A (potentially positive) welfare assessment of the Global Minimum Tax

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The Global Minimum Tax (GMT)

- Objectives:
  1) Mitigate tax competition ("tax race to the bottom")
  2) Curb profit shifting (tax avoidance)
- How:
  - **GMT: 15% effective minimum tax** on corporate income
  - Application of top-up taxes in case of ETRs < 15% in certain jurisdictions
- When:
  - Oct. 2021 Agreement of the OECD/BEPS (for large MNEs)
  - 2024: Implementation of GMT by the EU, UK, JPN … not US, China

The Global Minimum Tax (GMT) - research

- Empirical research on GMT: *only tax revenue effects* (based on CbCR data)
  - **Baraké, Chouc, Neef, Zucman (2022)**: CIT revenue up 16% for EU, partial GMT
  - **Hugger, González-Cabral, Bucci, O'Reilly (2024)**: CIT revenues globally up 6.5% - 8.1%
- Theoretical research on GMT: *endogenous tax rates* (Nash equilibria)
  - **Johannesen (2022)**: ambiguous welfare effects for non-havens
  - **Hebous & Keen (2023)**: scope for Pareto Improvement
  - **Janeba & Schjelderup (2023)**: competition for capital

The Global Minimum Tax (GMT) - research

Model simulation of GMT: *calibrated GE model* CORTAX and CbCR data

Brun, Pycroft, Speitmann, Stasio, Stöhlker (Jan. 2025):

- tax rev. up 7% for EU, including economic impact

- **US non-participation?**
  - US has type of income inclusion rule called **GILTI**: Global Intangible Low-Taxed Income
    - Current rate: 10.5%, soon 13.125%
  - The CbCR analysis, assumes undertaxed payment rule (UTPR) *not* applied to US firms
  - *US non-participation has minor impacts* for GMT participants, due to GILTI

The Global Minimum Tax (GMT) - welfare

This Paper: Welfare Assessment of the GMT

- Builds on **Brun, Pycroft, Speitmann, Stasio, Stöhlker (Jan. 2025)**
- Calibrated multi-country macroeconomic model, CORTAX
- All countries implement GMT, inc. US and tax havens
- Provides economic & welfare impacts

GMT has ambiguous theoretical effects:

- Increases tax revenues and reduces profit shifting (positive)
- Raises cost of capital on company investments (negative)
- Model simulations trace relative size of effects

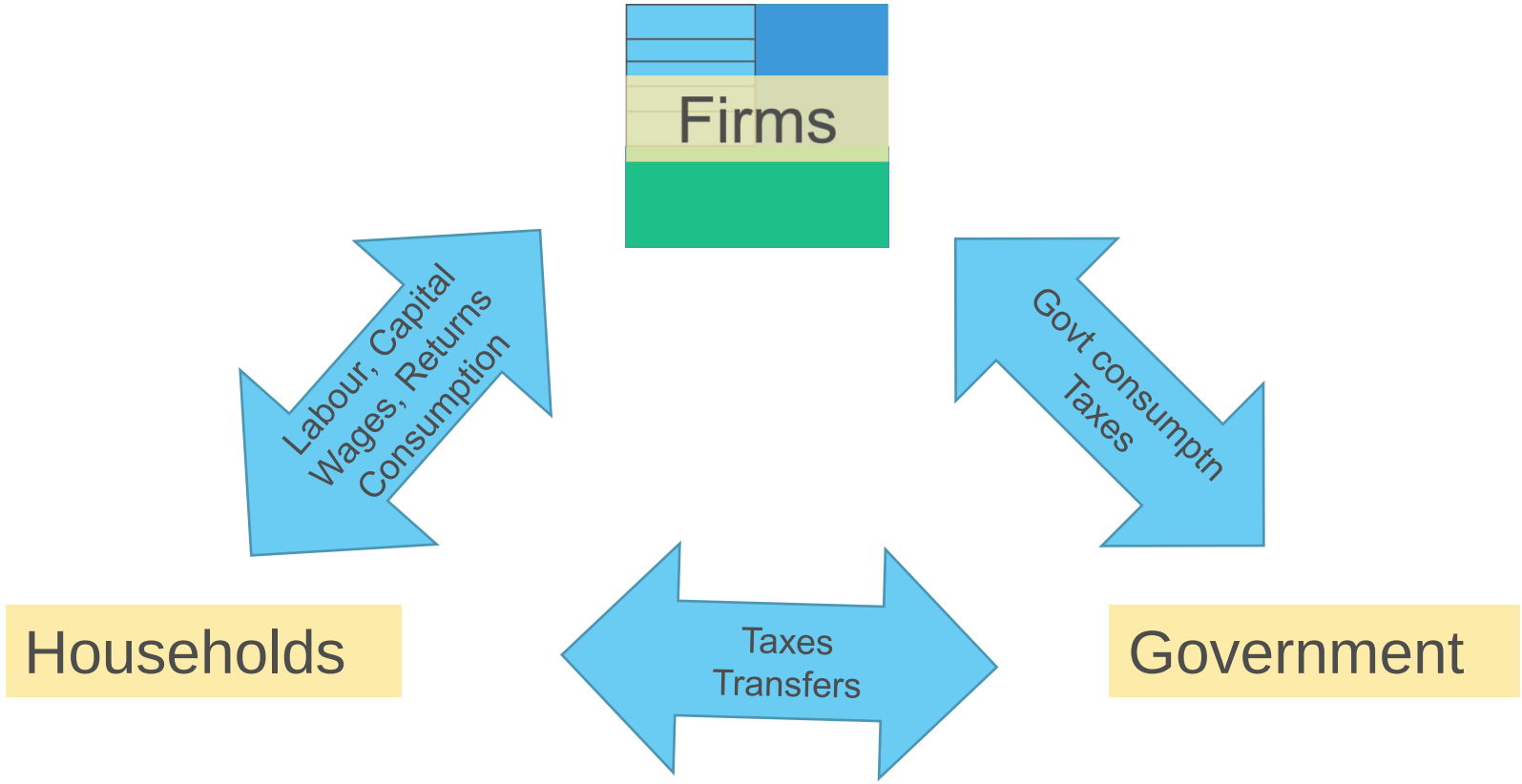
Welfare assessment of GMT – preview

- Welfare changes vary by country
- Global welfare gain from 15% rate …
- … esp. if constant total corporate tax burden
  - less profit shifting → lower corporate tax rate
- Maximum global welfare at 16% rate

CORTAX - overview

- Macroeconomic: computable general equilibrium (CGE) model for **27 EU countries, UK, US, Japan, and a tax haven**
- Steady state equilibrium
- Capital fully mobile across countries; labour immobile
- Firms: **domestic, multinational headquarters, and multinational subsidiaries**; *profit maximisers*
- Governments: **taxes, expenditure, transfers**; *passive agents*
- Households modeled with simple overlapping generations (working young, retired old); select consumption and leisure to *maximise welfare*

CORTAX: macroeconomic model



CORTAX: firms

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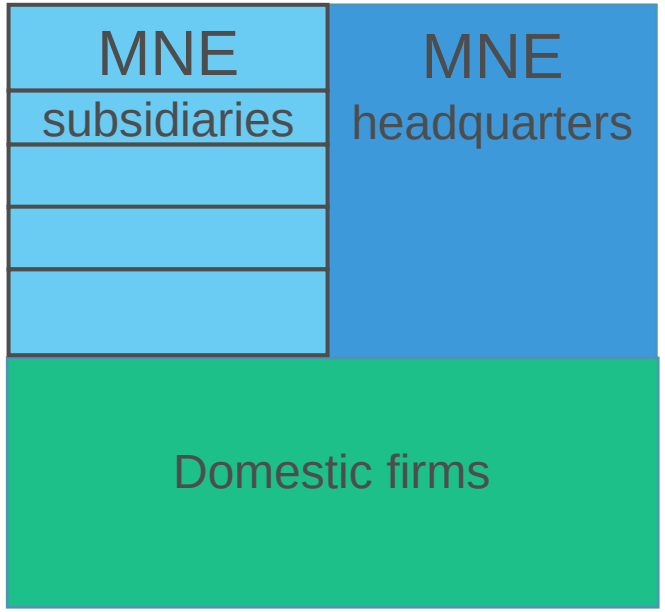
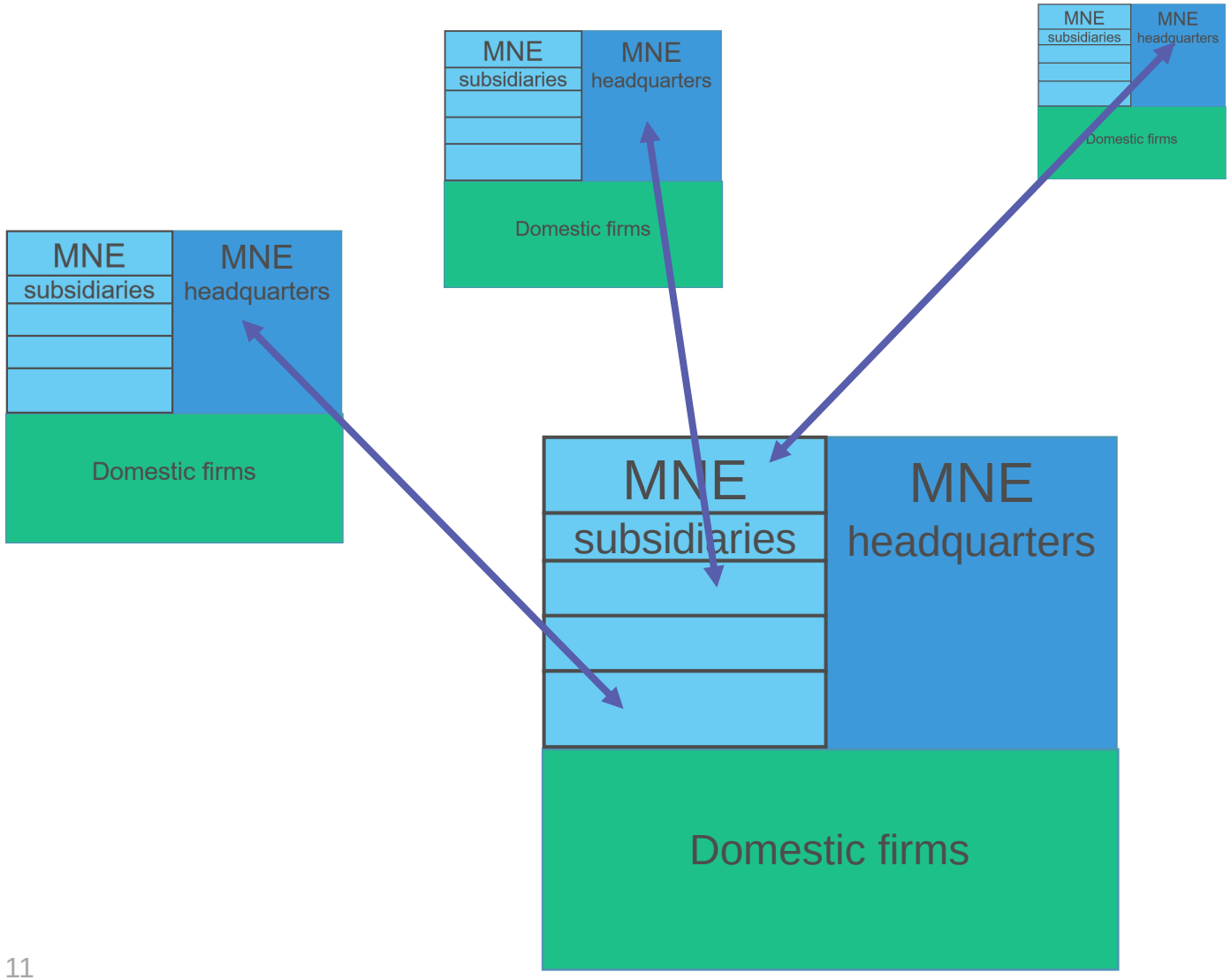


CORTAX: firms profit shifting



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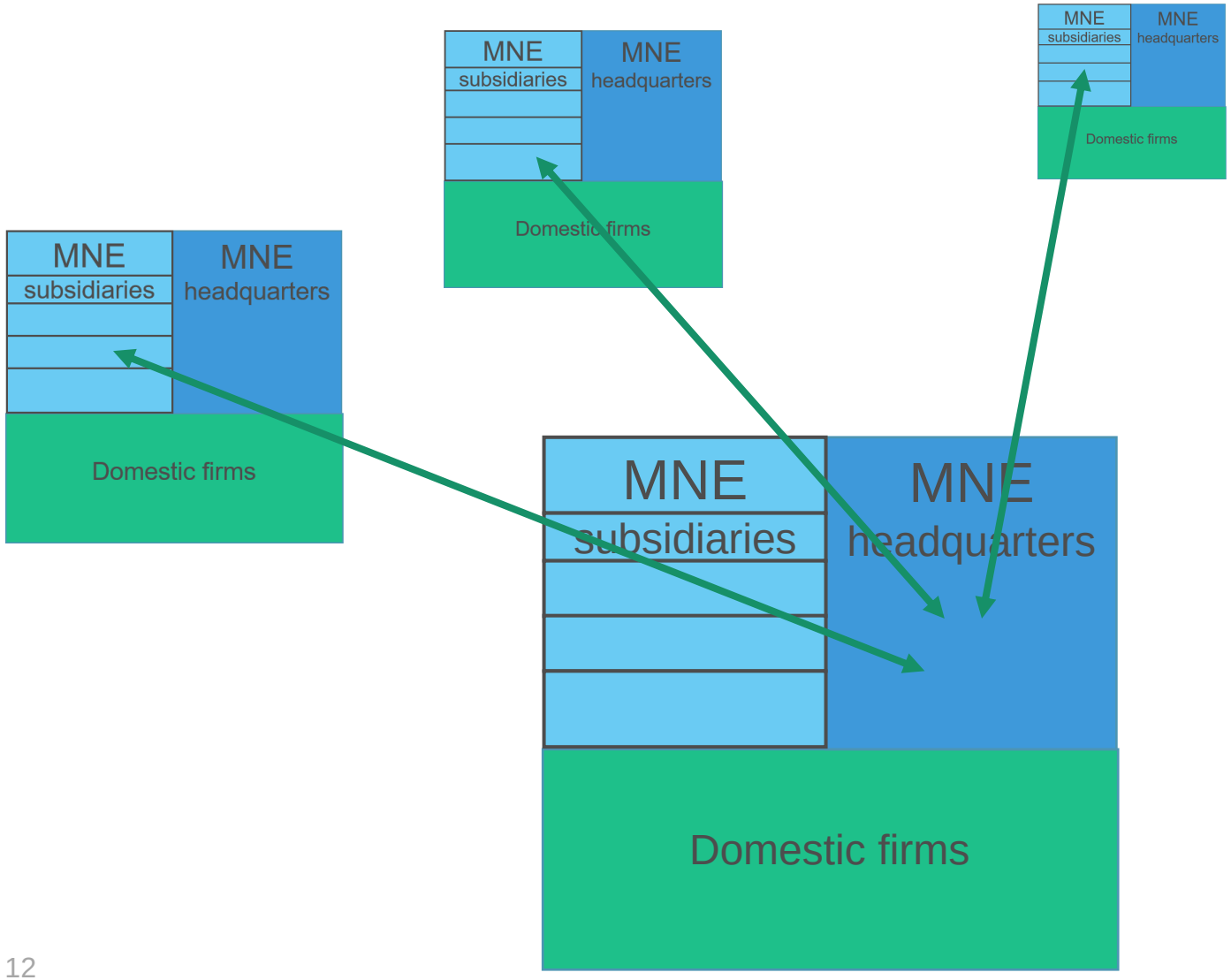
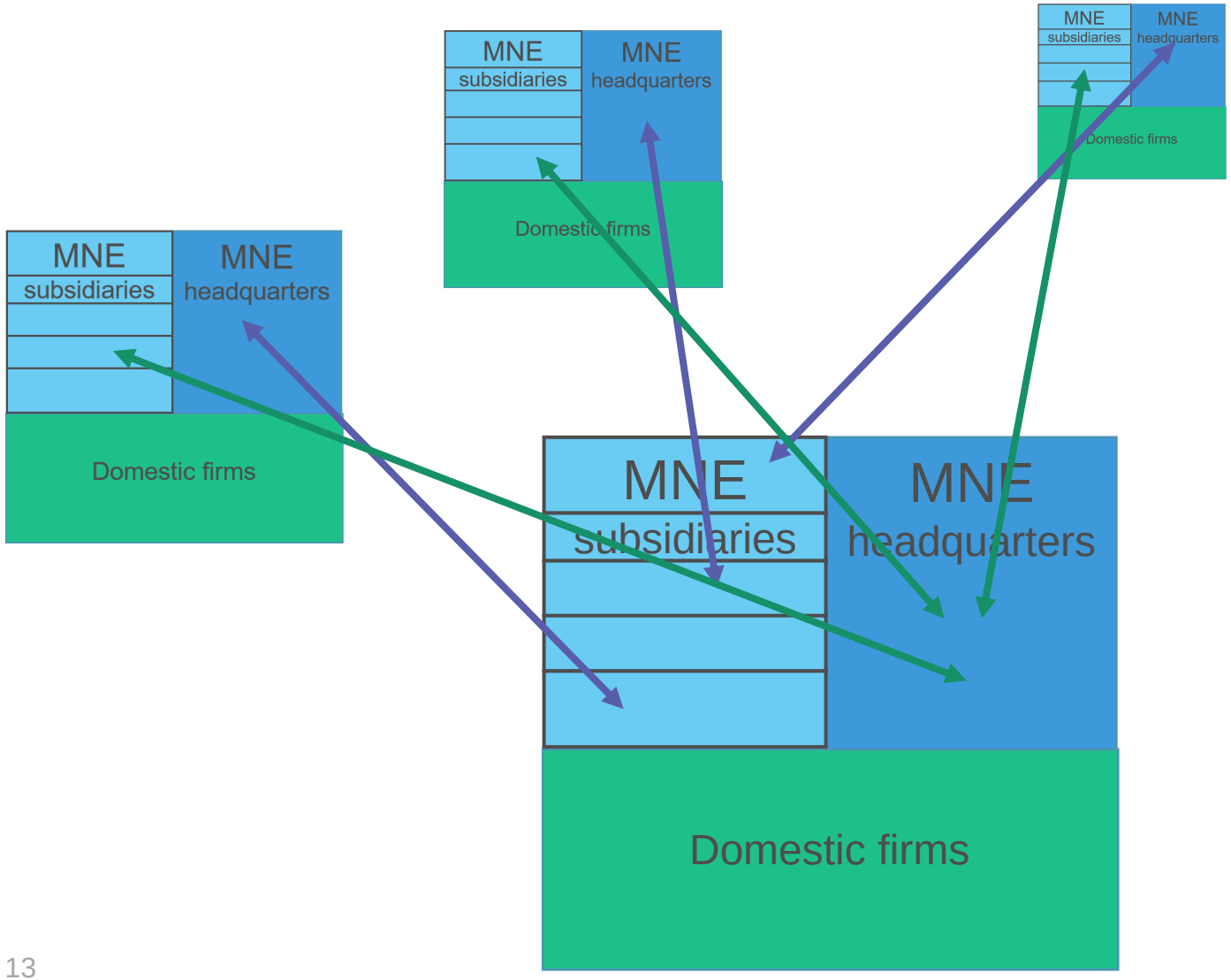


CORTAX: firms profit shifting

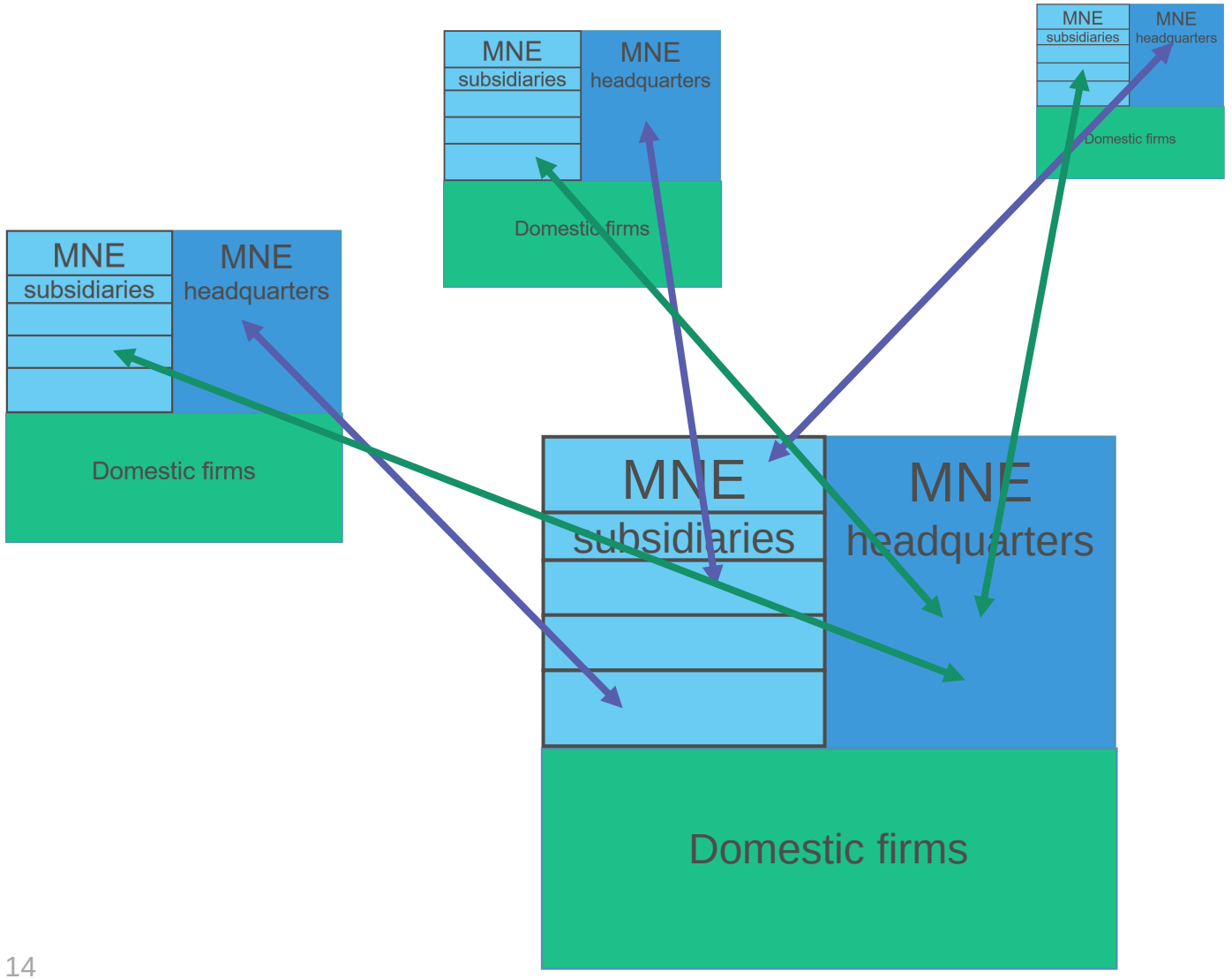


TRANSFER PRICING:

PROFIT SHIFTING BETWEEN MAIN COUNTRIES

European Commission

CORTAX: firms profit shifting



When the subsidiary has a higher tax rate than the headquarters:

- Cost of transfer pricing, c_q
- Grows with distance from truth, $p_{q,(i,j)} = 1$
- Given elasticity of transfer pricing ε_q

$$c_{q,(i,j)} = \frac{\left|p_{q,(i,j)} - 1\right|^{1+\varepsilon_q}}{1+\varepsilon_q}$$

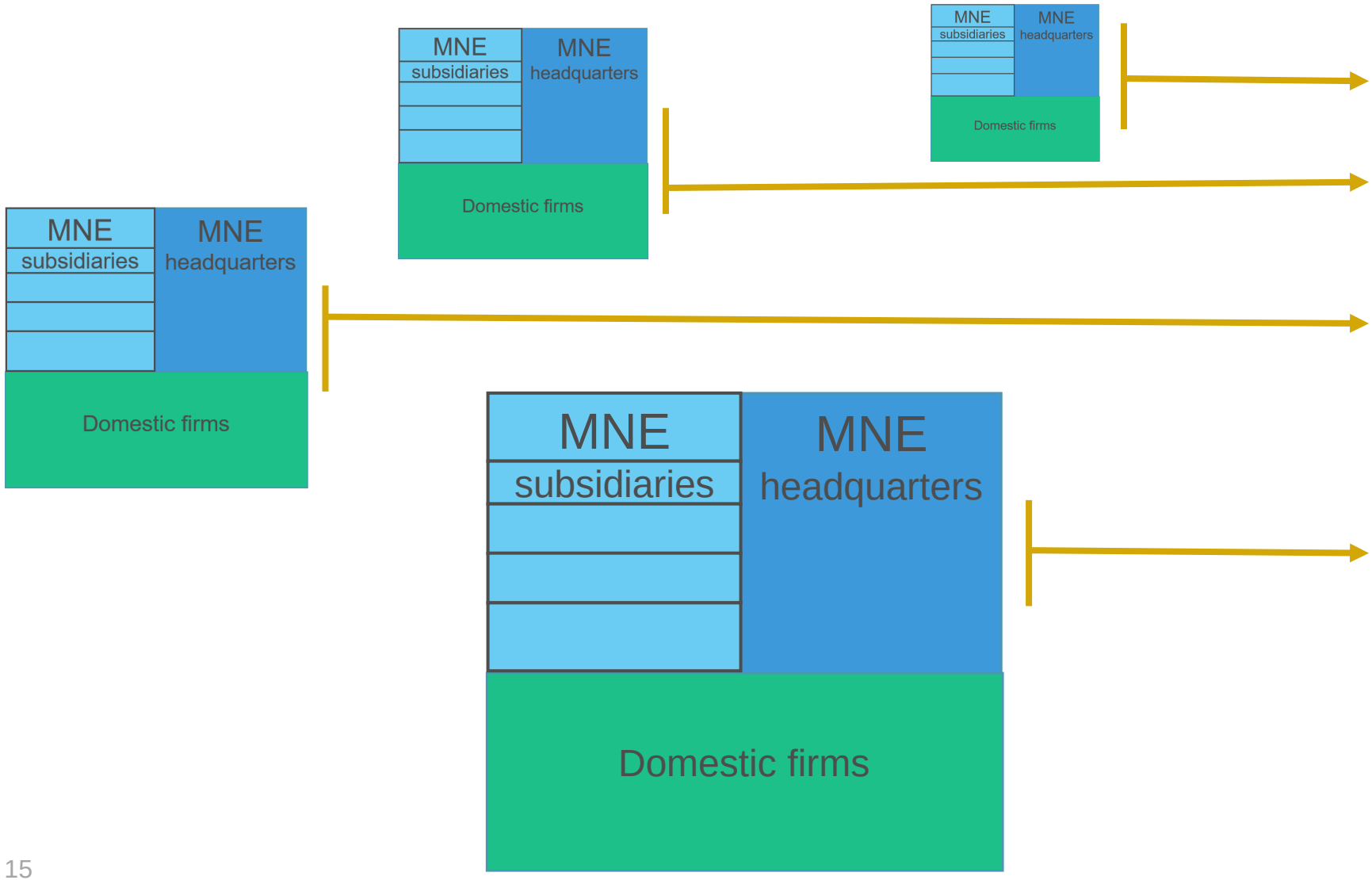
Marginal cost:

$$\frac{\partial c_{q(i,j)}}{\partial p_{q(i,j)}} = \left(p_{q(i,j)} - 1\right) \times \left|p_{q(i,j)} - 1\right|^{\varepsilon_q}$$

Firm's optimise based on tax differential, $\tau^{f}_{\pi(j)} - \tau^{m}_{\pi,(i)}$:

$$p_{q(i,j)} = \left\{1 + \left[\frac{\left(\tau^{f}_{\pi(j)} - \tau^{m}_{\pi,(i)}\right)}{\left(1 - \tau^{m}_{\pi,(i)}\right)}\right]^{1/\varepsilon_q}\right\}$$

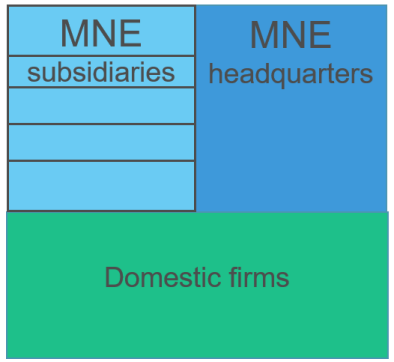
CORTAX: firms profit shifting



CORTAX: firms profit shifting

$$\theta = A(\tau_{\pi}^{m} - \tau_{\pi}^{h})^{\gamma}$$

θ = share of profits shifted
A = share of profits amenable to profit
γ = semi-elasticity of profit shifting
$(\tau_{\pi}^{m} - \tau_{\pi}^{h})$ = CIT rate differential



How much is lost to domestic govt?

$$\theta * \text{base} * \tau_{\pi}^{m}$$

How much is gained by firms?

$$(\theta - c) * \text{base} * (\tau_{\pi}^{m} - \tau_{\pi}^{h})$$

How much received by tax haven?

$$\theta * \text{base} * \tau_{\pi}^{h}$$

CORTAX: Welfare

- **Household utility** depends on **consumption** and **leisure**

$$u = \left(c^{\frac{\sigma-1}{\sigma}} + \alpha . \hat{l}^{\frac{\sigma-1}{\sigma}}\right)^{\frac{\sigma}{\sigma-1}}$$

c = consumption; $\hat{l}$ = leisure or (1 – labour); labour is 0 for retirees
α = weight of leisure; σ = substitution elasticity between consumption and leisure

- Households maximise welfare over the life cycle

- Welfare of a reform = compensating variation:
  - money transfer to young household needed to make households indifferent

Simulation Setup

Long-run: **All countries implement the Global Minimum Tax** (including tax havens)

- All countries raise rates to 15%
  - or implement Qualified Domestic Minimum Top-Up Taxes, QDMTTs
  - Income Inclusion Rule (IIR) and Undertaxed Payments Rule (UTPR) redundant
    - as no advantage for any jurisdiction to have rates below 15%

How to use extra revenues? Two scenarios / closures:

1. **Transfers** to households
2. **Corporate tax rate** adjustment
   - maintain original corporate tax revenue (less profit shifting, lower rate)

Results: 15% Global Minimum Tax
extra revenue to household transfers

	Cost of capital (pp)	GDP (%)	CIT revenue (%)	Welfare CV (billion EUR)
EU-high tax Most of EU	**+ 0.052**	**- 0.22**	**+ 5.64**	**- 4.80**
EU-low tax BG, CY, EE, IE, HR, HU, LT, LU, LV, SI	**+ 0.097**	**- 1.13**	**+ 20.58**	**+ 2.96**
Non-EU UK, US, JP	**+ 0.041**	**- 0.15**	**+ 5.76**	**- 1.69**
Tax haven	**NA**	**NA**	**NA**	**+ 7.21**
Total	**+ 0.046**	**- 0.20**	**+ 6.12**	**+ 3.68**

Results: 15% Global Minimum Tax
extra revenue to reduce corporate tax rate

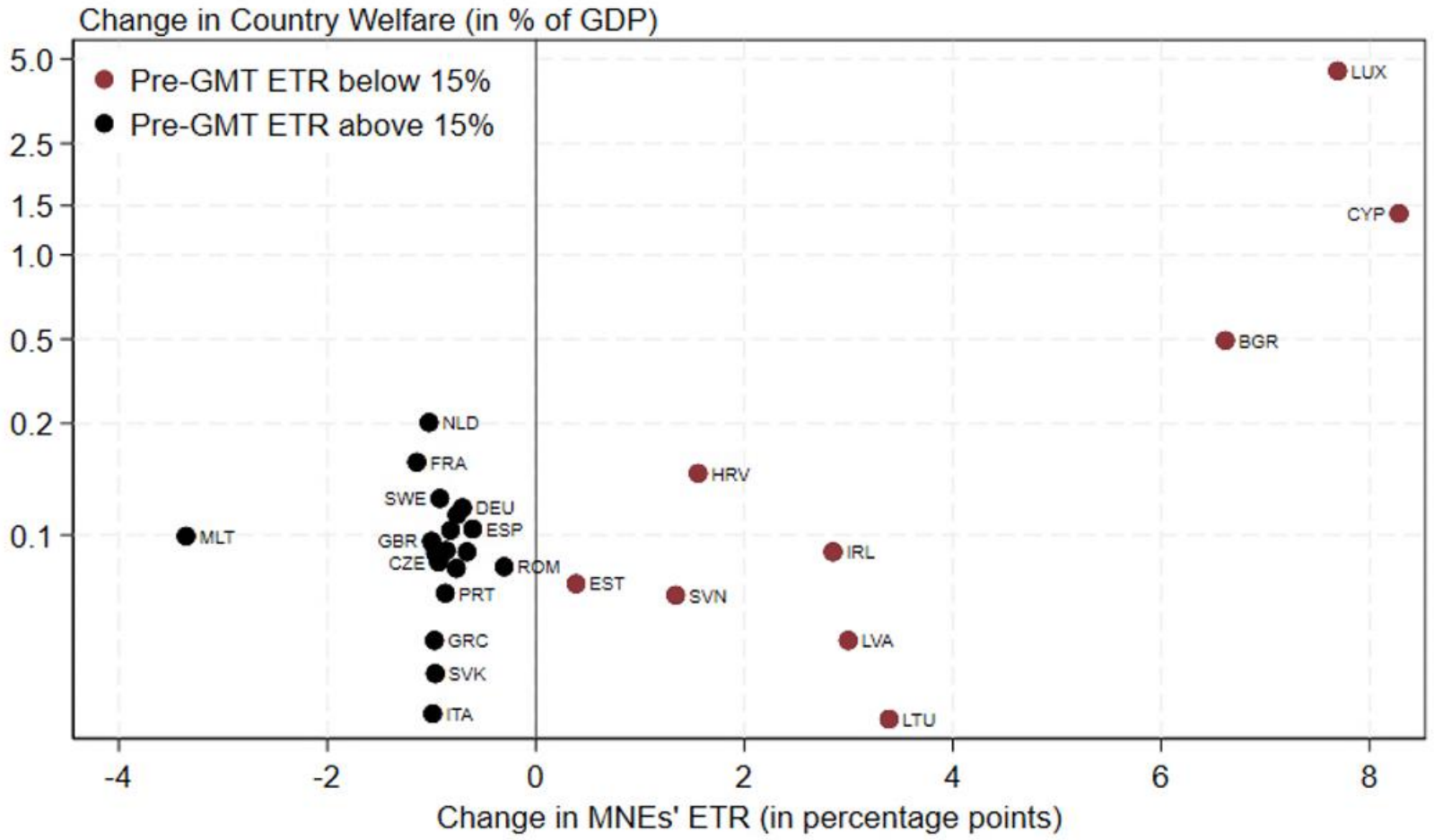
	Cost of capital (pp)	GDP (%)	CIT revenue (%)	Welfare CV (billion EUR)
EU-high tax Most of EU	**- 0.03**	**-0.05**	**0.00**	**+ 14.85**
EU-low tax BG, CY, EE, IE, HR, HU, LT, LU, LV, SI	**+ 0.10**	**- 1.40**	**+ 19.67**	**+ 3.04**
Non-EU UK, US, JP	**- 0.03**	**- 0.03**	**0.00**	**+ 19.22**
Tax haven	**NA**	**NA**	**NA**	**+ 1.94**
Total	**- 0.02**	**- 0.07**	**+ 0.55**	**+ 39.04**

Wages +0.10%

Wages +0.10%

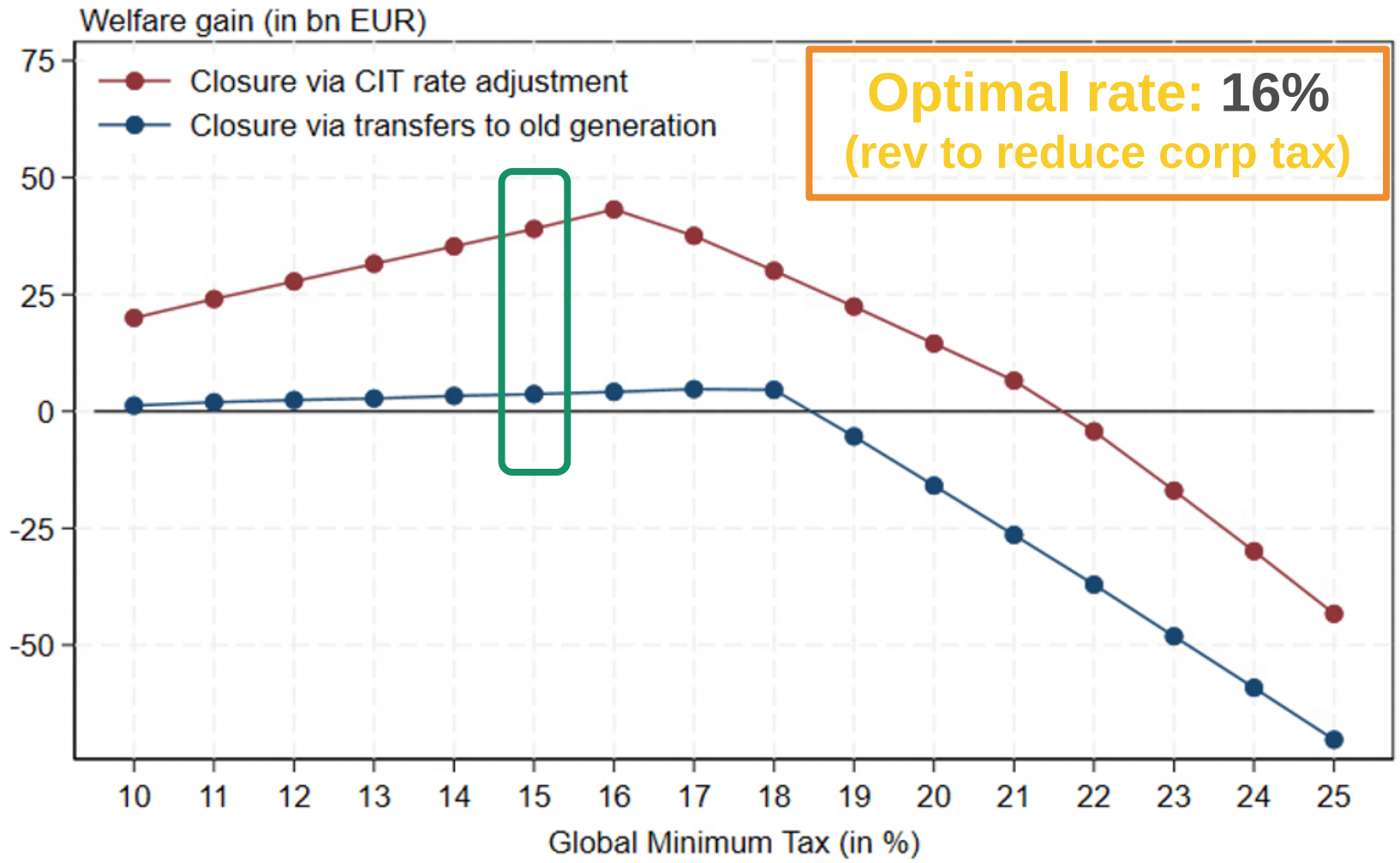
Results: 15% Global Minimum Tax
extra revenue to reduce corporate tax rate

Country heterogeneity



European Commission

Results: 10% to 25% Global Minimum Tax
Total welfare gain: 2 scenarios



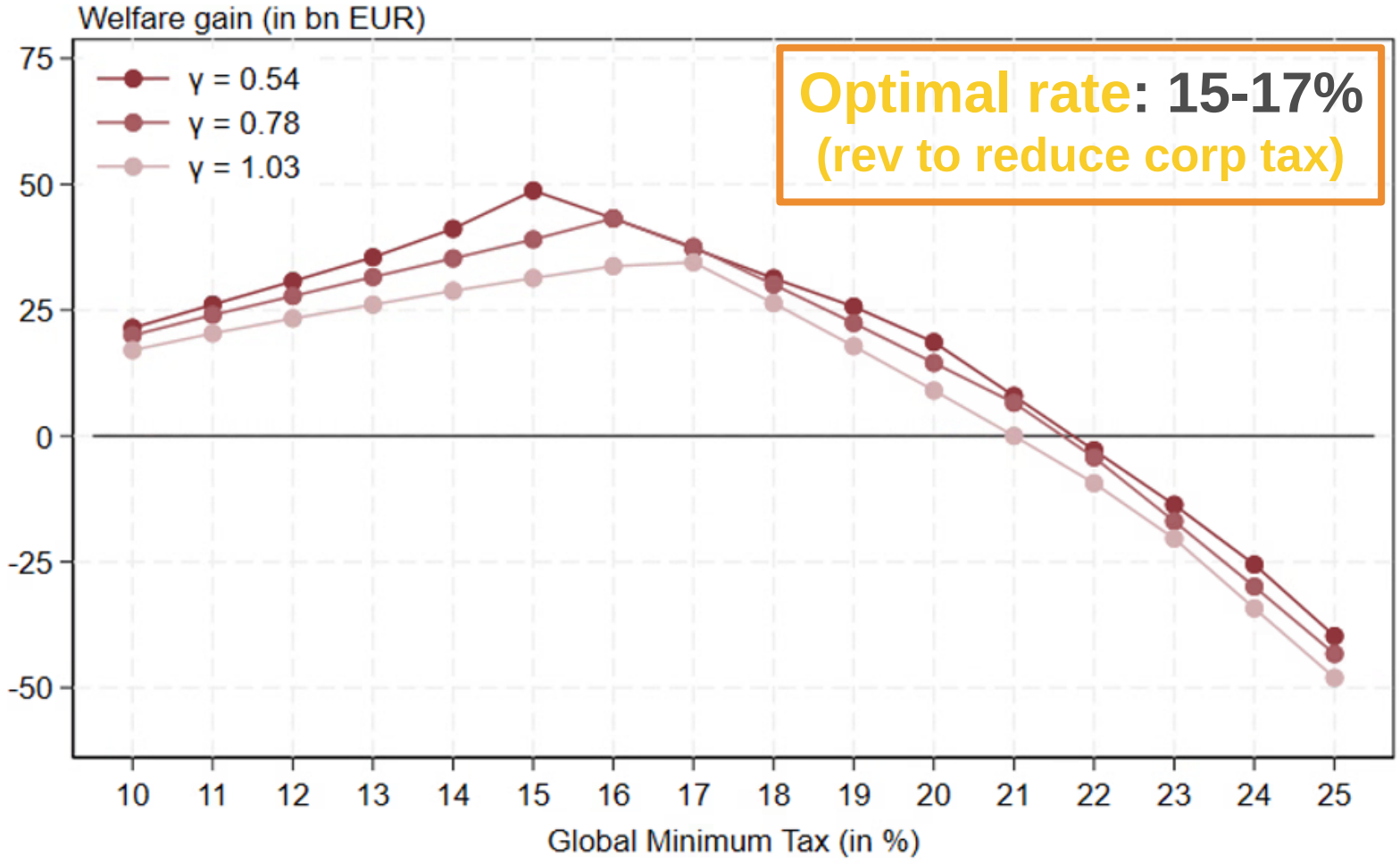
European Commission

Results: Sensitivity

Total welfare gain: extra revenue to reduce corporate tax rate

High/low profit shifting elasticities

Higher profit shifting elasticities reduce welfare gain



European Commission

Conclusions and Policy Implications

Multilateral cooperation ➔ *potentially positive* welfare impacts

- Strategic cooperation makes most countries better off
- … depending on how the extra revenue is used
- Higher gains if overall corporate tax burden is not increased
- Highest global welfare gain from GMT rate of 16%