



# ECONOMIC IMPACT ASSESSMENT OF THE TWO-PILLAR SOLUTION

## UPDATE ON THE IMPACT ASSESSMENT OF PILLAR TWO

Webinar

9 January 2024 | 15:00-16:30 CET



## Housekeeping

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- Chat function disabled for attendees for security reasons
- Submit questions via Q&A function
- Webinar is being recorded and replay will be circulated to all those registered within 24 hours



## Speakers

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**David Bradbury**

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**Pierce O'Reilly**

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**Ana Cinta González Cabral**

Economist, Business and International Taxes Unit

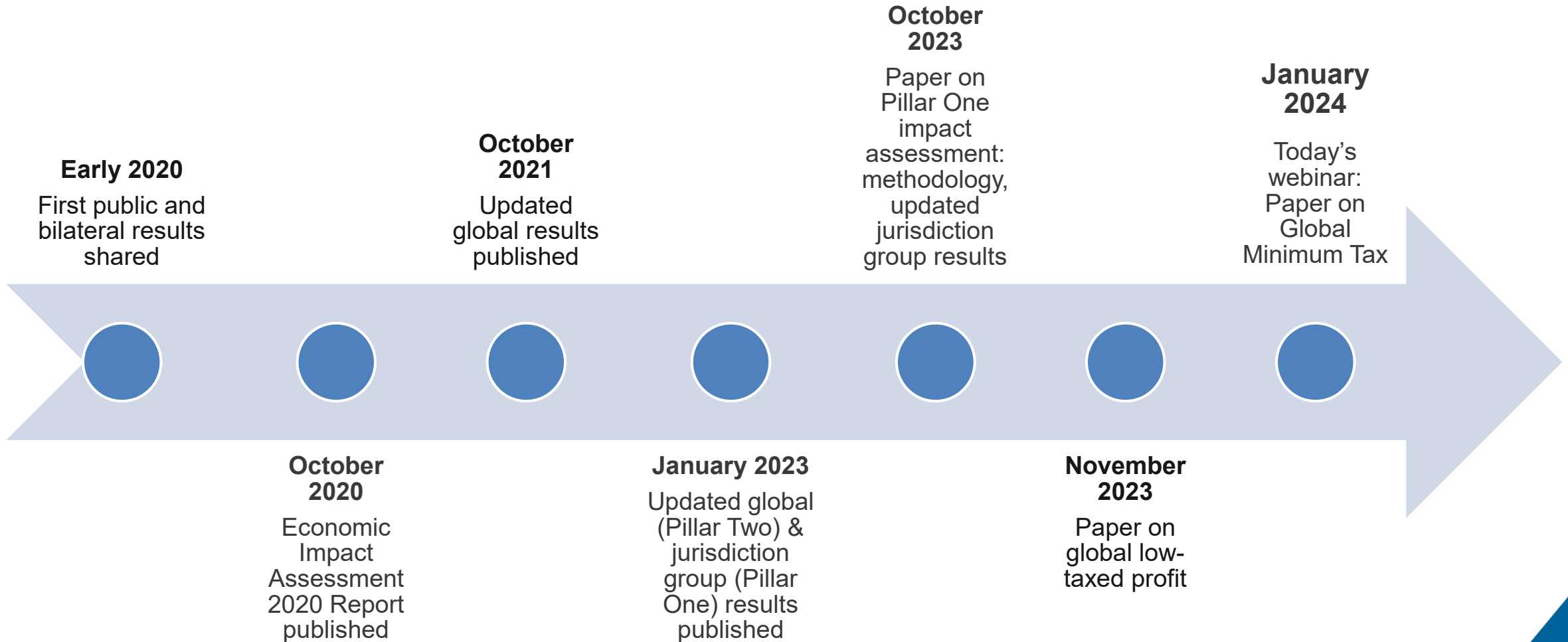
OECD Centre for Tax Policy and Administration



# BACKGROUND



# Economic Impact Assessment: Timeline





## What's new

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- **Two papers**
  - Location of low-taxed profit globally (released in November 2023)
  - Pillar Two updated impact assessment (released today)
- **Updated Pillar Two Results for the global and jurisdictional levels**
- **Methodological and data improvements**
  - Data for 2017-2020
  - More granular estimates of low-taxed profit globally
  - Updating modelling of substance-based income exclusion (SBIE), UTPR allocation key, GloBE tax base, interaction with the US GILTI



# Key Results

## *Tax rates and low-taxed profit*

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- **The global minimum tax (GMT) reduces effective tax rate (ETR) differentials**
  - 50% average reduction in the ETR differential between investment hubs and other jurisdictions
  - Reduced profit-shifting incentives
  - Improved allocation of capital by increasing the importance of non-tax factors (e.g. education, infrastructure and overall investment environment)
- **The GMT is estimated to reduce low-taxed profit globally**
  - **Global low-taxed profit is estimated to be reduced by about 80%**; from an estimated 36% of all profit globally to about 7%; with the remaining low tax profit reflecting the impact of the substance-based income exclusion



# Key Results

## *Global tax revenue implications*

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- **Revenue gains are estimated to be between USD 155-192 billion per year** (based on data across the 2017-2020 period)
- **Around two-thirds of gains come directly from the GMT**, while around one-third of these gains are expected to arise indirectly through reduced profit-shifting
- **This represents an increase of between 6.5-8.1% of global corporate income tax (CIT) revenues**





# Key Results

## *Jurisdiction-group tax revenue implications*

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- **Revenue gains are of a similar order of magnitude across most income groups:** 5.1%-8% of CIT for developed economies and 3.6%-7.8% for developing economies
- **Gains are shared widely among jurisdictions,** because of the existence of low-tax profit in most jurisdictions, including jurisdictions with high statutory and average effective tax rates
- **Revenue gains will depend on implementation decisions** of jurisdictions; jurisdictions not implementing the rules will forego revenues that would otherwise accrue to them
- **UTPR gains for some jurisdictions could be larger than these estimates** if some larger countries do not implement the rules



# Key Results

## *Location of low-taxed profit*

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- **Broad-based revenue gains across jurisdictions stem from the key finding in the first paper of substantial low-taxed profit in high-tax jurisdictions**, mainly due to tax incentives (e.g. tax holidays, patent boxes)
- **Low-taxed profit (profit with an ETR below 15%) amounts to 36% of the profits of all MNEs above the EUR 750 million turnover threshold globally**
  - 74% of all profit in investment hubs is estimated to be low-taxed
  - 28% in high-income jurisdictions is estimated to be low-taxed
  - 19% in developing jurisdictions (low and lower middle-income jurisdictions) is estimated to be low-taxed
- **About half (53%) of all low-taxed profit globally is located in high-tax jurisdictions;** those with an average ETR above 15%



# FIRST PAPER: THE GLOBAL TAXATION OF MNE PROFITS

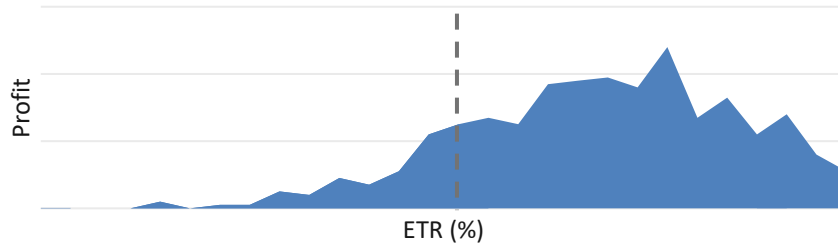


# Approaches to estimating low-taxed profit

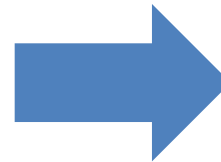
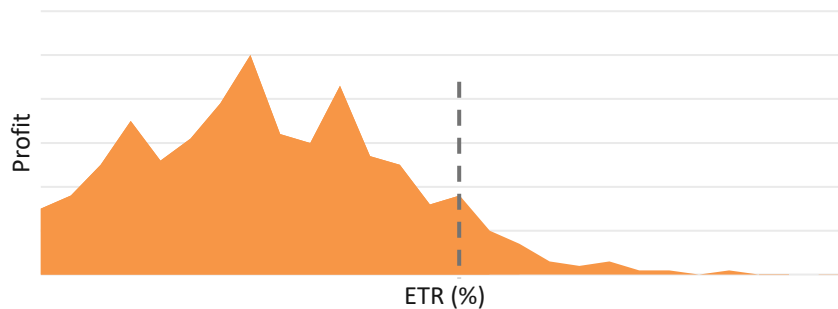
*Illustrative example*

## Previous work: Approach based on average ETRs

Panel A: High-tax jurisdiction  
(average ETR above 15%)

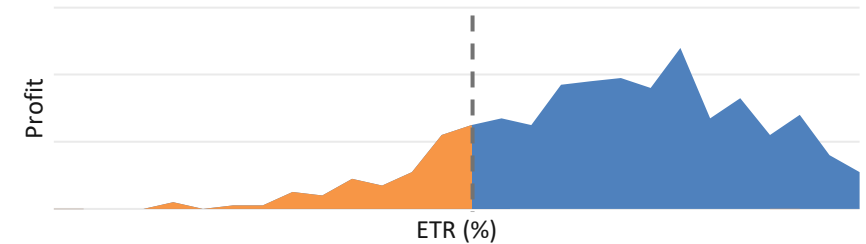


Panel B: Low-tax jurisdiction  
(average ETR below 15%)

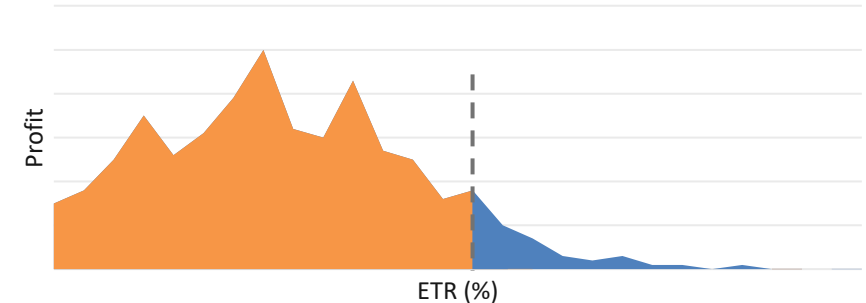


## This paper: New approach based on ETR distributions

Panel A: High-tax jurisdiction  
(average ETR above 15%)



Panel B: Low-tax jurisdiction  
(average ETR below 15%)



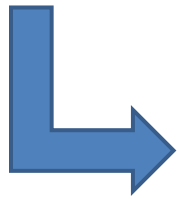
**Note:** Orange areas illustrate the low-taxed profit measured in approaches focused on average ETRs (left) and in approaches applying ETR distributions. The dashed vertical line marks an ETR of 15%.



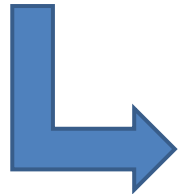
# Steps to estimate low-taxed profit of MNEs

*Revised approach*

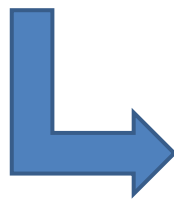
1. Estimating jurisdictional profit-weighted backward-looking average ETRs



2. Estimating ETR distributions within jurisdictions



3. Estimating global distribution of profit



4. Estimating low-taxed profit by jurisdiction



# Average ETRs across jurisdictions

*Data*

## Data: anonymised and aggregated Country-by-Country Report (CbCR) data

- Complemented with data from BEA and Tørsløv, Wier & Zucman (2023)
- All data specific to MNEs
- Years 2017-2020, 222 jurisdictions, 75 000 MNE-jurisdiction-year observations
- Regression-based imputations to fill gaps

## CbCR ETRs: broad coverage, but some issues to address

- Focus on MNE subgroups with positive profits
- Double counting correction of CbCR profits and correction for prior year losses
- Bilateral data can be noisy; requires jurisdictional averages after cleaning and capping
- Based on financial accounting standards



# ETR distributions within jurisdictions

## *Data*

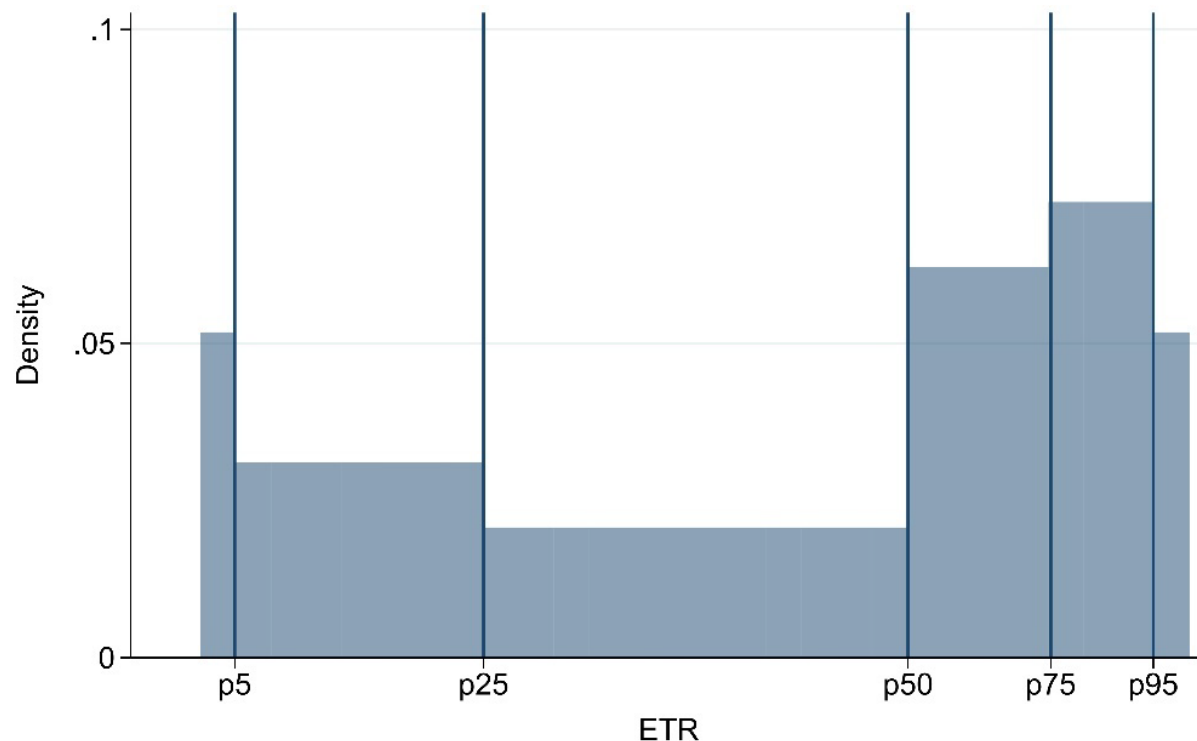
- **Average ETRs may mask heterogeneity** across firms within jurisdictions that can be due to firm circumstances or tax policies (e.g., tax incentives)
- **Goal:** estimation of **ETR distribution** across MNE profit **within each jurisdiction**
- **New data source:** CbCR ratio data gathered from tax administrations
  - Distribution points (percentiles) of ETRs across MNE subgroups, based on MNE-level CbCRs
  - Percentiles reported (depending on local confidentiality requirements): p5, p25, p50, p75, p95
  - Data for up to 30 Ultimate Parent Entities (UPE) jurisdictions on around 3,000 UPE-affiliate pairs for 2017-2020



# ETR distributions within jurisdictions

## Visualisation of available data

### Illustration of ETR distribution data



**Note:** Illustration of the ETR distribution points available and the additional assumptions imposed. The underlying data is created for illustration purposes only. For clarity of presentation, the assumed mass at the 5<sup>th</sup> percentile is plotted just below the corresponding label; the assumed mass at the 95<sup>th</sup> percentile is plotted just above the corresponding label.

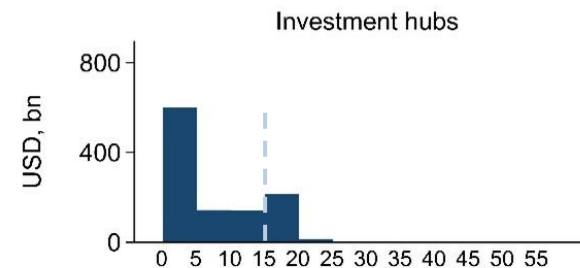
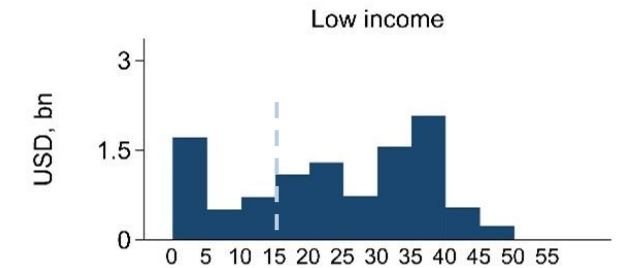
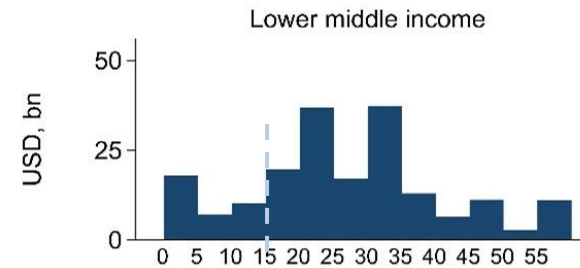
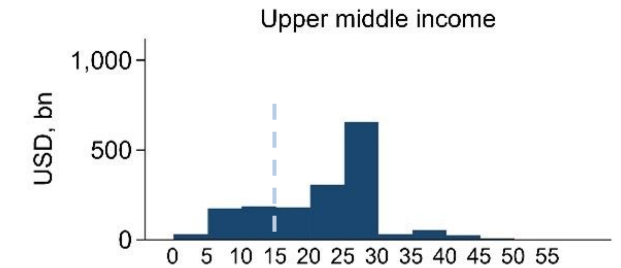
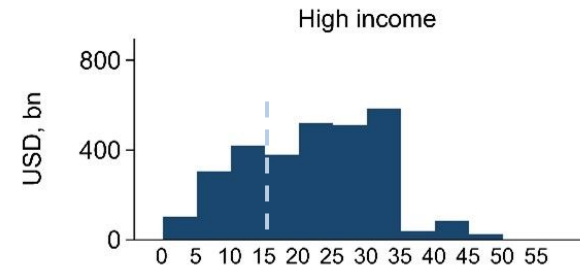
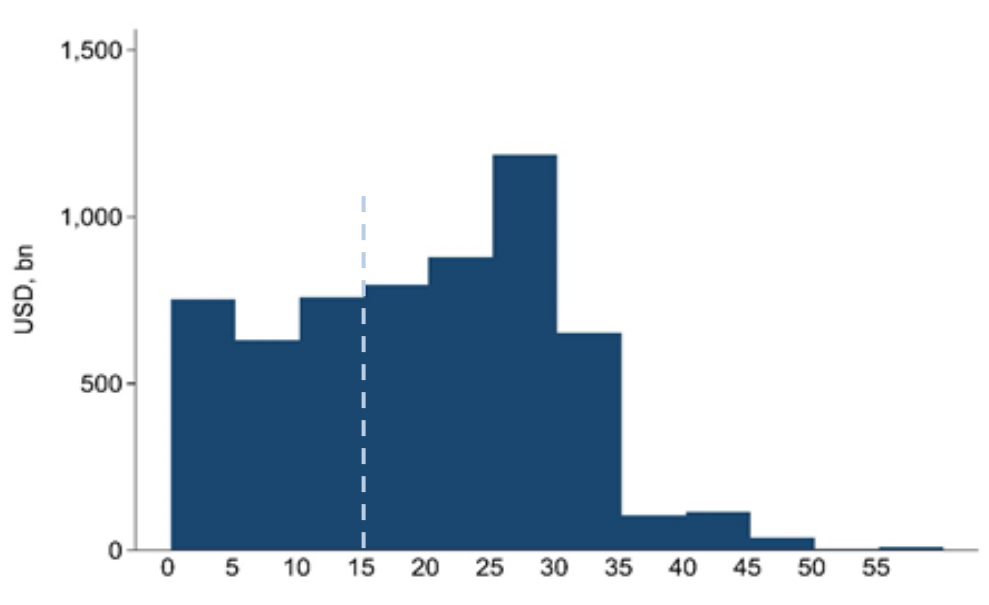
- In contrast to the illustrative distribution shown above, the ratio data available only gives distribution points
- Assumptions:
  - Uniform distribution of ETRs between percentiles
  - Profit below p5 taxed at p5; profit above p95 taxed at p95
- Distribution shifted to match average ETRs of jurisdictions accounting for loss correction. Shifts differentiate between jurisdictions with and without ‘zero-tax’ incentives





# Taxation of profit globally

## Distribution of profit across ETR groups globally and by ETR group



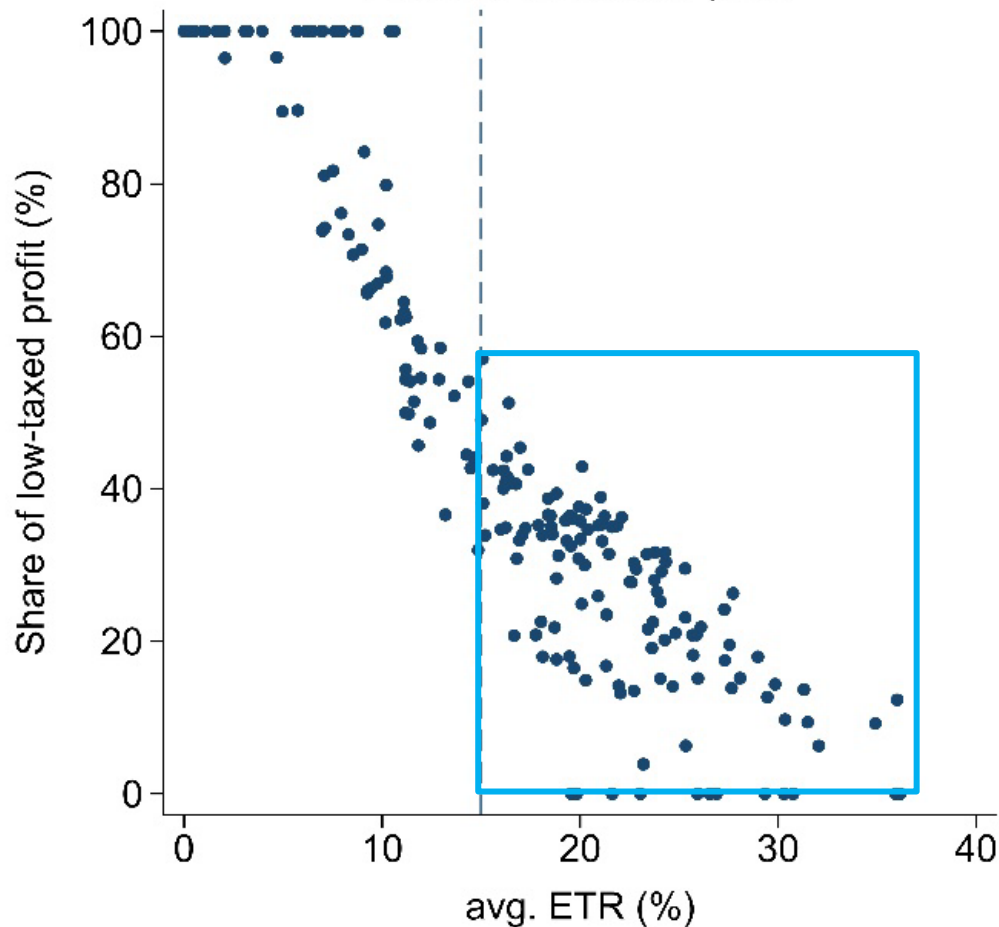
- Data highlight variety of ETRs across all ETR groups
- Concentration of profit in the 25-35% ETR range globally
- Concentration in the 0-5% ETR range (including substantial zero-taxed profit)

**Note:** Distribution of profit of large MNEs across ETR groups, averaged over the period 2017-2020. Bins have a width of five percentage points. The average sum of global profits of large MNEs is USD 5,929 billion per year.



# Incidence of Low-Taxed Profit compared to average ETRs

Share of low-taxed profit vs. average ETRs



- Data show highest shares of low-taxed profits (ETR < 15%) in low-tax jurisdictions
- But also substantial low-taxed profit in many jurisdictions with high average ETRs (blue box)
- This low-taxed profit in high tax jurisdictions is not taken into account when only considering average ETRs

**Note:** Very low-taxed profit compared to the average ETR in a jurisdiction. Each dot is a jurisdiction observation. The vertical line indicates 15%. Values shown are averages across the years 2017-2020 for both shares of low-taxed profit and ETRs. Low-taxed profit is defined as all profit taxed at ETRs below 15%.



# Incidence of Low-Taxed Profit, by jurisdiction group

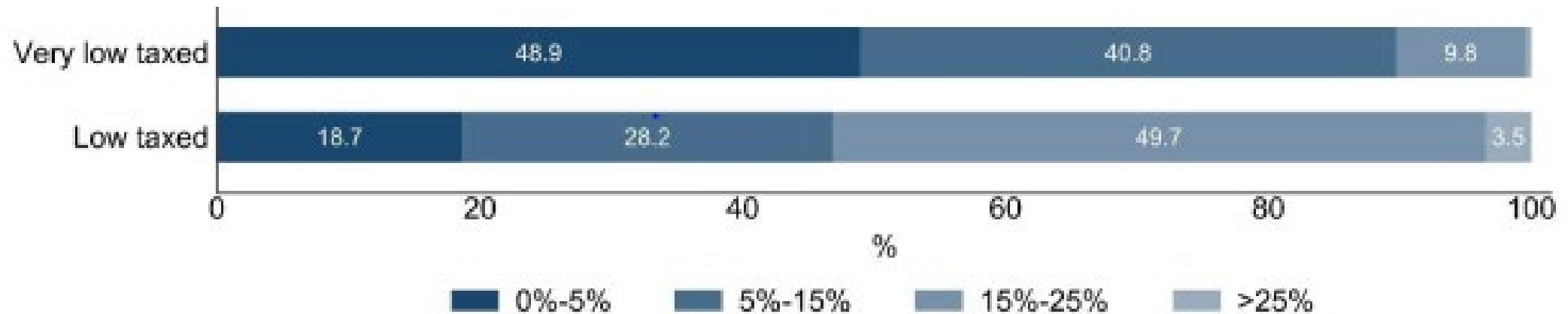
	Share of total profit in jurisdiction group estimated as low-taxed (ETR <15%)	Share of total profit in jurisdiction group estimated as very low-taxed (ETR <5%)
High Income	28%	3%
Upper-Middle Income	24%	2%
Lower-Middle Income	18%	9%
Lower Income	28%	16%
Investment Hubs	79%	54%

**Note:** This implies, for example, that an estimated 28% of all profit in high-income jurisdictions is low taxed. However, it does not imply that high-income jurisdictions account for 28% of all global low taxed profit.



# Global low-taxed profit

## Location of global low-taxed profit by income group



- **Very low-taxed profit** (ETR < 5%) mainly reported in low-tax jurisdictions
- In contrast, **more than half of low-taxed profit** (ETR < 15%) reported in high-tax jurisdictions (ETR > 15%)

**Note:** Distribution of very low and low-taxed profit over ETR groups. Very low-taxed is defined as all profit taxed at ETRs < 5%; low-taxed profit is defined as all profit taxed at ETRs < 15% and includes very low-taxed profit.



## Summary

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- The first paper provides new insights on the range of ETRs among affiliates within jurisdictions
- Data show substantial amounts of low-tax profit in high-tax jurisdictions
  - There is significant low-taxed profit (<15% ETR) outside of investment hubs generally, but very low taxed profit (<5% ETR) is concentrated in investment hubs
- Analysis is largely CbCR-based, subject to continued important caveats
- Important implications for the minimum tax debate, and practical implications for jurisdictions considering Qualified Domestic Minimum Top-Up Taxes (QDMTTs)
- The data is used in the second paper to estimate the impact of the global minimum tax



# SECOND PAPER: THE GLOBAL MINIMUM TAX AND THE TAXATION OF MNE PROFIT



# Second Paper: Economic Impact Assessment of the GMT

## *Key Impacts*

Reduced low-taxed  
profit

Reduced profit-shifting

Reduced tax rate  
differentials

Increased tax revenue

The methodology to estimate these effects builds on data presented in the first paper, combined with additional information on the global distribution of MNEs' revenues, assets, employees, and payroll.



# Assumptions and methodology (1)

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1. **GloBE ETR and tax base:** GloBE income approximated by aggregated data on global allocation of MNE profit
  - Key adjustments:
    - GloBE income corrected for potential double counting issues in aggregated CbCR data (with some caveats)
    - GloBE ETR adjusted for losses, as in GloBE rules; assumption that other adjustments, e.g. due to accelerated depreciation, largely wash out
    - Fund exclusion accounted for (other exclusions have little impact on global results)
    - GloBE Income adjusted for SBIE
    - Interaction of GloBE and GILTI modelled
  - Most of these adjustments reduce headline revenue estimates, but important to gain an accurate picture





## Assumptions and methodology (2)

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2. Six **profit-shifting scenarios** regarding the elasticity of tax base relative to tax rate differentials
  - Differentials based on ETRs and STRs of non-hub jurisdictions
  - Three different assumptions on functional form of the profit-shifting elasticity
  - Profit shifting assumed to only occur from investment hubs to non-hubs



## Assumptions and methodology (3)

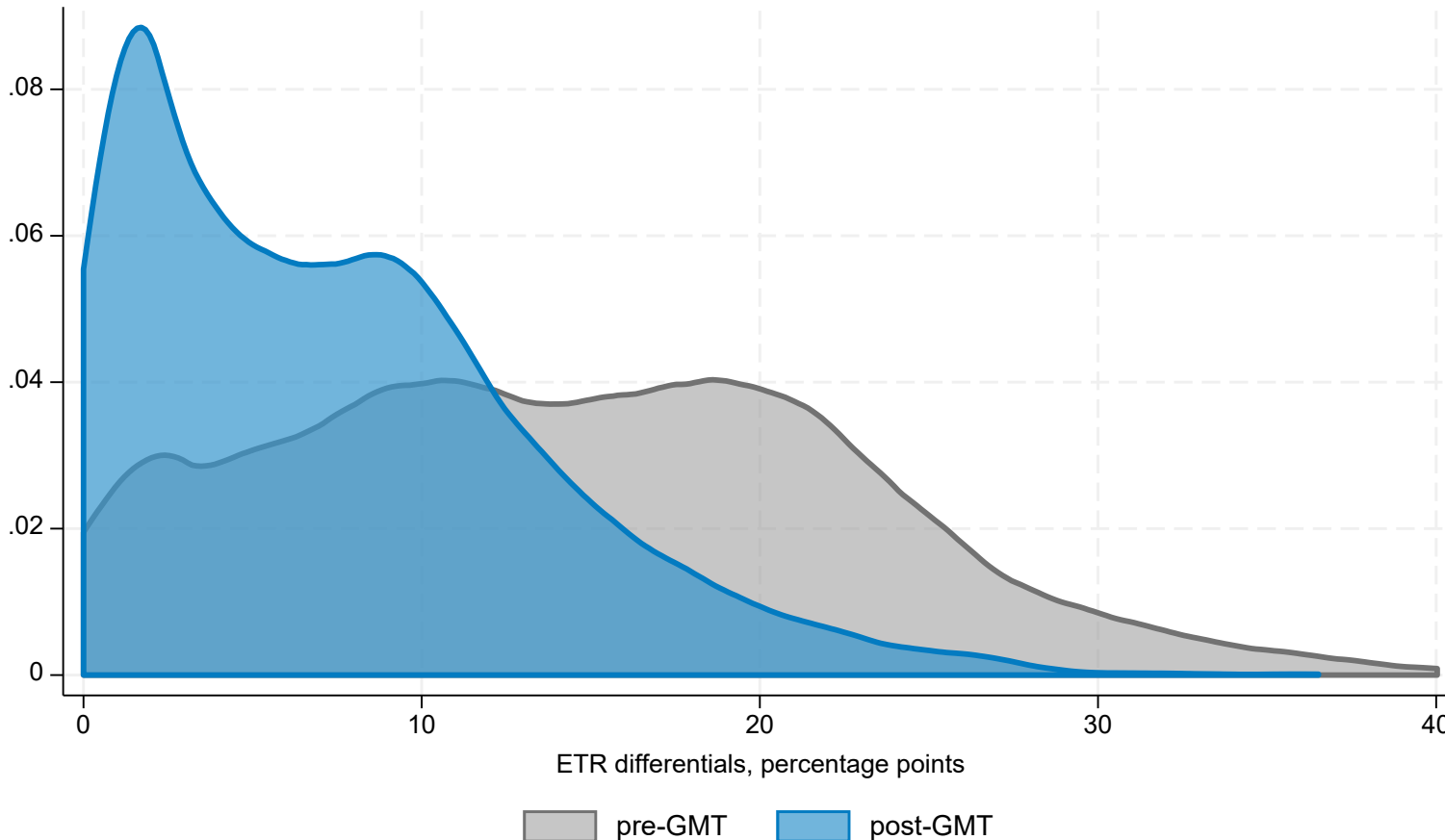
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3. Four **implementation scenarios** modelled
- Global implementation (Scenario 1)
    - All jurisdictions are assumed to implement QDMTT, IIR, UTPR
  - Partial implementation (Scenarios 2-4)
    - Most IF members are assumed to implement QDMTT, IIR, UTPR with probabilities of 70%, 85%, or 100%
    - Except IF members with 1) no CIT infrastructure and 2) no public signal of GloBE implementation, who do not implement
    - Non-IF member jurisdictions are assumed to not implement



# 1. Reduction in tax rate differentials

Size of ETR differentials, absolute values



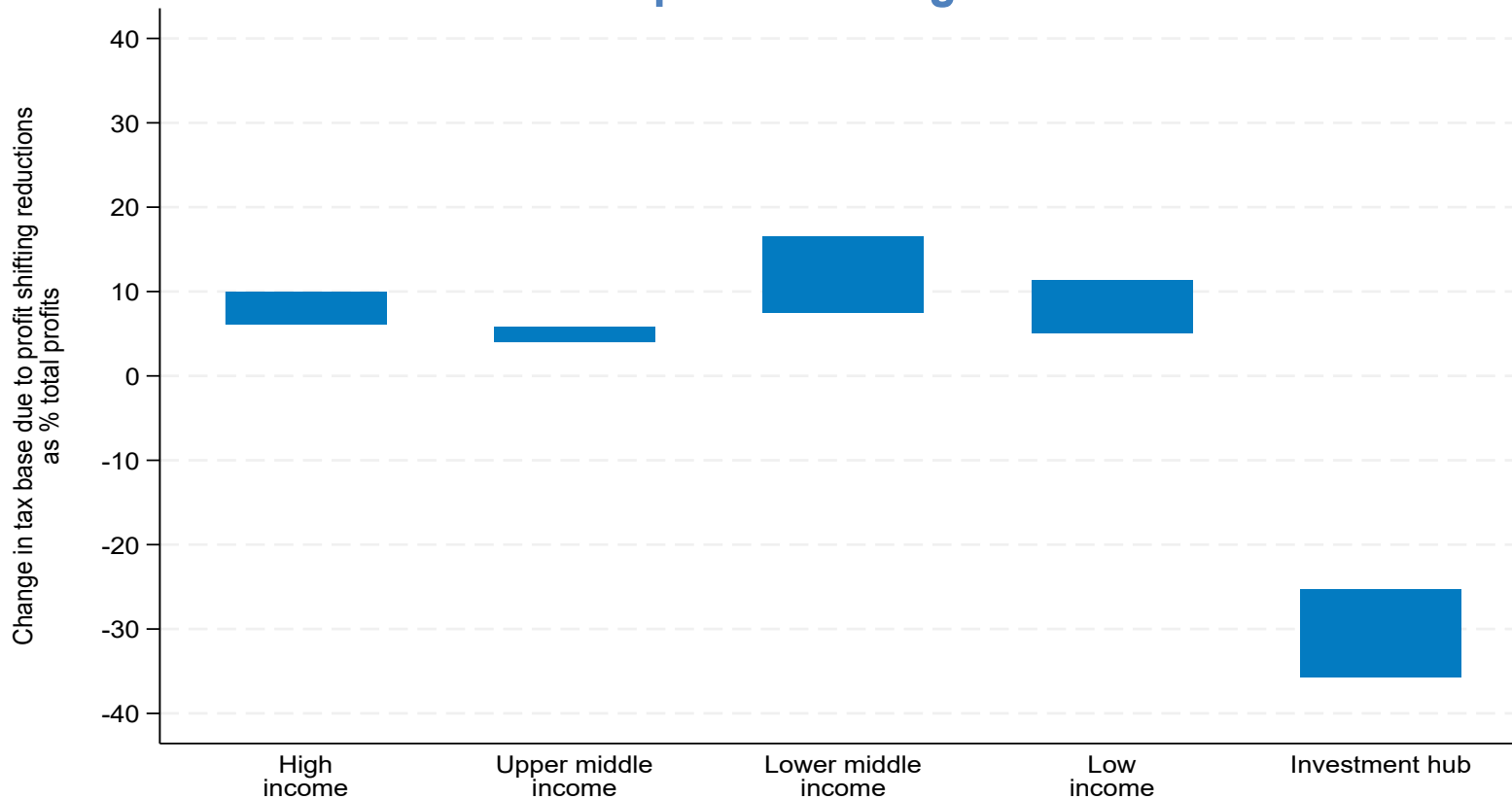
- Top-up taxation increases ETRs in many low tax jurisdictions
- This reduces ETR-differentials between investment hubs and non-hubs by around 50%, from 14 percentage points to 7 percentage points on average
- Lower ETR differentials **reduce profit shifting incentives and can improve the allocation of capital**
- Potential increase in the importance of non-tax factors (e.g. education, infrastructure) for capital allocation

Note: ETR differentials are calculated as the absolute difference between each unique jurisdiction-pair in the sample averaged over 2017-2020. Includes only differentials between investment hubs and non-hub jurisdictions.



## 2. Reduction in profit shifting

Percentage change in location of profit due to reduced profit-shifting



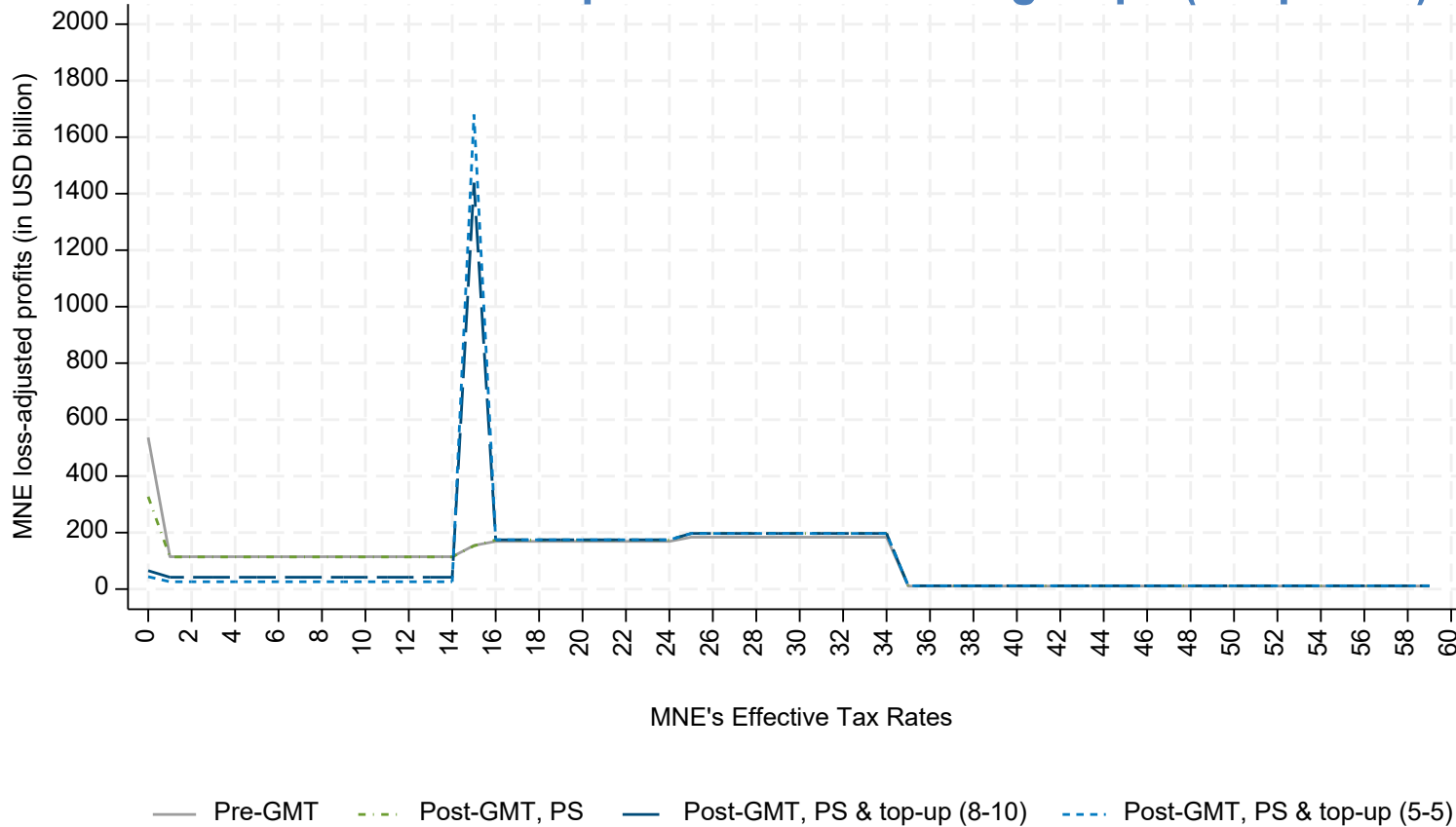
- Lower tax rate differentials reduce MNEs' incentives to shift profit to low tax jurisdictions
- **Total shifted profit estimated to fall by around half**
- Increase in profits reported in high, middle, and low-income jurisdictions
- Estimated profits reported in investment hubs are reduced substantially
- Some of these effects may take time to materialise

**Note:** Average changes in total profit by income group following the implementation of the GMT. Bounds are constructed using six scenarios with different assumptions regarding profit shifting reductions. Data includes non-Inclusive Framework member jurisdictions. Profit from funds as UPE are assumed to be unaffected by the declining in profit shifting incentives as they are excluded from the GMT. Total profit is profit before accounting for-profit shifting.



## 3. Reduction in global low-taxed profits (1/2)

### Distribution of total profits across ETR groups (simplified)



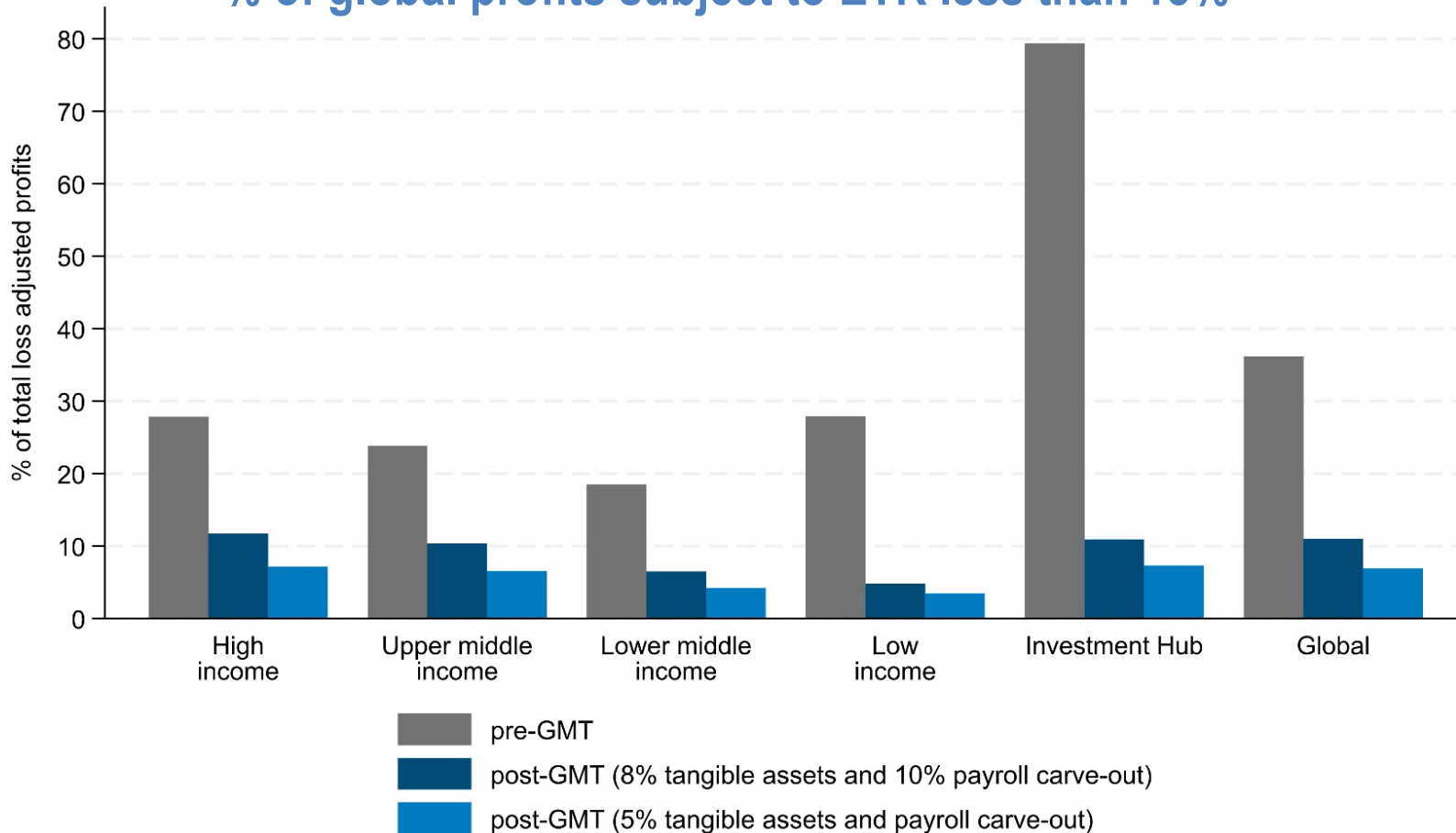
- Reduction in profit shifting and top-up taxation reduce global low-taxed profits
- The SBIE and other exclusions allow for a small amount of profit to remain low-taxed

**Note:** Distribution of profit by effective tax rate groups in three states of the world. The 'Pre-GMT' scenario reflects the current distribution of loss adjusted profit absent any GMT effects. The 'Post-GMT, PS' scenario captures the distribution of profit once profit shifting incentives are reduced due to the implementation of the GMT. The 'Post-GMT, PS and top-up (8-10)' and (5-5) scenarios reflect the distribution of profit once the GMT has been applied to low-taxed profit accounting for the year-one and year-ten SBIE, respectively. Profits are computed as averages across ETR groups to ensure a smooth representation.



### 3. Reduction in global low-taxed profits (2/2)

% of global profits subject to ETR less than 15%



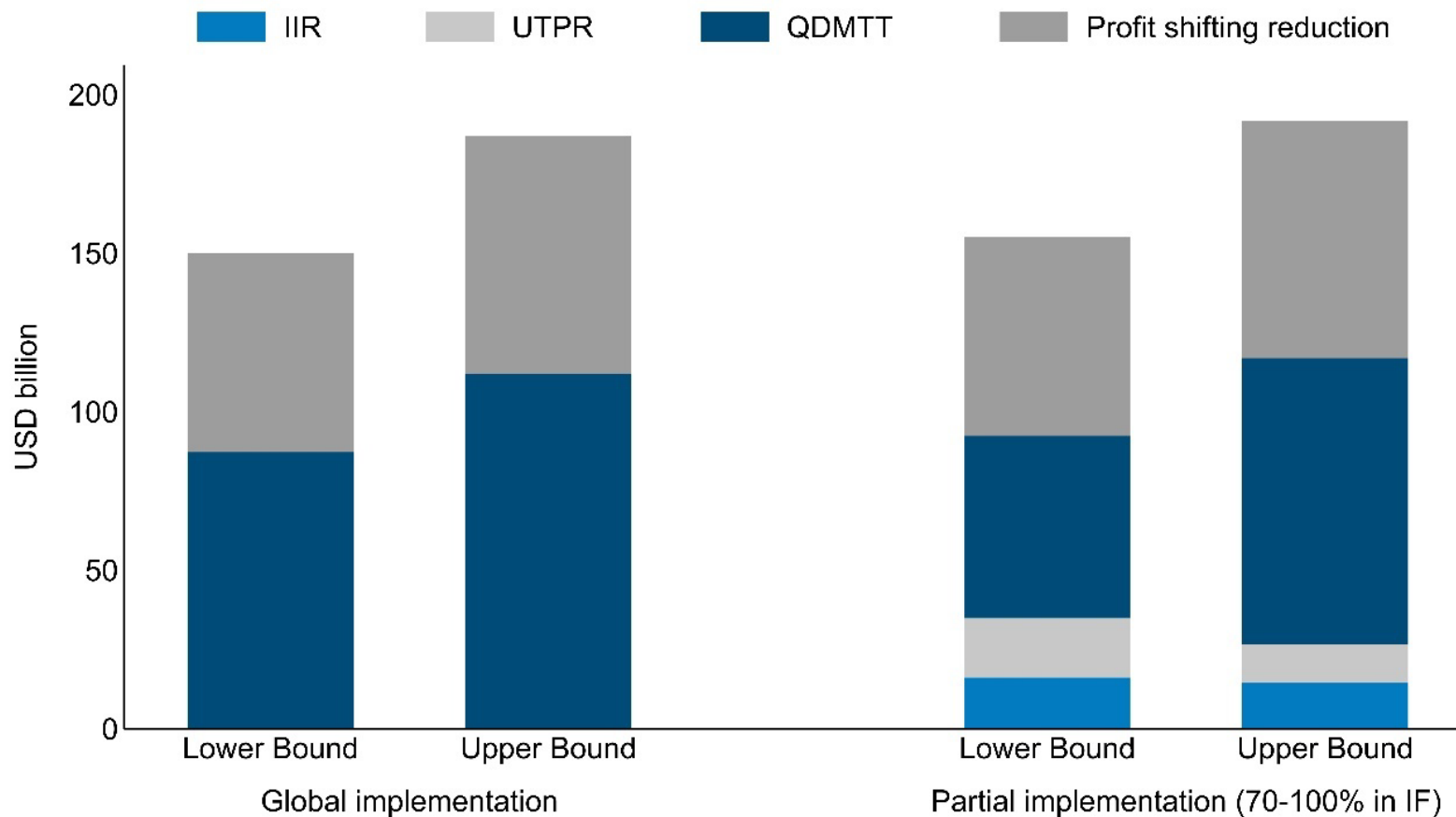
- Overall, reduction in the share of low-taxed MNE profit by 80%, from 36% to 7% of all profit globally after the SBIE transition period
- The effect is largest in investment hubs, where the share of low-taxed profit falls from 79% to 7% after the SBIE transition period

**Note:** The chart refers to the extent to which total profit is low taxed by income groups. Global refers to all jurisdictions. Low taxed profit is defined as those with an ETR (loss-adjusted) lower than 15%. The 'Pre-P2' scenario reflects the current distribution of profit absent any GMT effects. The remaining scenarios reflect the distribution of profit once the GMT has applied to low-taxed profit accounting for the year-one and year-ten SBIE, respectively.



## 4. Increase in tax revenue (1/2)

### Global revenue gains by implementation scenario, USD bn



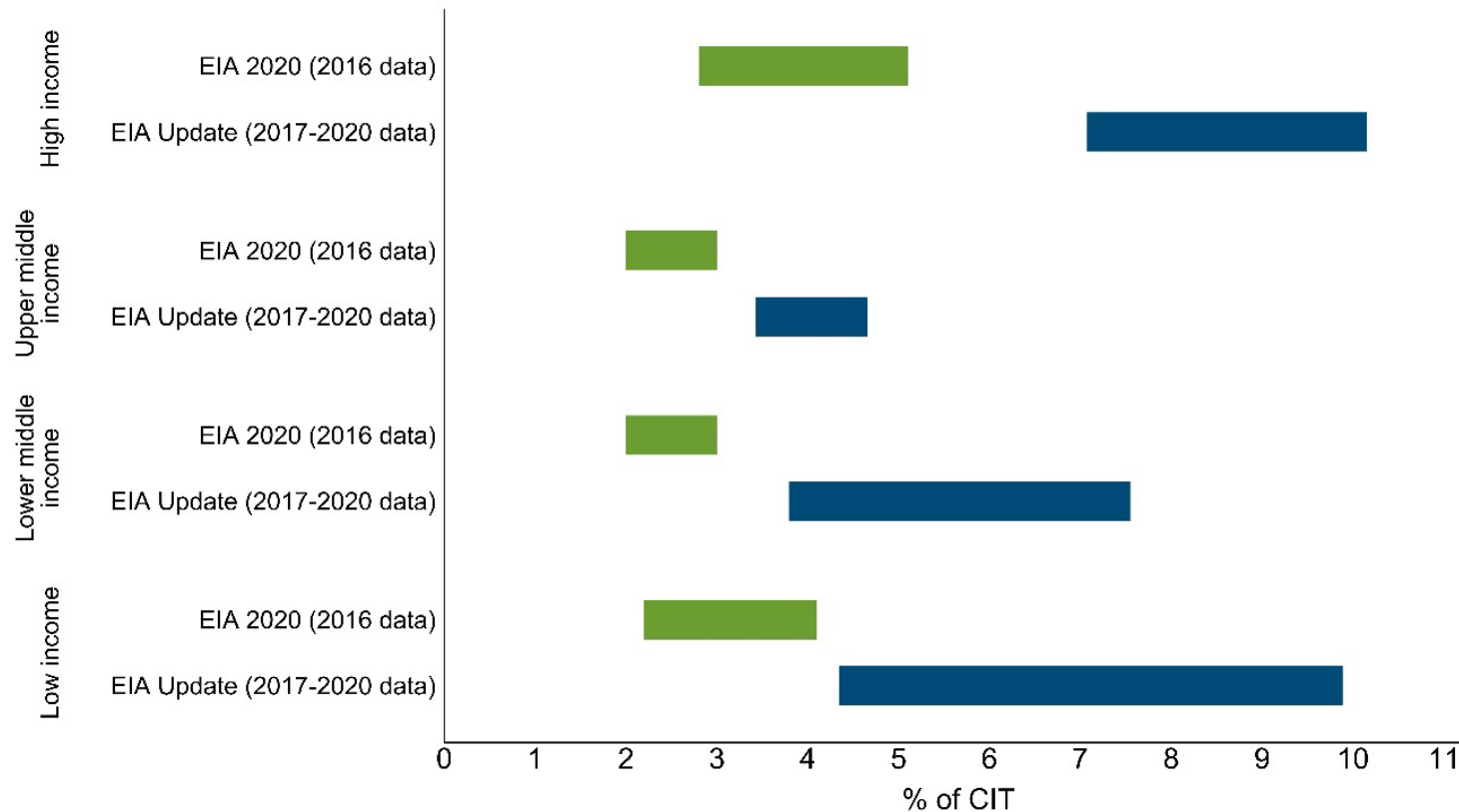
- Total global revenue gains of between USD 155 bn and USD 192 bn per year
  - Approx. 2/3 of revenue gains are direct gains via top-up taxation
  - Approx. 1/3 of revenue gains are indirect gains through reduced profit shifting
- The higher the share of implementing jurisdictions, the higher the share of QDMMT revenue vs. IIR and UTPR revenue

**Note:** The estimates are presented as an average of the 2017-2020 results. Estimates are presented for IF member jurisdictions only. Estimates include both direct and indirect revenue gains. The estimates account for the variation in the sensitivity of profit shifting. Estimates are presented for the SBIE year-one scenario (10% on payroll and 8% on tangible assets). Estimates are presented net of any lost revenue from CFC regimes modelled. Assumptions on implementation scenarios are discussed above.



## 4. Increase in tax revenue (2/2)

### Revenue gains by jurisdiction, % of CIT, compared to EIA 2020



- Revenue gains accrue to all jurisdiction groups
  - Higher gains for high and low-income relative to middle-income countries
  - Investment hubs also gain revenue, though there is a high degree of uncertainty over the scale of these gains
- The distribution of revenue gains across jurisdictions is highly sensitive to the assumptions around implementation

**Note:** The estimates are presented as an average of the 2017-2020 results. Estimates for the EIA Update (2017-2020) are presented for IF member jurisdictions only. Estimates include both direct and indirect revenue gains. The estimates account for the variation in the sensitivity of profit shifting. Estimates are presented based on the 'partial implementation' scenario discussed above. Estimates are presented for the year-one SBIE scenario (10% on payroll and 8% on tangible assets). Estimates are presented net of any lost revenue from CFC regimes modelled. The EIA 2020 results refer to the year 2016 are based on results from OECD (2020), are presented for IF and non-IF member jurisdictions.





# Summary

## Reduced low-taxed profit

- Global amount of MNE profit taxed below 15% is estimated to fall by **more than two thirds**
- Remaining low-taxed profit due to SBIE

## Reduced profit-shifting

- Estimated fall in global shifted profits by **around 50%**

## Reduced tax rate differentials

- Reduction in differentials between investment hubs and non-hub jurisdictions **by around 50%**
- This reduces profit-shifting incentives, and can improve global capital allocation

## Increased tax revenue

- Increased CIT revenues by **USD 155-192 billion** per year (**6.5%-8.1% of global CIT revenues**)
- Two-thirds directly, one-third indirectly through reduced profit-shifting



# ONGOING WORK



## Next steps and ongoing work

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- OECD is providing jurisdiction-specific estimates, confidentially and bilaterally to all Inclusive Framework jurisdictions
- Countries may wish to carry out their own analysis with their own taxpayer data
- The OECD has been providing bilateral assistance to countries carrying out this process
- Impact assessment of the Two Pillar solution will continue as required