

Overview:
**The Systemic Impact of the Twin Digital and Green Tech Revolutions
in the Indo-Pacific: Toward a New Industrial Policy Race**

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On June 20, 2023, 19 leading scholars in the fields of digital and green governance, as well as global political economy, gathered to discuss two industrial revolutions. This workshop was held by the Konwakai Chair in Japanese Research and Centre for Japanese Research, Institute of Asian Research with a sponsorship from the Nissan Endowment Fund.

In an era of uncertainty triggered by the energy crisis resulting from the Russian invasion of Ukraine and the rapid transition to digitalized world, a structural change in the form of industrial revolutions is underway. Given the high stakes and the profound structural changes at play, countries have strong incentives to seek immediate advantages at any cost, as the two industrial revolutions are not merely about innovation, but a competition for a leading position in the future strategic industries. In this context, states have discarded their long belief in free market, turning to active state intervention. Now, the world is witnessing the re-emergence of industrial policy.

The re-ignited enthusiasm toward industrial policy is well pronounced in the fight against climate change. With market fundamentalism, economists have argued that the fastest way to decarbonize would be through universal high carbon taxes, recognized by the Nobel laureate William Nordhaus, that would radically transform incentives for the private sector. However, since such a tax has been deemed political unfeasible in most countries, the only rapid fallback action is massive investment or subsidies by the state. Governments are now asked to act more proactively than before, challenging the traditional primacy of the laissez-faire economic model.

A period of such dramatic disruption offers opportunities for ambitious players to advance. Witnessed by “Made in China 2025” plan, China has attempted not only to consolidate its dominance in manufacturing but also to build its reputation as a leading country in strategic technologies. In the particular case of green technology, China’s ambitious initiatives with massive government spending have been substantial, generating incentives for the United States to react through its Inflation Reduction Act (IRA) and for the European Union to develop its own European Green Deal. The dynamics among major players have also shaped the battleground for many other middle players—such as Japan, Korea, Taiwan, India, Vietnam, and Indonesia—to launch their own green tech acceleration plans.

We focus here on the Indo-Pacific sphere where a structural transformation occurs not only with middle systemic players such as Japan, Korea, Taiwan, India, and Southeast Asia, but also in the context of actions taken by China, the US, and the EU.

Against this backdrop, this project posed three key questions:

1. How are states responding to the new twin digital and green tech industrial revolutions and in what ways do structural changes provide novel incentives to states?
2. Can we categorize states’ responses and a causal mechanism behind the diversities in responses?

3. And are we witnessing a shift from liberal market fundamentalism to a world of state interventions and industrial policy?

To these questions, the workshop discussions generated some points of convergence and others with significant debate. We summarize some of the findings here, starting with the green revolution, continuing with the digital revolution, and finishing with implications for the field of international political economy.

SUMMARY OF INDIVIDUAL BRIEFS/ PAPERS:

In the field of green technology, Park argues that “the "race to go green" represents a reaffirmation of proactive green entrepreneurial states.” It is driven by three causal drivers: climate change, energy security (in the context of the Russian war on Ukraine) and, increasingly, an industrial policy competition. Two cases in point are the Korean New Deal and the Japanese Green Transformation Strategy.

Lewis unpacks the game changing nature and the extent of provisions in the IRA Act. The US took such action in the context of US-China competition. She notes, however, that true decoupling won't be possible, given the great control that China has achieved over the green tech supply chain. She underscores the importance to find ways to share green technologies with Africa and the rest of the developing world.

In his remarks at the workshop, Tsai notes the importance of understanding drivers of China's behaviors. He also argues that the US-China conflict may act as a catalyst for the twin industrial revolution but not the actual trigger. They make things go faster. There is also an interesting puzzle for China (and Vietnam and India): if you are developing economy, given the Kuznets curve, why bother investing in green transition?

Massot focuses on strategic minerals and the powerful front runner advantage that China has built over the last decade. The irony is that China took control of the critical mineral supply chain over a couple decades in plain sight and to the great short-term advantage of Western interests. While Western competitive strategies today focus on “de-risking” from China, she argues that it will be hard and long. We are currently a long way from seeing actual political will and investments at scale to allow for such a process, given political and social obstacles (as in the case of Canada with the indigenous population).

In the case of India, Singh argues that the state has played an increasing role in leading the international Solar Alliance and doing its best to boost the share of renewables.

By contrast, Hughes sounds a note of caution on the rise of powerful industrial policies in his remarks at the workshop. While leading states are currently taking a lot of protectionist measures that distort trade, they are constrained by the global nature of innovation. It is not possible to mimic the industrial policy of the 1970s and to pick winners. There are contradictory forces and signals.

Ratan demonstrates that the US-China competition over green tech has a lot of indirect effects in third countries. In particular, US (and EU) tariffs on Chinese solar panels had led Chinese firms to invest in South East Asia to circumvent such tariffs. The bulk of manufacturing still takes place in China and exports from Vietnam, Malaysia, Thailand or Cambodia to the US and Europe increase rapidly. One benefit is the diffusion of solar technology in South East Asia itself at reasonable cost.

Regarding Japan, Kameyama offers a more skeptical view. She agrees that the government has made a lot of high-level strategic announcements regarding green targets and GX transformation. However, the implementation of such targets heavily relies on risky or untested technologies, such as nuclear expansion and ammonia processes for coal usages. More critically, the transformation remains top down and the public has not yet been involved or supportive. Personal awareness and public involvement are lacking. This points to a key weakness of purely top-down strategies.

Turning to the digital economy, discussions covered both questions of domestic industrial policy and regional and global rulemaking.

Gao pushed back against the idea that China's digital economic success was the result of industrial policy, which should be emulated. He argues instead that the rise of E-commerce in China was a response to three unique challenges "inefficient distribution system, the non-existent payment system, and the outdated logistics system." And the key actors were firms like Alibaba. "In summary, the e-commerce sector in China developed despite, rather than due to its industrial policy. If anyone wants an alternative history version of what industrial policy is capable of achieving, one only need to look at the regulatory crackdowns in the e-commerce sector for the past three years."

In the case of Japan, Kushida also emphasizes the driving role of the private sector. There is also a broad societal support for AI, given great demographic and labour constraints. Industrial policy is present in a supporting role to help diffuse technology, but not in an exclusionary way.

Turning to South East Asia, Noor observes the acceleration of the digital revolution in the region, where it is seen as a tool for development and empowerment, rather than a digital war. South-East Asia is also driven by the growth imperative. The region has sought to capitalize on the US-China conflict by becoming host for chip factories or digital industry from global companies leaving China. There is government support but also strong public and private push.

Singh notes that India is becoming a digital giant and is pursuing digital sovereignty (techno-nationalism). Because of this focus on autonomy, India has chosen to stay out of the trade/digital pillar of IPEF (and RCEP).

In terms of international digital governance, Honey notes that digital flows are rising fast. But so are the digital risks. This has led to an acceleration of regulation, both at the domestic and international levels. They are motivated by a range of factors, including economic, socio-political or security drivers. Internationally, two vehicles have served the purpose of digital

regulations. Trade agreements now include provisions about e-commerce and data flows, especially the CPTPP. Japan has pushed the free data with trust concept. In parallel, we see the rise of new types of Digital Economy Agreements (DEA), such as DEPA, driven by smaller countries but with impact on bigger ones. The US has sought to respond to DEPA through the IPEF digital pillar.

Kuang demonstrates that open and inclusive private governance regulatory institutions, such as 3GPP, have guaranteed regulatory convergence for technologies such as 5G. But their open structure has given surprising space to emerging powers, especially China and Korea, to partially shape global standards, while pursuing a mosaic of strategies. In the case of China, the state has played a coordinating role in ensuring that large coalitions of Chinese companies could form in the standard-setting process.

Leblond sees significant divergence in the governance of e-commerce among different players in the Indo-pacific. They are not just due to gaps in the WTO regulations. Instead, they result from result different geo-economic or industrial priorities pursued by each other.

Paik adds that the digital space is witnessing dual security convergence: multi-sectoral, multi-regional, in part as a result of high technology and dual-use technologies. The concept of economic security is rising and the fields of economy and security are getting reconnected. AI is also transforming the defense industry and we see the rise of hybrid AI-human concepts.

The workshop moved on to discover the implications of such developments in industrial policy and regulatory competition for dominant views in the field of international political economy. We argue that it is necessary to rethink the focus of the field. Instead of focusing on marginal effects of variables on incremental outcomes within a stable system, we need models to address major disruptions and regime transformation. The structure that we know and take for granted may be deeply changed within a decade. The global economic order is up for grabs.

Addressing this question, Helleiner concurs that we are witnessing major change with the rise of industrial policies and of a “neo-mercantilist moment.” This moment builds on past legacies (it was never fully gone), but it is also accelerated by new trends: the twin industrial revolution, the US-China power competition, and the pandemic. Helleiner argues that the neo-mercantilist acceleration in the US and China feeds on each other, and creates pressures for others to follow suit. It will be crucial to find way to retain a degree of international cooperation and coordination is important and even List recognized that.

In contrast, Cohen questions whether these two industrial accelerations form a genuine revolution, or, rather, a period of change with an existing regime. Cohen then turns to the national strategic responses to the US-China competition in the digital and green tech fields. States must consider two choices (defensive vs aggressive and unilateral vs collusive), in turn setting out four quadrants of responses: market leadership (US, China), market preservation (unilateral defensive), market followership, and market alliance (aggressive and collusive, a type of collective action). What will middle powers choose? Overall, collusion and collective action seems to have a low probability, according to Cohen.

Hopewell brings the additional context of the paralysis of the Appellate Body of the WTO, as a result of the US veto on appointment of new judges since the Trump administration. She notes that the blockage of the Appellate Body of the WTO by the US has, surprisingly maybe, created new policy space for developmental strategies that would have been seen as non-WTO compliant until now. States can now intervene, and, when sued, can appeal into the void and get away with such discriminatory policies. Two key examples are Indonesia's nickel export ban and India's subsidy policy for export zones. Ironically, this corrects a possible loss of policy space for development caused by the WTO legalization in the first place. But it also carries a risk of disorderly escalation.

CONCLUSION/ RETURN TO MAIN TAKEAWAYS:

In summary, the workshop reaffirmed the co-occurrence of the digital and the green technology revolution signifies a transformative era with far-reaching consequences. These dual revolutions will redefine global growth, employment, and power dynamics. The ensuing strategic competition for leadership and regulatory control underscores the significance of this juncture. As we witness a shift from market fundamentalism to increased state intervention, it is imperative to recognize the profound structural changes at play. With the global economic order hanging in the balance, this pivotal moment demands a re-evaluation of conventional international political economy paradigms to address these major disruptions and regime transformations.