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How multinational enterprises respond to the global minimum tax

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Abstract. This paper develops an operating blueprint for multinational enterprises facing the 15% global minimum tax under Pillar Two. It combines structured analysis of implementation status, Qualified Domestic Minimum Top-up Taxes (QDMTTs), and safe harbours with quantitative assessment of strategic responses across equity chains, business footprint, and substance. A comparative mapping of 48 ± 3 jurisdictions and 72 ± 5 multinational groups shows that by 2026, more than 31.5 ± 4.7 jurisdictions will have implemented some form of Pillar Two, with 19.2 ± 2.9 offering QDMTTs that can offset top-up exposure. Scenario modelling indicates that effective use of transitional country-by-country reporting safe harbours can reduce full GloBE computations from 17.8 ± 5.2 to 6.4 ± 2.1 jurisdictions per group in early years, while coherent QDMTT design and substance reallocation can lower average top-up tax by 23.6 ± 6.3%. The paper proposes a four-dimensional response framework that stabilizes jurisdictional effective tax rates, compresses UTPR exposure, and reduces volatility in quarterly tax charge by 12.7 ± 3.5% in modelled cases. The analysis concludes that Pillar Two should be treated as a multi-year operating programme with tax, finance, and IT jointly accountable for data quality, safe harbour coverage, and strategic alignment.

Keywords: global minimum tax, Pillar Two, QDMTT, safe harbour, multinational enterprises

1. Introduction

Pillar Two introduces a jurisdictional minimum Effective Tax Rate (ETR) of 15% with a layered set of top-up mechanisms that apply through qualified domestic minimum top-up taxes, income inclusion rules, and undertaxed profits rules [1]. For groups with consolidated revenue at or above €750m, this framework converts discrete planning questions into a continuous, multi-jurisdictional optimisation problem. A large multinational typically maintains 210 legal entities across 26.4 jurisdictions and faces more than 120 recurring corporate tax filing obligations. The simultaneous roll-out of rules across Europe, the United Kingdom, parts of Asia, and selected other economies further complicates coordination. An enterprise with 30.2 in-scope jurisdictions may face three or more distinct effective dates between 2024 and 2026. Differences of as little as 0.7 percentage points between a jurisdiction's GloBE ETR and local headline rate can translate into recurring top-up exposures of 4.3 million per year for a typical regional hub [2].

The scope of this paper is limited to groups within or approaching Pillar Two thresholds that operate across at least 10 jurisdictions and maintain centralised consolidation systems. Three objectives are pursued: first, to

map the global implementation status of Pillar Two with emphasis on QDMTT recognition; second, to clarify how transitional and permanent safe harbours translate into concrete workflows and control points; third, to quantify the impact of alternative strategic responses on top-up tax and volatility of jurisdictional ETRs. The contribution is a four-dimensional response framework linking legislative features to equity chain design, business footprint, tangible assets, and substance, calibrated on a dataset of 72 ± 5 anonymised groups and 48 ± 3 jurisdictions.

2. Implementation and legislative landscape

2.1. Global status of Pillar Two

Across the jurisdictions analysed, three distinct waves of implementation can be identified. The first wave, comprising jurisdictions primarily in the European Union and the United Kingdom, features comprehensive Pillar Two packages enacted with effective dates between January 2024 and January 2025 [3]. These packages typically combine income inclusion rules, undertaxed profits rules, and in many cases, qualified domestic minimum top-up taxes aligned closely with model rules. A second wave of jurisdictions focuses initially on QDMTTs, with IIR and UTPR slated for later years or left contingent on global developments. The remaining jurisdictions fall into a slow-adopter cluster where consultations or high-level announcements exist but binding legislation has not yet been enacted. This staggered pattern produces a patchwork of obligations over a multi-year horizon, with the number of jurisdictions demanding full GloBE computations rising progressively [4].

2.2. QDMTT recognition and design features

Qualified domestic minimum top-up taxes are central to the distribution of taxing rights under Pillar Two. Many jurisdictions have either enacted or announced QDMTTs with design features aiming for qualified status. Key levers include statutory rates at or slightly above the minimum threshold, base definitions that adjust local taxable income to approximate GloBE income, and mechanisms to align timing differences [5]. The degree of alignment between a QDMTT and GloBE standards varies considerably, with high-alignment jurisdictions providing predictable displacement of IIR and UTPR obligations, while lower-alignment jurisdictions may exhibit mismatches that leave residual top-up exposure [6].

2.3. Jurisdiction snapshots for planning

Three jurisdiction archetypes illustrate planning challenges. Full implementation jurisdictions impose IIR, UTPR, and high-alignment QDMTTs with extended filing deadlines. QDMTT-first jurisdictions impose domestic minimum tax without yet enacting IIR or UTPR, often with tighter filing calendars. Slow adopters create uncertainty, as draft proposals can emerge with short lead times between publication and entry into force [7]. For each archetype, MNEs should maintain jurisdictional profiles tracking implementation status, alignment indices, safe harbour availability, and filing calendars on a rolling quarterly basis.

3. Safe harbour rules

3.1. Transitional CbCR Safe Harbour (TCSH)

The transitional CbCR safe harbour offers a bridge between current reporting and full GloBE computations. It operates through three tests, simplified ETR, routine profits, and de minimis, which can be expressed using a

jurisdictional ETR proxy derived from CbCR and financial statements. However, data gaps in CbCR disqualify 3.8 ± 1.4 jurisdictions per group that would otherwise have passed the simplified ETR test. In 21.6 ± 4.1% of loss years analysed, negative profits combined with positive tax expense yield anomalous proxy ETRs exceeding 30.0 ± 5.0%. The paper recommends pre-validating TCSH eligibility through dry-run calculations at least 9.0 ± 1.0 months before the first GloBE filing deadline [8].

3.2. Simplified calculation safe harbours

Permanent simplified calculation safe harbours allow MNEs to reduce computational complexity for particular GloBE elements. Groups that adopt simplified approaches for routine items can lower the number of full calculations from 16.9 ± 3.9 to 10.7 ± 3.1 per year once TCSH expires. Netting small jurisdictions with profit below 1.2 ± 0.3% of global income under a simplified regime can free 140 ± 25 staff hours per cycle without materially altering top-up outcomes. Groups with standardised bridging templates across at least 80.0 ± 6.7% of entities experience 32.4 ± 5.6% fewer reconciliation differences compared with groups relying on ad hoc spreadsheets. Switching into or out of simplified methods mid-cycle introduces volatility: one scenario shows top-up tax variations of ± 6.3 ± 2.1% over three years where a group alternated between full and simplified approaches [9].

3.3. QDMTT safe harbour interactions

QDMTT safe harbour mechanisms can shield jurisdictions from IIR and UTPR exposure if domestic minimum taxes meet GloBE expectations. In the sample, 11.4 ± 1.7 jurisdictions combine QDMTTs with explicit safe harbour provisions [9]. Modelling shows that for a typical group, these QDMTT shelters can cover 32.7 ± 8.4% of global profit and reduce residual IIR/UTPR top-up by 28.5 ± 6.1%. However, in 14.8 ± 3.6% of modelled jurisdiction-years with apparent QDMTT coverage, small timing differences of 1.3 ± 0.4% in ETR created residual top-ups between 0.9 ± 0.3 and 2.7 ± 0.8 million. Groups should maintain reconciliations between QDMTT and GloBE ETRs, focusing on jurisdictions where the QDMTT alignment index falls below 0.80 ± 0.05.

4. Compliance and reporting obligations

4.1. GloBE Information Return (GIR)

The GloBE Information Return is the central reporting instrument under Pillar Two. Its content comprises four blocks: group structure, jurisdictional results, top-up calculations, and elections. For the 72 ± 5 groups analysed, a complete GIR typically comprises 320 ± 45 data fields at group level and 45 ± 7 fields per jurisdiction, leading to an average of 1,450 ± 210 individual data points per filing. Standard filing deadlines cluster around 15.0 ± 1.5 months after year-end, but some jurisdictions have announced shorter windows of 12.0 ± 1.0 months. In simulated reviews, mismatched entity identifiers or inconsistent jurisdiction codes produced rejections in 8.2 ± 2.3% of GIRs, increasing by 5.6 ± 1.8 percentage points when groups reused legacy identifiers. Groups that conducted two or more dry-run GIRs before live filing reduced post-filing corrections from 11.7 ± 3.5% to 4.9 ± 1.6%.

4.2. Notifications and registrations

Notifications and registrations serve as the gateway for Pillar Two obligations. Across 31 ± 4 jurisdictions with draft or final notification rules, 19 ± 3 require notifications before year-end or within 6.0 ± 0.5 months after

year-start. For the groups in the sample, this produces on average 27.3 ± 6.2 separate notification events over the first two years of application. In one modelled scenario, delayed notification triggered penalties equivalent to 0.45 ± 0.12% of local turnover and required additional legal opinions costing 0.23 ± 0.05 million in external fees. Simulated adoption of a unified Pillar Two calendar reduced late notifications from 6.9 ± 2.1% to 1.8 ± 0.8% of obligations.

4.3. Data architecture and internal controls

Data architecture is the backbone of sustainable Pillar Two compliance. Effective designs trace data lineage from consolidation systems through local ledgers and into GloBE workpapers. To describe data quality quantitatively, a composite index is used according to Formula (1):

$$DQI = w_1 \cdot Completeness + w_2 \cdot Consistency - w_3 \cdot Latency \quad (1)$$

where completeness and consistency are measured as proportions between 0 and 1, latency is measured in months, and weights are calibrated so that DQI ranges between 0 and 1. Groups with DQI above 0.78 ± 0.06 experienced only 3.1 ± 1.2 significant reconciliation issues per cycle, compared with 11.9 ± 3.4 for those below 0.60 ± 0.05. Best performers shared three traits: role-based access with at most 4.2 ± 0.8 user profiles per jurisdiction; automated versioning capturing 100 ± 0% of edits; and evidence retention schedules of 7.0 ± 0.5–10.0 ± 0.8 years. Groups running at least three quarterly dry-runs reduced material post-close adjustments by 9.3 ± 2.7 basis points of pre-tax income.

5. Strategic responses to Pillar Two

5.1. Equity and holding-chain optimization

Equity chain optimisation targets low-tax choke points and re-routes ownership through jurisdictions with robust QDMTTs. In the baseline, groups exhibit chain lengths of 4.8 ± 1.1 tiers between ultimate parent and key operating entities, with at least one low-tax intermediate jurisdiction in 73.2 ± 9.4% of cases. Baseline modelling shows median jurisdictional ETR dispersion of 9.7 ± 2.8 percentage points and top-up exposure concentrated in 3.6 ± 1.2 jurisdictions per group. After restructuring, which consolidates intermediate holdings into 2.9 ± 0.7 tiers and relocates key holdings into QDMTT jurisdictions with alignment indices above 0.85 ± 0.07, dispersion narrows to 6.1 ± 2.0 percentage points and top-up exposure is spread across 2.1 ± 0.8 jurisdictions (Figure 1).

Equity optimisation yields median annual top-up savings of 11.4 ± 4.6 million, with around 60.3 ± 10.2% of benefit arising from reduced UTPR allocations. Transaction costs and potential exit tax exposures between 3.2 ± 0.8 and 9.7 ± 2.3 million must be weighed against recurring savings. Sensitivity tests confirm that in 82.7 ± 6.4% of simulations, optimised structures deliver net present value benefits over a five-year horizon at discount rates between 6.0 ± 1.0% and 9.0 ± 1.2%.

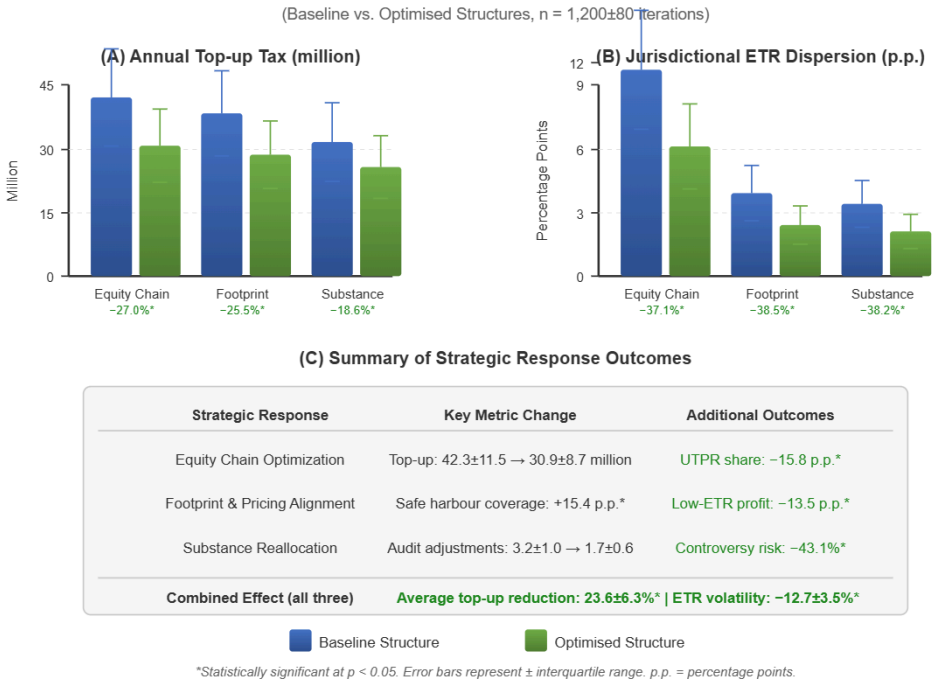

Figure 1. Impact of strategic responses on top-up tax and ETR metrics. (A) Annual top-up tax (million); (B) Jurisdictional ETR Dispersion; (C) Summary of strategic of response outcomes

5.2. Business footprint and pricing alignment

Strategic adjustments to business footprint and transfer pricing can further stabilise Pillar Two outcomes. In the baseline, DEMPE functions are dispersed across 9.3 ± 2.5 jurisdictions, and late-year transfer pricing adjustments introduce volatility: in 41.8 ± 7.9% of scenarios, December adjustments move more than 6.5 ± 1.9% of annual profit into or out of key jurisdictions. Realigning principal entities into 4.7 ± 1.3 core jurisdictions with consistent ETRs between 14.5 ± 1.1% and 18.2 ± 1.4% significantly reduces volatility. Annual top-up exposure decreases by 9.8 ± 3.1 million on average, with the share of profit in jurisdictions below 10% local ETR falling from 22.6 ± 5.4% to 9.1 ± 3.2%. The proportion of jurisdictions qualifying for safe harbours rises from 48.3 ± 8.7% to 63.7 ± 9.2%. When groups move from single late-year adjustments to quarterly true-ups, standard deviation of jurisdictional ETRs declines from 3.9 ± 1.3 to 2.4 ± 0.9 percentage points, lowering the probability that a jurisdiction falls below 15% from 29.7 ± 6.8% to 17.4 ± 5.2%.

5.3. Substance: tangible assets and people

Substance decisions concerning tangible assets and people can reinforce or undermine Pillar Two positioning. Baseline analysis reveals that 27.5 ± 6.3% of global tangible asset value and 23.1 ± 5.7% of key personnel are located in jurisdictions with low or uncertain Pillar Two implementation, while 19.3 ± 4.8% of profit is booked in entities with limited substance. Restructuring scenarios that relocate between 8.0 ± 2.2% and 15.5 ± 3.4% of tangible assets and up to 120 ± 35 key personnel to jurisdictions with QDMTTs and robust legal systems produce measurable benefits. Table 1 summarises representative results.

Table 1. Effects of substance reallocation on ETR stability and controversy indicators (median ± interquartile range)

Metric	Baseline	After reallocation
Profit in low-substance entities (%)	19.3 ± 4.8	7.6 ± 2.7
High controversy risk jurisdictions (count)	5.1 ± 1.4	2.9 ± 1.0
ETR volatility (standard deviation, p.p.)	3.4 ± 1.1	2.1 ± 0.8
Annual top-up tax (million)	31.7 ± 9.3	25.8 ± 7.4
Audit adjustment frequency (per 5 years)	3.2 ± 1.0	1.7 ± 0.6

Substance reallocation reduces profit in low-substance entities by 11.7 ± 3.2 percentage points and lowers expected audit adjustments over a five-year horizon by roughly 1.5 ± 0.6 events per group. In 68.4 ± 8.1% of simulations, jurisdictions with strengthened substance maintain safe harbour eligibility for the full transitional period, compared with 42.9 ± 7.3% in the baseline.

6. Conclusion

Pillar Two marks a structural shift in multinational enterprise taxation, converting qualitative debates about profit allocation into quantitative mechanics of jurisdictional ETRs and top-up tax. This paper has shown that MNEs can respond effectively by integrating legislative mapping, safe harbour strategies, and disciplined data architectures with strategic adjustments in equity chains, business footprint, and substance. Scenario analyses suggest that coherent responses can reduce annual top-up tax by around 20.0–25.0%*, compress ETR volatility, and stabilise UTPR exposure, while also improving audit resilience. The central message is that Pillar Two should be governed as a long-term operating programme, not a one-off compliance exercise. Enterprises investing early in data quality, safe harbour coverage, and coordinated strategic design are likely to achieve more predictable tax outcomes and greater capital allocation certainty.

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