

半導體的全球政治經濟學

Global Political Economy of Semiconductor

Thur. 10:10AM-01:00PM

Classroom: 人社院 C306 教室

課程說明

本課程主要是透過全球政治經濟學的角度分析半導體產業與相關政策。作為數位時代經濟最關鍵的成分，半導體從來都是國家產業政策的對象，隨著全球集團化競爭態勢升高，半導體更是各國經濟治略的焦點。在介紹半導體相關知識之後，本課程分為以下幾個部分：(1) 全球政治經濟學概念與理論，(2) 半導體產業發展史與二十世紀的半導體貿易爭端，(3) 台灣與中國在內的主要國家半導體產業發展歷程，(4) 當今晶片戰爭。本課程提供學生分析理解半導體產業的概念工具，探索這個對台灣對全世界經濟發展，國家安全，以及大國競爭而言都至為重要的科技產物。

課程考核：

本課程將依下列事項計分：

(1) 課堂表現 10%

(2) 分組課堂導讀 25%：第一次上課會依上課人數分成 2-3 組，

Week 3 開始每週一組輪流口頭導讀，需事先準備 hand-out 或

投影片，報告前一天上傳 elearn 討論區。

- (3) Memo 與作業 25%: week 3-10 扣除放假的兩週，在 6 週中，每位同學需任選 4 週撰寫 memo，字數以 2500 字為限。
- (4) 期末研究報告計畫 10%，第 9 週之後同學需個別與授課教師討論期末研究報告，每次討論前需準備 1 頁書面資料以為討論與評分依據。
- (5) 期末研究報告計畫 30%，每位同學均須根據前述報告計畫撰寫一份期末研究報告，內容自訂。

本課程採用 AI 使用規則 (Indicate which of the following options you use to manage student use of the AI)

(4)本課程無涉及 AI 使用 Not applicable

Week 1. 2/22 Course Introduction

Week 2. 2/29 Semiconductor: The Technological Basics

林茂雄，2021，〈積體電路精彩的摩爾旅程 - 數目爆增的神奇魔力〉。

https://www.icometrue.com/20211115_19.html

Week 3. 3/7 What is Global Political Economy

Frieden, Jeffrey A., David A. Lake, and J Lawrence Broz. (2017), "Introduction: International Politics and International Economics," in *International Political Economy: Perspectives on Global Power and Wealth, sixth edition*, edited by Jeffrey A. Frieden, David A. Lake, and J Lawrence Broz. New York: W. W. Norton & Company. Pp. 1-17.

Cohen, Benjamin J. (2008), *International Political Economy: An*

Intellectual History. Princeton: Princeton University Press.

Read Introduction, pp. 1-15.

Frieden, Jeffrey A. (2019), "The Political Economy of the Globalization Backlash: Sources and Implications," in *Meeting Globalization's Challenges: Policies to Make Trade Work for All*, edited by Luís Catão and Maurice Obstfeld. Princeton: Princeton University Press. Pp. 181-96.

https://scholar.harvard.edu/files/jfrieden/files/the_political_economy_of_the_globalization_backlash_0.pdf

Week 4. 3/14 Economic Statecraft: The Whys and Whats

Jen Bruce Jentleson (2022). *Sanctions: What Everyone Needs to Know*. New York: Oxford University Press. Read introduction and chapter one.

Baldwin, David A. (2020). *Economic Statecraft: New Edition*. Princeton: Princeton University Press. Preface to the New Edition, Introduction, and chapter 3 "What Is Economic Statecraft."

Aggarwal, Vinod K. and Andrew W. Reddie (2022). "The New Reality of Economic Statecraft," in *Global Asia*, 17(4), pp. 12-17.

https://www.globalasia.org/v17no4/cover/the-new-reality-of-economic-statecraft_vinod-k-aggarwalandrew-w-reddie

Week 5. 3/21 Weaponized Interdependence

Farrell, Henry & Abraham L. Newman (2019), "Weaponized Interdependence: How Global Economic Networks Shape State Coercion," *International Security*, 44 (1), pp. 42-79.

Victor Cha and Andy Lim (2020), "Flagrant Foul: China's Predatory Liberalism and the NBA," *The Washington Quarterly* 42 (Winter 2020): 23-42.

Week 6. 3/28 Export Control

Bown, Chad P. (2020), "Export Controls: America's Other National Security Threat," *Duke Journal of Comparative and International Law* v30, n2 (Spring 2020): 283-308.

<https://www.piie.com/sites/default/files/documents/wp20-8.pdf>

Congressional Research Service, 2023, "Export Controls—International Coordination: Issues for Congress. Sep. 8, 2023.

<https://crsreports.congress.gov/product/pdf/R/R47684>

Week 7. 4/4 民族掃墓節

Week 8. 4/11 期中考週，自行在家準備期末報告。

Week 9. 4/18 Law and Politics of Export Restrictions: WTO and Beyond
Guest Speaker

Week 10. 4/25 The Political Economy of Investment Review: FIRRMA,
CFIUS and the Like

Mastanduno, Michael. 1992. *Economic Containment: CoCom and the Politics of East-West Trade*. Ithaca: Cornell University Press. Ch.1, pp. 1-38.

Zimmerman, Ivan J. 2019. "The Foreign Risk Review Modernization Act: How CFIUS Became a Tech Office," *Berkeley Technology Law Journal*, vol. 34(4), pp. 1267-1304.

https://www.jstor.org/stable/pdf/26954414.pdf?refreqid=fastly-default%3A48560baff4b543265e147a6e1ad680a6&ab_segments=&origin=&initiator=&acceptTC=1

Week 11. 5/2 Chip History I: American Story

Miller, Chris 202? Chip War. Part 1-4.

Week 12. 5/9 Chip History II: The Rest of the World

Miller, Chris 202? Chip War. Part 5-end.

Week 13. 5/16 US-Japan Chip Conflicts

Tyson, Laura 199? *Who is Bashing Whom*, Ch. 4 pp. 85-154

Irwin, Douglas A., 1996. "The US-Japan Semiconductor Trade

Conflict,” in Anne O. Krueger, ed., *The Political Economy of Trade Protection*. Chicago: University of Chicago Press, pp. 5-14.

<https://www.nber.org/system/files/chapters/c8717/c8717.pdf>

Nadeau, Paul, 2023. “Looking Back 20 Years to Learn Lessons from the US-Japan Chip War,” in *Geo-economic Briefing* Feb 16, 2023.

<https://apinitiative.org/en/2023/02/16/44022/>

Week 14. 5/23 The Rise of the Silicon Valley

Saxenian, Annalee. 1994. *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*. Cambridge: Harvard University Press. Read Introduction, ch. 2 & 6, and conclusion.

Week 15. 5/30 Taiwan

陳東升，2008，《積體網路：台灣高科技產業的社會學分析（增訂版）》，台北市：群學。閱讀：第 1、2 章。

Jinn-yuh Hsu, 2017, “State Transformation and the Evolution of Economic Nationalism in the East Asian Developmental State: The Taiwanese Semiconductor Industry as Case Study,” *Transactions of the Institute of British Geographers*, vol 42(2): 166-178.

瞿宛文，2023，〈護國神山的由來：再談台積電與台灣經濟發展模式〉，《思想》，第 46 期，33-53 頁。

Week 16. 6/6 China I

楊健楷，2023，《中國芯片往事》，北京：電子工業出版社。略讀
腦極體，2022，《芯片戰爭：歷史與今天的半導體突圍》，北京：
北京大學出版社。第四、五章，頁 160-236。

金榮雨著，蕭素菁、陳柏蓁譯，2022，《半導體投資大戰》，第
三、五章。

作業：閱讀中國「中國製造 2025」關於芯片製造自主化的部分、「大基金第一到三期」等政策文件，分析其政策意圖，並評估其成效，以及成敗的原因。

Week 17. 6/13 China II

VerWay, John, 2019. "Chinese Semiconductor Industrial Policy: Past and Present," *Journal of International Commerce and Economics*, July 2019.

[https://www.usitc.gov/publications/332/journals/chinese semiconductor industrial policy past and present jice july 2019.pdf](https://www.usitc.gov/publications/332/journals/chinese_semiconductor_industrial_policy_past_and_present_jice_july_2019.pdf)

VerWay, John. 2019. "Chinese Semiconductor Industrial Policy: Prospects for Future Success," *Journal of International Commerce and Economic*, August 2019.

[https://www.usitc.gov/publications/332/journals/chinese semiconductor industrial policy prospects for success jice aug 2019.pdf](https://www.usitc.gov/publications/332/journals/chinese_semiconductor_industrial_policy_prospects_for_success_jice_aug_2019.pdf)

鄭永年，2023，〈中國跨越「中等技術陷阱」的策略研究〉《中國科學院院刊》，第38卷11期，1579-1592頁。

<http://www.bulletin.cas.cn/previewFile?id=50183039&type=pdf&lang=zh>

譚銳，2023，〈中國芯片產業如何跨越「中等技術陷阱」？〉《中國科學院院刊》，第38卷11期，1665-1674頁。

<http://www.bulletin.cas.cn/previewFile?id=50182936&type=pdf&lang=zh>

駱軍委、李樹深，2023，〈加強半導體基礎能力建設，點亮半導體自立自強發展的「燈塔」〉《中國科學院院刊》，第38卷2期，187-192頁。

<http://www.bulletin.cas.cn/previewFile?id=41291693&type=pdf&lang=zh>

Week 18. 6/20 Chip War I: Made in China 2025 to the Chips and Science Act of the US

Chad P. Bown. (2020). "How the United States Marched the Semiconductor Industry into Its Trade War with China." *East Asian Economic Review* 24, no. 4, Special Issue (December 2020). pp. 349-388.

https://www.eaerweb.org/selectArticleInfo.do?article_a_no=JE0001_2020_v24n4_349&ano=JE0001_2020_v24n4_349

Xiao, Yufeng. (2022). "The Impact of the US-China Trade War on China's Semiconductor Industry," in *Proceedings of the 2022 2nd International Conference on Financial Management and Economic Transition* (FMET 2022) (pp.665-677).

https://www.researchgate.net/publication/369691028_The_Impact_of_the_US_China_Trade_War_on_China%27s_Semiconductor_Industry

Huang, Sihao and Bill Drexel. (2023), "China Goes on the Offensive in the Chip War: What the United States Should Do to Keep Its Lead," *Foreign Affairs* Oct. 11, 2023.

<https://www.foreignaffairs.com/united-states/china-goes-offensive-chip-war>

Fuller, Douglas, 2023, "Tech War or Phony War? China's Response to America's Controls on Semiconductor Fabrication Equipment," *China Leadership Monitor*, Nov. 30, 2023.

<https://www.prcleader.org/post/tech-war-or-phony-war-america-s-porous-controls-on-semiconductor-equipment-and-china-s-response>