Chapter 2.4: Top-Up Tax Allocation Calculations

Learning Objective

After completing this chapter, you will be able to calculate the complete Top-Up Tax allocation from jurisdictional totals through to individual parent entity liability, handling minority interests and POPE structures.

Introduction

The preceding chapters explained which rules apply and in what order. This chapter addresses the practical question: how much does each entity actually pay? Top-Up Tax allocation is a multi-stage process that traces from jurisdictional calculations, through entity-level apportionment, to final parent liability. Each stage serves a distinct purpose—jurisdictional calculations determine total undertaxation, entity allocation identifies which specific entities bear that undertaxation, and parent allocation determines which group members must actually remit the tax. Mastering these calculations requires attention to detail, particularly where ownership is split across multiple chains or where loss-making entities affect the allocation pool.

1. The Complete Allocation Process

Top-Up Tax allocation involves three distinct levels of calculation:

Level	What It Does	Reference
Level 1: Jurisdictional	Calculate Top-Up Tax for the jurisdiction	Article 5.2

Level	What It Does	Reference
Level 2: Entity	Allocate jurisdictional Top-Up Tax to individual CEs	Article 5.2.4
Level 3: Parent	Determine each parent's Allocable Share	Article 2.2

This chapter provides the calculation mechanics for each level and shows how they connect.

2. Level 1: Jurisdictional Top-Up Tax Calculation

2.1 The Complete Formula

Jurisdictional Top-Up Tax = (Top-Up Tax Percentage × Excess Profit) + Additional Current Top-Up Tax − QDMTT

Where: - **Top-Up Tax Percentage** = Minimum Rate (15%) − Jurisdictional ETR *(Article 5.2.1)* - **Excess Profit** = Net GloBE Income − SBIE *(Article 5.2.2)* - **Additional Current Top-Up Tax** = Recaptured amounts from prior years *(Article 5.2.3)* - **QDMTT** = Qualified Domestic Minimum Top-Up Tax already collected *(Article 5.2.3)*

2.2 Worked Example: Jurisdictional Calculation

Scenario: Stratos has operations in Singapore with the following data:

Item	Value
GloBE Income (all Singapore CEs combined)	€15,000,000
Adjusted Covered Taxes	€1,875,000
Payroll Costs (eligible employees)	€4,500,000
Tangible Assets (net book value)	€8,000,000

Item	Value
SBIE Rate (2026 transition year)	Payroll: 9.6%, Assets: 7.6%
QDMTT	Nil (Singapore has no QDMTT)

Step 1: Calculate ETR

```
ETR = Adjusted Covered Taxes ÷ GloBE Income
    = €1,875,000 ÷ €15,000,000
    = 12.50%
```

Step 2: Calculate Top-Up Tax Percentage

```
Top-Up Tax % = 15% − ETR
             = 15% − 12.50%
             = 2.50%
```

Step 3: Calculate SBIE

```
 Payroll Carve-Out = €4,500,000 × 9.6% = €432,000
Tangible Asset Carve-Out = €8,000,000 × 7.6% = €608,000
Total SBIE = €432,000 + €608,000 = €1,040,000
```

Step 4: Calculate Excess Profit

```
Excess Profit = GloBE Income − SBIE
              = €15,000,000 − €1,040,000
              = €13,960,000
```

Step 5: Calculate Jurisdictional Top-Up Tax

```
Jurisdictional Top-Up Tax = Top-Up Tax % × Excess Profit
                          = 2.50% × €13,960,000
                          = €349,000
```

Result: Singapore jurisdictional Top-Up Tax is **€349,000**.

3. SBIE Transition Rates Reference

The Substance-Based Income Exclusion uses transition rates that decline annually *(Article 9.1)*:

Fiscal Year	Payroll Rate	Tangible Asset Rate
2024	10.0%	8.0%
2025	9.8%	7.8%
2026	9.6%	7.6%
2027	9.4%	7.4%
2028	9.2%	7.2%
2029	8.4%	6.6%
2030	7.6%	6.0%
2031	6.8%	5.4%
2032	6.0%	5.2%
2033+	5.0%	5.0%

Note: These are the permanent rates after the transition period. For years 2024-2028, rates decline by 0.2 percentage points annually. For years 2029-2032, the decline accelerates (0.8 percentage points for payroll, 0.4 for assets).

The SBIE transition schedule reflects the political compromise needed to secure agreement from jurisdictions with different economic characteristics. Countries with substantial manufacturing or employee-intensive service operations benefit from higher carve-out rates, as these reduce the "Excess Profit" base subject to Top-Up Tax. Starting at 10%/8% and declining to 5%/5% over a decade gives these jurisdictions time to adjust, while the declining trajectory ensures the carve-out does not permanently shield income from the minimum tax. For practitioners, the key implication is that SBIE calculations must use the correct year's rates—an error of one percentage point on a €50 million payroll changes the carve-out by €500,000.

4. Level 2: Entity Allocation Within a Jurisdiction

Once the jurisdictional Top-Up Tax is calculated, it must be **allocated to individual Constituent Entities** in that jurisdiction *(Article 5.2.4)*.

4.1 The Entity Allocation Rule

Entity's Top-Up Tax = Jurisdictional Top-Up Tax × (Entity's GloBE Income ÷ Total Positive GloBE Income in Jurisdiction)

Key points: - Only CEs with **positive GloBE Income** receive an allocation - CEs with GloBE losses receive **no allocation** - Allocations are proportional to each CE's share of positive income

4.2 Worked Example: Multi-Entity Jurisdiction

Scenario: Stratos has three entities in Singapore with the following GloBE Income:

Entity	GloBE Income	Allocation?
SG Tech Pte Ltd	€10,000,000	Yes
SG Services Pte Ltd	€6,000,000	Yes
SG Holdings Pte Ltd	€(1,000,000)	No (loss)
Total Positive	**€16,000,000**	

Note: Total positive GloBE Income (€16M) differs from Net GloBE Income (€15M) because the €1M loss reduces the jurisdictional total but the loss-making entity receives no allocation.

Entity Allocations (assuming €349,000 jurisdictional Top-Up Tax):

Entity	GloBE Income	Share of Positive	Allocated Top-Up Tax
SG Tech Pte Ltd	€10,000,000	62.5%	€349,000 × 62.5% = **€218,125**
SG Services Pte Ltd	€6,000,000	37.5%	€349,000 × 37.5% = **€130,875**
SG Holdings Pte Ltd	€(1,000,000)	0%	**€0**
Total		**100%**	**€349,000**

The exclusion of loss-making entities from the allocation may seem counterintuitive—why should an entity with a loss not share the burden of Top-Up Tax? The answer lies in the purpose of entity-level allocation: to identify which specific entities gave rise to the undertaxed income. An entity with a GloBE loss did not contribute to the jurisdiction's positive net income and therefore bears no responsibility for the resulting Top-Up Tax. This creates an asymmetry—the loss-making entity reduces jurisdictional Net GloBE Income (lowering the Top-Up Tax base) but does not receive an allocation of the remaining Top-Up Tax. Groups should be aware that this asymmetry affects how Top-Up Tax "attaches" to specific entities for purposes such as IIR allocation and financial statement presentation.

5. Level 3: Parent Entity Allocable Share

After entity-level allocation, the Top-Up Tax is charged to **parent entities** under the IIR or UTPR based on their **Allocable Share** *(Article 2.2)*.

5.1 IIR Allocable Share Calculation

Allocable Share = Top-Up Tax of LTCE × Inclusion Ratio *(Article 2.2.1)*

Inclusion Ratio = (GloBE Income of LTCE − Amount attributable to other owners) ÷ GloBE Income of LTCE *(Article 2.2.2)*

5.2 Simple Ownership Example

Scenario: Stratos Group plc owns 100% of SG Tech Pte Ltd (Low-Taxed CE).

Item	Value
SG Tech Pte Ltd Top-Up Tax	€218,125
Stratos's ownership	100%
Stratos's Inclusion Ratio	100%
Stratos's Allocable Share	**€218,125**

5.3 Split Ownership Example

Scenario: SG Services Pte Ltd is owned: - 70% by Stratos Group plc (through SG Holdings Ltd) - 30% by External Investor A

Item	Value
SG Services Pte Ltd GloBE Income	€6,000,000
SG Services Pte Ltd Top-Up Tax	€130,875
GloBE Income attributable to External Investor	€6,000,000 × 30% = €1,800,000

Stratos's Inclusion Ratio:

```
Inclusion Ratio = (€6,000,000 − €1,800,000) ÷ €6,000,000
               = €4,200,000 ÷ €6,000,000
               = 70%
```

Stratos's Allocable Share:

```
Allocable Share = €130,875 × 70%
               = €91,613
```

Result: Stratos pays €91,613 under IIR. The €39,262 attributable to the external investor is not collected under IIR (subject to UTPR if applicable).

6. POPE Allocation Adjustments

When a **Partially-Owned Parent Entity (POPE)** is in the ownership chain, allocations require special handling *(Article 2.1.4)*.

6.1 POPE Definition Recap

A POPE is a Constituent Entity that: 1. Owns an Ownership Interest in another CE, AND 2. Has more than 20% of its profits held by third parties *(Article 10.1)*

6.2 POPE Allocation Mechanics

When a POPE exists, both the POPE and the UPE may apply the IIR. The **IIR offset** prevents double taxation *(Article 2.3)*.

6.3 Worked Example: POPE Allocation

Scenario: - Stratos Group plc (UK UPE) owns 60% of SG Holdings BV (Netherlands) - SG Holdings BV qualifies as a POPE (40% third-party ownership) - SG Holdings BV owns 100% of SG Singapore Tech Pte Ltd (LTCE) - SG Singapore Tech Top-Up Tax: €300,000

Step 1: POPE Applies IIR First

SG Holdings BV (POPE) applies IIR under Article 2.1.4:

Item	Value
POPE's ownership of LTCE	100%
POPE's Inclusion Ratio	100%
POPE's Allocable Share	**€300,000**

SG Holdings BV pays €300,000 under Netherlands IIR.

Step 2: UPE Calculates Initial Allocable Share

Stratos Group plc calculates its share:

Item	Value
Stratos's ownership of POPE	60%
Stratos's indirect Inclusion Ratio in LTCE	60%
Initial Allocable Share	€300,000 × 60% = €180,000

Step 3: Apply IIR Offset

Stratos reduces its Allocable Share by the amount already taxed at POPE level:

Item	Calculation
Top-Up Tax charged at POPE	€300,000
Stratos's share of POPE charge	60% × €300,000 = €180,000
Offset amount	**€180,000**

Step 4: Final UPE Allocable Share

```
Final Allocable Share = Initial Share − Offset
                     = €180,000 − €180,000
                     = €0
```

Result: The IIR offset eliminates Stratos's Top-Up Tax liability. The full €300,000 is collected at the POPE level.

7. Multi-Tier Ownership Chain Calculations

For complex structures with multiple ownership levels, calculate the **cumulative Inclusion Ratio** by multiplying through the chain.

7.1 Worked Example: Three-Tier Structure

Stratos Group Structure:

```
Stratos Group plc (UK) — 100% ownership
    │
    └── SG Holdings Ltd (UK) — 100% ownership
            │
            └── SG Netherlands BV — 80% ownership
                    │
                    └── SG Ireland Ltd (LTCE)
                        Top-Up Tax: €200,000
```

Cumulative Inclusion Ratio:

```
 Stratos → SG Holdings = 100%
SG Holdings → SG Netherlands = 100%
SG Netherlands → SG Ireland = 80%

Cumulative Ratio = 100% × 100% × 80% = 80%
```

Allocable Share:

```
Stratos's Allocable Share = €200,000 × 80% = €160,000
```

Note: The remaining €40,000 (20% minority interest at Netherlands level) would be subject to UTPR if not collected under IIR through another chain.

Multi-tier structures require careful tracing of ownership percentages through each level. The cumulative Inclusion Ratio compounds at each step—if each link in the chain is 80%, a four-tier structure yields a cumulative ratio of just 41% (0.8^4). For groups with complex holding structures, the practical implication is that significant portions of Low-Taxed Constituent Entity income may fall outside the IIR's reach, triggering UTPR for the remainder. Groups should map their ownership chains early in the Pillar Two compliance process and identify where cumulative ratios fall below 100%, as these gaps will require UTPR calculations.

8. UTPR Allocation Calculation

When UTPR applies to residual Top-Up Tax, the allocation uses a **substance-based formula** *(Article 2.6)*.

8.1 UTPR Percentage Formula

UTPR Percentage = (Employee Factor × 50%) + (Tangible Asset Factor × 50%)

Where: - **Employee Factor** = Employees in jurisdiction ÷ Total employees in all UTPR jurisdictions - **Tangible Asset Factor** = Tangible assets in jurisdiction ÷ Total tangible assets in all UTPR jurisdictions

8.2 Worked Example: UTPR Allocation

Scenario: €40,000 of Top-Up Tax is not collected under IIR (minority interest). Stratos has operations in three jurisdictions with Qualified UTPR:

Jurisdiction	Employees	Tangible Assets (€M)
UK	300	50.0
Germany	150	30.0

Jurisdiction	Employees	Tangible Assets (€M)
France	50	20.0
Total	**500**	**100.0**

Step 1: Calculate Employee Factor

Jurisdiction	Employees	Employee Factor
UK	300	300 ÷ 500 = 60.0%
Germany	150	150 ÷ 500 = 30.0%
France	50	50 ÷ 500 = 10.0%

Step 2: Calculate Tangible Asset Factor

Jurisdiction	Tangible Assets	Asset Factor
UK	€50.0M	50 ÷ 100 = 50.0%
Germany	€30.0M	30 ÷ 100 = 30.0%
France	€20.0M	20 ÷ 100 = 20.0%

Step 3: Calculate UTPR Percentage

Jurisdiction	Employee × 50%	Asset × 50%	UTPR %
UK	60% × 50% = 30.0%	50% × 50% = 25.0%	**55.0%**
Germany	30% × 50% = 15.0%	30% × 50% = 15.0%	**30.0%**
France	10% × 50% = 5.0%	20% × 50% = 10.0%	**15.0%**

Jurisdiction	Employee × 50%	Asset × 50%	UTPR %
Total			**100.0%**

Step 4: Allocate UTPR Top-Up Tax

Jurisdiction	UTPR %	Allocated Amount
UK	55.0%	€40,000 × 55% = **€22,000**
Germany	30.0%	€40,000 × 30% = **€12,000**
France	15.0%	€40,000 × 15% = **€6,000**
Total	**100%**	**€40,000**

9. Complete Allocation Workbook Template

9.1 Step 1: Jurisdictional Top-Up Tax

Item	Formula	Amount
A. GloBE Income (net)	Sum of all CE GloBE Income in jurisdiction	€
B. Adjusted Covered Taxes	Sum of all CE Covered Taxes	€
C. ETR	B ÷ A	%
D. Top-Up Tax Percentage	15% − C (if C < 15%)	%
E. Payroll Costs (eligible)		€
F. Tangible Assets (NBV)		€
G. Payroll Carve-Out	E × transition rate	€

Item	Formula	Amount
H. Asset Carve-Out	F × transition rate	€
I. Total SBIE	G + H	€
J. Excess Profit	A − I	€
K. Jurisdictional Top-Up Tax	D × J	€
L. Less: QDMTT		(€)
M. Net Jurisdictional Top-Up Tax	**K − L**	**€**

9.2 Step 2: Entity Allocation

Entity	GloBE Income	Share of Positive	Allocated Top-Up Tax
Entity 1	€	%	€
Entity 2	€	%	€
Entity 3	€	%	€
Total (Positive Only)	**€**	**100%**	**€**

9.3 Step 3: Parent Allocable Share (IIR)

Entity	Top-Up Tax	Ownership Chain	Inclusion Ratio	Allocable Share
Entity 1	€	UPE → ... → CE	%	€
Entity 2	€	UPE → ... → CE	%	€

Entity	Top-Up Tax	Ownership Chain	Inclusion Ratio	Allocable Share
Total IIR				**€**

9.4 Step 4: Residual for UTPR

Item	Amount
Total Entity Top-Up Tax	€
Less: IIR Allocable Shares	(€)
UTPR Top-Up Tax Amount	**€**

9.5 Step 5: UTPR Allocation

Jurisdiction	Employees	Assets (€M)	Emp %	Asset %	UTPR %	Allocated
Jurisdiction 1		€	%	%	%	€
Jurisdiction 2		€	%	%	%	€
Total		**€**	**100%**	**100%**	**100%**	**€**

10. Stratos Example: Complete Allocation

Scenario: Stratos has completed its FY 2025 Pillar Two calculations and identified the following:

Jurisdiction	ETR	Status	Top-Up Tax
Singapore	12.3%	Low-taxed	€2,100,000

Jurisdiction	ETR	Status	Top-Up Tax
Ireland	14.1%	Low-taxed	€800,000
UK	23.5%	Above minimum	Nil
Germany	28.2%	Above minimum	Nil

10.1 Singapore Allocation

Ownership: Stratos Group plc → SG Holdings Ltd → SG Singapore Pte Ltd (100% throughout)

Step	Calculation	Result
Singapore Top-Up Tax	Given	€2,100,000
Entities with positive GloBE Income	SG Singapore Pte Ltd only	100%
Entity allocation	€2,100,000 × 100%	€2,100,000
Stratos's Inclusion Ratio	100% × 100%	100%
IIR Allocable Share	€2,100,000 × 100%	**€2,100,000**
UTPR Residual	€2,100,000 − €2,100,000	€0

10.2 Ireland Allocation

Ownership: - Stratos Group plc → SG Holdings Ltd → SG Netherlands BV → SG Ireland Ltd (60% at NL level) - External Investor → SG Ireland Ltd (40%)

Step	Calculation	Result
Ireland Top-Up Tax	Given	€800,000
Entity allocation	SG Ireland Ltd only	€800,000

Step	Calculation	Result
Stratos's cumulative ownership	100% × 100% × 60%	60%
IIR Allocable Share	€800,000 × 60%	**€480,000**
External investor share	€800,000 × 40%	€320,000
UTPR Residual		**€320,000**

10.3 UTPR Allocation (Ireland Residual)

Jurisdiction	Employees	Assets (€M)	Emp %	Asset %	UTPR %	Allocated
UK	450	85.0	50.0%	62.5%	56.3%	€180,160
Germany	200	20.0	22.2%	14.7%	18.5%	€59,200
France	150	15.0	16.7%	11.0%	13.9%	€44,480
Netherlands	100	16.0	11.1%	11.8%	11.5%	€36,800
Total	**900**	**136.0**	**100%**	**100%**	**100%**	**€320,640***

*Rounding difference

10.4 Summary: Stratos FY 2025 Top-Up Tax Liability

Mechanism	Jurisdiction	Entity Collecting	Amount
IIR	UK	Stratos Group plc	€2,580,000
UTPR	UK	SG Holdings Ltd	€180,160
UTPR	Germany	SG Germany GmbH	€59,200
UTPR	France	SG France SAS	€44,480

Mechanism	Jurisdiction	Entity Collecting	Amount
UTPR	Netherlands	SG Netherlands BV	€36,800
Total			**€2,900,640**

11. Common Pitfalls

11.1 Pitfall 1: Forgetting Loss-Making Entities in Entity Allocation

Loss-making CEs receive **no allocation** of jurisdictional Top-Up Tax. Only CEs with positive GloBE Income participate in the allocation.

11.2 Pitfall 2: Using Ownership Percentage as Inclusion Ratio

The Inclusion Ratio is based on **GloBE Income attribution**, not legal ownership percentage. In straightforward structures these align, but with special allocations or profit-sharing arrangements they may differ.

11.3 Pitfall 3: Double-Counting POPE Charges

When both UPE and POPE apply IIR, always apply the **IIR offset** to prevent double taxation. The offset equals the UPE's share of the charge already paid at POPE level.

11.4 Pitfall 4: Including Non-UTPR Jurisdictions

Only jurisdictions with a **Qualified UTPR** are included in the UTPR allocation. Exclude employees and assets in jurisdictions without UTPR implementation.

11.5 Pitfall 5: Mixing Allocation Formulas

IIR uses **ownership-based** allocation (Inclusion Ratio). UTPR uses **substance-based** allocation (50% employees + 50% tangible assets). Never mix these formulas.

The allocation calculations in this chapter represent the mechanical heart of Pillar Two compliance. While earlier chapters addressed policy and structure, this chapter provides the numerical workings that determine actual cash tax obligations. For tax departments, these calculations must be repeatable, auditable, and consistent year over year. Developing robust allocation models—whether in spreadsheets, specialised software, or ERP systems—is essential for groups expecting ongoing Pillar Two obligations. The allocation template provided in this chapter offers a starting framework, but each group will need to adapt it to their specific ownership structures, jurisdictional presence, and the particular complexities of their fact patterns.