

ARTICLE

TAIWAN'S BATTLE FOR ITS OWN CHIP TALENT

EXPLORING EFFORTS TO DEFEND AGAINST CROSS-STRAIT BRAIN DRAIN

*Cosimo L. Fabrizio**

Taiwan's dominance in advanced semiconductor manufacturing has long fueled global technological innovation, but its most critical asset may not be chips, but rather, chip talent. As the world's leading hub for AI chip expertise, Taiwan's semiconductor industry benefits from a self-reinforcing cycle of specialized workforce development which enables it to maintain its global edge in the design and production of high-performance compute. However, as AI applications expand, Taiwan's chip talent has become an increasingly contested resource in the geopolitical struggle between the United States and China. While both nations seek access to Taiwan's chips, their deeper strategic goal is to cultivate domestic semiconductor expertise, leading to heightened competition for skilled professionals. China in particular has pursued aggressive recruitment efforts to poach Taiwan's semiconductor engineers, prompting Taipei to strengthen legal protections against talent drain. This Article examines Taiwan's evolving legal and policy response to these challenges and argues that law alone will be insufficient for Taiwan to protect its talent.

* Cosimo L. Fabrizio is an associate at Wachtell, Lipton, Rosen & Katz and an incoming Judicial Law Clerk to Judge Barrington D. Parker, Jr. of the United States Court of Appeals for the Second Circuit. He received his J.D. from Harvard Law School and his B.A. from Cornell University, where he majored in Economics and Government. Cosimo thanks Professor William P. Alford for his invaluable support and supervision, as well as Professor Cy Liu, Professor Ching-Fu Lin, and the students of National Tsing Hua University in Taiwan for their time, generosity, and guidance. Cosimo also thanks the editors of the Fordham International Law Journal for their efforts in preparing this piece for publication. This piece draws on Cosimo's work as a visiting researcher at National Tsing Hua University. All views expressed are his own.

INTRODUCTION	2
I.THE TAIWANESE CHIP INDUSTRY	4
A. Taiwan’s Role in the Classical Chip Value Chain	5
B. Talent Cultivation as Part of the Chip Value Chain	10
II.EXPLORING TALENT CULTIVATION AS A BEDROCK OF TAIWAN’S AI POLICY	12
A. National Digital Policy & DIGI+	12
B. AI Action Plans 1.0 & 2.0	15
C. 2024 Draft AI Law	17
III.TAIWAN’S EFFORTS TO PROTECT ITS COMPUTE TALENT	18
A. The Threat of Chinese Poaching	18
B. Taiwan’s Countermeasures	20
IV.SAFEGUARDING AI TALENT AS A NATIONAL SECURITY ISSUE	22
V.TALENT RETENTION BEYOND LEGAL PROTECTIONS	28
VI. CONCLUSION	31

INTRODUCTION

Taiwan’s chip supremacy has fueled global technological innovation for over fifty years, equipping firms around the world with the computational power needed to build products with unprecedented capacity and pursue solutions to some of our world’s most challenging problems. Though Taiwan’s position as a compute¹ superpower is well-established, the island’s global importance has grown more pronounced in recent years with the proliferation of advanced artificial intelligence (“AI”) systems. As demand for sophisticated, high-performing AI solutions increases and these tools become more deeply integrated in mobile devices and the broader Internet of Things (“IoT”), the demand for cutting-edge, high-efficiency compute has similarly risen.² Given Taiwan

1. Compute refers to computational power and is used interchangeably with “chip” and “semiconductors.”

2. *Artificial Intelligence (AI) Chips Market size is Set to Grow by USD 389.25 Billion from 2024-2028, Increasing Adoption of AI chips in Data Centers to Boost the Market Growth*, Technavio, PR NEWSWIRE (July 9, 2024), <https://www.prnewswire.com/news-releases/artificial-intelligence-ai-chips-market-size-is-set-to-grow-by-usd-389-25->

is responsible for 92% of the world's advanced AI chip manufacturing capacity,³ global demand for *Taiwanese* chips in particular will continue to increase.

Though Taiwan's chip dominance is well-documented, a key component of Taiwan's success is often overlooked: its chip talent. Taiwan is home to the world's leading AI chip experts. And, Taiwan's unique position in the global compute value chain has created a positive feedback loop that reinforces its pipeline for best-on-the-market chip expertise; leading Taiwan-based chip designers and manufacturers hire primarily Taiwanese employees, affording Taiwanese workers access to state-of-the-art training and further reinforcing Taiwan's dominance in the production of chip experts.

Taiwan's preeminence in chip expertise has become increasingly entangled with broader political and economic strife between the United States and China. Though both the United States and China want chips, their deeper aim is to develop domestic capacity for frontier chip design and production. In December 2024, the US Department of Commerce announced expanded restrictions targeting critical technologies.⁴ These measures include updates to export controls and a significant expansion of the Entity List to limit foreign access to cutting-edge technologies with potential military applications.⁵ These heightened restrictions only underscore the reality that Taiwan has what China needs, but it is not merely chips. Indeed, Taiwan holds the chip expertise that both world powers desperately need to strengthen their domestic industry in the era of AI.

China has engaged in concerted efforts to poach Taiwanese talent. In turn, Taiwan has increasingly leveraged law as a mechanism to safeguard its chip talent from cross-strait brain drain.

billion-from-2024-2028--increasing-adoption-of-ai-chips-in-data-centers-to-boost-the-market-growth-technavio-302191673.html [https://perma.cc/9JPA-ZYU8].

3. Lin Jones et al., *U.S. Exposure to the Taiwanese Semiconductor Industry* 3 (U.S. Int'l Trade Comm'n, Working Paper 2023-11-A, 2023), https://www.usitc.gov/publications/332/working_papers/us_exposure_to_the_taiwanese_semiconductor_industry_11-21-2023_508.pdf [https://perma.cc/EX7J-K94V].

4. Press Release, Bureau of Indus. & Sec., Commerce Strengthens Export Controls to Restrict China's Capability to Produce Advanced Semiconductors for Military Applications (Dec. 2, 2024), <https://www.bis.gov/press-release/commerce-strengthens-export-controls-restrict-chinas-capability-produce-advanced-semiconductors-military> [https://perma.cc/FN8C-QYH6].

5. *Id.*

This Article explores Taiwan's efforts to secure its chip talent. Part I provides an overview of Taiwan's chip industry and the importance of Taiwan's chip talent in maintaining its dominant role in the global AI-chip value chain. Part II explores Taiwan's digital and AI governance strategy, focusing on Taipei's tech governance principles and talent cultivation efforts. Part III considers Taiwan's efforts to combat Chinese poaching efforts and counteract broader cross-strait brain drain. Part IV considers the 2022 amendments to Taiwan's Cross-Strait Act and explores challenges with talent-based legal protectionism. Part V proposes several policy alternatives.

I. THE TAIWANESE CHIP INDUSTRY

Taiwan's chip industry began in 1974 when then-Executive Yuan Secretary-General Hua Fei met with the former President of Taiwan's Industrial Technology Research Institute ("ITRI") and the Director of Radio Corporation of America ("RCA") Laboratories.⁶ These discussions facilitated the transfer and license of RCA's integrated circuit ("IC") technology to ITRI. The initiative also spurred investment in Taiwan's IC sector, leading to the establishment of Taiwan's first IC demo factory in 1977 and the production of Taiwan's first domestic IC product: wristwatches.⁷ Today, Taiwanese firms are global leaders in semiconductor technology. Taiwan's rise from its humble wristwatch production beginnings, and its continued dominance in IC technologies, is made possible by its chip expertise.

To understand the legal effort to secure Taiwan's chip expertise, it is essential to first consider the importance of Taiwanese talent in maintaining Taiwan's competitive edge in the semiconductor value chain. This section will begin by discussing Taiwan's contribution to the semiconductor value chain, which is typically divided into five steps: 1) research and development ("R&D"); 2) product design; 3) wafer fabrication and manufacturing; 4) assembly testing & packaging ("ATP"); and 5) downstream production.⁸ Though Taiwan's chip industry is most dominant in

6. See *The Birth of Taiwan's Semiconductor Industry: Adopting Technical Knowledge from RCA to Develop Taiwan's IC Capabilities*, INDUS. TECH. RSCH. INST., <https://50th.itri.org.tw/en/history/semiconductors/1/> [<https://perma.cc/3DPZ-RBAA>].

7. *Id.*

8. See Jones et al., *supra* note 3, at 7.

contract manufacturing—producing chips on demand for companies without fabrication facilities (“fabless chip makers”)—Taiwan plays an important role in every stage of the chip value chain. This section will then explain an additional, and critical, contribution Taiwan makes to the chip value chain that is often overlooked: chip talent cultivation.

A. *Taiwan’s Role in the Classical Chip Value Chain*

In the world of compute, R&D efforts are essential for improving the speed, power and efficiency of chips. Between 2010 and 2020, Taiwan’s R&D spending increased more than 120%, reaching NT\$380 billion in 2021.⁹ During the same period, Taiwan’s contingent of domestic researchers has increased by 29%, with 52,740 researchers across IC design, manufacturing and packaging, and testing in 2021.¹⁰ To build upon the strong growth in R&D efforts of the past decade, Taiwan’s government has rolled out several new initiatives. For example, in January 2023, amendments to the Statute for Industrial Innovation—colloquially referred to as Taiwan’s CHIPS Act—raised government tax breaks 10% to afford Taiwanese companies a 25% tax credit for “forward-looking innovative research and development expenditures.”¹¹ Industry leaders quickly took advantage of this benefit, with Taiwan Semiconductor Manufacturing Company (“TSMC”) opening its first center dedicated solely to research and development in Hsinchu (新竹) in July 2023.¹²

Taiwan’s robust R&D efforts lay the groundwork for advancements across the semiconductor value chain, including IC design—a crucial segment of the chip value chain.¹³ Taiwan’s entire

9. See CHEN-YUAN TUNG, TAIPEI REPRESENTATIVE OFF. IN SINGAPORE, TAIWAN AND THE GLOBAL SEMICONDUCTOR SUPPLY CHAIN 35 (Aug. 2023), <https://www.roc-taiwan.org/uploads/sites/86/2023/08/20230824-TAIWAN-AND-THE-GLOBAL-SEMICONDUCTOR-SUPPLY-CHAIN.pdf> [<https://perma.cc/9NDV-VAKY>].

10. See *id.* at 37.

11. See Frank Lin et al., *Legislative Yuan Passed Articles 10-2 of the Statute for Industrial Innovation (Taiwan Chips Act)*, LEE & LI ATTORNEYS-AT-LAW (Mar. 3, 2023), <https://www.leeandli.com/EN/NewslettersDetail/7030.htm> [<https://perma.cc/G3EY-DHGF>]; see also TUNG, *supra* note 9, at 12.

12. Cheng Ting-Fang & Lauly Li, *TSMC Opens First Dedicated R&D Center in Taiwan*, NIKKEI ASIA (July 28, 2023), <https://asia.nikkei.com/Business/Tech/Semiconductors/TSMC-opens-first-dedicated-R-D-center-in-Taiwan> [<https://perma.cc/5XJU-D256>].

13. However, due to the exorbitant research and development costs associated with producing frontier compute, much of the cutting-edge AI hardware designed and produced

IC design industry accounts for 20.1% of the global IC design market.¹⁴ The largest Taiwanese IC design firms—MediaTek, Realtek, and Novatek—are among the top ten globally by revenue and alone account for 12% of the global market.¹⁵ These companies are industry-leading “fab-less” chip designers, meaning they outsource the production of their chip designs to chip producing fabrication facilities (“fabs”), most notably to TSMC.¹⁶ However, due to the exorbitant research and development costs associated with producing frontier compute, much of the cutting-edge AI hardware

by Taiwanese firms is developed through discrete contracts with US companies. *See generally*, Jono Thomson, *Google Hands over Design to TSMC as Big Tech Chip War Heats up*, TAIWAN NEWS (Feb. 14, 2023), <https://www.taiwannews.com.tw/news/4809642> [<https://perma.cc/U9YQ-QSNH>]; Vishakha Saxena, *Apple Working with TSMC to Make its Own AI Chips: WSJ*, ASIA FIN. (May 7, 2024), <https://www.asiafinancial.com/apple-working-with-tsmc-to-make-its-own-ai-chips-wsj> [<https://perma.cc/NH6W-EL2B>]; Jones et al., *supra* note 3, at 7.

14. *See* TUNG, *supra* note 9, at 5.

15. *See id.* at 31. Taiwan may be a leader in chip design, but the United States holds a near monopoly on design software and other related intellectual property, and notably remains the world leader in producing electronic design automation (EDA) tools, the software IC engineers use to design complex semiconductor devices. For context, the top three US EDA software providers are responsible for roughly 70% of the global EDA market. Zeyi Yang, *Inside the Software that will Become the Next Battle Front in US-China Chip War*, MIT TECH. REV. (Aug. 18, 2022), <https://www.technologyreview.com/2022/08/18/1058116/eda-software-us-china-chip-war/> [<https://perma.cc/XF52-2GTG>]. This is relevant for Taiwan’s design industry because the United States imposes various national security motivated export controls on its EDA software. For instance, in 2018 and 2019, the United States restricted ZTE and Huawei’s access to American EDA tools with great effect. Building upon the success of these efforts, in 2022, the US Department of Commerce’s Bureau of Industry and Security (BIS) issued an interim ruling under Section 1758 of the Export Control Reform Act (ECRA) placing additional export controls on EDA software. So, as long as American EDA tools support chip designers, Taiwan’s chip makers will be beholden to the extraterritorial reach of US law and compelled to abide by US export controls, particularly those regarding China. *See* Nicholas Welch, *Holes in the Chip Design Software Export Controls*, CHINA TALK (May 1, 2024), <https://www.chinatalk.media/p/holes-in-the-chip-design-software> [<https://perma.cc/Q5PZ-LM26>]; *see also* *Implementation of Certain 2021 Wassenaar Arrangement Decisions on Four Section 1758 Technologies*, Bureau of Indus. & Sec., Dep’t of Com. (Aug. 15, 2022), <https://www.federalregister.gov/documents/2022/08/15/2022-17125/implementation-of-certain-2021-wassenaar-arrangement-decisions-on-four-section-1758-technologies> [<https://perma.cc/PW24-2KT4>].

16. *See, e.g.*, *Realtek Joined the 2021 Industry Tech Day, an Iconic Engineering Exhibition Among Europe and the U.S.*, REALTEK (Sep. 6, 2021) https://www.realtek.com/Article/NewsDetail?id=4113&app_id=18 [<https://perma.cc/XHL9-H3WR>]; *About Us: Overview*, NOVATEK, https://www.novatek.com.tw/en-global/Html/aboutus_overview [<https://perma.cc/3VHT-233B>].

designed and produced by Taiwanese firms is developed through discrete contracts with US companies.¹⁷

Although Taiwan's share of the global IC market has decreased slightly in recent years,¹⁸ Taiwan's IC design industry has generally experienced exceptional growth. In 2021, IC design revenue for Taiwanese firms jumped to NT\$1.2 trillion, up over 40% from 2020, in a spurt largely driven by COVID work-from-home and US-China trade competition.¹⁹ The rise in AI demand, particularly for AI application-specific integrated circuit chips ("ASICs"), continues to strengthen this sector.²⁰ Hence, notwithstanding minor cooling in 2023, the number of IC design employees in Taiwan is estimated to be up 18% from 2021.²¹

As previously mentioned, the world's leading chip designers are all "fab-less"—they outsource the wafer fabrication process²² to specialized fabrication companies that produce designs on contract.²³ Taiwan is home to fifteen fabrication companies and is

17. See generally, Thomson, *supra* note 13; Saxena, *supra* note 13; Jones et al., *supra* note 3, at 7.

18. Taiwan's IC design industry accounted for 22.0% of the global market in 2021 and 20.8% in 2022. See TAIWAN SEMICONDUCTOR INDUS. ASS'N, OVERVIEW ON TAIWAN SEMICONDUCTOR INDUSTRY 77 (2022) [hereinafter *2022 Industry Overview*], <https://www.tsia.org.tw/api/DownloadOverview?ID=32> [https://perma.cc/465A-RR3T].

19. *Id.* at 4.

20. See, e.g., CSPs' ASIC Push Sparks Competition Among IC Designers, Margins Under Pressure, TRENDFORCE (Nov. 3, 2025), <https://www.trendforce.com/news/2025/11/03/news-csps-asic-push-sparks-competition-among-ic-designers-margins-under-pressure/> [https://perma.cc/J87S-NL7U]. Though the industry cooled in 2023 with revenue falling to NT\$1.1 trillion but is expected to recover to NT\$1.3 trillion in 2024. See TAIWAN SEMICONDUCTOR INDUS. ASS'N, OVERVIEW ON TAIWAN SEMICONDUCTOR INDUSTRY 6 (2024) [hereinafter *2024 Industry Overview*], <https://www.tsia.org.tw/api/DownloadOverview?ID=34> [https://perma.cc/U9FK-QFGM].

21. See *2024 Industry Overview*, *supra* note 20, at 7.

22. See generally Muhammad Sufyan, *Chips and Wafers: What's the Difference?*, WEVOLVER (Feb. 21, 2024), <https://www.wevolver.com/article/semiconductor-wafer> [https://perma.cc/8RH9-BP5F] ("A semiconductor wafer refers to a thin slice of semiconductor material, usually crystalline silicon obtained from sand (Silica) used as the substrate for microelectronic devices like integrated circuits (ICs) and microchips, etc.").

23. The semiconductor industry of the mid-twentieth century was characterized by significant vertical integration. However, the modern semiconductor supply chain is far more segmented. For instance, between 1950 and 1980, companies like Texas Instruments and Fairchild designed, manufactured, and packaged their chips in-house. See Arjun Krishnan et al., *Going Vertical: A New Integration Era in the Semiconductor Industry*, ACCENTURE 5–6 (2021), <https://www.accenture.com/content/dam/accenture/final/a-com-migration/r3-3/pdf/pdf-158/accenture-vertical-integration-pov-vertical-20.pdf> [https://perma.cc/Y37S-7YVQ].

the world leader in IC manufacturing.²⁴ For context, Taiwan was responsible for 75.2% of the global foundry market share in 2023.²⁵ Notwithstanding a slight dip in revenue in 2023 due to high interest rates and inflation, foundry demand is expected to rise given the integration of AI into mobile devices, laptops, and other product segments.²⁶ The top five Taiwanese fabrication firms—TSMC, UMC, Winbond, PSMC, and Vanguard—did a combined NT\$2.5 trillion in revenue in 2023.²⁷ But that statistic does not do justice to Taiwan’s chip superstar; TSMC alone did NT\$2.16 trillion in revenue in 2023.²⁸ In the world of chips, size matters,²⁹ and Taiwanese fabrication facilities produce the most compact and advanced chips on the market. TSMC launched an industry-leading 3 nm chip in 2023 and is on track to release a 2 nm chip by 2025.³⁰ Increased demand for advanced AI chips has led Taiwan’s foundries to grow their operations significantly; foundry employees have increased more than 48% between 2020 and 2024, with more than 143,000 employed across Taiwan’s fifteen foundries.

After wafer fabrication, individual chips are separated, rigorously tested, and assembled into final products.³¹ Advanced packaging processes allow multiple IC devices to be combined for

24. *2024 Industry Overview*, *supra* note 20, at 10.

25. *Id.*

26. *Id.* at 9–10.

27. *Id.*

28. *Id.* at 10.

29. Moore’s law—a golden rule in the semiconductor industry—posits that the number of transistors on an IC will double approximately every two years without a significant increase in cost. The importance of Moore’s law for chip makers is rather intuitive; as transistor density (the number of transistors on an IC) increases, the distance between the transistors decreases and thus the time it takes to transmit a signal from one transistor to another decreases. This increases the overall speed of an IC. Further, less distance between transistors means less power is required to transmit a signal. Thus, overall power consumption is reduced. See *Press Kit: Moore’s Law*, INTEL (Sep. 18, 2023), <https://www.intel.com/content/www/us/en/newsroom/resources/moores-law.html#gs.di68s9> [<https://perma.cc/X598-7R2G>].

30. See, e.g., TAIWAN SEMICONDUCTOR MFG. CO., TSMC ANNUAL REPORT 2024 7 (2025), <https://investor.tsmc.com/sites/ir/annual-report/2024/2024%20Annual%20Report-E.pdf> [<https://perma.cc/ZMB8-MUAW>].

31. See Akhil Thadani & Gregory C. Allen, *Mapping the Semiconductor Supply Chain: The Critical Role of the Indo-Pacific Region*, CTR. FOR STRATEGIC & INT’L STUD. (May 30, 2023), <https://www.csis.org/analysis/mapping-semiconductor-supply-chain-critical-role-indo-pacific-region> [<https://perma.cc/L92E-AYWZ>].

higher performance.³² Though ATP is relatively less complex than IC design and fabrication, it is more labor-intensive.³³ Taiwan is home to thirty-six dedicated packaging and testing companies, and over 100 unique ATP facilities—four of which are Integrated Device Manufacturers (“IDM”) firms, and 107 Outsourced Semiconductor Assembly and Test (“OSAT”) firms.³⁴ Together, these firms produced an aggregate NT\$650.3 billion in revenue in 2024, up 11% from 2023.³⁵ And, this growth in aggregate revenue has been accompanied by an increase in ATP talent; Taiwan’s packaging workforce has risen from 114,888 in 2020 to 141,347 in 2024.³⁶

Notwithstanding the growing talent pool, Taiwanese firms have not been able to keep up with demand. For example, TSMC’s success in Chip-on-Wafer-on-Substrate (“CoWoS”) production—a mode of advanced packaging—has left demand far exceeding the firm’s available supply.³⁷ Currently, TSMC has resorted to outsourcing some of this excess demand to subcontractors.³⁸ Concurrently, TSMC is building a new facility in Southern Taiwan Science Park’s Chiayi Park which will help the company “more than double its in-house capacity” to ease ongoing supply constraints.³⁹ TSMC’s supply constraints highlight a broader challenge: while policy discussions often center on infrastructure and manufacturing capacity, the availability of skilled talent—the foundation of Taiwan’s innovation and production capacity—is frequently taken for granted.

32. See, e.g., *Description of TSMC’s Chip on Wafer on Substrate Production Methods (CoWoS)*, TAIWAN SEMICONDUCTOR MFG. CO., <https://3dfabric.tsmc.com/english/dedicated/Foundry/technology/cowos.htm> [<https://perma.cc/KH7W-Y9RE>] (last visited Mar. 12, 2026).

33. See Thadani & Allen, *supra* note 31.

34. See Hideki Tomoshige, *CHIPS+ and Semiconductor Packaging*, CTR. FOR STRATEGIC & INT’L STUD. (Nov. 7, 2022), <https://www.csis.org/blogs/perspectives-innovation/chips-and-semiconductor-packaging> [<https://perma.cc/Q99G-W4SL>]. ATP firms are generally characterized as either Integrated Device Manufacturers (IDM) or Outsourced Semiconductor Assembly and Test (“OSAT”) companies. Whereas IDM firms offer all packaging processes in-house, OSAT firms outsource certain testing and assembly functions to specialized firms. See Thadani & Allen, *supra* note 31.

35. See *2024 Industry Overview*, *supra* note 20, at 11.

36. See *id.* at 11–12.

37. See *TSMC Rumored to Build New CoWoS Plant in Southern Taiwan*, TRENDFORCE (June 26, 2024), <https://www.trendforce.com/news/2024/06/26/news-tsmc-rumored-to-build-new-cowos-plant-in-southern-taiwan/> [<https://perma.cc/S7AF-WU88>].

38. *Id.*

39. *Id.*

B. Talent Cultivation as Part of the Chip Value Chain

Though the semiconductor value chain is typically conceived as spanning R&D to ATP, there is a critical element missing from this model: talent development. The talent cultivation pipeline drives R&D breakthroughs, enables efficiency gains to chip design, and improves fabrication and assembly processes for increasingly complex semiconductor devices. However, constructing a robust chip talent pipeline has proven an enduring challenge for the world's AI superpowers. For example, the US Semiconductor Industry Association projects that 115,000 new semiconductor engineers will be needed by 2030.⁴⁰ But, with current graduation yields, filling this gap would take the United States over a decade.⁴¹ Similarly, China's Semiconductor Industry Association has reported that the country faces an annual shortage of 200,000 chip designers, and is struggling to close the gap.⁴²

Notwithstanding the quality of its talent development, Taiwan too has fewer chip engineers than it needs to keep pace with demand.⁴³ As Bowei Lee—chairman of the major chip supplier LCY—noted, some industry leaders are concerned that “[Taiwanese] students now are not interested in pursuing doctoral degrees.”⁴⁴ In response, Taiwan's higher education system has

40. SEMICONDUCTOR INDUS. ASS'N, CHIPPING AWAY: ASSESSING AND ADDRESSING THE LABOR MARKET GAP FACING THE U.S. SEMICONDUCTOR INDUSTRY 4 (2023), https://www.semiconductors.org/wp-content/uploads/2023/07/SIA_July2023_ChippingAway_website.pdf [<https://perma.cc/ZCU2-LPR7>].

41. See Mehmet Canayaz et al., *The Global Semiconductor Talent Crunch: How Protectionism Backfired*, CTR. FOR ECON. POL'Y RSCH. (July 23, 2024), <https://cepr.org/voxeu/columns/global-semiconductor-talent-crunch-how-protectionism-backfired#:~:text=The%20decline%20in%20hiring%20is,to%20drive%20innovation%20and%20growth> [<https://perma.cc/6XPU-HDAA>].

42. See *China Quietly Recruits Overseas Chip Talent as US Tightens Curbs*, ECON. TIMES (Aug. 24, 2023), <https://economictimes.indiatimes.com/tech/technology/china-quietly-recruits-overseas-chip-talent-as-us-tightens-curbs/articleshow/103004607.cms?from=mdr> [<https://perma.cc/46QQ-Y4ES>].

43. See Yip Wai Yee, *Talent Crunch: Taiwan's Semiconductor Sector Looks to Southeast Asia for Workers*, NATION THAILAND (June 29, 2024), <https://www.nationthailand.com/news/asean/40039243> [<https://perma.cc/DE6U-GSRE>] (“A 2023 report by Taiwan's largest job search platform, 104 Job Bank, said the average number of monthly job openings in the local chip sector in the second quarter of 2023 was 23,000.”).

44. See Cheng Ting-Fang, *More Ph.D. Students 'Vital' for Taiwan Chip Industry, Says TSMC Supplier*, NIKKEI ASIA (Feb. 8, 2024), <https://asia.nikkei.com/Spotlight/Supply-Chain/More-Ph.D.-students-vital-for-Taiwan-chip-industry-says-TSMC-supplier> [<https://perma.cc/NY7S-EGRY>].

taken aggressive measures to improve its programming for Taiwan's next generation of chip talent. In 2022, National Sun Yat-sen University ("NSYSU") established a "College of Semiconductor and Advanced Technology Research" with support from the Ministry of Education to "further strengthen the leading position and sustainable competitiveness of Taiwan's [semiconductor] industries."⁴⁵ Simultaneously, four new semiconductor research centers have been established at National Taiwan University ("NTU"), National Tsing Hua University ("NTHU"), and National Cheng Kung University ("NCKU").⁴⁶ In July 2024, TSMC's board approved an additional NT\$4 billion investment to several of Taiwan's top universities to "enhance long-term semiconductor research [and] education and talent cultivation."⁴⁷ And, Taiwan's Ministry of Education is looking beyond the university level; beginning in the 2024-2025 school year, Taiwan's Ministry of Education will expand a high school semiconductor education pilot to thirty-five senior-high schools.⁴⁸

Yet, Taiwan recognizes that even these herculean efforts might be insufficient to fill the needs of Taiwanese industry, particularly in the long run, given the country's declining birthrate.⁴⁹ In turn, Taiwan's top semiconductor education programs have intensified their efforts to attract and develop foreign talent. Taiwan's Ministry of Education has set aside NT\$5.2 billion to attract 320,000 foreign students by 2030 with the hope that roughly two-thirds will stay in Taiwan to work following

45. *About Us: College of Semiconductor and Advanced Technology Research*, NAT'L SUN YAT-SEN UNIV., <https://sat.nsysu.edu.tw/p/412-1325-23175.php?Lang=en> [https://perma.cc/64PK-NBGJ] (last visited Mar. 11, 2026).

46. Yojana Sharma, *Asian Universities Step Up Semiconductor Programmes*, UNIV. WORLD NEWS (Oct. 22, 2021), <https://www.universityworldnews.com/post.php?story=20211021144726611> [https://perma.cc/RV83-BKXJ].

47. *TSMC to Donate NT\$4 Billion to Schools for Research, Training*, FOCUS TAIWAN (June 5, 2024), <https://focustaiwan.tw/business/202406050019> [https://perma.cc/9MDS-3UJW].

48. See Rachel Lin & Esme Yeh, *Ministry to Expand its High-School Chip Curriculum*, TAIPEI TIMES (July 22, 2024), <https://www.taipetimes.com/News/taiwan/archives/2024/07/22/2003821156#:~:text=The%20Ministry%20of%20Education%20is,academic%20year%2C%20sources%20said%20yesterday> [https://perma.cc/FY28-USJK].

49. Taiwan's 2023 fertility rate was just .865. See NAT'L DEV. COUNCIL, https://www.ndc.gov.tw/en/Content_List.aspx?n=6F69D4E5D624660A [https://perma.cc/Q5U9-M3NY].

graduation.⁵⁰ In 2024, NTU debuted its English-language “Global Undergraduate Program in Semiconductors,”⁵¹ and each of Taiwan’s major technical universities expanded scholarship offerings to foreign students.⁵² Indeed, Taiwan’s commitment to talent cultivation has become a cornerstone of its broader AI policy. The next section will examine the principles underpinning Taiwan’s approach to AI regulation and explore how Taiwan integrates talent cultivation into its AI governance framework.

II. EXPLORING TALENT CULTIVATION AS A BEDROCK OF TAIWAN’S AI POLICY

Taiwanese officials have woven talent development into the fabric of their broader AI regulatory strategy. Though Taiwan has not enacted many formal AI regulations, it was an early mover in prioritizing AI policy and has made substantial efforts to respond to AI advances from a regulatory and legislative standpoint.⁵³ Though Taiwan’s first substantive AI regulation emerged in 2018 with the Taiwan AI Action Plan 1.0, the digital governance policies that preceded it laid the groundwork—through infrastructure, principles, and talent development strategies—that enabled Taiwan to craft its AI policy.⁵⁴

A. National Digital Policy & DIGI+

In 2017, Taiwan launched the first phase of its National Digital Policy, the Digital Nation and Innovative Economic Development Program strategy (“DIGI+”).⁵⁵ DIGI+ is a broad-reaching

50. Huang Tzu-ti, *Taiwan Seeks to Attract 320,000 Foreign Students by 2030*, TAIWAN NEWS (Sep. 7, 2023), <https://taiwannews.com.tw/news/4992360> [https://perma.cc/6JT5-T9QM].

51. Bryan Chuang, *How Taiwan Attracts Foreign Students to Strengthen its Semiconductor Leadership*, DIGITIMES (Aug. 21, 2024), <https://www.digitimes.com/news/a20240815PD221/taiwan-ic-2012-growth-manufacturing.html> [https://perma.cc/Y7ZL-DZEB].

52. TAIPEI REPRESENTATIVE OFF. IN SINGAPORE, *STUDY SEMICONDUCTOR IN TAIWAN 7* (2023), https://www.roc-taiwan.org/uploads/sites/86/2023/08/Study-Semiconductor-in-Taiwan0829_compressed.pdf [https://perma.cc/PXW8-C2HX].

53. However, Taiwan’s early efforts to regulate AI have been oddly ignored by the international community. See Michael Tsung-Yun Chen, Senior Research Manager, Indus. Tech. Rsch. Inst. (ITRI), Presentation at ITRI on Taiwan AI Policy Landscape (Jan. 4, 2024) (on file with Fordham International Law Journal) [hereinafter ITRI Deck].

54. *Id.* at 4.

55. *Id.*

innovation strategy designed to spur the development of Taiwan's digital economy, address equity issues in digital infrastructure and connectivity, and improve quality of life by facilitating the development of sustainable smart cities.⁵⁶ The policy outlines a framework for Taiwan's approach to technology regulation, emphasizing a pseudo-rights-based approach⁵⁷ to digital governance alongside commitments to transparency,⁵⁸ responsiveness, and effectiveness in addressing digital economy challenges.⁵⁹

56. DIGI+: *Digital Nation and Innovative Economic Development Program*, OFF. OF EXEC. YUAN (Sep. 9, 2019), <https://english.ey.gov.tw/News3/9E5540D592A5FECd/659df63b-dad4-47e3-80ab-c62cb40a62cd> [<https://perma.cc/Z2KR-U3XH>].

57. For example, the Executive Yuan's office emphasized that a goal of the strategy is guaranteeing Taiwanese citizens "the basic right to 25 megabits per second broadband service." *See id.*

58. DIGI+ launched an Online Society Digital Government Action Plan to create an "open" and "smart" governance model. *See* NAT'L DEV. COUNCIL, DIGITAL GOVERNMENT PROGRAM 2.0 OF TAIWAN (2021-2025) 6, 10, 21 (2020), <https://thedocs.worldbank.org/en/doc/8ca1c808431fdd7b2047857cbaaf7742-0460012022/original/-PPT-Digital-Government-Program-2-0-of-Taiwan-2021-2025.pdf> [<https://perma.cc/82UF-4TXV>].

59. For instance, one of the tenets of DIGI+ is advancing a "service-oriented digital government and promot[ing] open governance" through Open API policies for national government data. *See id.* DIGI+ also saw the launch of a broader Online Society Digital Government Action plan to create an "open government [and] smart governance people can feel." Indeed, the Executive Yuan made clear that DIGI+ was intended to create a "sufficiently flexible legal environment that is conducive to disruptive technologies and new business models." *See* TANIA GARCIA-MILLAN ET AL., MODERNIZING TAIWAN'S LEGAL FRAMEWORK TO DRIVE A DIGITAL TRANSFORMATION, CTR. FOR STRATEGIC & INT'L STUD. 3, 4 (2019), <https://www.jstor.org/stable/resrep22549.4> [<https://perma.cc/B658-KFSG>]; *see also* Amanda Lenhardt, *Taiwan's DIGI+ Program is a Digital Transformation Initiative Committed to Establishing Equal Digital Rights (2017-2025)*, CTR. ON INT'L COOP. N.Y.U. (Oct. 10, 2023), <https://www.sdg16.plus/policies/digital-transformation-initiative-taiwan> [<https://perma.cc/WZ3F-S5GX>]. Taiwan modeled this "adaptive" governance approach in 2018 when it enacted the Financial Technology Development and Innovative Experimentation Act. *See* Financial Technology Development and Innovative Experimentation Act (promulgated by the Fin. Supervisory Comm'n, Dec. 29, 2017, effective Jan. 31, 2018) (Taiwan), <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=G0380254#:~:text=This%20Act%20is%20e> [<https://perma.cc/F6WX-CY7N>]. The Act affords FinTech developers a regulatory sandbox to test new products under the supervision of Taiwan's Financial Supervisory Commission ("FSC"). Powei Huang & Sienna Huang, *An Introduction of Taiwan "Financial Technology Development and Innovation Experiment Act" (Regulatory Sandbox)*, LEE & LI ATT'YS-AT-L. (Jan. 31, 2018), <https://www.leeandli.com/EN/Newsletters/6012.htm> [<https://perma.cc/K8US-HNE9>]. Though the FSC is the principal regulatory body, the legislation stipulates collaboration between the FSC and the Ministry of Economic Affairs through a joint-offered "front store, back factory" guidance mechanism. *The Financial Technology Development and Innovative Experimentation Act and Three Act-Authorized Regulations Implemented on April 30, 2018*,

Notably, DIGI+ prioritizes “cultivat[ing] interdisciplinary technical talent, matched to the research and development of advanced digital technologies.”⁶⁰ Under DIGI+, the Ministry of Economic Affairs Industrial Development Bureau created a new tech talent development program, the DIGI Talent Accelerator & Jumpstart Program.⁶¹ Lu Zheng-Hua, the Director of the Industrial Development Bureau, cited “great demand for digital talents in fields like artificial intelligence, data science, IoT, Fintech, [and] intelligent content like AR/VR” as the motivation for their office “adopting [the] innovative mode to open up advanced technology and resources of research institutes to college students by providing internships.”⁶² The program has gotten off to a great start.⁶³

In 2020, the Executive Yuan announced an updated, second phase of the National Digital Policy, DIGI+ 2.0, in response to advances in AI technologies.⁶⁴ Building upon the themes of its predecessor, the updated plan presents a series of initiatives to improve government responsiveness through the use of high value data across all sectors of government.⁶⁵ For example, it calls for advanced E-Governance to create a “diverse cooperation environment” that provides citizens with “one stop digital services.”⁶⁶ During DIGI+ 2.0’s rollout, Taiwan’s national government undertook restructuring efforts to improve responsiveness and foster inter-ministerial cooperation on tech

FIN. SUPERVISORY COMM’N REPUBLIC OF CHINA (TAIWAN) (June 12, 2018), https://www.fsc.gov.tw/en/home.jsp?id=74&parentpath=0,2&mcustomize=multimessage_view.jsp&dataserno=201806120003&aplistdn=ou=bulletin,ou=multisite,ou=english,ou=ap_root,o=fsc,c=tw&dttable=Bulletin [https://perma.cc/EU9V-3B9Q].

60. *DIGI+: Digital Nation and Innovative Economic Development Program*, *supra* note 56.

61. *Industrial Development Bureau’s DIGI+ Talent Accelerator & Jumpstart Program Won the 2018 ATD Innovation in Talent Development Award*, INVEST TAIWAN (May 22, 2018), <https://investtaiwan.nat.gov.tw/newsPage31405eng?lang=eng&search=31405> [https://perma.cc/D6YU-KXFD].

62. *Id.*

63. The DIGI Talent Accelerator program was awarded the 2018 ATD Innovation in Talent Development award, the “Oscar” in global talent development.” *Id.*

64. *See* DIGITAL GOVERNMENT PROGRAM 2.0 OF TAIWAN (2021-2025), *supra* note 58, at 3.

65. *See id.* at 22–44.

66. *See id.* at 8.

issues. Most notable among these reforms was the creation of a Ministry of Digital Affairs (“MoDA”) in 2022.⁶⁷

Although MoDA’s authority is far-reaching⁶⁸ and seems to include a responsibility for supporting Taiwan’s talent development efforts, the ministry does not hold absolute or final authority over many matters. The National Science and Technology Council theoretically holds ultimate responsibility for questions of digital and frontier technology governance.⁶⁹ Yet, in practice, the national government appears to lack a single final decision-maker in many instances.⁷⁰ This distributive approach to tech decision-making moves Taiwan closer to realizing its goal of becoming a digital democracy—counter to China’s rise of digital authoritarianism⁷¹—but the lack of a sole decision-maker has also been criticized for causing inaction due to misalignment and poor coordination, particularly on high-level issues, which could have implications for the efficacy of future talent development initiatives.

B. AI Action Plans 1.0 & 2.0

Building on its National Digital Policy, Taiwan has rolled out two major AI Action Plans: AI Action Plan 1.0 (2018-2021) and AI Action Plan 2.0 (2023-2026). AI Action Plan 1.0 has five main pillars: 1) Developing AI Talent; 2) Fostering Taiwan’s Lead Role in AI; 3) Transforming Taiwanese Industry with AI; 4) Building

67. Organization Act of the Ministry of Digital Affairs (effective Jan. 19, 2022) (Taiwan), <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=K0000199> [<https://perma.cc/28U7-NR77>].

68. Article 1 of MoDA’s Organization Act states:

The Executive Yuan shall establish the Ministry of Digital Affairs . . . for matters related to facilitating the nation’s digital development of telecommunication, information, cyber security, Internet, and communication industries, coordinating the overall planning of digital governance and digital infrastructure, and assisting the digital transformation of public and private sectors.

Id. at art. 1.

69. Interview with Ching-Fu Lin, Professor of L., Nat’l Tsing Hua Univ., in Hsinchu, Taiwan (Jan. 4, 2023) [hereinafter Lin Interview].

70. *Id.*

71. See Melissa Newcomb, *Can Taiwan Provide the Alternative to Digital Authoritarianism?*, DIPLOMAT (July 5, 2021), <https://thediplomat.com/2021/07/can-taiwan-provide-the-alternative-to-digital-authoritarianism/> [<https://perma.cc/9SUA-EUXG>].

Taiwan into an AI Innovation Hub; and 5) Liberalizing Laws and Opening Test Grounds (creating experimental sites).⁷² This plan has been credited as a success for spurring several technological innovations⁷³ and facilitating the creation of a new Microsoft research center in 2018.⁷⁴ Notably, AI Action Plan 1.0 strengthened Taiwan's AI talent pool by creating next-generation training centers—like Taiwan AI Academy⁷⁵—in pursuit of using a NT\$40 billion investment to train 33,000 people in AI industries.⁷⁶ Additionally, the AI Action Plan 1.0 supported Google's Smart Taiwan Initiative, an effort to train 5,000+ Taiwanese students in AI and 50,000+ students and businesses in digital marketing.⁷⁷

AI Action Plan 2.0 similarly has five major pillars; 1) AI Talent Optimization and Amplification; 2) Technology and Industry Development; 3) Increase International Influence; 4) Improve Operating Environment; and 5) Respond to Humanities and Social Issues.⁷⁸ In furtherance of its talent development aims, the Executive Yuan rolled out Action Plan 2.0 in conjunction with a 'five-plus-two' industry innovation plan.⁷⁹ The plan focuses on promoting innovation and talent development in smart machinery,

72. ITRI Deck, *supra* note 53, at 5.

73. For instance, the TWIWANIA supercomputer series and the completion of an advanced real-time object detection system, YOLOv4. See Hon-min Yau, *Taiwan and Artificial Intelligence*, TAIWAN RSCH. HUB (Aug. 5, 2024), <https://taiwaninsight.org/2024/08/05/taiwan-and-artificial-intelligence/#:~:text=As%20such%2C%20AI%20Taiwan%20Action,to%20support%20their%20R%26D%20activities> [https://perma.cc/3AS6-T3P4].

74. See Chung Li-hua & Jake Chung, *Executive Yuan Announces Artificial Intelligence Plan*, *TAIPEI TIMES* (June 4, 2023), <https://www.taipeitimes.com/News/front/archives/2023/06/04/2003800937> [https://perma.cc/34M7-ZAHJ].

75. See generally TAIWAN A.I. ACAD., <https://en.aiacademy.tw/> [https://perma.cc/YWR2-2EAH] (last visited Mar. 12, 2026) (noting the Academy provides in-person professional training to address four key issues: the "1) Talent gap in tight AI labor market; 2) Shortage of model AI implementation case studies; 3) Lack of AI solution providers; and 4) Insufficient academic research in AI.").

76. Li-hua & Chung, *supra* note 74.

77. Lee-Feng Chien, *Supporting the Growth of an Intelligent Taiwan*, *GOOGLE: THE KEYWORD* (Mar. 21, 2018), <https://blog.google/around-the-globe/google-asia/intelligent-taiwan/> [https://perma.cc/9ED2-D6HY].

78. Yi-Jen Tsai, *Taiwan's Approach to AI Governance*, *SCI. & TECH. L. INST.* (June 19, 2024), <https://stli.iii.org.tw/en/article-detail.aspx?no=65&tp=2&i=168&d=9199> [https://perma.cc/TDW8-RAR6].

79. Li-hua & Chung, *supra* note 74.

IoT, green energy, biotech pharmaceutical industry, defense industry, and the circular economy.⁸⁰

C. 2024 Draft AI Law

Most recently, in July 2024, the National Science and Technology Council (“NSTC”) proposed a draft AI law,⁸¹ which remained open for public comment until September 13, 2024. Though the bill is structured around broad principles, it outlines a clear direction for the future of AI regulation in Taiwan.⁸² The draft bill establishes seven core principles to AI regulation⁸³ and names talent development as one of its key tenets.⁸⁴ Article 6 advocates for public-private collaboration in AI innovation, specifically in facilitating international exchange and utilization of talents.⁸⁵ Article 7 addresses AI education more directly:

To enhance the public’s concern and understanding of AI, the government should continuously promote AI education in schools at all levels, industries, society, and public institutions to improve citizens’ AI literacy. To implement the conclusions of the 2023 Executive Yuan Science and Technology Advisory Conference, which called for the comprehensive promotion of AI literacy education, referring to Article 22 of the Fundamental Science and Technology Act, it is specified that the government should promote AI education in schools at all

80. *The ‘Five Plus Two Industry Innovation Plan’ Bringing About Comprehensive Industrial Innovation*, INDUS. DEV. ADMIN. MINISTRY OF ECON. AFFS. (Oct. 17, 2022), <https://www.ida.gov.tw/ctrl?lang=1&PRO=policy.PolicyView&id=11657> [<https://perma.cc/ZLC3-3ZKY>].

81. *Taiwan Rolls Out Draft Artificial Intelligence Law*, FOCUS TAIWAN (July 16, 2024), <https://focustaiwan.tw/sci-tech/202407160013> [<https://perma.cc/66PR-P3ST>].

82. *Announcement from the National Science and Technology Commission: Preview of the draft of the “Basic Law on Artificial Intelligence”*, PUB. POL’Y ONLINE PARTICIPATION PLATFORM (July 15, 2024), <https://join.gov.tw/policies/detail/4c714d85-ab9f-4b17-8335-f13b31148dc4> [<https://perma.cc/4EX8-LPT5>].

83. See Joseph P.Y. Tseng, *Taiwan’s National Science and Technology Council Has Published the Draft Bill of the Basic Act on Artificial Intelligence for Public Consultation*, K&L GATES (Aug. 1, 2024), <https://www.klgates.com/Taiwans-National-Science-and-Technology-Council-Has-Published-The-Draft-Bill-Of-The-Basic-Act-On-Artificial-Intelligence-For-Public-Consultation-8-1-2024> [<https://perma.cc/V9B9-U5FQ>]

(identifying the seven principles of the draft law: sustainable development, human autonomy, privacy, security, and transparency, fairness, and accountability).

84. *Id.*

85. *Announcement from the National Science and Technology Commission: Preview of the draft of the “Basic Law on Artificial Intelligence”*, *supra* note 82.

levels, industries, society, and public institutions to improve citizens' AI literacy.⁸⁶

Taiwan's early approaches to digital and AI development demonstrate a commitment to responsive, cooperative, data-driven governance, with a consistent focus on talent cultivation. Yet, as described in the following section, Taiwan's desire to foster innovation may be self-constrained by its value-based framework and concern for fundamental rights.

III. TAIWAN'S EFFORTS TO PROTECT ITS COMPUTE TALENT

As previously discussed, Taiwan's ability to maintain a dominant position in the global AI value chain is in many respects a function of its ability to develop and retain top-quality talent. The aforementioned initiatives address the first piece of this constraint, namely the ability to develop great talent. However, Taiwan has also taken a range of steps to ensure it can *retain* its AI talent, particularly as China seeks to develop their own domestic capacity across various segments of the AI value chain.

A. The Threat of Chinese Poaching

China's incentive to poach Taiwan's chip experts is clear: while they eventually hope to have a pipeline of domestic AI talent, the most viable short-run strategy is to recruit skilled professionals who can contribute immediate value and help train their underdeveloped talent pools. China's efforts to poach Taiwanese talent have ramped up in recent years, particularly due to an intensifying trade war with the United States. For instance, Taiwan's Ministry of Labor reported that:

Due to geopolitical tension between the US and China, China's semiconductor development has suffered some setbacks and as a result China has become more aggressive in poaching and

86. *Announcement from the State Science and Technology Commission: Draft of the "Basic Law on Artificial Intelligence" is expected*, PUB. POL'Y ONLINE PARTICIPATION PLATFORM (Sep. 13, 2024), <https://join.gov.tw/policies/detail/4c714d85-ab9f-4b17-8335-f13b31148dc4> [https://perma.cc/9SQ3-HJWJ].

targeting top Taiwanese chip talent to help build a self-sufficient supply chain.⁸⁷

China has increasingly adopted a preferred method of poaching: targeting entire teams rather than individual engineers. This strategy, known as the “Head of the Rice Dumpling” (粽子头) approach,⁸⁸ involves poaching a high-level manager (the head of the rice dumpling) and using them to poach entire teams (把一串粽子挖起来).⁸⁹ And, this strategy has proven successful for Chinese firms. In 2020, a Nikkei report found that over 100 senior TSMC engineers and managers had been poached by Quanxin Integrated Circuit Manufacturing (“QXIC”) and Wuhan Hongxin Semiconductor Manufacturing Co. (“WHSMC”)—two CCP-backed semiconductor initiatives.⁹⁰

Chinese firms, such as Bitmain and Beijing Jingshi, have also effectively employed a “remote poaching” model to access Taiwan’s semiconductor expertise.⁹¹ This approach involves employing Taiwanese engineers who remain physically in Taiwan but contribute their skills to Chinese companies.⁹² The remote poaching strategy has allowed companies like Bitmain to leverage

87. Cheng Ting-Fang & Lauly Li, *Taiwan bans recruitment for jobs in China to combat brain drain*, NIKKEI ASIA (Apr. 30, 2021), <https://asia.nikkei.com/business/tech/semiconductors/taiwan-bans-recruitment-for-jobs-in-china-to-combat-brain-drain> [https://perma.cc/378G-537J].

88. The metaphor derives from Zongzi (粽子), traditional Chinese rice dumplings, which are often tied together with a string and are commonly served during the Dragon Boat Festival (端午节). See, e.g., Michelle Tchea, *How Zongzi Became the Must-Eat Food During the Dragon Boat Festival*, SMITHSONIAN MAG. (June 4, 2024), <https://www.smithsonianmag.com/travel/how-zongzi-became-the-must-eat-food-during-the-dragon-boat-festival-180984459/> [https://perma.cc/2NDA-FDJ5].

89. TAIWANPLUS DOCS, *Cross-strait Brain Drain in the Semiconductor Industry-Semiconductor Geopolitics Ep11*, at 07:48 (YouTube, Aug. 10, 2024), <https://www.youtube.com/watch?v=7KpYZ-EEZBo> (on file with the Fordham International Law Journal).

90. See Sebastian Moss, *Taiwan bans recruiters from posting for jobs in China, as it tries to stop semiconductor staff departures*, DATA CTR. DYNAMICS (Apr. 30, 2021), <https://www.datacenterdynamics.com/en/news/taiwan-bans-recruiters-from-posting-jobs-in-china-as-it-tries-to-stop-semiconductor-staff-departures/> [https://perma.cc/SN M7-XXCY].

91. See Min-yen Chiang, *The Remote Poaching Model: How China’s Bitmain Acquired Taiwan’s Edge AI Chip Technology and Its Implications for Economic Security*, RSCH. INST. FOR DEMOCRACY, SOC’Y & EMERGING TECH. (Aug. 27, 2024), <https://dset.tw/en/research/00039/> [https://perma.cc/Y4B5-VAST].

92. *Id.*

Taiwan's advanced chip design, manufacturing, and testing expertise without directly relocating talent.

While China has been aggressive in its efforts, AI talent poaching takes "two to tango"; Taiwanese workers often have strong incentives to partner with Chinese firms, notwithstanding professional or personal stigma associated with "defecting" to Chinese competitors. Most notable amongst these incentives is pay. Some reports indicate that Taiwanese workers can earn 1.72 times more for the same jobs in China.⁹³ A senior official at Taipei's Isaiah Research has gone further and suggested that Chinese firms have offered Taiwan's chip experts two to three times their Taiwan salaries, including IC designers who are able to remain in Taiwan and work fully remotely.⁹⁴ However, off-the-record interviews with Taiwanese business leaders revealed the China-compensation premium can be as high as three to five times for AI-related roles.

B. Taiwan's Countermeasures

Taiwanese officials have not sat idly by. Taiwan's Ministry of Labor passed an inter-ministerial resolution to ban Chinese companies from recruiting or even advertising AI jobs to Taiwanese talent. Following the Ministry of Labor's directive, 104 Job Bank, a Taiwan job advertisement platform, reduced its China-based listings from 3,774 to 1,872.⁹⁵ Yes123, another Taiwan-based job search network, removed roughly two-hundred Chinese job listings from its website to comply with the new regulations.⁹⁶ Taiwanese companies seem compelled to comply given harsh penalties for non-compliance. Workforce Development Agency Director-General Shih Chen-yang (施貞仰) has asserted that job

93. See Nicole Fallert, *Taiwan Bans Companies From Hiring Employees in China as Tensions Rise*, NEWSWEEK (Apr. 29, 2021), <https://www.newsweek.com/taiwan-bans-companies-hiring-employees-china-tensions-rise-1587549> [https://perma.cc/8QAM-AX6Y].

94. See Yimou Lee & Sarah Wu, *'Tip of the iceberg': Taiwan's spy catchers hunt Chinese poachers of chip talent*, REUTERS (Apr. 8, 2022), <https://www.reuters.com/world/asia-pacific/tip-iceberg-taiwans-spy-catchers-hunt-chinese-poachers-chip-talent-2022-04-08/> [https://perma.cc/5RM4-YQHR].

95. Fallert, *supra* note 93.

96. See YES123, <https://www.yes123.com.tw/> [https://perma.cc/7JSQ-PU4E]; see also *Yes 123 App Profile*, GOOGLE PLAY STORE, https://play.google.com/store/apps/details?id=com.yes123.mobile&hl=en_US&pli=1 [https://perma.cc/72WF-L3EN].

placement services' failure to comply with the regulation could result in penalties ranging from NT\$50,000 to NT\$5 million in even harsher penalties "[i]f the recruitment involves semiconductors and integrated circuits."⁹⁷

Notwithstanding these legislative efforts, the cornerstone of Taiwan's response has been stricter enforcement of trade secret laws. Months after QXIC and WHSMC poached high-level TSMC managers, Taiwan's Investigation Bureau established a new task force dedicated to combating China's poaching efforts.⁹⁸ Within two years, the task force had investigated roughly one-hundred Chinese companies, conducted over twenty-seven raids, and prosecuted at least seven individuals for trade secret violations, among other charges.⁹⁹

Historically, both Taiwan and the United States have struggled to prevent the leakage of AI trade secrets to China through trade secret law. For example, US District Judge Maxine Chesney of the Northern District of California dismissed allegations of trade theft against Fujian Jinhua Integrated Circuit Co. Ltd.¹⁰⁰ These allegations concerned the Taiwanese operations of US-based Micron Technology and involved trade secrets related to the research and development of dynamic random-access memory ("DRAM"), a key technology for data storage in electronic devices.¹⁰¹

However, Taiwanese courts at least have signaled a willingness to embrace stricter interpretations of trade secret law, as illustrated by *Taiwan High Prosecutors Office v. Chen*.¹⁰² In *Chen*, an employee was accused of divulging trade secrets of his former employer, a machine manufacturer, by selling machines based on

97. Ting-Fang & Li, *supra* note 87.

98. *Id.*

99. *Id.*

100. Kanishka Singh, *Chinese firm Fujian Jinhua cleared of US allegations that it stole trade secrets*, REUTERS (Feb. 28, 2024), <https://www.reuters.com/technology/chinese-firm-fujian-jinhua-cleared-us-allegations-that-it-stole-trade-secrets-2024-02-28/> [https://perma.cc/HRU4-B6JZ].

101. *See id.*; *see also* U.S. Charges Chinese and Taiwanese Companies with Trade Secret Theft, Continues Vigilant Prosecution of Chinese Economic Espionage, CROWELL (Nov. 6, 2018), <https://www.crowell.com/en/insights/client-alerts/u-s-charges-chinese-and-taiwanese-companies-with-trade-secret-theft-continues-vigilant-prosecution-of-chinese-economic-espionage> [https://perma.cc/L52X-FTYA].

102. *See* Taiwan High Prosecutors Office v. Chen, 110 Tai Shang 3193 (Sup. Ct. June 2021).

a design obtained during his tenure.¹⁰³ The defendant argued that the disputed trade secret was not truly secret as the design could be reverse engineered from publicly available machines.¹⁰⁴ The IP & Commercial Court initially ruled in favor of the defendant, but the Taiwan Supreme Court reversed, emphasizing that reverse engineering does not negate legal protection for a trade secret if it requires considerable input, such as time, money, or specialized knowledge.¹⁰⁵ Following the *Chen* decision, Taiwanese prosecutors may face fewer hurdles in pursuing cases involving the theft of trade secrets by AI talent defecting to Chinese firms.

IV. SAFEGUARDING AI TALENT AS A NATIONAL SECURITY ISSUE

Amidst Taiwan's efforts to innovate with new agency-level policy, and leverage existing trade secret laws, the growing threat of cross-strait brain drain has prompted Taiwan to create new legal protections. Specifically, Taiwan has increasingly associated its efforts to protect advanced technical talent from Chinese competitors with its broader national security strategy. Consider the 2022 case of Nanjing Blue Ocean Company (南京藍洋智能科技有限公司),¹⁰⁶ an AI chip design firm based in China.¹⁰⁷ Joint defendants Jizhong, Li Kunbi, and Lin Shihan were prosecuted under Taiwan's national security law for assisting Blue Ocean's "talent recruitment and chip R&D" efforts in Taiwan under the guise of Taiwan Blue Ocean Company.¹⁰⁸ Through Taiwan Blue Ocean—an illegal front operation—they conducted interviews with chip engineers and designers for the Nanjing office and sent R&D results back to the Nanjing company.¹⁰⁹ Defendants received

103. See Tony Tung-Yang Chang, *The "Reverse Engineering" Defense In Trade Secret Litigation*, MONDAQ (Nov. 4, 2021), <https://www.mondaq.com/trade-secrets/1127984/the-reverse-engineering-defense-in-trade-secret-litigation> [https://perma.cc/P3CU-E6PF].

104. *Id.*

105. *See id.*

106. *See* Taiwan Hsinchu Difang Fayuan [Taiwan Hsinchu District Court], 111 Nian Du Yi Zi Di 350 Hao (111年度易字第350號), Aug. 19, 2022 (Taiwan).

107. *See id.*

108. *See id.*

109. *See id.*

prison sentences ranging from one to five months, and fines of up to NT\$200,000.¹¹⁰

A similar anti-poaching case was prosecuted under the National Security Act. In that case, a Hsinchu County District Court sentenced Beijing Tianmi Technology Co.'s Taiwan office technical director Pan Chi-kuei (潘積桂), former Xiaomi Communications chief financial officer Yu Ming (喻銘鐸), and Altek Semiconductor acting general manager Hsia Tzu-yu (夏祖禹) to prison sentences ranging from four to six months for assisting Beijing Tianmi Technology's efforts to poach Taiwanese engineers.¹¹¹ Like the Blue Ocean defendants, these individuals set up a fraudulent research and development company in Taipei, Yishing Technology Ltd, to serve as a front for a Chinese semiconductor operation.¹¹²

The national security dimension of Taiwan's talent retention efforts became clearer still with the 2022 Amendments to Taiwan's Cross-Strait Act.¹¹³ The amendments place various restrictions on Taiwanese citizens¹¹⁴ engaged with "matters involving national core technologies"—including individuals or members of organizations who are continuously employed by, receive subsidies from, or are funded by government agencies who engage in key technology-related work involving national security, or who have ceased to be so engaged within the past three years.¹¹⁵ The amendment notably requires that these individuals apply for advance government approval to obtain permission to enter China.¹¹⁶ For those persons who do receive advanced permission to enter China, the 2022 amendments prohibit them from "engag[ing] in any activities detrimental to national security or

110. *See id.*

111. *See* Tsai Chang-sheng & William Hetherington, *Judge hands down prison sentences to three Taiwanese for poaching engineers*, *TAIPEI TIMES* (May 6, 2024), <https://www.taipeitimes.com/News/taiwan/archives/2024/05/06/2003817447> [<https://perma.cc/U25Y-8UR9>] (clarifying that the prison sentences were subsequently commuted to fines).

112. *See id.*

113. Act Governing Relations Between the People of the Taiwan Area and the Mainland Area (effective Jun. 8, 2022) (Taiwan), <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=Q0010001> [<https://perma.cc/3VHX-ETVA>].

114. Or more specifically, those who have "household registrations in the Taiwan Area." *See id.*

115. *See id.* ch. II, art. 9(6).

116. *See id.*

interests.”¹¹⁷ Furthermore, the Act grants the Executive Yuan authority to “request the Legislative Yuan to adopt a resolution which allow[s] the Executive Yuan to give a public notice to prohibit or restrict people in the Taiwan Area from entering into the Mainland Area or take other necessary measure[s] for a certain period of time.”¹¹⁸ Failure to adhere to the amendments can result in a prison sentence of up to 12 years and fines of up to NT\$100 million.¹¹⁹

Though the national security amendments, and mobility restrictions on chip talent, might seem extreme and ostensibly contrary to the principles of a free democratic society, this is not the first time a democratic nation has restricted the flow of tech experts for purposes of national security. During the Cold War, US security agencies facilitated passport denials and other travel restrictions to prevent the flow of American scientists to the Soviet Union.¹²⁰ These measures were part of a broader effort to protect national security by limiting the dissemination of scientific knowledge. Put differently, the US government viewed its atomic scientists as “custodians of knowledge and skills for the production of power.”¹²¹ And, as is currently the case of Taiwan, US policymakers were confronted with a difficult task—determining “[w]hat standards should be used in determining those scientists who can move freely and those who cannot?”¹²² The United States ultimately established a Passport Office within its State Department to oversee the issuance of travel documents to American scientists.¹²³

Despite denying relatively few travel applications to American scientists overall, the US atomic scientist retention program provides useful insights into potential weaknesses in Taiwan’s current approach. For instance, the United States’ Soviet-

117. *See id.*

118. *See id.*

119. *See* Hsieh Chun-lin & Liu Tzu-hsuan, *Penalties set for economic espionage*, *TAIPEI TIMES* (May 21, 2022), <https://www.taipeitimes.com/News/front/archives/2022/05/21/2003778549> [<https://perma.cc/VKS5-KVBE>].

120. *See* Mario Daniels, *Controlling Knowledge, Controlling People: Travel Restrictions of U.S. Scientists and National Security*, 43 *DIPLOMATIC HIST.* 57, 58, 79 (2019).

121. *Id.* at 58.

122. Interdepartmental Comm. on Indus. Sec., *Basic Problems of Industrial Security* (Oct. 14, 1948) (on file with the U.S. National Archives at College Park, RG 40, Entry UD 59, Box 8).

123. Daniels, *supra* note 120, at 61.

era mobility restrictions suffered from over-inclusivity—they lacked a mechanism to distinguish scientists whose access to previously classified information had become irrelevant due to later declassification.¹²⁴ This issue was raised in 1950 by a former Atomic Energy Commission commissioner in support of allowing Robert Oppenheimer to travel notwithstanding his prior exposure to classified information related to the development of the atomic bomb.¹²⁵

In a similar vein to the Soviet-era restrictions, the overbreadth and ambiguity of Taiwan's national security law, as applied, has raised some concern among industry leaders and academics.¹²⁶ Taiwan has made efforts to clarify potential points of uncertainty. For example, national core technologies were originally defined broadly as “those technologies that would seriously damage national security, industrial competitiveness, or economic development, if they are flowed into a foreign country, Mainland China, Hong Kong, Macau, or foreign hostile forces.”¹²⁷ However, manufacturing technology for sub-14 nanometer semiconductor wafers, and related key materials, chemicals, and equipment technology, have since been classified as national critical technologies by the Ministry of Economic Affairs (經濟部).¹²⁸ In other words, these amendments now explicitly affect Taiwan's AI chip talent. Yet, some ambiguity remains. Consider, for instance, the issue of government-subsidized industry-academia collaborations. As written, the amendments leave unclear when an academic researcher would have to pre-register travel with the government because determining when an entity has received sufficient government support to constitute “substantial

124. In 1950, a former Atomic Energy Commission commissioner raised a similar argument in support of allowing Oppenheimer to travel notwithstanding his prior exposure to classified information related to the development of the atomic bomb. *Id.* at 80; see also *Decision and Opinions of the United States Atomic Energy Commission in the Matter of Dr. J. Robert Oppenheimer*, ATOMIC ARCHIVE, <https://www.atomicarchive.com/resources/documents/oppenheimer/aec-smyth-statement.html> [https://perma.cc/DR47-RRVD] (last visited Mar. 12, 2026).

125. Daniels, *supra* note 120, at 80.

126. See Lin Interview, *supra* note 69.

127. See Act Governing Relations Between the People of the Taiwan Area and the Mainland Area, art. 3.

128. See Gloria Lu, *The Executive Yuan Publishes Amendment to the List of National Core Key Technologies*, LEE & LI ATTORNEYS-AT-LAW (Mar. 31, 2025), <https://www.leeandli.com/EN/Newsletters/7419.htm> [https://perma.cc/Z3HJ-8Q5H].

government funding” is left to the discretion of the National Science and Technology Council (“國科會”), in consultation with other agencies.¹²⁹

Ambiguity in these amendments has introduced some uncertainty for chip talent and their employers. This is important given the aforementioned severity of penalties¹³⁰ and the potential for unintended consequences. For instance, the great discretion afforded to the NSTC, and the subsequent lack of clarity over researcher liability, might create a perverse incentive for industry and academia to seek non-government sources of funding rather than run the risk of penalty.

The US-Soviet example perhaps offers another lesson for Taiwan related to its broader governance values. The US Passport Office appears to have wielded its passport restrictions more harshly against those scientists who had clear left-leaning political views. Some commentators have suggested “[i]t is likely that almost every scientist with a progressive left political record had difficulty obtaining a passport in the 1950s.”¹³¹ The idea of scientist mobility restrictions being influenced by anti-communist hysteria at times prompted public backlash—for example, after Albert Einstein was scrutinized for his potential relationships to communist organizations.¹³² Indeed, mobility restrictions were criticized for their impact on the scientific community with many scientists arguing the mobility restrictions stifled the international collaboration necessary for scientific progress. But they also accompanied a broader conversation on the constitutional implications of such liberty restricting measures taken in the name of national security.¹³³ As the United States seems poised to expand

129. See Act Governing Relations Between the People of the Taiwan Area and the Mainland Area, ch. II, art. 9(6).

130. National Security Act, art. 15 (effective June 8, 2022) (Taiwan), <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=A0030028> [<https://perma.cc/26TP-P4PT>].

131. See JESSICA WANG, AMERICAN SCIENCE IN AN AGE OF ANXIETY: SCIENTISTS, ANTICOMMUNISM, AND THE COLD WAR 277 (2000).

132. *Id.* at 68.

133. See, e.g., *Zemel v. Rusk*, 381 U.S. 1 (1965) (assessing the constitutionality of the Secretary of State’s action to refuse to validate passports of US citizens for travel to Cuba). Among the effects of the 1961 embargo raised against Cuba was the restraining of scientific collaboration. See Guillermo Armando Ronda-Pupo, *Cuba-U.S. scientific collaboration: Beyond the embargo*, PLOS ONE (2021), <https://doi.org/10.1371/journal.pone.0255106> [<https://perma.cc/2FVK-4Y4L>].

the scope of restrictions placed on its own AI talent,¹³⁴ such challenges may surface again and thus force policymakers to reconcile our national security imperatives with our broader governance values.

Taiwan's use of national security law as a tool to restrict talent similarly raises questions about the potential of these measures to conflict with Taiwan's broader governance values. Consider the values surfaced in Section III's survey of Taiwan's digital governance legislation. Among them are Security and Safety, Fairness and Nondiscrimination, and Human Autonomy, which includes human rights and other civil rights and cultural values.¹³⁵ These principles, particularly a concern for human autonomy, are generally prioritized by the Taiwanese government. They also align with Taiwan's broader commitment to abiding by international human rights standards. For instance, in 2022, Premier Su Tseng-chang (蘇貞昌) advanced a national human rights plan to further implement the core international human rights instruments established by the United Nations.¹³⁶ Regulations restricting an individual's freedom of work and mobility, like the national security amendments, are at risk of conflicting international values. The International Covenant on Economic, Social and Cultural Rights, for example, provides that state parties "recognize the right to work, which includes the right of everyone to the opportunity to gain his living by work which he freely chooses or accepts, and will take appropriate steps to safeguard this right."¹³⁷ Talent-based regulations like Taiwan's new national security law might also be in tension with the spirit of Article 13 of the Universal Declaration of Human Rights, which states "[e]veryone has the right to freedom of movement and residence within the borders of each state. Everyone has the right

134. See Christopher Timura et al., *In Three New Rules, BIS Continues Efforts to Reshape Global Semiconductor Supply Chains and the Future of Artificial Intelligence Training and Supercomputing*, GIBSON DUNN (Oct. 25, 2023), <https://www.gibsondunn.com/in-three-new-rules-bis-continues-efforts-to-reshape-global-semiconductor-supply-chains-and-future-of-artificial-intelligence-training-and-supercomputing/> [https://perma.cc/W7EL-Z7BF].

135. Tseng, *supra* note 83.

136. *Taiwan Unveils First National Human Rights Action Plan*, DEP'T OF INFO. SERVS., EXEC. YUAN (May 5, 2022), <https://english.ey.gov.tw/Page/61BF20C3E89B856/d4db0a5a-0a13-47fe-bd4c-bbab6af39405> [https://perma.cc/WCW8-DGUE].

137. See International Covenant on Economic, Social and Cultural Rights art. 6, Dec. 16, 1966, 993 U.N.T.S. 3 (entered into force Jan. 3, 1976).

to leave any country, including his own, and to return to his country.”¹³⁸

Ultimately, Taiwan’s national security-driven approach to protecting chip talent risks overreach, unintended consequences, and potential infringements of its values. The next Section considers alternative policy approaches to better align talent retention efforts with the nation’s democratic values.

V. TALENT RETENTION BEYOND LEGAL PROTECTIONS

If Taiwan wishes to add effect to its national security amendments, it might consider creating an AI talent registry. One of the concerns with the 2022 National Security Amendments is, as previously discussed, uncertainty about the breadth of its effect. By requiring AI professionals to register with a government registry, Taiwan can better monitor its AI talent. This registry could facilitate strategic workforce planning and talent management initiatives. But, it is important that any registry be calibrated to an individual’s risk. Without a specific categorization based on the perceived risk posed by any individual on the registry, Taiwan will be forced to monitor a half-million individuals—an infeasible task. And, as discussed in the context of the national security amendments, any national registry would present a difficult balancing act: weighing the national security benefit of surveillance with the transparent governance and fundamental human rights principles that Taiwan holds dear.

A chip talent registry might also be conceived as a derivative of a new professional chip engineer licensure regime. Taiwan could model a chip talent licensure regime on the frameworks used in other professional industries, such as law or medicine, requiring chip engineers to obtain and maintain licenses to work in their field and include periodic assessments to ensure the chip workforce remains compliant with both industry best practices and national security goals. To incentivize participation, the government could

138. G.A. Res. 217 (III) A, Universal Declaration of Human Rights art. 13 (Dec. 10, 1948) (“Everyone has the right to freedom of movement and residence within the borders of each state. Everyone has the right to leave any country, including his own, and to return to his country.”).

tie tax breaks, research grants, and other economic benefits to licensure.

Taiwan can of course increase traditional financial incentives and support for AI talent that remains in-country to decrease the financial incentive for Taiwanese engineers considering a move to Chinese firms. But it might also consider getting creative in its incentive structure through partnership with industry and academia. Taiwan could develop program completion-to-private hire initiatives, whereby students pursuing advanced degrees in AI-related fields receive funding from partner companies in exchange for a commitment to work for those firms for a set number of years after graduation. These partnerships could strengthen the pipeline from academic programs to industry and offer students incentives such as tuition subsidies, housing assistance, or other bonuses tied to duration of service. Such a program could require that a beneficiary validate employment with a Taiwanese chip firm or run the risk of benefit repayment with a penalty. Doing so could simultaneously address workforce needs and reduce talent attrition by making the cost of relocating to China, or beginning remote work for Chinese firms, more costly.

Intuitively, Taiwan might wish to look to other countries for policy inspiration given it is not the only nation managing an AI talent issue. However, Taiwan's unique position makes such comparable inquiries difficult. Taiwanese companies have struggled to expand operations outside of Taiwan, even to tech-adept countries like Japan, because of talent limitations. Taiwan's third-largest chip manufacturer Powerchip Semiconductor Manufacturing Corp. ("PSMC") cited a shortage of chip engineers as the "most difficult" challenge it faced in its effort to build a chip fabrication facility in Japan's Miyagi prefecture.¹³⁹ Other nations have begun to tackle their respective AI talent issues, albeit from a different end of the spectrum: solving talent scarcity through liberalized immigration and accelerated domestic talent development policies. Then-US President Biden's Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence, for instance, names "attracting AI talent to

139. See Ryohtaroh Satoh, *Taiwan's PSMC Says Chip Engineer Shortage Top Challenge in Japan*, NIKKEI ASIA (Mar. 5, 2024), <https://asia.nikkei.com/business/tech/semiconductors/taiwan-s-psmc-says-chip-engineer-shortage-top-challenge-in-japan> [https://perma.cc/2DN2-SM52].

the United States” as one of its key objectives.¹⁴⁰ Chinese officials noted a clear “gap between China’s overall level of development of AI relative to that of developed countries” and cited strengthening deployments in “talent teams” as a key area of focus moving forward.¹⁴¹ However, Taiwan is unique given the quality of its chip expertise, its critical position in the AI chip value chain, and, consequently, its difficult positioning between the United States and China. In turn, the policies of other major international actors may only offer little instructive value to Taiwan’s chip retention policy.

Though this Article focuses on Taiwan’s efforts to mitigate cross-strait brain drain with respect to AI talent, it is impossible to ignore the enduring risk presented by the broader geopolitical landscape in which Taiwan operates. On one hand, as Western nations continue to prioritize semiconductor self-sufficiency, Taiwanese engineers may increasingly view opportunities in the United States and Europe as more attractive. Notably, the push for TSMC and other leading firms to establish fabrication plants in the United States and Japan—while aimed at bolstering supply chain resilience—may paradoxically weaken Taiwan’s domestic semiconductor ecosystem by expanding the realm of viable work alternatives. If Taiwanese engineers perceive better wages, greater stability, or enhanced professional growth abroad, they may opt to leave, not for Beijing, but for Silicon Valley, Austin, or Tokyo. In this sense, Taiwan faces a dual challenge: preventing talent siphoning to China while also ensuring its talent development efforts do not inadvertently benefit its allies at the expense of its own long-term industry strength.

On the other hand, observers must situate Taiwan’s battle to protect chip talent from China in the broader context of China-Taiwan relations, namely China’s gradually intensifying effort to pull Taiwanese citizens into the fold of Chinese life. In recent months, for example, Beijing has ramped up its efforts to encourage Taiwanese visitors to apply for local Chinese resident or

140. See Exec. Order No. 14,110, 88 Fed. Reg. 75191, 75203 (Oct. 30, 2023).

141. *Full Translation: China’s ‘New Generation Artificial Intelligence Development Plan’* (2017), NEW AM. (Graham Webster, Rogier Creemers, Paul Triolo & Elsie Kania trans., Aug. 1, 2017), <https://www.newamerica.org/cybersecurity-initiative/digichina/blog/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/> [https://perma.cc/MFG6-2MFB].

identity cards, as part of a “three documents” strategy.¹⁴² Taiwanese visitors with local Chinese IDs are afforded preferential market treatment, for instance, in securing loans from the Chinese government.¹⁴³ Though Taiwanese law technically prohibits its citizens from maintaining a Taiwanese household registration concurrent with a Chinese ID, these local IDs largely circumvent this restriction since they do not constitute formal Chinese citizenship, and since Taiwan has little ability to monitor Chinese ID registrations.¹⁴⁴ This regime poses heightened concerns for Taiwan as more Taiwanese workers have moved to China following COVID.¹⁴⁵

VI. CONCLUSION

As the global AI industry matures, and economic competition between the United States and China becomes even more aggressive under a second Trump Administration, China's need for Taiwan's chip talent will only intensify. Taiwan's unique position of strength in the global chip value chain depends critically upon its continued ability to develop *and* retain world-leading talent. Though Taiwan has taken strong affirmative measures to cultivate its talent pools, the success of its talent development will continue to require defensive measures be implemented to ensure Taiwan can secure its talent in the face of intensifying efforts by China to poach Taiwanese managers and financial incentives that exacerbate the risk of unprovoked cross-strait brain drain. Taiwan is right to pursue talent retention through national security law; its ability to safeguard AI chip talent has great implications for its economic strength and the security of its “silicon shield.” However, Taiwan must be careful to ensure its desire for innovations and its protectionism do not run afoul of its broader tech governance principles or commitment to fundamental rights. The answer to talent retention may in fact lie outside of law and instead in

142. The “three documents” strategy also seeks to encourage Taiwanese visitors to set up bank accounts and local phone accounts in China. See Kathrin Hille, *China's Drive to Give Taiwanese Visitors Local IDs Alarms Taipei*, FIN. TIMES (Jan. 5, 2025), <https://www.ft.com/content/14e718e0-b5f2-4b80-a34c-18c6b4493d27> [https://perm.a.cc/U6MU-N47L].

143. *Id.*

144. *Id.*

145. *Id.* (noting a twenty-two percent year-over-year increase in 2023).

creating new economic incentives through partnership with industry and academia.