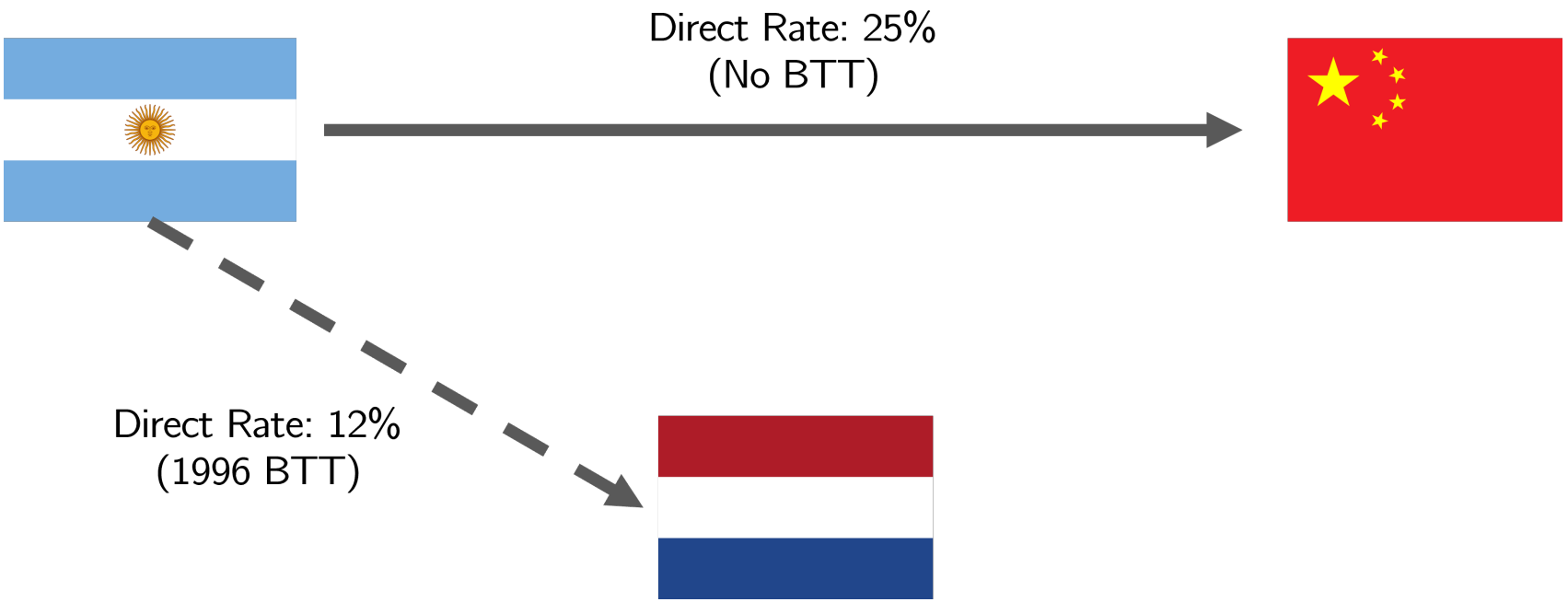

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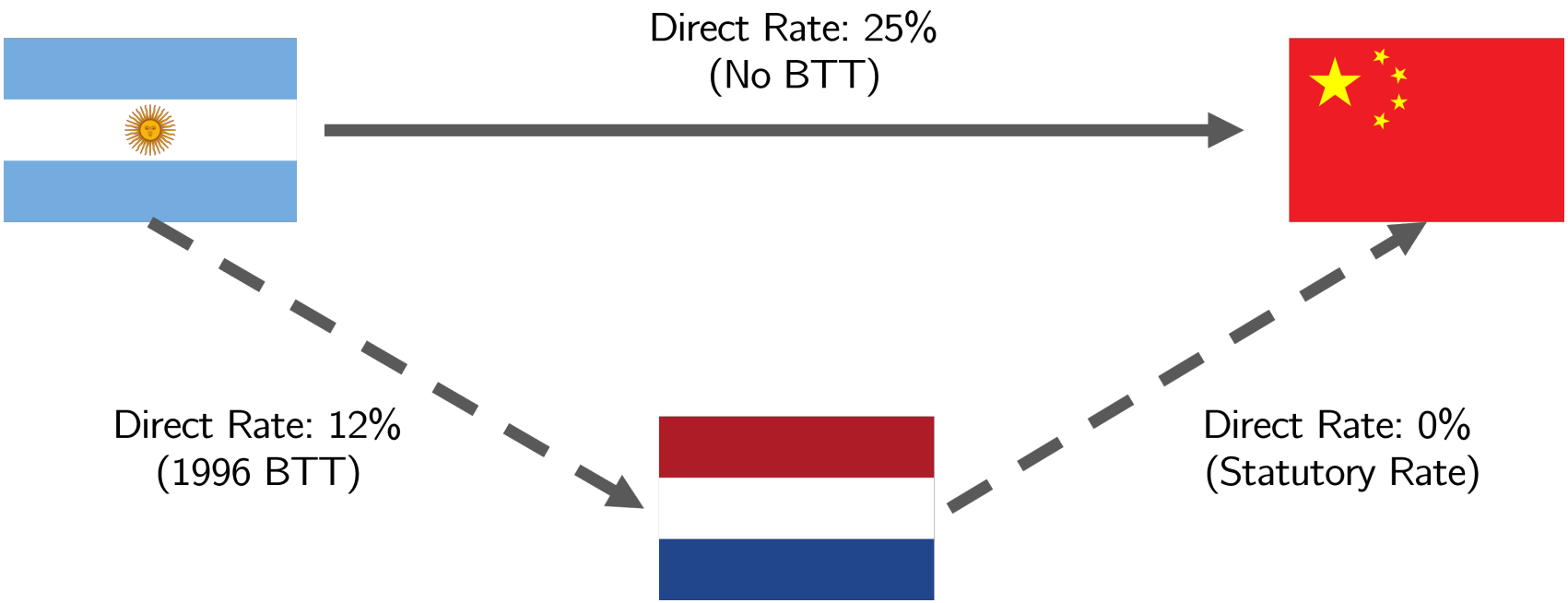

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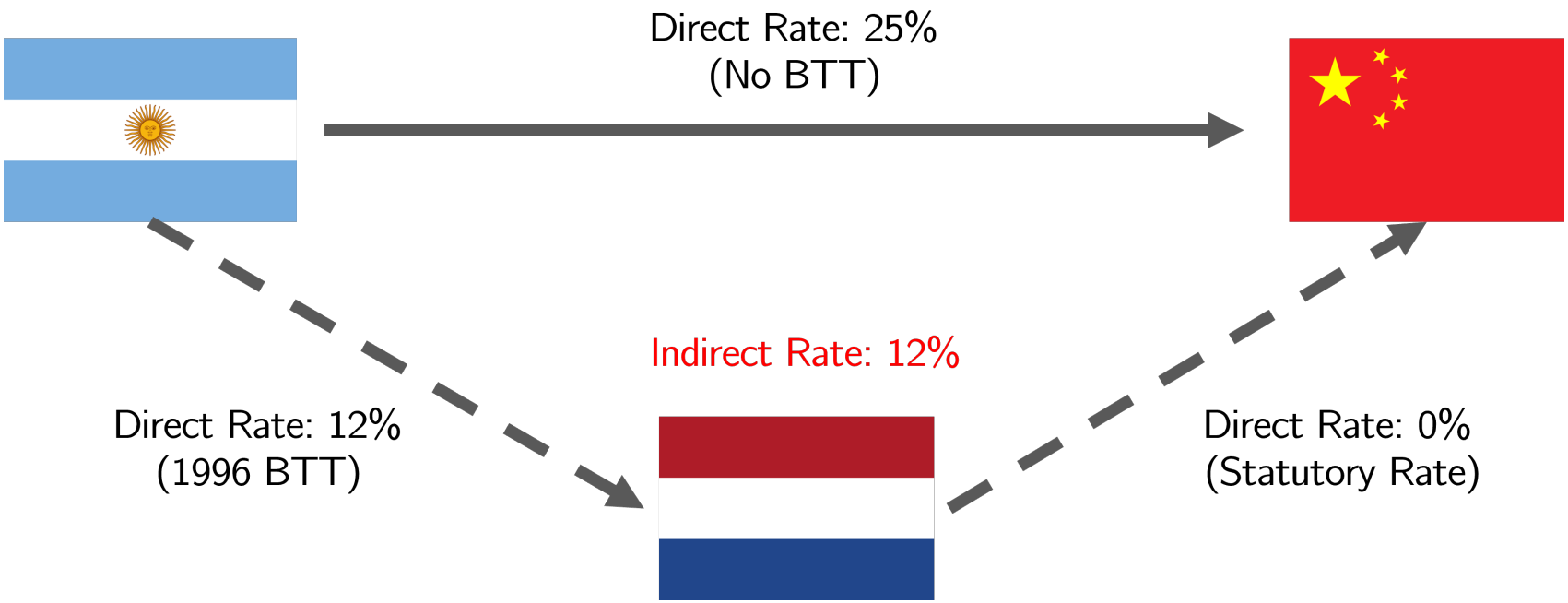
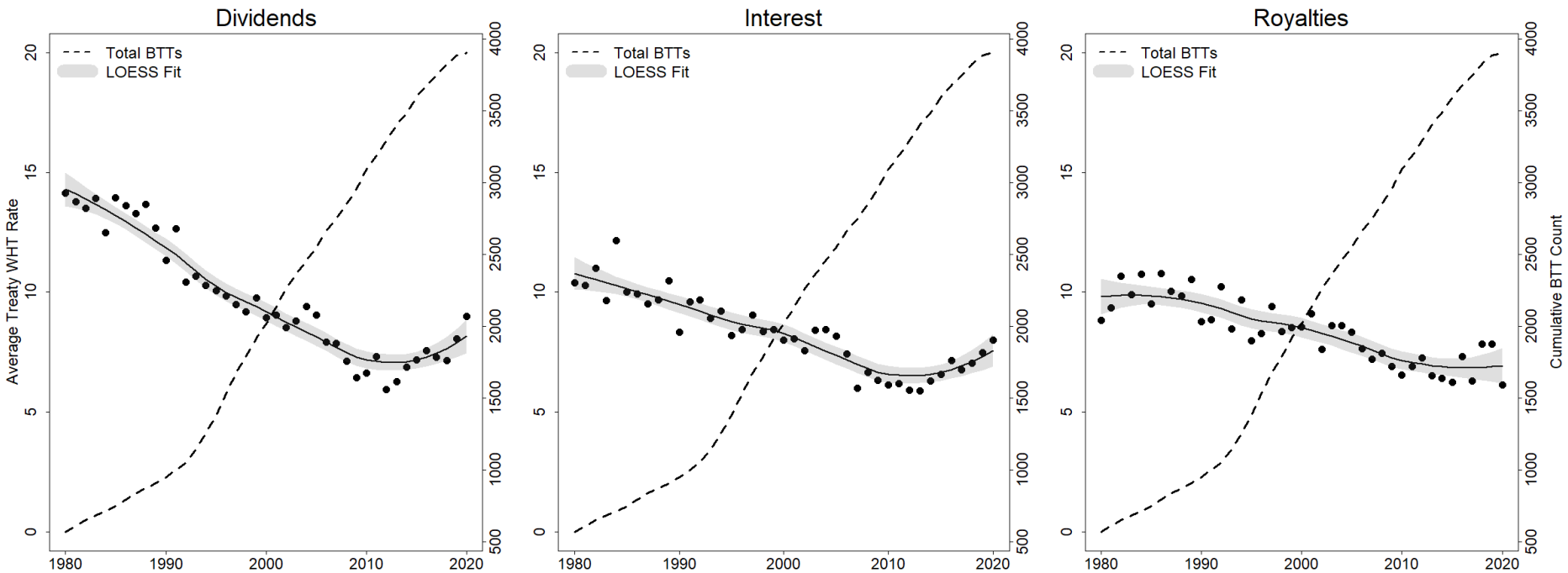


What Drives BTT expansion?

Figure: As BTT ↑, Treaty WHT Rate ↓ (2004-2020)



Notes: This figure plots the total number of BTTs countries have signed (right axis) and average withholding tax rate specified in treaties signed in a certain year (left axis) for dividends, interest, and royalties. The solid line and the shaded area represent the locally estimated scatterplot smoothing (LOESS) estimates and corresponding 95% confidence intervals for the average withholding tax rates.

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Operationalization: $\text{Risk}_{ij} = \mathbb{1}\{t_{ij} > t_{ik^*j}\}$

- $k*$ is the optimal conduit
- $t_{ik^*j} = \min_{k \notin \{i,j\}} t_{ikj}$

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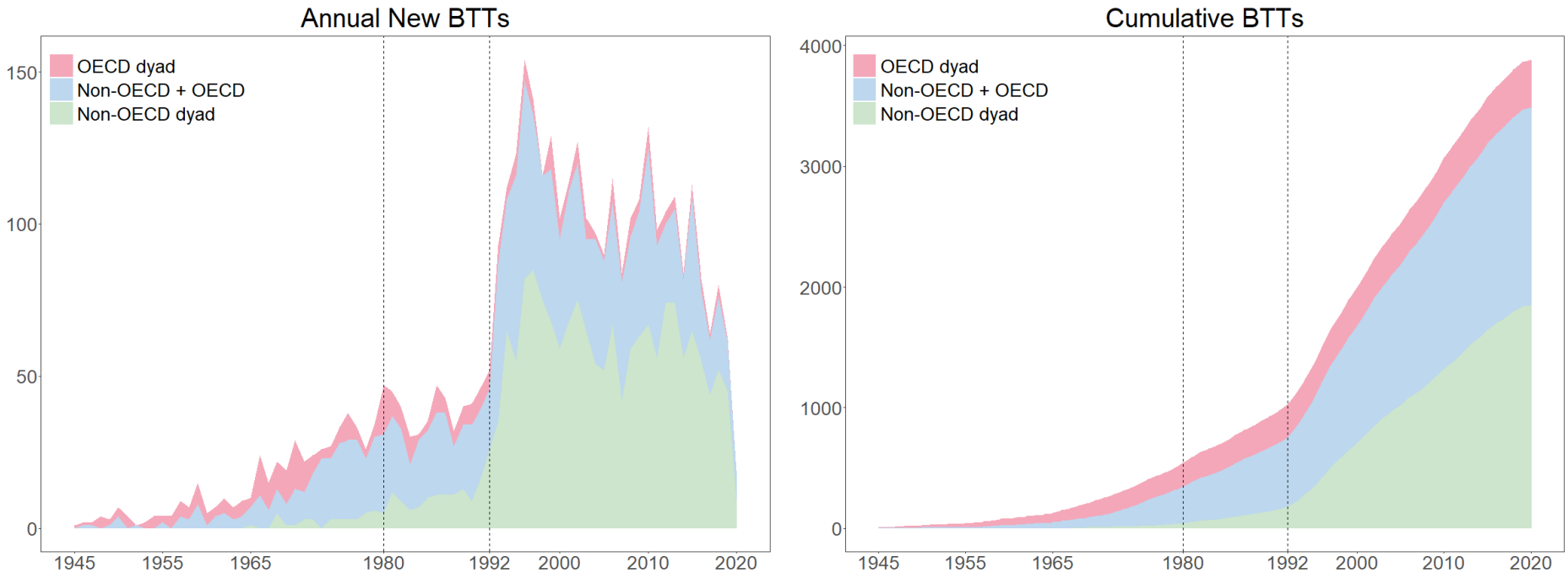
The Expansion of the Bilateral Tax Treaties

Figure: Annual New and Cumulative BTTs by OECD Status (1945 - 2020)



Notes: This figure displays the annual new BTTs (left panel) and cumulative BTTs (right panel) signed by jurisdictions between 1945 and 2020, depending on whether either or both the contracting states are OECD members. For consistency, OECD members only includes the 24 countries that joined in the 1960s and 1970s.

H1: Treaty Shopping ⇒ BTT Formation

Table: Risk of Treaty Shopping and Treaty Formation

	Tax Treaty Formation		
	Dividends	Interest	Royalties
Risk of Treaty Shopping (t-1)	0.149***	0.352***	0.420***
	(0.052)	(0.051)	(0.057)
Host country controls	✓	✓	✓
Partner country controls	✓	✓	✓
Dyad controls	✓	✓	✓
Cumulative BTTs	✓	✓	✓
Host region FE	✓	✓	✓
Partner region FE	✓	✓	✓
Observations	158684	158684	158684
BTTs covered	1119	1119	1119

Notes: Directed dyad-year level observations for 1980 - 2020. Results from Cox-Proportional Hazards Model with coefficients displayed. Efron approximation used for tied events. The event of interest is the formation of bilateral tax treaties between country dyads. Robust standard errors clustered on country dyads are reported in parantheses. All covariates, except for time-invariant ones, are lagged by one year.
$***p < 0.01$, $**p < 0.05$, $*p < 0.1$.

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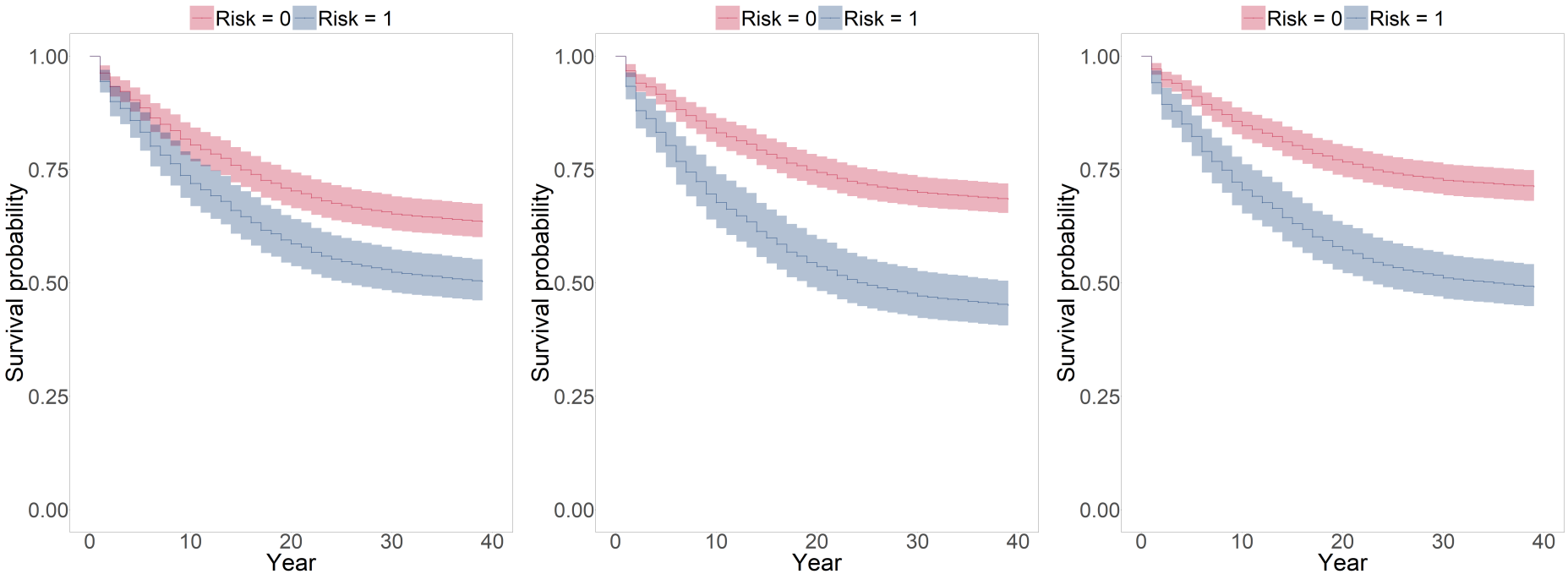
Figure: Survival Probability by Risk of Treaty Shopping



(a) Dividends (b) Interest (c) Royalties

Notes: This plot shows the predicted survival probability (probability of not signing a BTT) and corresponding 95% confidence interval, depending on whether the host country is facing the risk of treaty shopping. The x-axis represents the year relative to the start of the sample in 1980.Control variables are set at the group average (regional fixed effects are excluded).

H2: Treaty Shopping ⇒ Lower Treaty WHT Rate

Table: Risk of Treaty Shopping and Treaty Depth

	Tax Treaty Depth		
	Dividends	Interest	Royalties
Risk of Treaty Shopping (t-1)	7.765***	5.708***	3.693***
	(1.472)	(1.058)	(1.074)
Host country controls	✓	✓	✓
Partner country controls	✓	✓	✓
Dyad controls	✓	✓	✓
Cumulative BTTs	✓	✓	✓
Host country FE	✓	✓	✓
Partner country FE	✓	✓	✓
Year FE	✓	✓	✓
Observations	2162	2139	2161
Adjusted R^2	0.789	0.784	0.789

Notes: Directed-dyad level observations for 1980 - 2020. Only includes observations for the dyad-year that a bilateral tax treaty is signed. Results from ordinary least squares regression. Robust standard errors clustered at host country level reported in parentheses. All models include host country, home country, and year fixed effects. The dependant variable is the difference between the statutory withholding tax rate and the newly-signed treaty withholding tax rate for the given type of transaction. All covariates, except for time-invariant ones, are lagged by one year.
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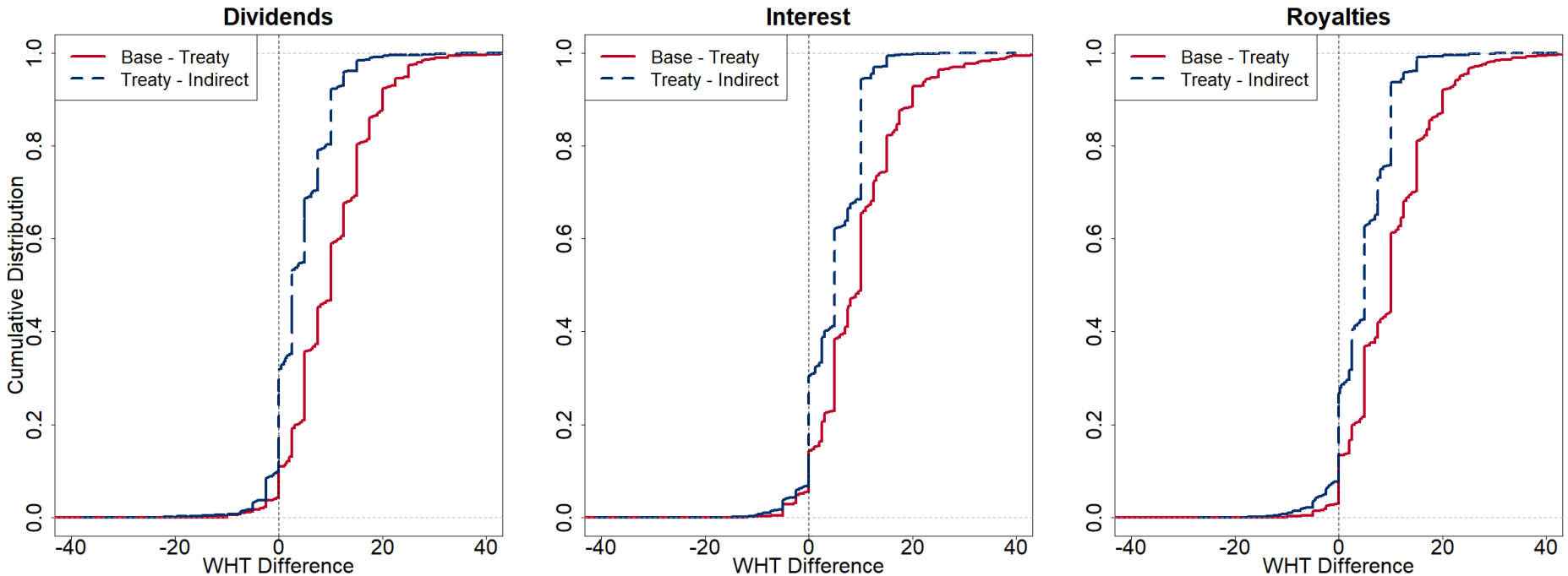
H2: Treaty WHT Rate Follows the Cheapest Indirect Rate

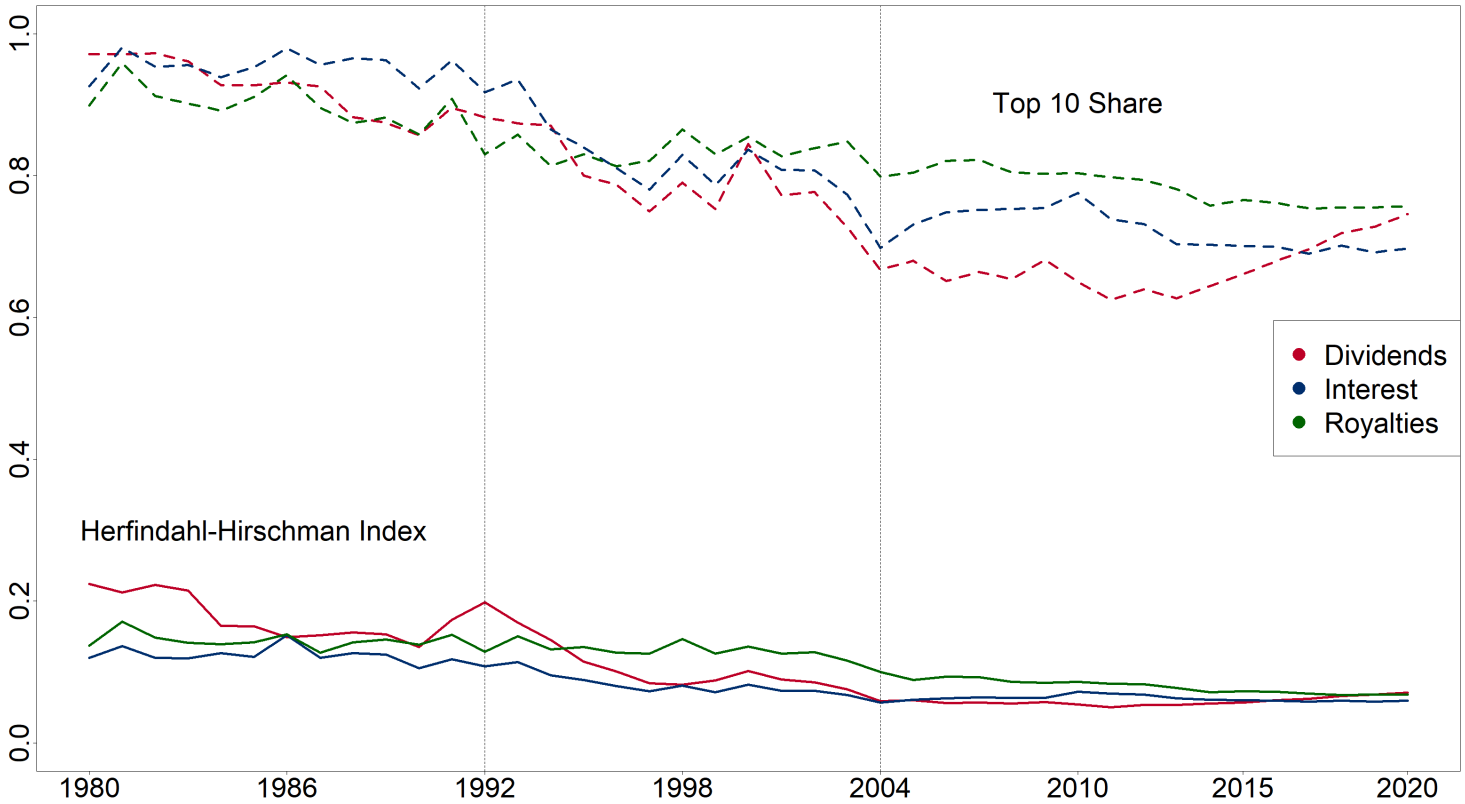
Figure: Comparison of Treaty WHT Rates with Base and Indirect Rates



Notes: This figure plots the empirical cumulative distribution function (CDF) for the difference between 1) the statutory withholding tax rate and the treaty withholding tax rate; and 2) the treaty withholding tax rate and the cheapest indirect rate. The statutory withholding tax rate and the cheapest indirect rate are measured at the year before BTT signing. The sample is directed-dyad observations at the year of BTT formation and only includes dyads that the host country faces the risk of treaty shopping in the year before.

H3: Emergence of New Conduit Countries

Figure: Treaty Shopping Conduits: Fragmented but Dominated by Key Countries



Notes: This figure depicts the evolution of the treaty shopping "conduit market" from 1980 to 2020, with solid lines representing the market concentration level measured by the Herfindahl-Hirschman Index and dashed lines indicating the total share of the top 10 conduit countries. The colors correspond to different payment types. The dashed vertical lines represent two important years: the year of 1992 when the BTT network began to expand rapidly, and the year of 2004 that the sample coverage has increased due to the switch of data sources.

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- Policy divergence requires international cooperation convergence