# 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.

## 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 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 |
| 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).

# 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** |

# 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.

# 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 |
| 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%** |
| **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** |

| Jurisdiction | UTPR % | Allocated Amount |
|---|---|---|
| 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 | € |
| 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 | | (€) |

| Item | Formula | Amount |
| --- | --- | --- |
| **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 | % | € |
| **Total IIR** | | | | **€** |

### 9.4 Step 4: Residual for UTPR

| Item | Amount |
| --- | --- |
| Total Entity Top-Up Tax | € |

| Item | Amount |
|---|---|
| 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 |
| 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 |
| 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 |
| 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.