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# Driving Global Expansion: How China's Strategic Intervention Propels It's Electric Vehicle Industry In Southeast Asia From 2016-2023

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***Abstract***

*This article examines how strategic state intervention propelled the global dominance of China's electric vehicle (EV) industry and its subsequent expansion into Southeast Asia. Drawing on Ha-Joon Chang's framework of industrial policy, the study argues that the Chinese EV case must be understood not as a free-market phenomenon driven by regional demand, but as a form of structural state intervention that matured domestic productive capacity before projecting it abroad. Methodologically, the study applies a qualitative single case study design, with data collected through a structured desk review of official policy documents, industry reports, and peer-reviewed literature, and analyzed through a theoretical thematic analysis explicitly driven by the industrial policy framework. The results demonstrate that strategic intervention facilitated this dominance through three interrelated mechanisms: value creation and value capture through conditional subsidies and mandated joint ventures; the countering of financialization by compelling the reinvestment of corporate surplus into research and development (R&D); and the expansion of policy space by redirecting surplus capacity toward Southeast Asia. The discussion analyzes these results through the three dimensions of Chang and Andreoni's framework, namely new patterns of accumulation with value creation and value capture, financialization, and the new imperialism, and situates them within the wider scholarship on state-led industrialization and global value chains. It contends that the resulting configuration reproduces an asymmetrical division of labor in which Southeast Asian economies occupy assembly positions while core technologies remain under Chinese control. The article concludes that industrial policy remains a viable instrument for simultaneously building technological self-reliance, achieving cost efficiency, and securing a commanding position within international supply chains.*

***Keywords: Electric Vehicle; Industrial Policy; State Intervention; China; Southeast Asia***

## INTRODUCTION

The transportation sector is the second largest energy consumer in Southeast Asia. According to the 6th ASEAN Energy Outlook (AEO6), the sector's dependence on oil is projected to continue rising sharply, reaching 97% of total energy consumption in the transportation sector by 2040 (ASEAN Centre for Energy, n.d.). This projected level of consumption, together with the carbon emissions associated with it, generates a pressing urgency for an energy transition in which electric vehicles (EVs) are positioned as a key strategic instrument for reducing emissions, lowering dependence on fossil fuels, and strengthening energy security.

In the course of its development, the electric vehicle has ceased to be a purely technological instrument of energy transition and has become an arena of global economic and trade competition. Europe, which pursues a green transition through the Fit for 55 package, has emerged as one of the principal destinations for Chinese EV exports (Busch et al., 2024). In 2023, China exported more than 50,000 EV units to Europe, capturing approximately 8% of the market share in that region (Li et al., 2023). The competitive advantage of Chinese EVs entering this market precipitated a trade imbalance and was met with a protectionist response. In October 2023, the European Commission formally initiated an anti-subsidy investigation into Chinese EVs, which culminated in the imposition of tariffs ranging from 17.4% to 38.1% in June 2024 ("Europe Considers Tariff Hike," 2024). This dynamic transformed the developed-country market into a highly politicized competitive arena. Yet at the very moment when Europe began to close itself off in 2023, markedly different conditions prevailed in Southeast Asia, and these conditions opened new opportunities for Chinese expansion.

The Southeast Asian region, by contrast, has been markedly receptive to electric vehicles and to the foreign direct investment (FDI) that accompanies them. Policies in Indonesia, Thailand, Malaysia, and Singapore actively support EV penetration through fiscal incentives, tax exemptions, and the development of charging infrastructure in pursuit of national decarbonization targets. Singapore has committed to phasing out internal combustion engine vehicles by 2040 (Land Transport Authority, n.d.), while Indonesia and Malaysia have established targets for EV adoption and for the construction of charging infrastructure. Indonesia, for its part, aims for electric vehicles to constitute 20% of total national automotive production by 2025 (Harsono, 2020). China has capitalized on this openness through a sequential expansion strategy, beginning with large-scale exports intended to absorb domestic production surpluses and subsequently shifting toward FDI through the establishment of local plants and the control of strategic supply chains. This trajectory is evident in BYD's bus supply partnership in Indonesia, SAIC Motor's joint venture in Thailand from the early 2010s, Great Wall Motor's acquisition of a General Motors plant in 2020, and substantial investment in upstream sectors such as nickel processing.

The Southeast Asian electric vehicle market is not the exclusive preserve of manufacturers from a single country. Producers from Japan, South Korea, Europe, and the United States are likewise present in the regional market. China's advantage, however, derives from its capacity to offer electric vehicles at highly competitive prices, underpinned by a vertically integrated battery supply chain and sustained domestic industrial policy support, and reinforced by direct investment within the region itself.

The expansion of China's electric vehicle industry in Southeast Asia is reflected not only in rising trade and investment values, but also in the structure of market competition within the region. Chinese manufacturers such as BYD and SAIC Motor have achieved significant penetration and, in recent years, have become market leaders in several major Southeast Asian economies. Between 2019 and 2024, the collective market share of Chinese firms in the six largest Southeast Asian markets rose sharply from approximately 12% to 50%, driven by competitive pricing strategies, technological innovation, and partnerships with local distributors (Zhang, 2025). BYD has led sales in Malaysia, Singapore, Thailand, and Indonesia, indicating a discernible shift in consumer preference toward Chinese electric vehicle brands (Zhang, 2025).
A growing body of scholarship has sought to account for the ascendancy of China's electric vehicle industry. De Podestá Gomes, Pauls, and Ten Brink (2023) demonstrate that the creation of the Chinese EV market cannot be attributed to demand-side incentives alone, but rests upon the deliberate coordination of sectoral complementarities among battery producers, vehicle assemblers, and infrastructure providers. Gotoh and Li (2026), comparing Chinese and Japanese trajectories of vehicle electrification, attribute China's leapfrogging to the institutional architecture of its capitalism particularly state business relations and the financial regime whereas Japan's enterprise-led model produced an incremental commitment to hybrid technology. Lo, Nyangchak, and Lin (2025), in turn, situate the Chinese renewable and EV sectors within a broader configuration of renewables capitalism, in which state-directed accumulation and profit-driven expansion are at once mutually reinforcing and contradictory. With respect to the destination region, Tritto (2026) shows that Indonesia and Malaysia have responded to Chinese investment in the EV sector through distinct combinations of statism and state activism in pursuit of global value chain (GVC) integration.

Taken together, these studies establish that state intervention has been decisive in the Chinese case and that host states in Southeast Asia are not passive recipients of Chinese capital. Two limitations nevertheless persist. First, scholarship on China's domestic industrial policy and scholarship on Chinese outward investment in Southeast Asia have largely developed in parallel, with the result that the causal linkage between the maturation of domestic productive capacity and the modality of regional expansion remains underspecified. Second, accounts that attribute

the dominance of Chinese electric vehicles to buoyant regional demand and accommodating host-country policy cannot explain how Chinese manufacturers first acquired the absolute cost and technological advantages that render such dominance possible. Departing from this gap, this article poses the following question: how has the Chinese state structured its intervention strategy in order to propel the expansion of the electric vehicle industry into Southeast Asia? The study seeks to explain how government intervention through industrial policy constitutes the principal driver behind the consolidation of domestic capacity and its subsequent projection into the region. The article accordingly argues that the dominance of Chinese electric vehicles in Southeast Asia has been facilitated by strategic industrial policy intervention rather than by market forces alone.

More specifically, this intervention has been implemented through three interrelated mechanisms, each of which finds corroboration in existing empirical scholarship. The first is a new pattern of accumulation, value creation, and value capture, in which intervention is directed not merely toward increasing export volumes but toward mastering core technologies and strategic supply chains in order to secure the regional creation of value. Gong and Hansen (2023) substantiate this mechanism by tracing the coevolution of China's lithium-ion battery technological innovation system with successive policy interventions, demonstrating that upstream capability was constructed through deliberate policy sequencing rather than acquired through market selection. The second is intervention in response to the pressures of financialization, whereby the state ensures that finance is channeled into long-term, industry-oriented productive investment in technology and supply chains, thereby counteracting a global financial logic that privileges short-term returns. The plausibility of this mechanism is supported by Wei et al. (2023), whose analysis of government guidance funds documents the institutional apparatus through which the Chinese state directs capital toward strategic sectors on time horizons that private financial markets do not ordinarily accommodate, while also identifying the crowding-out risks that such instruments carry. The third is maneuvering within the framework of the new imperialism, in which penetration into Southeast Asia becomes a strategy for reconstituting policy space in response to the access restrictions imposed by tariffs and trade barriers in developed economies. Singh J et al. (2026) lend weight to this proposition by showing that Chinese outward investment operates as an instrument of industrial policy that reconfigures global value chains and the industrial strategies of recipient states, rather than as commercially motivated capital export alone. Taken together, these mechanisms indicate that China's electric vehicle expansion in Southeast Asia is not a free-market phenomenon but the expression of a deliberate state strategy to preserve its structural position and industrial capacity amid protectionism and global competition.

## RESEARCH METHODS

This study employs a qualitative single case study design, combined with a structured desk review, to examine how China has structured its state intervention strategy to propel the electric vehicle (EV) industry and drive its expansion into Southeast Asia. This approach is highly appropriate because addressing the research question requires an in-depth examination of policy designs, institutional mechanisms, and state-market coordination as documented in official texts and public records (Yin, 2018). In line with established guidance on qualitative case study research and systematic desk review procedures, the study follows a structured approach to document collection, screening, coding, and validation. The unit of analysis is China's EV industrial policy, specifically focusing on the domestic structural intervention phase and its subsequent regional expansion strategy.

The study relies on publicly available documents published over the last decade, covering the critical period from China's aggressive early EV subsidy implementation to its recent Foreign Direct Investment (FDI) expansion in the Southeast Asian region. Document collection focuses on primary government policy and legal texts, including regulations, development plans (such as the *New Energy Vehicle Industrial Development Plan 2021-2035*), and implementing guidelines issued by the Chinese government (e.g., the *Dual Credit Policy* and conditional subsidy requirements). In addition, the dataset incorporates reports from international organizations (such as the World Bank and ICCT), market data reports (e.g., Euromonitor), corporate releases, and peer-reviewed academic studies on China's industrial policy. Documents were retrieved through official portals and recognized databases using combinations of keywords, including *China EV policy*, *Dual Credit Policy*, *industrial policy*, *state intervention*, and *Southeast Asia EV market*.

All included documents were analyzed through thematic analysis, which is defined as a method for identifying, analyzing, and reporting patterns of meaning (themes) within data. Specifically, this study employs a theoretical (or deductive) thematic approach, where the coding process is explicitly driven by the researcher's theoretical framework rather than being purely data-driven (Braun & Clarke, 2006). The coding process is designed to operationalize the analytical framework of Industrial Policy formulated by Ha-Joon Chang. First, the analysis codes policy instruments and regulations related to value creation and value capture. In this step, the coding identifies measures such as conditional purchase subsidies, battery energy density standards, and forced joint-venture requirements that secure domestic technology transfer. Second, it codes mechanisms related to countering financialization. Here, the coding captures how policies like the NEV Policy System and the *Dual Credit Policy* forcefully direct corporate surplus and capital away from short-term financial dividends and into permanent, productive Research and Development (R&D) investments. Third, the analysis codes spatial and geopolitical strategies related to new imperialism, capturing how domestic overcapacity and Western protectionist barriers drive China to expand its policy space through FDI and assembly plant developments in Southeast Asia. Moreover, to ensure the reliability and validity of the research, this study employs data triangulation by cross-referencing information across different types of sources. Policy targets stated in government texts (such as the NEV Plan) are corroborated with empirical market outcomes from independent international organizations and market reports to evaluate their actual implementation and effectiveness. This multi-source verification minimizes bias and strengthens the robustness of the thematic findings.

## RESULTS AND DISCUSSION

### Findings

#### a) Building China's EV Industry through Subsidies, Credits, and Joint Venture

China’s automotive industry initially confronted a structurally backward reality. Although China was the world’s largest producer and market for automobiles, its domestic manufacturers functioned largely as assembly plants for foreign brands. Technologically, the country lagged considerably: Chinese firms held only approximately 1% of global automotive technology patents, against roughly 20% each for the United States, Japan, and Europe (Barwick et al., n.d.). Within Chang’s framework, permitting this configuration to persist under free-market conditions would have consigned China to industrialization without development, in which the country served as a low-cost assembly base while financial and technological rents accrued to foreign transnational corporations.

China addressed this problem by directing policy toward battery subsidies as an instrument for compelling domestic firms to innovate. The initial intervention targeted the upstream component that accounts for 40–50% of electric vehicle cost, namely the battery

(Barwick et al., n.d.). In 2016, China implemented a protectionist scheme under which subsidies worth hundreds of billions of yuan were disbursed only to firms using batteries supplied by government-approved Chinese producers, while imported batteries were excluded from the subsidy catalogue and subjected to a 25% tariff (Barwick et al., n.d.). This measure constituted a form of value capture that retained 93% of the welfare gains generated by subsidy expenditure within the domestic economy rather than permitting them to accrue to foreign firms (Barwick et al., n.d.).

The subsidy scheme was designed to compel technological upgrading. Subsidies were not granted unconditionally but were tied to technical qualification thresholds that were tightened annually. The government stipulated, for instance, that electric passenger vehicles were entitled to full incentives only if battery energy density was no lower than 125 Wh/kg and driving range exceeded 200 km (Zhang, 2024). Firms such as BYD and CATL were thereby obliged by regulation to reinvest profits continuously in research and development in order to satisfy successive state qualification criteria.

This regulatory architecture produced measurable results. Subsidized domestic demand rose sharply and Chinese plants began operating at large-scale battery production capacity, a surge that further matured the industry through learning by doing (Barwick et al., n.d.). Battery production costs fell by as much as 42%, accounting for 65% of the total reduction in electric vehicle production costs (Barwick et al., n.d.). On the strength of this cost advantage, the market share of electric vehicle models produced outside China that use Chinese batteries rose from 0% in 2016 to 11% in 2020 (Barwick et al., n.d.).

Although China succeeded in dominating battery components, this achievement was insufficient to secure control over the architecture of the automotive industry as a whole. The country remained behind foreign firms in assembly integration capability and in vehicle technology standards. In order to close this gap, the government escalated its intervention through the introduction of the Dual Credit Policy (DCP) in 2017.

Under the DCP, manufacturers producing more than 30,000 vehicles per year are required to meet an electric vehicle credit quota, and failure to do so incurs a market penalty (Barwick et al., n.d.). This requirement functioned as an instrument of value capture through which China sought to close the technological gap with Western producers by means of joint ventures. Foreign firms subject to the DCP, apprehensive of losing market access, saw their bargaining power erode and were effectively compelled to comply with Chinese regulatory terms, including the transfer of technology through joint ventures with domestic partners. Volkswagen, for example, lobbied the Chinese government for permission to establish a dedicated electric vehicle joint venture with JAC in mid-2017. The compulsory character of technology transfer is still more apparent in the case of Ford, which concluded a joint venture with Zotye valued at USD 756 million in 2017 (“Ford Enters Joint Venture,” 2017); under the terms of that agreement, the electric vehicles produced were prohibited from carrying the Ford marque and were required to bear a Chinese local brand. Through joint ventures induced by the DCP, China succeeded in appropriating foreign research and development capability and in acquiring assembly knowledge conforming to global standards.

The DCP did not operate solely as an instrument of technology transfer. Through its credit system, it also functioned as an engine for the redistribution of financial wealth among firms. Foreign plants and joint ventures, still dependent on internal combustion vehicles, generally failed to meet the electric vehicle quota, whereas domestic Chinese producers were positioned to satisfy the national mandate through large-scale electric vehicle output.

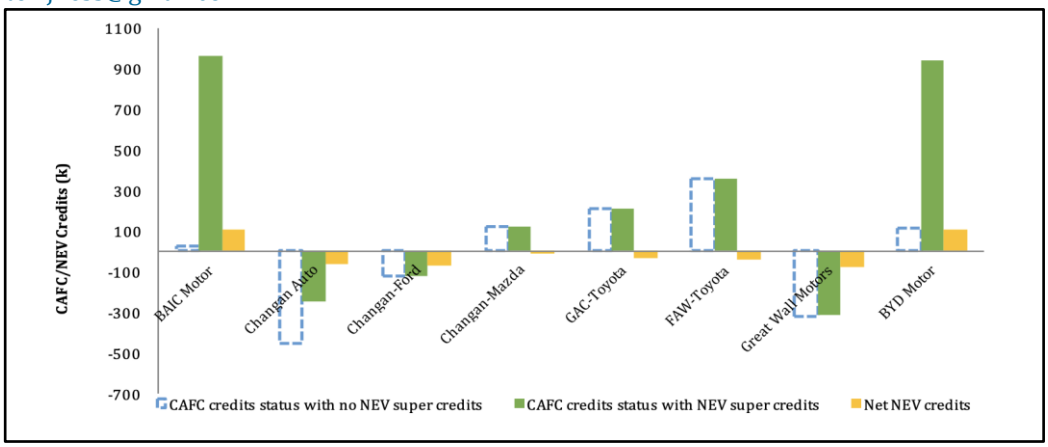


Figure 1. Level of Credit Surplus and Deficit across Firms, With and Without NEV Credits
Source: ICCT (2021).

Figure 1 demonstrates empirically the effectiveness of value redistribution through DCP regulation. Joint ventures and conventional manufacturers such as Changan-Ford and Great Wall Motors record a net NEV credit deficit, represented by bars falling below the zero line. This deficit obliges such firms to purchase credits from other producers in order to avoid national sanction. Domestic Chinese producers such as BAIC Motor and BYD, by contrast, record a credit surplus. China thereby created a financial market constituted by the state itself, in which regulation explicitly compels deficit-holding foreign plants to purchase credits from domestic firms. As a consequence, domestic producers such as BYD obtained billions of yuan in additional capital derived purely from the sale of credits to foreign competitors.

The capital generated by the DCP, together with mastery of battery technology and a reduction of battery cost of goods sold by 42%, matured China's domestic industry (Barwick et al., n.d.). Chinese firms came to command complete capability domains from upstream to downstream. The very rapidity of this success, however, produced a constraint of its own: by 2022 the domestic market had reached saturation and the industry confronted conditions of overcapacity.

The subsequent movement into Southeast Asia did not take the form of finished-goods exports alone. It proceeded through foreign direct investment in local assembly facilities, exemplified by BYD's plant in Thailand and Wuling's plant in Indonesia. Chinese firms have drawn upon tariff-free intra-ASEAN trade and upon regional nickel endowments as the basis of new value creation, while battery patents, vehicle software architecture, and financial returns have continued to be accumulated in China.

This geographical extension would not have been feasible had China not first consolidated its electric vehicle industry domestically. Chinese producers displaced Japanese incumbents in Southeast Asia not simply through market expansion, but because they carried with them an independent supply chain with substantially reduced production costs, secured through domestic battery policy, together with a capital flexibility derived from the operation of the DCP.

**b) Restoring R&D Investment through the NEV Policy System**

Within Chang's framework, financialization has structurally eroded the profit–investment nexus by inducing owners of capital to pursue short-term financial returns rather than to commit resources to research and development. Had China's electric vehicle industry been left to the logic of free-market finance, it would plausibly have become trapped in a configuration of hot policy and cold market, characterized by high initial research costs and minimal supporting infrastructure. In response, the Chinese government designed the NEV Policy System, developed under the auspices of the China Automotive Technology and Research Center (CATARC). This instrument enabled the state to assume risk, to maintain macroeconomic stability, and to compel reinvestment, and it operated through three pillars.

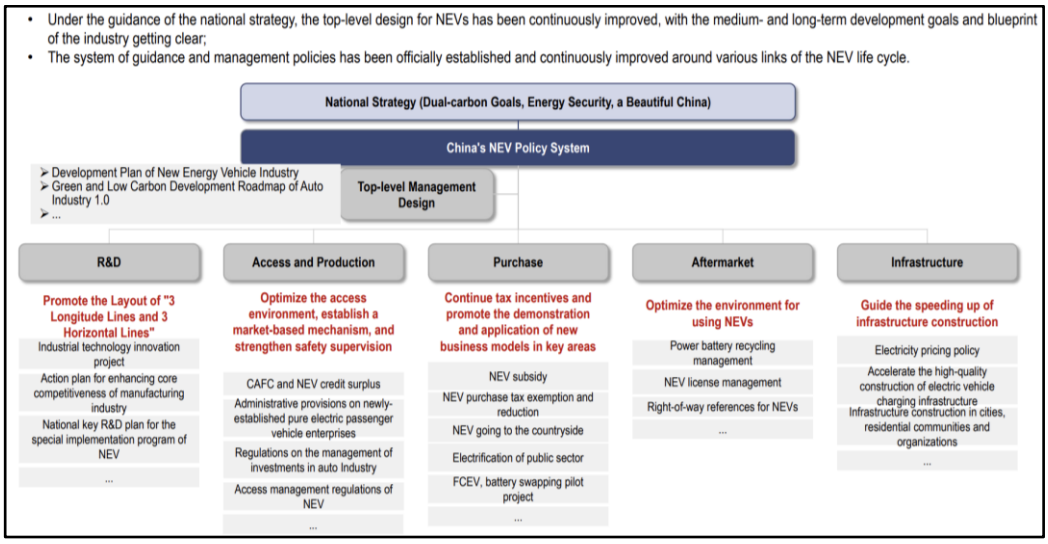

Figure 2. The NEV Policy System across the Vehicle Life Cycle
Source: CATARC.

The state suppressed the disciplinary power of finance by activating the Purchase pillar of the NEV Policy System. Through direct purchase subsidies worth hundreds of billions of yuan, purchase tax exemptions, and the large-scale electrification of public fleets such as buses and taxis, the state effectively assumed financial risk on behalf of manufacturers. This intervention functioned as a demand-guaranteeing mechanism: by generating macroeconomic stability through certainty of market absorption, the government assured manufacturers that substantial capital investment in electric vehicle production would encounter a defined market.

The production of electric vehicles is not sufficient in the absence of a supporting ecosystem. Under the logic of financialization, firms will not commit substantial sunk costs to charging infrastructure while the user base remains small. The Chinese government addressed this problem through the Infrastructure pillar of the NEV Policy System. Here China exemplifies Chang's argument concerning control over strategic sectors: state-owned enterprises such as State Grid were mandated to assume the initial burden of infrastructure investment. High-quality charging infrastructure was accordingly developed in advance of market demand. By the end of 2022, China had constructed more than one million public charging points, forming the largest charging network in the world and the backbone of domestic electric vehicle mobility.

With demand guaranteed through the Purchase pillar and the ecosystem established through the Infrastructure pillar, the state turned to Access and Production through the DCP. At this stage, policy targeted the profit–investment nexus, that is, the linkage between industrial profit and productive investment. Under the DCP, domestic producers such as BYD earned billions of yuan from the sale of surplus NEV credits to foreign manufacturers (Li et al., 2023), as illustrated in Figure 1. These profits, however, were not principally distributed to shareholders in the manner characteristic of financialized accumulation. The policy was instead designed to induce firms to reinvest earnings in technological development and productive capacity. The effectiveness of this effort to constrain financialization has been demonstrated empirically through difference-in-differences estimation (Li & Xiong, 2021).

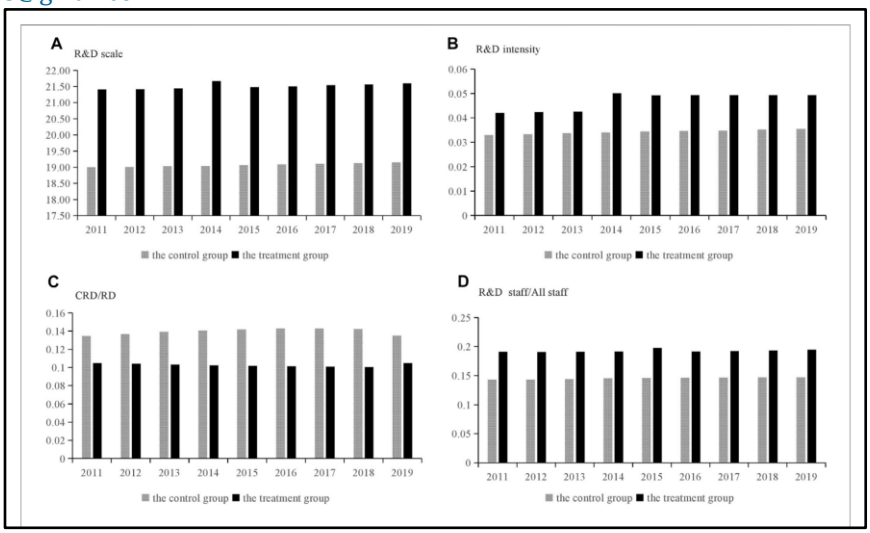


Figure 3. Average Annual R&D Investment of the Treatment Group and the Control Group
Source:Xu Li and Qing Y. Xiong, 2021

In Figure 3, the black bars (treatment group, T-group) represent passenger vehicle manufacturers such as BYD and SAIC, which were subject to the DCP mandate, while the grey bars (control group, C-group) represent commercial vehicle manufacturers, which were not at that time bound by the regulation. Panels A (R&D scale) and B (R&D intensity) show that manufacturers subject to the DCP responded with pronounced increases in R&D investment from 2014 onward, generating a maximum expansion gap of 2.63 log units relative to firms outside the mandate (Li & Xiong, 2021).

The channels through which this expenditure was directed are further evident in panels C (R&D capacity ratio, CRD/RD) and D (R&D staff ratio, RDS/AS). Panel C measures the extent to which research expenditure was converted into long-term asset investment. Following implementation of the DCP, the R&D structure of targeted firms exhibits an adjustment oriented toward capital deepening rather than toward expansion of the research workforce (Li & Xiong, 2021). The proportion of research funds converted into permanent assets rose by 8.4%, while the proportion of research staff declined (Li & Xiong, 2021). Through regulation, the state thus compelled firms to allocate earnings not to short-term operational expenditure or to headcount, but to permanent assets such as technology patents, testing facilities, and autonomous production capacity.

The success of the NEV Policy System and the DCP in disrupting the logic of financialization within the domestic market subsequently constituted the foundation of China's competitiveness in Southeast Asia. As panels C and D of Figure 3 indicate, the share of research expenditure converted into permanent assets among targeted firms rose by 8.4%, confirming that the billions of yuan generated through subsidies and credit sales were structurally converted into fixed capability rather than distributed as dividends. Combined with stringent NEV Policy requirements governing driving range and energy density, the state effectively constructed instruments that transformed Chinese industry from a subsidy-dependent sector into one capable of competing internationally on technological grounds. The ecosystem that locked in the profit–investment nexus enabled an initially lagging automotive industry to accumulate research and development capability without imposing an unsustainable burden upon corporate balance sheets.

The DCP, fully operational from 2018 and reinforced by a stringent NEV Policy System, did more than inject capital into Chinese manufacturers. State intervention deliberately created a space for technological selection. In 2018 there were nearly 500 electric vehicle manufacturers in China; by 2023 only some 40 remained in operation (Li & Xiong, 2021). The elimination of

approximately 90% of firms indicates that state protection and subsidy operated selectively, leaving only technologically competent producers in the market. In order to survive, domestic firms were compelled to deploy research and development resources toward vehicles combining high quality with accessible pricing.

As a consequence of this sustained push in research and development, Chinese manufacturers fundamentally altered the paradigm of automotive manufacturing. Electric vehicles ceased to be understood as conventional mechanical conveyances and evolved into multifunctional platforms integrating transportation, digital information systems, and software-based functionality. This paradigm shift generated an innovation cycle considerably faster than that of the conventional automotive industry. Supported by substantial research investment, Chinese manufacturers reduced the new-model launch cycle to approximately 1.3 years, against a global industry average of roughly four years (Li & Xiong, 2021), and certain firms revise specifications as often as three times within a single year. Consequently, when firms such as BYD undertake foreign direct investment in Southeast Asia, they do not merely export inexpensive vehicles but deploy technologically mature products that are the direct outcome of the compelled research and development of the domestic phase.

**c) From Domestic Overcapacity to Expansion in Southeast Asia**

China's success in maturing domestic electric vehicle capability generated a dilemma of its own. Production capacity, continuously expanded through state intervention and particularly through battery subsidies and the DCP, came to exceed the absorptive capacity of the domestic market. By 2022 this produced a condition of insufficient domestic demand, in which the internal market could no longer absorb continuously expanding output (*Chinese EV Market Policy Enablers*, 2024). Under conditions of overcapacity, the domestic industry required expansion into foreign markets in order to sustain industrial growth. This imperative was formalized in the New Energy Vehicle Industrial Development Plan (2021–2035), in which Task 5 explicitly instructs domestic firms to increase industrial openness and to expand international market penetration (Chu, 2021).

In seeking to discharge surplus capacity, Chinese firms initially attempted to export electric vehicles to developed economies, but this expansion encountered Western protectionism almost immediately. Within Chang's framework, such measures constitute a form of new imperialism: a practice of dominance exercised through institutional control and international trade regulation designed by developed countries in order to constrain the policy space available to developing economies. In strategic response, China redirected its attention toward Southeast Asia, a region characterized by open policy space in the form of investment tax incentives, the absence of intra-ASEAN tariff barriers, and abundant strategic mineral resources.

In responding to this opening, the Chinese government and automotive industry modified their internationalization strategy. Reliance upon finished-vehicle exports gradually gave way to an investment strategy centered upon the construction of production facilities abroad. The establishment of manufacturing capacity in Southeast Asia, including in Thailand and Indonesia, confers geopolitical advantages, particularly with respect to the circumvention of trade barriers. Through local production and assembly, Chinese firms are able to reduce exposure to rules of origin that frequently serve as the basis for the tariffs and protectionist measures of Western states.

## Discussion

**a) China's EV Strategy: Creating, Capturing, and Relocating Value**

The first dimension of Chang and Andreoni's (2020) framework directs attention to the distinction between the creation of value and its capture, and to the institutional arrangements that determine which actor appropriates the surplus generated by production. Read through this lens, the results reported in sub-section (a) in findings indicate that China treated the two operations as separate objects of policy rather than as a single undifferentiated process. Value

creation was addressed through the construction of productive capability at the upstream end of the chain: conditional battery subsidies, tightened annually by reference to energy density and driving range, obliged firms to convert fiscal support into technological advance, and the resulting scale of output generated cost reductions through learning by doing. Value capture was addressed through a distinct set of instruments. Restricting subsidy eligibility to government-approved domestic battery suppliers, and imposing a 25% tariff upon imported cells, ensured that 93% of the welfare gains generated by public expenditure were retained within the domestic economy. The analytical significance of this configuration lies in its sequence: capability was built only after the channels through which its returns would be appropriated had been closed to foreign firms.

The Dual Credit Policy extended value capture from the material to the institutional plane. Chang's account of industrial policy emphasizes that the state may reconstruct the terms upon which firms transact, and the credit mechanism illustrates the point with unusual clarity. By obliging deficit-holding foreign producers to purchase credits from surplus-holding domestic firms, the state constituted a market that did not previously exist and determined in advance the direction in which value would flow within it. Two forms of capture operated simultaneously: technological capture, as joint venture requirements transferred design and assembly knowledge to domestic partners, and financial capture, as billions of yuan were transferred from foreign to domestic balance sheets without any corresponding transfer of goods. This dual character distinguishes the Chinese case from conventional accounts of infant industry protection, in which the state shields domestic producers from competition. Here the state did not shield domestic firms from foreign competitors so much as it compelled foreign competitors to finance the ascent of domestic ones.

The movement into Southeast Asia represents the third element of this dimension, namely the emergence of a new pattern of accumulation. Chang and Andreoni (2020) characterize such patterns by the geographical separation of the site at which value is created from the site at which it is captured. The evidence assembled in findings sub-sections (a) and (c) conforms closely to this description. Assembly operations, nickel processing, and the utilization of tariff-free intra-ASEAN access are located within the region and constitute value creation there, whereas battery chemistry patents, vehicle software architecture, and financial returns remain under Chinese ownership and are accumulated at home. The configuration is analytically notable because it inverts the historical position of the actor concerned. The condition that Chinese policymakers sought to escape in the early 2000s, in which domestic firms served as assembly platforms for foreign brands while technological and financial rents accrued elsewhere, is precisely the condition that Chinese investment now tends to reproduce in Southeast Asia. The Chinese case therefore demonstrates not merely that industrial policy can alter a country's position within an asymmetrical division of labor, but that success in doing so does not by itself dissolve the asymmetry; it relocates it.

This reading extends, rather than contradicts, existing scholarship. De Podestá Gomes et al. (2023) argue that the creation of the Chinese electric vehicle market cannot be reduced to demand-side stimulus and depends instead upon the coordination of sectoral complementarities among battery producers, vehicle assemblers, and infrastructure providers. The present analysis is consistent with that argument but specifies the mechanism more narrowly: the conditional subsidy regime and the Dual Credit Policy did not merely coordinate pre-existing complementarities, they generated them, by rendering eligibility for state support contingent upon the domestic sourcing of upstream components. Coordination was accordingly not a background institutional condition but an explicit object of regulatory design, and conditionality rather than the magnitude of fiscal transfer constituted the operative variable.

**b) Financialization and the Profit–Investment Nexus Revisited**

The second dimension of the framework concerns financialization, which Chang and Andreoni (2020) identify as the structural rupture of the profit–investment nexus, that is, of the linkage through which industrial profit is converted into productive investment. Under financialized conditions, surplus is distributed to shareholders or deployed in financial markets rather than committed to research whose returns are distant and uncertain. The results presented in findings sub-section (b) indicate that the Chinese state addressed this problem not by exhorting firms to invest but by altering the conditions under which non-investment was viable. Three instruments operated in combination. The Purchase pillar removed demand uncertainty, thereby eliminating the principal justification for deferring capital commitment. The Infrastructure pillar socialized sunk costs through state-owned enterprises, constructing more than one million charging points in advance of the demand that would render them commercially rational. The Dual Credit Policy performed a dual function: it generated surplus for domestic firms through credit sales while simultaneously constraining the disposition of that surplus, since continued market access depended upon meeting technical thresholds attainable only through sustained research expenditure.

The theoretical implication is that the state governed not the supply of capital but its destination. This distinction is consequential, since subsidy regimes that supply capital without governing its destination produce rents rather than capability. The empirical signature of the Chinese arrangement is the 8.4% increase in the proportion of research expenditure converted into permanent assets among firms subject to the mandate (Li & Xiong, 2021), which indicates that surplus was immobilized in patents, testing facilities, and productive capacity rather than distributed. Two qualifications nevertheless follow from the same evidence. First, the observed adjustment favored capital deepening over the expansion of the research workforce, since the staff ratio declined even as the asset ratio rose; the intervention therefore restored the profit–investment nexus in its fixed-asset form while leaving the accumulation of human capability comparatively unaddressed. Second, the contraction of the sector from nearly 500 manufacturers in 2018 to approximately 40 in 2023 indicates that the counter-financialization regime functioned simultaneously as a selection device, and that the costs of failed entry were borne substantially by the public purse. Countering financialization, on this evidence, is neither costless nor neutral in its distributional consequences.

The comparative literature clarifies what was distinctive in this arrangement. Gotoh and Li (2026) attribute Japan's incremental commitment to hybrid technology to an enterprise-led model in which electrification was governed by firm-level profitability calculations and only weakly supported by the state. The contrast specifies the mechanism by which China avoided an analogous trajectory: where Japanese manufacturers retained discretion over the pace of electrification, the Dual Credit Policy removed that discretion by attaching a quantified financial penalty to non-compliance. The Chinese case is therefore not simply one of stronger state commitment, but of intervention structured so as to render the incremental, financially prudent path untenable. Lo et al. (2025) supply the necessary qualification by observing that the Chinese renewable and electric vehicle sectors are governed simultaneously by developmental and profit-driven logics, whose coexistence generates recurrent contradictions. The evidence assembled here supports that reading: the very instruments that matured domestic capability, namely guaranteed demand, compelled reinvestment, and the selective elimination of weaker producers, also generated output exceeding domestic absorption. Overcapacity is accordingly best understood not as a failure of industrial policy but as a structural consequence of its success, and it is this consequence that connects the second dimension of the framework to the third.

**c) New Imperialism and the Relocation of Policy Space**

The third dimension concerns what Chang and Andreoni (2020) term the new imperialism, understood as the exercise of dominance through institutional control and

international trade regulation rather than through territorial possession, and as the consequent narrowing of the policy space available to late industrializing states. The results reported in sub-section (c) provide a precise instance of this mechanism. The anti-subsidy investigation initiated by the European Commission in October 2023, and the tariffs of between 17.4% and 38.1% imposed in June 2024, did not operate by prohibiting Chinese vehicles from entering the European market. They operated by classifying the industrial policy that produced those vehicles as an illegitimate distortion of competition. The instrument of constraint, in other words, is definitional, it is the authority to determine which forms of state intervention count as permissible support and which count as subsidy. Understood in these terms, the tariff dispute is not principally a conflict over the price of vehicles but a conflict over the range of developmental strategies that remain available to a state that has already deployed them successfully.

China's response was neither confrontation nor retreat, but the relocation of the problem. By shifting from finished-vehicle exports to foreign direct investment in Thailand and Indonesia, Chinese firms converted a question of trade policy into a question of investment and rules of origin, in which the regulatory leverage of Western states is markedly weaker. Southeast Asia thus functions in this analysis less as a market than as policy space in the strict sense of the term: a jurisdictional environment in which investment incentives, the absence of intra-ASEAN tariff barriers, and abundant strategic minerals permit the continuation of a strategy that has been foreclosed elsewhere. The formalization of this reorientation in Task 5 of the New Energy Vehicle Industrial Development Plan (2021–2035) indicates that the movement was directed rather than merely emergent. The theoretical implication is that policy space, within the contemporary trade order, is not only defended or surrendered; where a state commands sufficient productive capability, it may also be relocated to jurisdictions in which the constraining institutions do not reach.

This conclusion carries an unavoidable reflexive difficulty. The framework characterizes the new imperialism as the constraint imposed by industrialized states upon the developmental options of others; yet the strategy through which China evades that constraint installs, in Southeast Asia, a structure of technological and financial asymmetry closely resembling the one from which China itself sought to escape. The evasion of the new imperialism and its reproduction are therefore not separable operations in this case, but two aspects of the same movement. The following sub-section examines the specific form that this asymmetry assumes within the region.

**d) Structural Dependence in Southeast Asia's EV Ecosystem**

Although Chinese firms have established electric vehicle assembly facilities in Southeast Asia, this expansion has not straightforwardly advanced industrial self-reliance within the region. It has instead tended to produce an intensifying structural dependence upon the Chinese electric vehicle ecosystem, sustained through three principal mechanisms. First, Chinese investment exploits the regional technology gap. Southeast Asian states have adopted firm commitments to energy transition and emissions reduction without having developed an autonomous domestic technology base. Under these conditions, Chinese technology and capital rapidly occupy the space created by the imperative of electric vehicle industrialization, with the consequence that the attainment of national energy transition targets across much of the region becomes contingent upon technology, investment, and productive capacity originating in China.

Second, dependence is reproduced through the structure of the supply chain itself. Although assembly facilities have been established in countries such as Indonesia and Thailand, this industrialization has not been accompanied by the transfer of core technology. Plant operations remain reliant upon the supply of strategic components high-density battery cells, semiconductors, and vehicle software the majority of which continue to be produced and controlled by Chinese firms. Southeast Asian economies are consequently positioned within the assembly segment of the chain rather than in command of the core technologies of the industry.

Third, Chinese manufacturers possess a pronounced price advantage, since the research and development costs underpinning their products were substantially absorbed by subsidy and state intervention during the domestic development phase. This permits market entry at comparatively low prices and intensifies competitive pressure upon established manufacturers, particularly the Japanese producers that have long dominated the Southeast Asian automotive market. As incumbents lose competitiveness, consumers and governments in the region are progressively drawn into reliance upon Chinese products and ecosystems.

This reading should nevertheless be qualified. Tritto (2026) demonstrates that Indonesia and Malaysia have not received Chinese investment passively, but have deployed distinct combinations of statism and state activism in order to negotiate their insertion into the emerging electric vehicle global value chains: Indonesia principally through industrial policy instruments directed at its mineral sector, and Malaysia through hybrid arrangements coordinating state and private capital. The dependence identified here is therefore better understood as an asymmetry that host states actively contest than as a unilateral imposition. The pertinent analytical question is accordingly not whether Southeast Asian states exercise agency, but whether the instruments available to them are commensurate with the structural advantages that Chinese firms accumulated during the domestic phase examined above. On the evidence presented in this article, they are not yet so: host-state instruments operate principally at the point of investment approval and local content requirement, whereas Chinese advantage is constituted upstream, in patent ownership and battery chemistry, where host-state leverage remains weakest.

**e) Theoretical and Policy Implications**

Considered as a whole, the three dimensions examined above are not parallel arenas of intervention but sequentially linked moments of a single strategy, and this is the principal theoretical contribution of the case. Value capture in the upstream segment generated the surplus; the counter-financialization regime governed the destination of that surplus and thereby converted it into technological capability; and the capability so accumulated produced the overcapacity that rendered geographical expansion necessary, at which point the constraints of the new imperialism determined the direction that expansion would take. Each dimension, in other words, generated the problem that the next was required to resolve. Analyses of industrial policy that isolate any one of these moments will accordingly misidentify both the sources of Chinese competitiveness and the drivers of its regional expansion: an account confined to subsidy will mistake capability for rent; an account confined to overcapacity will mistake a consequence of success for a symptom of failure; and an account confined to geopolitics will mistake the relocation of an asymmetry for its resolution.

Two implications follow for policy. For host states in Southeast Asia, the results suggest that local content requirements calibrated to assembly activity are insufficient to secure technological upgrading, since the locus of value capture lies in battery chemistry, power electronics, and vehicle software rather than in final assembly. Instruments that condition market access upon verifiable transfer of core technology, of the kind China itself deployed through the Dual Credit Policy, are more likely to alter the distribution of value within the chain. For the analysis and design of industrial policy more generally, the case indicates that conditionality rather than the magnitude of fiscal support constitutes the decisive variable: subsidies tied to progressively tightened technical thresholds produced capability, whereas unconditional support would plausibly have produced rents alone. The corollary is equally important, namely that instruments of this kind presuppose a market of sufficient scale to render the threat of exclusion credible, which qualifies the transferability of the Chinese model to smaller economies.

**f) Limitations and Directions for Further Research**

Several limitations qualify these conclusions. The study relies exclusively upon publicly available documents and secondary empirical material it does not incorporate interviews with policymakers or firm-level actors, and it is therefore unable to adjudicate directly upon questions

of intra-state coordination or firm-level strategic calculation. The analysis is moreover framed at the level of China's national industrial policy and treats Southeast Asia as a comparatively undifferentiated destination, whereas the regulatory environments of Indonesia, Thailand, Malaysia, and Vietnam differ substantially. Finally, the empirical window closes in 2023 and therefore does not capture the most recent tariff measures adopted by the European Union and the United States, nor the consolidation presently underway among Chinese producers. Further research employing firm-level data and comparative host-country case designs would permit a more precise specification of the conditions under which Chinese investment yields technological upgrading rather than assembly dependence.

## CONCLUSION

The analysis presented in this article supports the conclusion that the global dominance of China's electric vehicle industry is rooted in a domestic industrial maturity deliberately constructed through multilayered and structured state intervention. This maturity did not emerge spontaneously. It was assembled through conditional battery subsidies and through the Dual Credit Policy, which structurally compelled foreign manufacturers to transfer technology by way of joint venture arrangements. The process was accelerated in parallel through the NEV Policy System, under which the state assumed initial risk by constructing infrastructure at scale and providing purchase subsidies, while simultaneously requiring firms to reinvest financial returns in research and development. This sequence of interventions disciplined the market and produced an exceptionally high level of industrial maturity, evidenced by China's capacity to compress production costs substantially while assembling integrated capability domains from upstream to downstream.

Industrial maturity in turn generated a dilemmatic consequence in the form of overcapacity, a condition in which productive capacity exceeds domestic market absorption. The Chinese case, however, possesses a distinctive character, since the resulting surplus consists not of obsolete products but of electric vehicles embodying a high level of technological innovation and an exceptionally rapid renewal cycle, resembling the dynamics of the consumer electronics industry. Confronted with domestic market saturation, the state formally promoted global expansion through the New Energy Vehicle Industrial Development Plan (2021–2035). When efforts to penetrate developed-country markets encountered the practices of the new imperialism, whereby Western states deploy trade instruments in order to constrain the policy space available to Chinese producers, the direction of that global expansion was strategically redirected.

China's expansion into Southeast Asia accordingly represents the conjunction between surplus technological capacity in the home country and strong demand for green industrialization in the destination countries. Equipped with the technological advantages and the low production costs generated during the domestic development phase, Chinese foreign direct investment has weakened the dominance of Japanese manufacturers through markedly more competitive pricing. The wider significance of this finding is twofold. Analytically, it demonstrates that the competitiveness of a national industry within a foreign market may be constituted principally by policy decisions taken years earlier within the home economy, such that regional market outcomes cannot be adequately explained by reference to regional conditions alone. Substantively, it indicates that although Chinese investment accelerates electric vehicle industrialization in Southeast Asia, the structure of that expansion simultaneously produces a regional dependence upon the Chinese industrial ecosystem, positioning Southeast Asian economies primarily as assembly bases that remain reliant upon the supply of core components and strategic technologies from China.

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