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Personnel Changes at the PRC's Organs for Taiwan Intelligence Analysis Russell Hsiao
On the Path to Net-Zero: Will Taiwan Reach Its Goal? Kristin Chang
Taiwan's Graying Economy Challenges its Growth Prospects Chiang Min-hua
Taiwan's Army and the Future of the State Lt. Gen. (ret.) Wallace 'Chip' Gregson
US-Taiwan S&T Dialogue Meets as Collaboration Efforts Between US and Taiwan Expand Erik M. Jacobs

Personnel Changes at the PRC's Organs for Taiwan Intelligence Analysis

By: Russell Hsiao

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In an undated post on the website of the China Institutes of Contemporary International Relations (CICIR, 中國現代國際關係研究院), the former director of the Chinese Academy of Social Science (CASS, 中國 社會科學院) Institute of Taiwan Studies (ITS, 台灣研究所), Yang Mingjie (楊明杰), was featured as its new president. As is routine practice with personnel changes in Chinese intelligence organs, there was no official public announcement of Yang's appointment. <u>Yang served as director of CASS-ITS</u> for six years from 2017, and his transfer to CICIR was formalized between late June—when Yang was still <u>using his title</u> as director of ITS for public functions—and in early July, which is when he first <u>appeared on CICIR's website</u> in the new post. The appointment of someone with hands-on proximate Taiwan experience at the top of the CICIR is noteworthy for several reasons—not least for the fact that Yang now heads one of the white gloves of the Ministry of State Security (MSS, 國家安全部) of the People's Republic of China (PRC).

CICIR and CASS-ITS both share intelligence research and analysis functions as they relate to Taiwan affairs in the Chinese policy system. Both organizations are believed to be <u>affiliated with the MSS</u>—the PRC's premier intelligence agency—and personnel at these two organizations represent key vectors in the PRC's Taiwan intelligence collection and analysis system on Taiwan. Whereas CICIR is <u>widely known</u> as the white glove of the MSS, CASS-ITS has never been confirmed by authoritative sources to be linked with the MSS, although recent appointments highlighting those connections are making the association clearer. Indeed, according to some Taiwan sources, ITS is believed to be <u>subordinate to the MSS</u>, and the institute's funding, as well as staff, are reportedly provided by the MSS. At least one previous director of CASS-ITS, Jiang Dianming (姜殿銘), was alleged by an uncorroborated source to have <u>served as the director of the 15th</u> Bureau of the MSS.

The Role of CICIR

CICIR has a broader portfolio than Taiwan, but it still maintains a specialized focus. According to an <u>assess-</u> <u>ment</u> (albeit one relatively dated) published by the Central Intelligence Agency's then-Open Source Center, a "survey of CICIR's published work demonstrates that while the institute's research covers the gamut The Global Taiwan Brief is a bi-weekly publication released every other Wednesday and provides insight into the latest news on Taiwan.

> Editor-in-Chief Russell Hsiao Associate Editor John Dotson Staff Editor Marshall Reid

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of global affairs, its foremost focus is the United States and the Sino-US relationship." A cursory survey of recent leadership areas of focus and publications indicates continuity, rather than change, from this orientation.

While the main thrust of its research activities clearly focuses on the United States, CICIR has a center focused on Taiwan affairs. The CICIR's Center for Taiwan Studies (涉台事務研究中心) has three main research areas: Taiwan-related issues in international relations, US-Taiwan relations, Japan-Taiwan relations. The center currently has three staff members listed on its website: the center's director, Xie Yu (謝郁), previously served as the director of the CASS-ITS Policy Office (政治研究室). Guo Yongjun (郭擁軍) is its executive director, and Huo Jiangang (霍建崗), the center's deputy director, had been an associate research fellow at CICIR's Institute for Japan Studies as recently as 2022.

A Revolving Door between CICIR and MSS

Underscoring the intimate relationship between CICIR and MSS, the former president, Yuan Peng (袁鹏), is believed to have taken a senior management <u>position in the MSS as its deputy</u> <u>minister</u> as recently as February of this year. A well-known US hand, Yuan served as <u>president of CICIR</u> beginning sometime after 2018. A media report in February 2023 speculated that Yuan may have <u>changed his name to Yuan Yikun</u> (袁亦鯤), and that he had been transferred over to serve as deputy minister of the MSS. Yuan's alleged appointment has not been independently verified; however, the practice of CICIR presidents being transferred to leadership posts at the MSS has occurred in at least two other instances in the past. Both Geng Huichang (耿惠昌), a former MSS minister (2007-16), and Lu Zhongwei (陸忠偉), a former deputy minister (2011-12), served as president at CICIR before taking on official posts at the MSS. [1]

The Role of CASS-ITS

Unlike Yang's two predecessors when he took up the role as director of ITS in 2017—Yang's previous focus had been primarily on arms control and Asia-Pacific security—he was relatively unknown in the Taiwan-watching community. [2] It was telling at the time that Beijing decided to put an international arms control expert from one of its intelligence organs into a nominally academic post to focus exclusively on Taiwan. The appointment, which broke with precedent, suggested that the PRC was <u>shifting its approach to Taiwan analyses</u>. It is even more telling now that Yang has been transferred back to the much larger CI-CIR, which possesses greater authority and significantly more resources. Overall, it would appear to reflect the prioritization of Taiwan in the PRC's intelligence collection and analysis. According to media reports, the long-serving <u>deputy director of</u> the institute, Zhu Weidong (朱衛東), will replace Yang as the head of CASS-ITS. Zhu has been serving as the institute's deputy director since at least 2014. A seasoned Taiwan hand in the PRC's Taiwan policy community, Zhu graduated from Renmin University in 1989 with a specialization in law. He held numerous research-focused postings at the Taiwan Affairs Office of the State Council (國務院台灣事務辦公室), as well as several institutes focused on Taiwan at other research institutions. Zhu also served on the board of the National Society of Taiwan Research (NSTR, 全國臺灣研究會), and as a standing committee member of the China Strategic Culture Promotion Association (中國戰略文化促進會)—which is associated with the Chinese political warfare and united front system—among other positions (see here and here).

It is worth noting that when Yang's predecessor relinquished his previous post, Zhou Zhihuai (周志懷) retained his other title as the executive vice president and secretary-general of NSTR. [3] The association is part of the united front system, and is comprised of academics researching Taiwan across the PRC. The NSTR's current president Wang Yifu (汪毅夫) has served in that position since 2020. Wang was considered a "key adviser on Taiwan affairs when Xi Jinping was governor of Fujian from 1999." It appears now that Yang will retain his position as vice president at NSTR. His dual-hatted role as both the head of a known intelligence organization, as well as the NSTR, could place the activities of the NSTR beyond those of the traditional united front function it has traditionally served—thereby further contributing to the blurring of seams between united front and intelligence operations that have taken place in the past decade under Chinese Communist Party (CCP, 中國共產黨) General Secretary Xi Jinping (習近平).

Conclusion

Yang's return to CICIR to head the institution reflects a continuation of the broadening of the PRC's intelligence collection and analysis efforts on Taiwan. While previous presidents of CICIR all <u>specialized primarily in the United States</u>, Yang would be the first president who has focused on Taiwan work (although he was academically trained in the United States). In light of the close relationship between CICIR and MSS, by appointing the recent ITS director as CICIR president Beijing is focusing its intelligence collection capabilities and honing them on Taiwan. While CICIR has not traditionally emphasized Taiwan, that appears to be changing. To be sure, it is worth noting that, relative to CASS-ITS, the CICIR's research capacity on Taiwan is less well-resourced given its broad focus. Therefore the appointment of Yang, fresh off of six years at ITS, would presumably put someone in charge who can prioritize the resources of the organization in more relevant and timely ways on the Taiwan issue.

The main point: The recent appointment of Yang Mingjie to serve as the director of both the China Institutes of Contemporary International Relations, and the Chinese Academy of Social Science Institute of Taiwan Studies, could indicate closer coordination at a senior level between the PRC intelligence and united front systems in regards to Taiwan-related issues.

[1] It is telling that Geng now serves as vice chairman of the Liaison with Hong Kong, Macao, Taiwan and Overseas Chinese Committee of the Chinese People's Political Consultative Conference (CPPCC), a key organization overseeing the CCP's United Front system.

[2] It was customary that the deputy director of ITS would take the post of CASS-ITR director when the director steps down, so it ought to be noted that Yang's appointment as the director of ITS broke with precedent, which indicated a shift in the PRC's approach to Taiwan analyses.

[3] Zhou now serves as the deputy director of the China Council for the Promotion of Peaceful National Reunification's Scholarly Research Commission" (中國和平統一促進會學習研究委員會), an entity directly subordinate to the CCP's United Front Work Department. See, e.g., <u>http://www.zhongguotongcuhui.org.cn/hnyw/202203/t20220304_12416472.html</u>.

On the Path to Net-Zero: Will Taiwan Reach Its Goal?

By: Kristin Chang

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In January 2023, Taiwan took another step in its clean energy transition with the passage of the <u>Climate Change Response Act</u> (氣候變遷因應法), which codified the Tsai Ing-wen (蔡英文) Administration's efforts to reach net-zero emissions by 2050, distinguishing Taiwan as the <u>18th country to commit to net-zero by law</u>. The long-awaited blueprint for achieving a complete transition to renewable energy simultaneously reinforced policies previously laid out in the National Development Council's

(NDC, 國家發展委員會) initial roadmap of "<u>Taiwan's Pathway</u> to Net-Zero Emissions by 2050" and introduced new initiatives that have been under consideration for some time. While the new amendment solidifies Taiwan's commitment to joining the international community in its goal of reaching climate neutrality, Taiwan stands at the center of what many experts and commentators are describing as an "<u>energy trilemma</u>"—battling to balance energy security, affordability, and sustainability.

Although a small island, Taiwan finds itself in the top 25 largest carbon emitters in the world. It remains imperative for Taiwan to hold itself responsible for a clean energy transition—and in doing so, strengthen its energy security. Taiwan currently has an inextricable relationship with imported energy sources, which account for more than 97.7 percent of its energy supply. The recent Russo-Ukraine war has further underscored the significant vulnerabilities and rising threats to Taiwan's energy grid. Faced with only a few indigenous sources of energy and a heavily politicized nuclear debate, Taiwan has begun its search for ways to strengthen its own energy generation, and withstanding the volatility of the energy market while meeting the goal of net-zero emissions by 2050.

While it is apparent that Taiwan still has significant progress to make, recent developments in both the decarbonization and renewable energy fields highlight recent strides. However, substantial obstacles still exist, which Taiwan will need to address in order to secure its precarious energy needs amidst rising geopolitical tensions. In pursuit of this, the Ministry of Economic Affairs (MOEA, 經濟部) has proposed a <u>2×2 net-zero transition</u> structure, with two major areas of focus: lowering carbon emissions and investing in Taiwan's renewable energy industry.

Taiwan's Game Plan

Taiwan has adopted a "<u>20-30-50</u>" formula by 2025 to keep itself on track to meet its net-zero goal: 20 percent from renewable energy sources, 30 percent from coal-powered plants, and 50 percent from liquified natural gas (LNG). In the grander scheme, a <u>clean energy transition mix</u> would ideally entail 60-70 percent of energy met with renewable sources, 9-12 percent from hydrogen, and 20-27 percent from fossil fuels, matched with enhanced carbon capture, utilization, and storage capabilities. In order to assess whether Taiwan is currently on the path to meeting these goals, it remains necessary to turn to Taiwan's current energy supply composition. Taiwan's 2022 breakdown, as reported by the <u>Bureau of Energy</u> (BoE, 經濟部能源局), still reflects an excessive reliance on fossil fuels and nuclear energy, with only 8.27 percent coming from renewable energy. [1]

New Strides in Decarbonization

On Earth Day 2023, President Tsai <u>announced</u> collaborative efforts underway between the National Development Council and the Taiwan Stock Exchange (TWSE, 臺灣證券交易所) to launch a carbon exchange slated to open for registration in mid-2023. Just recently in August, the exchange officially launched in <u>Kaohsiung</u>, and is set to provide carbon consultation and training services first—and then slowly transition to actual trading as the EPA imposes more defined trading rules. The carbon exchange is among the handful of programs that were authorized in the Climate Response Act, along with a <u>carbon pricing system</u>.

The creation of a carbon exchange—an online platform that takes the form of an Emissions Trading System (ETS)-is intended to reduce emissions by offering carbon credits, forms of allowance that companies can hold to trade or purchase depending on their carbon output. The credits act as units of exchange, potentially alleviating the burdens on smaller companies that cannot afford to pivot to more expensive, renewable energy supplies instantaneously. To hold the carbon exchange to the standard of an effective carbon emissions reduction tool, the NDC and TWSE will jointly inject funds to uphold the initial standards, aligned with those set by the Environmental Protection Administration (EPA, 行政院環境保護署). The exchange has already been met with approval from businesses facing pressure to strictly adhere to environmental regulations in order to keep pace with international companies shifting to offset their carbon footprint. Yet, the exchange's effectiveness and full potential are likely to remain largely unknown until the platform has matured.

The carbon exchange will act in tandem with the carbon pricing system as a coordinated effort to reach the 2050 net-zero emissions goal. The carbon pricing system outlined in the Climate Change Response Act is two-pronged: a carbon levy modeled on the European Union (EU) Carbon Border Adjustment Mechanism (CBAM); and a carbon fee charged to major emitters. [2] The EPA is forecasted to start targeting larger emitters that exceed an output of 25,000 tons annually in the petrochemical, steel, cement, and electronic manufacturing industries before moving to smaller, local industries. According to public statements, the initial focus group consists of an estimated 287 companies. En-<u>vironment Minister Chang Tzi-chin</u> (張子敬) stated that the levy could be set at an initial rate of NTD \$300 (USD \$9.54) per ton, which could reflect 20 to 30 percent price increases annually for companies if Taiwan is to meet its net-zero goal. In an effort to mobilize the industry, all revenues from the carbon tax will go to the "Greenhouse Gas Management Fund" (溫室氣體管理基

金), which will funnel funds into carbon reduction policies and subsidize local governments for climate policy costs.

Renewable Energy Developments

While Taiwan prepares to kickstart its carbon offsetting mechanisms, renewable energy development has also garnered significant domestic attention. In March 2022, the NDC announced an investment of nearly NTD \$900 billion (USD \$28.15 billion) in renewable energy technologies and carbon capture tools. Since then, Taiwan has made significant headway and is steadily moving through its agenda for net-zero emissions: Taiwan Power Company (Taipower, 台灣電力公司) data has indicated that Taiwan produced more solar and wind energy than coal for the first time in March 2023, with renewables generating 31.53 percent of the nation's energy. Additionally, the BoE reported in 2022 that Taiwan's renewable energy production surpassed nuclear production for the first time. Recent strides in legislative attempts to promote renewable energy use include the solar panel mandate for newly built, expanded, or altered buildings and structures passed in May by the Legislative Yuan.

Renewable energy progress is getting back on track following project delays due to COVID-19 pandemic restrictions. The Formosa 2, an offshore wind farm that was originally planned to be <u>commissioned in 2021</u>, was finally launched into full operation in <u>March 2023</u>. Foreign-funded solar projects have also expanded: Singapore-based power producer <u>Vena Energy</u> officially inaugurated the <u>Taiwan E2 Solar Project</u> in April. The project, which spans across reclaimed land, will be capable of generating energy equivalent to 90,000 Taiwanese households' electricity demands annually, and will produce roughly 4 percent of Taiwan's total solar output annually.





How Much More Does Taiwan Have to Do?

Despite these material strides in both carbon offset systems and renewable energy technologies, the energy industry continues to be riddled with domestic skepticism from industry leaders and climate experts. These critics have described Taiwan's net-zero goal as "<u>ambitious</u>," pointing to imminent obstacles that Taiwan will undoubtedly have to grapple with before reaching the finish line.

Commenting on the carbon trade platform in an interview with *TaiwanPlus*, <u>Professor Shih Wen-Chen from National Chengchi University</u> explained that the carbon credit system acts as a "supplemental tool" to other decarbonization measures, and was "not designed for the purpose" of meeting Taiwan's net-zero goal. As a result, in order for the carbon credit scheme to work, a large portion of its effectiveness will fall on the shoulders of large, private industries to act in accordance with carbon reduction policies. Shu-Pei Lin of the agroforestry company <u>PUR</u> also expressed: "If the government is not putting enough regulations for [large companies] to follow and they don't feel hurt [by the policies], it is unlikely for them to take actions." He further warned that Taiwan should not "copy [directly] from other countries, because Taiwan has a different culture." [3]

This nuance to the conversation on decarbonization has fueled the skepticism of many industry leaders and climate change activists. Merely charging companies a "social cost" may not be sufficient to move towards carbon neutrality by 2050, particularly as Taiwan's industrial sector accounted for <u>48.74 percent</u> of carbon emissions in 2020. Drawing on another potential concern, Professor Shih expressed that "those charged with carbon fees currently are not eligible to apply for this type of carbon exchange project, but policies may change." Excluding large emitter industries charged with carbon fees from the carbon trade system could disrupt the efficacy of the system in its overall application.

The dominant narrative in the renewable energy development story echoes that of the progress of decarbonization. Industry leaders cite <u>mounting concerns</u>, as even with full production efforts, the energy produced by solar and wind is not likely to meet growing demands. As the BoE has reported, Taiwan's domestic energy consumption continues to grow at an average annual rate of <u>1.54 percent</u>. As of 2022, <u>9.7 gigawatts (GW) of solar</u> <u>energy</u> is being generated, but in order to meet the 2025 goal of 20 GW, Taiwan would need to more than double its capacity in less than three years. Similarly, offshore wind industries are falling behind schedule due to legislative inefficiencies and land availability issues, causing relatively stagnant wind energy production. As a result, wind energy has accounted for <u>less</u> <u>than 0.3 percent</u> of Taipower's electricity generation annually since 2014. In <u>February</u>, representatives from major industries in Taiwan met with President Tsai, during which they echoed concerns over energy demand and requested an extension of the use of nuclear power if necessary, a controversial subject socially and politically. These gaps in energy supply would have to be filled in order to secure a safe energy transition.

The Final Stretch

As the first goalpost looms ahead, Taiwan must gather itself to prepare for the "20-30-50" marker set for 2025. Rather than treating each hurdle as an insurmountable obstacle, Taiwan must embrace them as growing pains in the early stages of its transition to clean energy. In light of domestic criticism, Shu-Pei Lin expressed that while he agrees achieving net-zero is not an "overnight" initiative, Taiwan is on the right trajectory by setting up an ambitious goal, especially in the world of carbon where "there is no such thing as the right thing to do" but to continue making progress. Taiwan has already made material strides and significant advances since the beginning of the 21st century. By continuing this progress, it can prove itself to be a force to be reckoned with as a leader in green technological growth. Taiwan has even leveraged its private sector to combat greenhouse gas emissions, as Taiwan Semiconductor Manufacturing Company (TSMC, 台灣積體電路製造股份有限公司) and Acer have both pledged to reach net-zero emissions by 2050. However, the government must stay focused on its goal and ramp up its progress by embracing a multi-pronged approach incorporating varying sources of renewable energy.

While Taiwan is headed in the right direction, its energy blueprint would benefit from market input and a directional transition toward competitive technologies that would expand its energy capacities. As recently expressed by the founder of the World Climate Foundation Jens Nielsen at the Seventh Cathay Sustainable Finance and Climate Change Summit, "What we need at this stage is a different energy mix, with market competition driving relevant investments towards solutions that reduce development and production costs." [4] Taiwan needs to stay competitive in the global renewable energy market in order to be given a seat at the table. Yet, <u>competing narratives</u> that have circulated regarding Taiwan's capacity to generate electricity are being countered by statistical evidence on energy supply shortages. Taiwan must prioritize addressing these claims to instill public confidence and re-assert its message confidently. As Taiwan slowly proves itself to be a burgeoning technological

force in the Indo-Pacific, it should recognize the manifold progress it has made in green energy, and its advancements should be pursued jointly by the government and private industries.

The main point: As Taiwan treks toward its 2050 net-zero emissions goal, it must overcome key hurdles by facing the daunting conversation on how to fulfill its unprecedented growing energy demands. Despite the looming pressure of the energy crunch, Taiwan's recent developments in the decarbonization realm and renewable energy industries indicate that the government is taking steps in the right direction.

[1] The other ratios are: 42.07 percent from coal, 38.81 percent from natural gas, and 8.24 percent from nuclear energy.

[2] The levy is similar to the CBAM to impose a tax on imported carbon-intensive products in a list determined by regulatory authorities. The carbon fee scheme is set to begin collection in the latter half of 2024.

[3] Source from an interview conducted with PUR program officer Shu-Pei Lin on July 6, 2023.

[4] The quote was translated directly from the news source interview with Jens Nielsen.

Taiwan's Graying Economy Challenges its Growth Prospects

By: Chiang Min-hua

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With rising life expectancy and plummeting birthrates, Taiwan is poised to undergo a stunning demographic transformation. The <u>United Nations has estimated</u> that the share of the population aged 65 and above in Taiwan will increase from 15 percent in 2019 to 35 percent in 2050, making it one of the oldest countries in the world (trailing only South Korea at 38 percent, and Japan at 37 percent).

As a result of the island nation's aging populace, economic growth prospects are likely to be stunted, as savings, private consumption, investment, and overall labor availability are expected to decline. Although the government debt-to-GDP ratio is relatively low by international standards (25 percent in 2023, according to the <u>International Monetary Fund</u> [IMF]), the government's debt could become unsustainable in the future due to the large financial burden of supporting the elderly. More importantly, the slow economy—accompanied by the potentially colossal expense of elderly care—could call Taiwan's ability to fund a strong military into question.

Explaining Taiwan's Rapidly Aging Population

Taiwan's challenging demography is a consequence of a combination of decreasing birth rates and increasing life expectancy over the past few decades. Taiwan's total fertility rate (TFR) declined from nearly four live births per woman in 1971 to only one in 2021. During the same period, average life expectancy in Taiwan increased from 69 to 81 years, according to data from the <u>United Nations</u>.

The diminishing youth population has been at least partially caused by government policies intended to slow population growth. After World War Two, rapid population growth was widely considered a hindrance to economic development. Therefore, each family was encouraged to have only two children. However, economic development allowed for improved public health measures and medical advances, which in turn contributed to decreasing mortality rates and increased longevity. Over the last decade, the rising cost of living and stagnant wages have further discouraged many Taiwanese from marrying or having children. Additionally, a growing percentage of the younger generation has opted to prioritize career development over family life.

How Bad Is It?

Taiwan's official statistics have showed that the share of the population under 15 years old, which accounted for 45 percent of the total population in 1960, has dwindled sharply to only 12 percent in 2022. During the same period, people aged 65 and above increased from a 3 percent to an 18 percent share of the population. The share of working population aged between 15 and 64 has also dropped markedly since 2014 (*see Chart 1*).



Chart 1: Taiwan's population by age group, 1960-2022 (Source: Department of Household Registration, Ministry of the Interior, Taiwan)

The declining working population has contributed to the mounting labor shortage. Taiwan's <u>National Development Council</u> (NDC, 國家發展委員會) has estimated that the country will start to lose the "demographic dividend" (a situation in which there is a greater number of working-age adults than dependents) in 2028. As a consequence of the decreasing working population, the <u>dependency ratio</u> (measured by the number of people aged 65 and over per 100 people, as contrasted with the number aged between 20-64) is expected to increase. <u>The government has estimated</u> that in 2040, every two Taiwanese people aged between 15 and 64 years will have to take care of one elderly person aged 65 and above—a significantly heavier burden compared to 2022 (when there were four young Taiwanese to each elderly person).

Counterbalancing the Negative Impacts of an Aging Population

The government has been pursuing several strategies to ease the demographic crunch. For example, it has introduced various pro-natal measures, such as financial assistance for dependent children, special tax rebates, paid maternity leave, and other policies. <u>The Gender Equality of Employment Law</u>, enacted in 2002 and amended in 2022, aimed to prevent discrimination against married and pregnant female workers. Additionally, in 2008, the Ministry of the Interior (MOI, 內政部) introduced further steps to encourage firms and businesses to adopt family-friendly workplace practices and create child-safe environments.

To date, policies aimed at increasing TFR have not been effective. Instead, <u>Taiwan's TFR</u> has continued to drop, falling from 1.73 children per woman in 1992 to 1.27 in 2012 and 0.87 in 2022. Even if the TFR were successfully boosted, it could take at least two decades for an increased birthrate to translate into additional available labor for the economy. Hence, the long-term policy to increase TFR might not be able to cure the potential economic slowdown that would be caused by the labor shortage in the years to come.

Apart from boosting TFR, several measures could be helpful to counterbalance the potential impact of a shrinking world population on the economy. The first of these would be to increase labor productivity. Since the economically active population will continue to age and decrease in number, labor productivity must be enhanced in order to maintain a decent level of economic growth. <u>Taiwan's labor productivity in 2021</u> (measured by GDP per hour worked) is USD \$53.14, lower than most of the advanced economies of Europe and North America.

However, the labor productivity measured by output per hour worked may not be particularly accurate. In the case of Taiwan, laborers' wages have been depressed for many years. The island has potentially produced a similar value of goods and services as other advanced countries, but the understated wages have weighed down measurements of production value. As such, raising wage levels in parallel with labor productivity will be key.

Second would be the quantitative expansion of the labor force by encouraging the greater participation of women, the elderly, and youth. In 2021, Taiwan's labor participation rate was 59 percent, lower than South Korea, Japan, and the United States (*see Table 1*). This deficit is particularly pronounced among the young population aged between 15 and 24 years.

| | Taiwan | South Korea | Japan | US |
|--------------|--------|-------------|-------|------|
| Total | 59.0 | 62.8 | 62.1 | 61.7 |
| 15-19 | 8.9 | 8.1 | 19.0 | 36.2 |
| 20-24 | 58.9 | 47.1 | 75.3 | 70.8 |
| 25-29 | 91.5 | 73.9 | 91.0 | 81.5 |
| 30-34 | 91.8 | 79.4 | 87.6 | 82.3 |
| 35-39 | 89.6 | 76.4 | 87.0 | 81.1 |
| 40-44 | 85.5 | 78.3 | 88.1 | 82.0 |
| 45-49 | 84.4 | 79.9 | 88.5 | 82.2 |
| 50-54 | 75.4 | 79.3 | 87.5 | 79.2 |
| 55-59 | 58.9 | 74.8 | 84.2 | 72.2 |
| 60-64 | 38.6 | 62.2 | 73.8 | 57.0 |
| 65 and above | 9.2 | 36.3 | 25.6 | 18.9 |

Table 1: Comparing Taiwan's labor participation rate with South Korea, Japan, and the United States in 2021 by age group, measured in percentages. (Source: <u>National Development Council</u>, Taiwan)

The labor participation rate among the middle-aged population is higher in Taiwan, but it clearly declines after age 50. While 26 percent to 36 percent of people aged 65 and above in Japan and South Korea remain active in the labor force, the same age group in Taiwan accounts for only 9.2 percent.

Additionally, according to the NDC, Taiwan's female labor participation rate (52 percent) is also considerably lower than the rate for males (67 percent). The wage disparity has likely discouraged women from participating in the workforce, as the female hourly wage was only 84 percent of the male wage in 2022.

Beyond domestic laborers, foreign workers could be an immediate solution to Taiwan's declining labor force. As of the end of September 2022, there were roughly <u>78,000 foreign immigrants</u> in Taiwan, including foreign workers and spouses. However, foreign immigrants accounted for only 3.4 percent of Taiwan's total population, which is lower than many advanced economies such as <u>France (13 percent), Singapore (43 percent), Thailand</u> (5.2 percent), Malaysia (10.7 percent), all of whom have also suffered from low TFR in recent years.

Nevertheless, while encouraging immigration could quickly fill the labor shortage, it may not be a long-term solution given that immigrants would also age. In addition, the many social integration and national identity issues linked to immigration could prove controversial and politically contentious in Taiwan.

Challenges beyond Economic Growth

An aging demography is a general phenomenon that many developed countries have been experiencing in recent years. However, statistics compiled by the United Nations have showed that the aging population in Taiwan, together with Japan and South Korea, could be a particularly serious concern in the next decade.

For Taiwan, an aging populace not only poses challenges to economic growth, but could also increase uncertainty about how the island will be able to finance its national security needs in the face of the growing military threat from China. <u>Taiwan's military expenditure</u> as a percentage of GDP in 2023 was 2.4 percent, higher than the <u>regional average in 2021 of 1.7 percent</u>. However, the higher percentage does not necessarily translate to increased military might. With Taiwan's limited growth potential, the smaller GDP means less economic resources could be devoted to strengthening the military in absolute terms, despite the high percentage of military expenditure in GDP.

The most daunting task for Taiwan will therefore be to seek new approaches to sustain moderate economic growth, as well as effective policies to slow down the impacts of its aging population in the near future. Taiwan's consistently low TFR has proven that previous policy measures (such as financial support and expanded maternity leave) have not been effective. There is a need for a comprehensive economic development policy, which should also include measures such as more flexible employment and working days for married couples, affordable public housing, and promotion of gender equality, as well as the construction of a friendly environment for childbearing. Socioeconomic structures might also need to be adjusted to allow for greater inclusion of young, elderly, female, and foreign workers, as well as greater investment in boosting overall productivity. Such bold and extensive initiatives will need a strong and reliable government to maintain public consent for such a change.

The main point: Taiwan's aging population not only poses challenges to its future economic growth, but also for its capability to finance its military development. A set of bold and comprehensive policy measures is in urgent need to address the daunting tasks linked to Taiwan's aging population.

Taiwan's Army and the Future of the State

By: Lt. Gen. Wallace 'Chip' Gregson (USMC, ret.)

Lt. Gen. Wallace 'Chip' Gregson (USMC, ret.) is the former Assistant Secretary of Defense, Asian and Pacific Security Affairs (2009 until 2011), and a member of the Global Taiwan Institute's Advisory Board.

Taiwan and the United States are running out of time to restore effective deterrence in the Taiwan Strait. A critical path to the restoration of deterrence may be found in the implementation of a more effective program of training for the Republic of China (ROC) Army. Among the branches of the ROC military, the army is the force most intimately involved in the defense of Taiwan and its people—and it is also the service branch most in need of reform. The good news is that substantive reform is possible, and that it could have an outsized effect on both internal morale and cross-Strait deterrence in the near term.

The war in Ukraine offers a "battle laboratory" that we must mine for operational concepts suitable for the ROC Army. A force configured for actively maneuvering defense—executed by widely distributed, operationally resilient force elements equipped with precision weapons able to engage the enemy at distance—will be decisive. An army drawn from a democratically governed nation, which is comfortable with distributing information and delegating authority down command echelons, has a powerful advantage over centrally controlled and directed forces. Agile, mobile, and hostile forces can frustrate much larger opponents: think of such forces as <u>energetic and aggressive</u> <u>"honey badgers,"</u> as opposed to a <u>"porcupine" force in a static position.</u>

Challenges Facing the ROC Army

But there is work to be done. ROC Army combat units have varying personnel shortages across the ranks. The army has been called a "<u>hollow shell</u>," with effective manpower levels estimated to fall between 60 and 80 percent of requirements. In previous decades of the martial law era (which ended only in the late 1980s), conscription maintained force levels in the ROC military, with conscripts serving on active duty for two years. As Taiwan became a vigorous, even raucous, democracy, the term of service for conscripts steadily decreased to four months, where it stands now. President Tsai has announced plans to raise the conscripted term of service to one year—an improvement, but still a term of service inadequate to produce a skilled and well-trained force.

Personnel issues contribute to training issues. Currently, five weeks of basic training—a term well short of the required time necessary to truly indoctrinate soldiers with basic military skills—precedes assignment to field units to complete specialty training. Field units rarely specialize in individual training in any force, in any nation. This process fails in the context of Taiwan's army, as well.

Anecdotal reports reveal that conscripted soldiers are frequently treated as temporary help, and stories abound about recruits being assigned basic landscaping and janitorial duties. Weapons are shared among many soldiers for rare live-fire training. Little attention is devoted to explaining, developing, and training on the means and measures by which the army expects to defend Taiwan. As <u>one soldier has stated</u>: "By design, [conscripts] don't participate in any field exercise or combat readiness training anyway, we just tell them to stay safe and don't get into trouble. It's basically a summer camp." The army's reputation suffers as a result of new conscripts reporting such unsatisfactory experiences.

The most damning observations come from the most senior observers. As was noted in a recent <u>Wall Street Journal article</u>, citing former ROC Chief of Staff Admiral Lee Hsi-min (李喜明):

"Currently, most draftees spend their time cleaning floors and picking weeds rather than learning how to repel Beijing's People's Liberation Army, said ret. Adm. Lee Hsimin, a former chief of Taiwan's military who has become a vocal critic of the island's military preparedness. 'If you just do the same things for a year instead of four months, then you have a problem and a bad reputation,' he said. 'The problem is the training content, not the training period. How you do it is much more important than how long you do it.'"

Not surprisingly, Taiwan's army is further challenged by retention issues. Taiwan press reporting has noted <u>problems with</u> <u>poor performance and disciplinary issues</u>, leading in 2022 to over 4,000 soldiers either being expelled or applying for early release from their service contracts (the latter in exchange for compensation payments). These problems, linked with low morale, significantly contribute to personnel shortages. The image of an understaffed army with inadequate, token training damages the institution, discourages potential future recruits, and imperils deterrence.

These problems also create doubts about Taiwan's defense capability that will be prominently featured in political debates as we approach Taiwan's January 2024 elections. <u>Chinese informa-</u> <u>tion operations directed against Taiwan</u> will be seeking to exacerbate these doubts, as well as to sow further doubts regarding the reliability of international support for Taiwan.



Image: ROC Army reservists take part in a counter-amphibious landing drill as part of the annual Han Kuang military exercise in July 2022. (Image source: <u>CNA</u>)

The Social Contract and Taiwan's Defense

The good news is that this state of affairs can be turned around. But time is short.

The ROC Army, Air Force, and Navy—including the Navy's Marine Corps—are charged with the defense of Taiwan. As in any democratic nation, the services have a compact with the population and the government. Each service must have a concept of how, when and where it expects to protect Taiwan against threats to the nation. Taiwan's population must provide the resources, both human and material, to support the services in direct proportion to the perceived value of a service's concept. In turn, the service is responsible for creating an organization that can make the best use of the resources provided.

That is especially true for a nation's most precious resource, the young men and women that are called to its service. The training regime is a critical element of a service's structure—and if that is inadequate, the resources from the broader society will not be provided. The service will become purposeless, wallowing about amid a variety of conflicting and confusing goals, and

will ultimately suffer both physical and moral degeneration.

The ongoing Ukraine war illustrates once again the advantages of a military force drawn from a democratic nation. Commanders at all levels do not have to wait for direction from some omnipotent supreme headquarters. The current state of technology and geopolitics both provide advantages to forces in a defensive posture, if those forces can operate in a widely distributed, operationally resilient, and mobile posture, with authorities and initiative pushed down the chain of command to the smallest units. (See the author's earlier commentary on such a force posture here.)

Implementing the Overall Defense Concept—and the Critical Role of Training

Taiwan's Overall Defense Concept (ODC) calls for just such a force posture—and furthermore, Taiwan's Minister of Defense Chiu Kuo-cheng (邱國正) has declared his priorities to be range, precision, and mobility. Taiwan's armed forces need a well-defined strategic concept based on the ODC, and this is a matter particularly important for the ROC Army. The army needs a rigorous, well-defined training structure and organization in order to become the force that Taiwan (and its primary ally, the United States) needs it to be. The army's concept or "way of war" must be built from the ODC and the minister's guidance. It can and should become the foundation for joint action by all of Taiwan's services.

Support of this concept, and the defense of Taiwan, demands professionalizing the ROC Army's training establishment. The organization of training is not an art, but rather a science: one built upon tasks, conditions, and standards of performance. It requires training objectives directly drawn from the concept. The process builds directly from individual training to major unit training. Help may be at hand: <u>Taiwan's forces are increasing their participation in training in the United States</u>. In addition, US personnel reportedly have been deploying to Taiwan to support training efforts represent a needed corrective to the isolation that Taiwan's forces have endured since 1979, and should be a key step on the critical path to restoring effective deterrence in the Taiwan Strait.

The key to success is strong support for rigorous training to accomplish properly assigned tasks, accomplished under appropriate conditions, and implemented to the required standards of performance. Rigorous, well-organized training, with detailed records and strict enforcement of standards, produce a well-trained and confident force. Confidence emerges from acquiring individual and collective skills, and the realization that the country can be defended. These measures can be accomplished, but action must be taken now if Taiwan is to restore a credible deterrent defense.

The main point: Taiwan's army faces significant challenges with morale and recruiting. The most important step to address these challenges is to adopt a more rigorous program of training, which would be intended to develop a more agile fighting force capable of effectively implementing the strategic posture outlined by the Overall Defense Concept.

US-Taiwan S&T Dialogue Meets as Collaboration Efforts Between US and Taiwan Expand

By: Erik M. Jacobs

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In May, the United States and Taiwan held the inaugural meetings of the <u>US-Taiwan Science and Technology Cooperation Dia-</u> <u>logue (STCD)</u>, which brought together government officials and scientists to discuss different ways in which the United States and Taiwan can deepen science and technology (S&T) cooperation. These working-level meetings helped lay out various joint policy priorities, including limited efforts on semiconductor research. The last few months have also seen developments that have helped to shape joint approaches on supply chains, export controls, and other issues between Washington and Taipei.

Inaugural US-Taiwan Science and Technology Cooperation Dialogue Meets

On May 22, 2023, the inaugural STCD negotiations were convened in Taipei under the auspices of the American Institute in Taiwan (AIT) and the Taipei Economic and Cultural Representative Office in the United States (TECRO). Co-chaired by Taiwan's National Science and Technology Council (NSTC) Minister Wu Tsung-Tsong (吳政忠) and the Acting Deputy Assistant Secretary of State of the Bureau of Oceans and International Environmental and Scientific Affairs (OES) Jason Donovan, the event provided a forum for bilateral discussion of scientific issues and strengthening collaboration between science and technology communities in the United States and Taiwan.

<u>The inaugural meeting</u> of the STCD comes after a November 2021 announcement creating the working dialogue. The meeting is also the first time that the US Department of State has led a group of scientific researchers to Taiwan, and marks the

first time in which officials from Taiwan and the United States have held a high-level strategic dialogue exploring S&T issues since the December 2020 signing of the <u>Taiwan-US Scientific</u> <u>and Technological Cooperation Agreement</u>.

Representatives at the meeting from government ministries—including TECRO, NSTC, and the US Department of State—focused the group's priorities on science, technology, and innovation policy. Simultaneously, other representatives from the National Science Foundation (NSF), National Institute of Standards and Technology (NSIT), the National Institutes of Health (NIH), and the National Oceanic and Atmospheric Administration (NOAA) led US discussion on topics including semiconductor research and applications, biotechnology and manufacturing, cancer research, and environmental monitoring. The inclusion of subject matter experts and scientists at the participating agencies shows that both governments are adopting different approaches to key issues of collaboration, even as executive-level collaboration has been limited.

Of note, the meeting's discussion on semiconductor research and application, biotechnology, and biomanufacturing signaled targeted areas of importance for both private and public sector leaders in Taipei and Washington. Members of the US delegation also traveled to the Hsinchu Science Park (HSP, 新竹科學 園區) as a part of the visit, where they met with representatives of the Industrial Technology Research Institute (ITRI, 工業技術 研究院), the National Center for High-Performance Computing (NCHC, 國家高速網路與計算中心), and the Hsinchu Biomedical Science Park (HBSP, 新竹生物醫學園區), all indicating potential future coordination across research and development-heavy scientific fields.



Image: Attendees at the May 2023 U.S.-Taiwan Science and Technology Cooperation Dialogue meeting in Taipei. The delegation leaders, NSTC Minister Wu Tsung-Tsong (center) and Acting Deputy Assistant Secretary Jason Donovan (center right), are visible in the front row. (Image source: <u>NSTC</u>)

Supply Chain and Semiconductor Developments

Developments on semiconductor and supply chain-related topics have been relatively limited since AIT and TECRO announced the launch of the Technology, Trade and Investment Collaboration (TTIC) initiative between the US Department of Commerce and the Taiwan Ministry of Economic Affairs (MOEA, 經濟部) in April 2022.

However, this June, the Office of the United States Trade Representative (USTR) announced the first agreement that was signed by representatives from AIT and TECRO as a part of the <u>US-Taiwan Initiative on 21st Century Trade</u>. The agreement itself does not specifically address leading-edge technology issues—including microelectronics, semiconductors, and other specific technologies—but elaborates on trade rules and practices governing US-Taiwan trade relations. In remarks discussing the first stage of the agreement, AIT Director Sandra Oudkirk stated that the United States and Taiwan also have a <u>need to collaborate</u> on cybersecurity issues.

More technical discussions on semiconductors have helped drive research and development collaboration efforts. This June, the National Science Foundation (NSF), a leading research and development agency of the US government, announced that it would be teaming up with the National Science and Technology Council (NSTC, 國家科學及技術委員會) on investments totaling USD \$6 million across advanced semiconductor chip design and fabrication practices. These projects are ultimately guided by AIT and TECRO's January 2023 Memorandum of Understanding and Implementing Arrangement for Cooperation in Advanced Semiconductor Chip Design and Fabrication, and supported by the NSF Advanced Chip Engineering Design and Fabrication (ACED Fab) and NSTC's Department of Engineering and Technologies. US officials have said that the new project will enable more collaboration between researchers and expand access to facilities, ultimately supporting future workforce capabilities for chip design and fabrication.

The aforementioned meetings could indicate that both working- and research-level discussions on US-Taiwan semiconductor and other supply chain issues are ongoing, given the discussions of semiconductor research and applications, biotechnology, and biomanufacturing coordination efforts.

Export Controls Loom Large

One possible issue of contention between Washington and Taipei (and also Washington and Seoul) has been high-technology export controls targeting China's growing domestic chipmaking and manufacturing capabilities.

According to reports, in June, Undersecretary of Commerce for Industry and Security Alan Estevez told members of the Semiconductor Industry Association that the US Department of Commerce would extend exemptions to allow Taiwanese and South Korean chipmakers to <u>keep operations in China</u>. This decision will undermine export-control measures and other efforts aimed at weakening Beijing's stranglehold on various technology sectors that <u>began during the Trump Administration</u>. If enacted, the waiver exemption would extend exemptions previously granted by the Biden Administration.

In response to American technology sector export controls, China <u>issued export controls of its own</u>, which some feared could potentially impact the microelectronics and microelectronics components industry. Implemented by the Chinese Ministry of Commerce (MOFCOM, 中華人民共和國商務部) and General Administration of Customs (GAC, 海關總署) under the guise of Chinese national security interests, these export controls targeted American companies and other companies in countries complying with American export controls, such as Japan and Taiwan.

Despite fears from industry that new Chinese export controls would impact Taiwanese semiconductor production capabilities, the impacts have been limited at best. For example, Taiwan Semiconductor Manufacturing Co. (TSMC, 台灣積體電路製造 股份有限公司) reported that it <u>did not expect any direct impact</u> on its production as a result of the new export controls. Similarly, senior Taiwanese officials, including Minister of Economic Affairs Wang Mei-hua (王美花), have downplayed the impacts of export controls on raw materials such as germanium and gallium, claiming that they are <u>refined in the United States</u> and Japan before being incorporated into microelectronics.

Artificial Intelligence Policy Developments

Taiwan has also forged ahead with its own artificial intelligence (AI) policies this summer. In early June, the Executive Yuan announced the <u>Taiwan Artificial Intelligence Action Plan 2.0</u>, which is a continuation of the 2018 Taiwan AI Action Plan. The AI plan will run until 2026 with a focus on industry development, increasing Taiwan's technological influence overseas and fostering talent in conjunction with innovative industrial policies in the existing Forward-Looking Infrastructure Development Program. As a part of the program, the Ministry of Digital Affairs (MODA, 數位發展部) will establish an AI evaluation center, work for cross-agency coordination on AI issues, and plan to draft AI-related regulations and policies before tentatively presenting an artificial intelligence-related policy act this September.

What's Coming Next?

When USTR announced new agreements between AIT and TE-CRO as a part of the US-Taiwan Initiative on 21st Century Trade, it was anticipated that digital trade could have been a component of the first round of agreements due to its inclusion in Article 6.2 of the agreement. Developments on this front have been slow, and as negotiations continue through the 21st Century trade dialogue track, the second negotiating round stayed away from digital issues and focused on agriculture, labor, and the environment. We will have to wait and see how subsequent rounds may address the issue.

The United States will likely continue to push Taiwan on joining broader, multilateral approaches to supply chain assurance and microelectronics production capabilities, such as the thus far unsuccessful "<u>Chip 4</u>" program. Taiwanese industry leaders have continued to meet this idea with resistance since it was first introduced in 2022. Despite some interest from partners, the Biden Administration has <u>failed to start multilateral chips</u> and industrial security-related working groups, and has yet to find a way to increase Taiwan's involvement in the administration's Indo-Pacific Economic Framework (IPEF).

On August 18, US President Joseph Biden hosted Japanese Prime Minister Fumio Kishida and South Korean President Yoon Suk Yeol at Camp David for a trilateral dialogue on the state of US-Japan-South Korea relations, of which technology policy is a major component. The <u>leaders' statement</u> from the meeting confirmed that the leaders discussed technology policy and stated there is no change in their basic positions on Taiwan policy. It will be interesting to see how Taiwan-related conversations subsequent to this summit may address broader emerging technology, semiconductor, and supply chain coordination, but no major Taiwan policy developments were announced at the summit.

If Washington, Tokyo, and Seoul agree to some sort of technology-based supply chain approach, it is likely that the three nations will look for creative ways to include Taipei in their approach given Taiwan's leading role in the production and manufacture of leading-edge chips.

The main point: Science and technology policy-related developments continue between the United States and Taiwan, although at a slower pace than in 2022. New collaboration efforts between research and development agencies could help shape longer-term engagement on issues such as supply chain assurance and artificial intelligence, but the biggest factor in this could be the establishment of technology-based components of a US-Taiwan trade agreement later in 2023.