

# English Summary for Week 4 (10 minutes)

Good afternoon everyone.

To conclude today's session, let me summarize in English what we covered in Week 4: **Semiconductor Industry Structure and Comparative Financial Analysis of TSMC and Hon Hai**.

---

## 1. Industry Structure Overview

We began by examining the **semiconductor industry value chain**, divided into upstream, midstream, and downstream segments:

- **Upstream (IC Design):** NVIDIA, Broadcom, Qualcomm, MediaTek.
- **Midstream (Foundries):**
  - Pure-play foundries: TSMC, UMC, PSMC, Vanguard, SMIC.
  - Integrated device manufacturers (IDMs): Intel, Samsung.
- **Downstream (Packaging and Testing):** ASE Holdings (ASE, SPIL) and TSMC's CoWoS technology.
- **EDA and IP Vendors:** Synopsys, Cadence, Siemens EDA; ARM, eMemory, Andes, M31, Alchip, Global Unichip.
- **Equipment Suppliers:** Applied Materials, Lam Research, ASML, Tokyo Electron, KLA.
- **Materials Suppliers:** GlobalWafers, Shin-Etsu, SUMCO.

This framework helps us understand where each company fits into the global supply chain.

---

## 2. TSMC vs. Hon Hai – Corporate Scale (1H 2025)

We compared the **firm scale indicators** of TSMC and Hon Hai:

- **Market Capitalization:** TSMC leads significantly, reflecting investor confidence.
  - **Revenue:** Hon Hai is larger in total revenue due to its massive contract manufacturing business.
  - **Total Assets and Equity:** Both firms show strong balance sheets, but their structures differ.
  - **Property, Plant, and Equipment (PPE):** TSMC invests heavily in fabs, while Hon Hai focuses on assembly plants.
- 

## 3. Profitability Analysis (1H 2025)

Key profitability measures show contrasting results:

- **Net Income and EPS:** TSMC reports stronger net profit and earnings per share.
  - **Gross Margin and Operating Margin:** TSMC maintains higher ratios due to advanced process technology.
  - **Net Profit Margin:** Hon Hai operates with thin margins typical of contract manufacturers, while TSMC benefits from technological leadership.
- 

#### 4. Research and Development (R&D) Intensity

- **R&D Expenses:** TSMC invests substantially more in absolute R&D spending.
  - **R&D Expense Ratio:** TSMC's ratio is higher, underscoring its strategy of sustaining process leadership.
  - Hon Hai's R&D is relatively smaller and focused on efficiency in large-scale production.
- 

#### Closing

In summary, today we learned:

- How the semiconductor industry is structured into upstream, midstream, and downstream sectors.
- The ecosystem of design houses, foundries, packaging firms, EDA/IP vendors, equipment makers, and material suppliers.
- A comparative analysis of **TSMC and Hon Hai** in terms of scale, profitability, and R&D.
- The strategic differences: TSMC as a high-tech, high-margin leader; Hon Hai as a high-volume, low-margin assembler.

Together, these insights provide a foundation for understanding Taiwan's role in the global semiconductor and electronics supply chain.

Thank you.