








The path to becoming the World Factory:
Knowledge Accumulation, “Creative Restructuring”, and
Catching-up in China

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Background references

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Some myths to debunk

- The “Chinese Miracle” is the work of the “magic of the market”;
- Export zones were where it all began;
- Competition in low-cost/low-tech commodities has been the driver of catching-up;
- Multinational corporations (MNCs) investment has been a major carrier of technology transfer.

However, the story is roughly the opposite (I)

- The progressive, and relatively slow, marketization of parts of the economy unleashed the economic exploitation of the potential entailed by the wide technological and organizational capabilities accumulated in the previous decades of planned economy; and
- Policies and various forms of State intervention continue to be crucial in the process.

However, the story is roughly the opposite (II)

These policies and forms of State intervention include:

- state ownership;
- selective credit allocation;
- favourable tax treatment to selected industries;
- restrictions on foreign investments;
- local context requirements;
- special IPR regimes;
- government procurement;
- promotion of large domestic firms.

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In a nutshell, this is the full list of the capital sins which the market faithful are supposed to avoid!

Catching-up in productivity distributions is general and quite fast

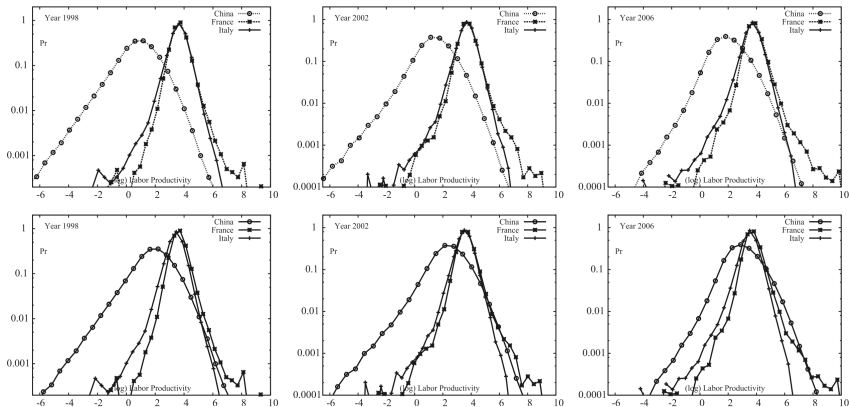


Figure: Empirical density of labor productivities – whole manufacturing of China, France, and Italy (years 1998, 2002, and 2006, from left to right).

Notes: The first row—constant 2000 prices and ex-change rates (IMF source); the second row—PPP adjusted price (World Bank source).

Source: Yu, Dosi, Lei, et al. (2015) elaboration on CMM, INSEE (on France) and ISTAT-Micro 3 (on Italy).

“Creative restructuring” is the dominant driver of productivity growth

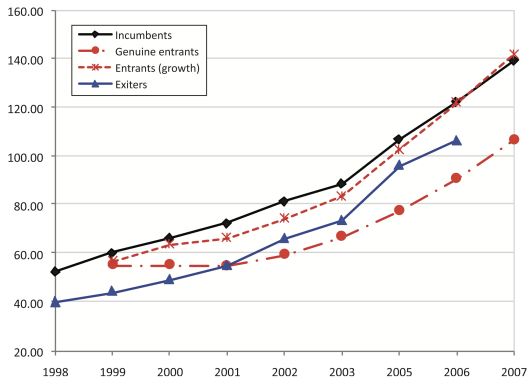


Figure: Average value added per employee of incumbents, entrants, and exiters

Notes: at 1998 constant price; 1000 yuan = 1.

Source: Yu, Dosi, Lei, et al. (2015) elaboration on CMM.

...with State-owned and private-public ventures as crucial actors

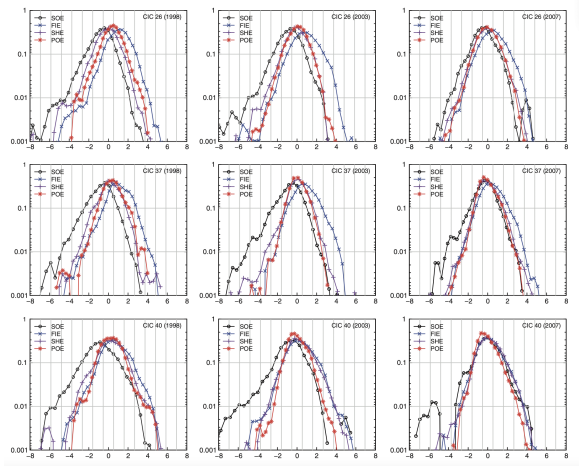


Figure: Empirical density of normalized (log) labor productivity of four ownership categories (SOEs, FIEs, SHEs, and private enterprises) for chemical (CIC 26, first row), transport equipment (CIC 37, second row) and communication equipment, computers, etc. (CIC 40, third row) (years 1998, 2003, and 2007, left to right).

Source: Yu, Dosi, Lei, et al. (2015) elaboration on CMM.

A “virtuous” circle productivity-profitability-investment-growth

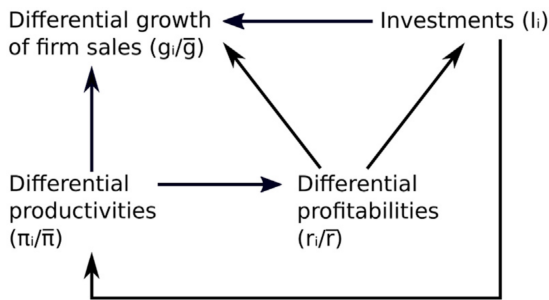


Figure: The virtuous circle

Source: Yu, Dosi, Grazzi, et al. (2017).

...but not so “virtuous” for wages... (I)

- elasticities of wages to productivity is positive but quite low in levels...

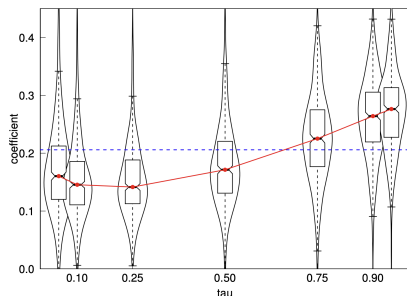


Figure: Productivity and wage levels: distributions of quantile regression coefficients across 424 four-digit sectors.

Notes: quantile regression estimation for each 4-digit sector. The coefficient of log-labour productivity reported for the 0.05, 0.10, 0.25, 0.50, 0.75, 0.90 and 0.95 quantiles. Each violin reports a box plot and a kernel density to each side of the box plot. The median of Pseudo R2 is 0.1426 for quantile regression. Dashed line is the median of the distribution of OLS estimates.

Source: Dosi, Virgillito, and Yu (2020)

- ...and in growth patterns

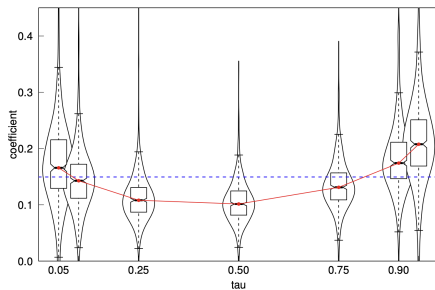


Figure: Productivity and wage growth: distribution of quantile regression coefficients over 424 four-digit sectors.

Notes: quantile regression estimation for each 4-digit sector. The coefficient on growth of labour productivity reported for the 0.05, 0.10, 0.25, 0.50, 0.75, 0.90 and 0.95 quantiles. Median of Pseudo R2 is 0.0348. Dashed line is the median of the distribution of OLS estimates.

Source: Dosi, Virgillito, and Yu (2020)

- Without adding to that the dismal working conditions: a “digitalized” Taylorism (more in Dosi and Virgillito, 2019)

- Indeed, higher productivity-wages elasticities in State-owned firms... A “fossil of socialism”?

- Chinese growth has neither been driven by “gains from trade” or “export dumping”, but rather by a *generalized catching-up in productivity*, and, more recently, in innovative capabilities.

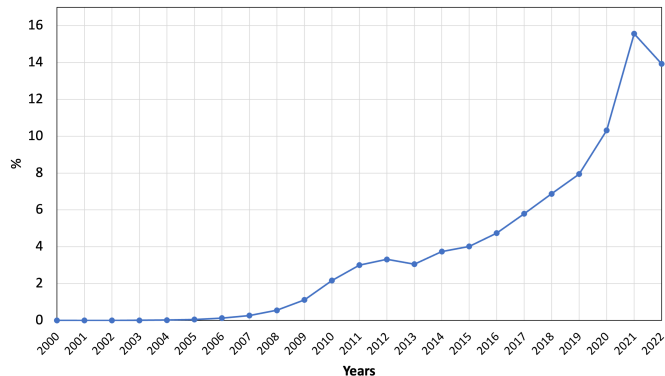


Figure: Share of Chinese patents in the USPTO

Notes: The denominator includes all patent applications in USPTO while the numerator all patents with China as the applicant Country. Data points start in 2000.

Source: USPTO

By ways of a conclusion

- “Universal” lessons: the role of policies;
- Can the experience of China be a model for other emerging economies?
- What is desirable and what should be avoided out of the Chinese model?