Green Cars – Low Wages: Changing Value Chains in the Automotive Industry in China

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“In the automobile industry, a constantly diminishing number of workers produces, decade by decade, a growing number of increasingly degraded products which, as they are placed upon the streets and highways, poison and disrupt the entire social atmosphere – while at the same time the cities where motor vehicles are produced become centers of degraded labor on the one hand and permanent unemployment on the other. It is a measure of manner in which capitalist standards have diverged from human standards that this situation is seen as representing a high degree of “economic efficiency”.

Harry Braverman, Labor and Monopoly Capital, 1974, p. 141
Outline

1.) Conceptual approach: Changing production networks in the global car industry

2.) Existing structure of the Chinese car industry and its model of regulation

3.) Disruptive forces: new players and models of regulation

4.) Implications for production and work

5.) Conclusions
Post-Fordist car industry under stress

• Structural overcapacity in the wake of the global financial crisis 2008-09; emerging markets as “safety valve”
• China’s “New Normal”: economic and ecological limits of growth
• VW diesel scandal: “Fukushima of the car industry”? 
• Disruptive technologies: new energy vehicles, digital driving, new mobility, digital manufacturing
• IT and Internet giants as drivers (Apple, Google, Uber, BAT)
• Financialization of innovation (VC, PE, IPOs)
• New productive models emerging, break with the refurbished Fordism of global carmakers
• Post-Covid 19: intensified competition and restructuring
The late revenge of Wintelism?

• Rapid emergence of new norms of production and consumption similar to the IT industry in the 1990s

• The Wintel revolution: separation of product innovation from manufacturing (Microsoft, Intel, Cisco, Apple)

• Platform-based mobility-on-demand as norm of consumption

• Global production networks and contract manufacturing (the Foxconn connection)

• Toyotism: resilience of the “assembly-oriented model of innovation and market control” in the auto industry (Borrus/Zysman 1997)

• Will the car industry undergo a similar process of vertical disintegration as IT 30 years ago?

“Uber should be a $500bn company in 10 years that owns transportation in the way Amazon owns retail and Apple owns personal technology” (Bradley Tusk, Uber advisor and shareholder, FT June 15, 2017)
Joint ventures: refurbished state capitalism and triple alliances
China auto industry regime of accumulation 2000-2015

- Rapid capital intensification in the wake of restructuring of SOE and market expansion
- State-of-the-art neo-Taylorist production models („flexible standardization“)
- Capacity build up in the wake of enormous demand growth, partly subsidized by state
- Structural overcapacities, „classic“ overaccumulation scenario of the auto sector ahead
- Ecological growth limits have been reached, but no substantial change in the regime of accumulation!
- Outsourcing and new production systems to cope with overcapacities (e.g. VW production system)
Disruptive forces

• Independent indigenous car makers (private, hybrid, local state-owned)
• Integrated new energy (BYD) and battery producers (CATV, battery makers in PRD)
• MIIT’s push for battery-driven NEV (vs. hybrid and fuel cell), “Made in China 2025”
• Digital car start ups, backed by Internet giants and tycoons (NextEV/NIO, LeEco/Faraday)
• New regional centers: Shenzhen, Hangzhou, Fujian
• Network capitalism vs. globalized state capitalism
Key component: Li batteries

- Production infrastructure almost completely in East Asia (Japan, S-Korea, China)
- China has mass production capabilities resulting from IT-battery supply chains
- Vertical integration effects from diverse end markets (solar, grid, house energy systems)
- Potential of flexible specialization, integration with large-scale specialty car production, buses, public transport
- Massive financial support from provincial govts (Fujian, Hubei CSR)
- Structural weakness: high-end battery cell technologies (international acquisitions, e.g. NEV Sweden/CATL)
Global Li battery manufacturing

A battery* production boom is set to turbocharge green energy growth

* Lithium-ion

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Source: Benchmark Mineral Intelligence
Key component: digital driving units

- China advanced in 5G internet and artificial intelligence
- BAT as key movers, connected to start ups
- Alliances between BAT and global first-tier suppliers (e.g. Baidu/Conti, Bosch/Ali Baba Auto Navi)
- Global suppliers as winners of Wintelization (NIO/Conti)?
- Chinese IT giants as system integrators (digital driving infrastructures, Huawei!)
- Weakness: China has no globally competitive first-tier car supplier
Foxconnization of car manufacturing?

- EV start-ups use contract manufacturing (NIO/JAC)
- Large IT contract manufacturers as potential mass producers for DV and NEV components
- Devaluation of traditional mechanical skills in the auto industry
- Penetration of high-tech, low-wage manufacturing practices into car making
- Chinese NEV and component makers rely on low-wage, de-skilled work models similar to IT manufacturers
- The low-wage nature of the traditional car supply industry in China
Post Covid-19

• Restructuring massively accelerated
• Global car makers/JV restructure plants and push mass production
• Race for the luxury market (Tesla, NIO, Xpeng)
• New alliances for contract manufacturing (Foxconn EV platform, alliance with Geely)
• Alliances global OEM/global EMS (Stellantis/Foxconn)
• Chinese IT giants entering the field (Huawei, Xiaomi)
Policy challenges

• Resilience of the joint venture model
• European carmakers: preserving JV privileges and expanding mass production of NEV
• Limited options of vertical re-integration (batteries!)
• Controlling state capitalism: viable regulatory state, separate from government interests as shareholder
• Controlling network capitalism: creating standards for future mobility
• Industrial policy: promoting national standards and diversity at local level (flexible specialization!)
• Labor standards and collective bargaining at car suppliers, NEV makers, and component producers
谢谢大家！