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Macroeconomics II

Lecture 17

Industrial policy: arguments and critique
The Justin Lin vs Ha-Joon Chang debate

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Theoretical Lecture 17 Industrial policy arguments and critique (2)

Topics:

- Arguments for industrial policy
- Limits of market conforming growth path,
- Dynamic industrial policy
- Examples of industrial policy
- Justin Lin vs Ha-Joon Chang
- Critique of industrial policy
- Conclusions

Readings:

Chang, Ha-Joon (editor). 2006. Rethinking development economics. Anthem Press: London. (Chapter 2, pp. 41-60; Chapter 12, pp. 257-276; Chapter 22, pp. 499-522).

Chang, Ha-Joon. 2004. Globalization, economic development and the role of the State. Zed Books: London (Chapter 4, pp. 105-55)

Chang, Ha-Joon. 1996. The political economy of industrial policy. MacMillan Press: London

Fine, Ben. 1997. Industrial Policy and South Africa: a strategic view. NIEP Occasional Paper Series, no 5, April, Johannesburg, National Institute for Economic Policy.

Fine, Ben and Zavareth Rustomjee. 1996. The political economy of South Africa: from minerals-energy complex to industrialization. Westview Press: London [Chapters 2 (pp 19-62), 3 (pp 63-70), and 9 (pp 208-240)]

List, Germany and South Korea

Friedrich List, German economist: accused Britain of “kicking off the ladder” (1841) and trying to impose free trade against **Germany's** protection of infant industries

- **South Korea**: 1960s and 1970s: total control on banking system and managed the industrial development (eg, Posco, steel maker)
- Control of foreign capital movements

Arguments for industrial policy

Market conforming

(what the market would do if it was perfect)

- Follows factor endowed comparative advantages – need markets
- Provision of fundamentals (macroeconomic stability, infrastructures and human capital).
- Correction of market failure & reduction of transaction costs (information, property rights, contracts)
- Concerned with state failure (capabilities, rent-seeking and predatory behaviour)

Dynamic industrial policy

(infant industry)

- Non-marginal change – need state
- Static coordination (lower transaction costs)

  & Dynamic coordination (learning)
- Selective (firms, technologies, markets) industrial policy
- Institutions are built as needed and by learning

Historical & Social location of economic policy

- Rejects state vs market debate
- Political “will” & “power” differ
- Industry and policy located in specific economies and political settings
- Social structures of accumulation determine economic patterns & focus, scope, specificity and effectiveness of policies

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Limits of the market conforming growth path

Market conforming convergence model does not occur (no market conforming structural change):

- initial factor **price** differences may be too large for equalisation to occur;
- factor **rigidity** (ex, labour market rigidities, capital rigidities associated with financial systems, skills and infrastructures, etc.)
- wrong **factor intensity analysis**: change in factor endowments, factor intensity reversal, capital controversy (capital intensity, and so labour intensity, cannot be measured), distribution between surplus and labour is social, rather than natural;
- shifts in **production/technological capabilities** and patterns may be non-marginal, they have cumulative and dynamic effects in economic trajectories

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Dynamic industrial policy

*"It is harder for an industry to push the technological frontier forward, or even keep up with it, if its own rate of expansion slows down – and **still harder if it is contracting**. This is unavoidable but tolerable when the growth of old industries is restricted by the rise of newer, more progressive home industries. But when retardation of older home industries is due to the rise of competing industries abroad, a tendency to **generalised slowdown** may be present."*
(Ocampo & Taylor)

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Dynamic industrial policy

What is dynamic/selective industrial policy?

> *"We propose to define industrial policy as a policy aimed at **particular industries** (and firms as their components) to achieve **outcomes that are perceived by the State** to be efficient **for the economy as a whole**."* (Chang, 2004, pp. 112).

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Dynamic industrial policy – Static dimension of coordination

Nature of the coordination problem:

- Increasing returns to scale (IRS) make the actions of individual agents non-negligible and interdependence, hence coordination, becomes important
- No firms can anticipate all the actions and outcomes of competition

Lack of coordination is wasteful because of assets specificity in industrial economies – if assets of bankrupt firms become unproductive there is an overall fall in productive capacity, employment and income.

Price wars and strategic uncertainty may arise, leading to over- or under-investment and crises

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Dynamic industrial policy – Static dimension of coordination

Industrial policy as a static coordination device:

- Optimal (involving restriction) to entry in industries with IRS to avoid wasteful price wars and guarantee efficient scale of production
- Recession cartels (such as oligopolistic output negotiations) to deal with temporary, unforeseen fluctuations in demand
- Negotiated exit/capacity scrapping, including compensation and retraining of workers, when changes in demand are permanent or long term

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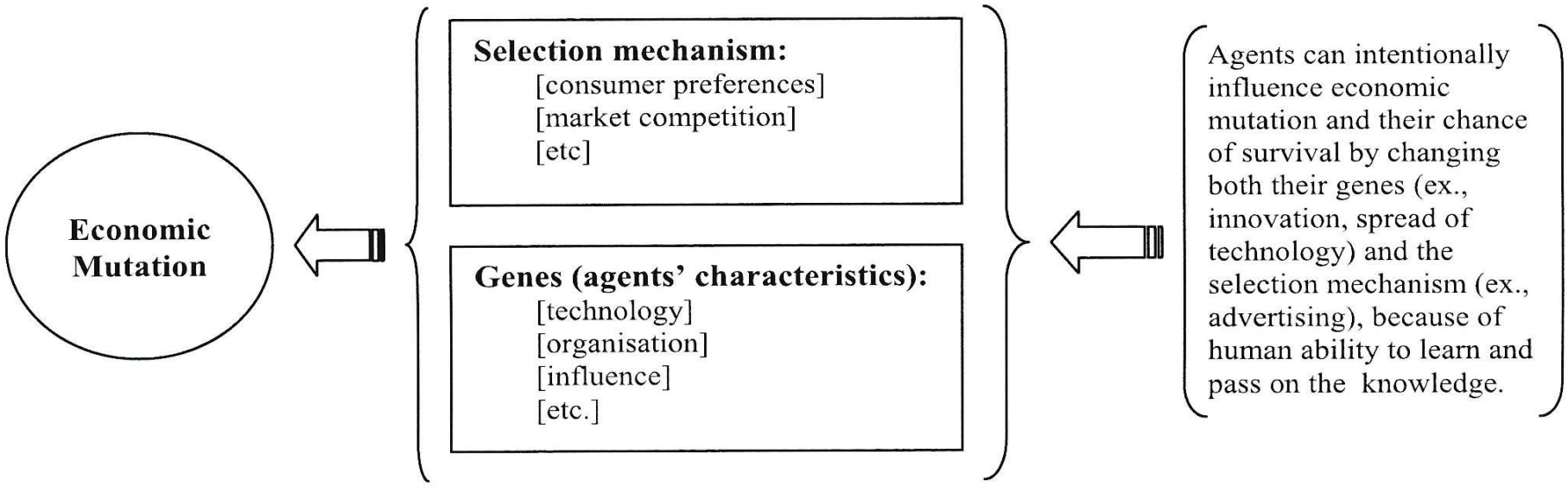
Dynamic dimension of industrial policy – nature of economic change



Hence, the agents through their strategies can influence the process and outcome of economic mutation. Even in the absence of a central or global conscious process of change, each firm and economic agent is a conscious learning centre, which pursues intentional survival strategies. Thus, there is nothing "natural" about the selection process and mechanism in economic life. This results from the simple fact that agents can learn (from codified knowledge and from others and own experience), pass on knowledge [through codified (ex., a manual) and institutional (ex., organisational innovation) means], and use the knowledge so acquired to formulate and implement their strategies.

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Dynamic dimension of industrial policy – nature of economic change

Industrial policy as a **dynamic coordination** device:

- Coordination of interdependence of interlocked assets and capabilities: indicative planning with focal points (including public investment) for complementarities; financial incentives for cooperative research into new areas and industries
- Codifiability of knowledge and the product cycle – incorporating knowledge generation and sharing in industrial policy (encouraging experimentation and learning by infant industries)
- Diversity of sources of innovation: subsidisation of potential new entrants that are equally capable as the incumbent, except financially; subsidisation of and cooperative R&D; promotion of basic research at Universities.

Examples of industrial policy:

- Industrial policy and the product/business cycle
- The extent of utilisation of import tariff barriers
- Import tariffs can discriminate
- Boeing (USA) vs Airbus (Europe)
- EU vs China (industrial and trade policy)
- Patents and industrial policy

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Industrial policies & the product/business cycle

Table 2: Characteristic of Industrial Activities and Policies in different phases of the Product Cycle

	Product Cycle		
	Infant industry	**Mature Industry**	**Senile Industry**
Characteristics of Industrial Activities	◆ Experimentation ◆ Different ways of doing coexist ◆ Little codified knowledge	◆ Best practices are adopted ◆ More codification of knowledge ◆ Re-structuring of the industry	◆ Production shrinks ◆ Sunk costs of highly specific assets and labour
Characteristics of Industrial Policies	◆ Ensure market stability to help innovation: ⇒ Patent system; ⇒ Subsidies; ⇒ Tariffs, etc. ◆ Institutional arrangements to cope with expected externalities (ex., regulation of negative externalities; compensation for positive externalities). ◆ Dynamic coordination: ⇒ Product and technological standards; ⇒ Cooperative R&D; ⇒ Competing investment (to avoid over and under investment) ⇒ Complementary investment (focal points)	◆ Consolidation of the institutional settings ◆ Static coordination ⇒ Investment decisions ⇒ Responses to demand fluctuations ⇒ Reduction of transaction costs	◆ Negotiation of exit and capacity scrapping ◆ Retraining and re-location programmes

Evidence – utilization of trade tariffs protection (import duties)

Table 1. **Average tariff rates on manufactured products for selected developed countries in their early stages of development**
(weighted average; in percentages of value)

	1820[1]	1875[1]	1913	1925	1931	1950
Austria[2]	R	15–20	18	16	24	18
Belgium[3]	6–8	9–10	9	15	14	11
Denmark	25–35	15–20	14	10	n.a.	3
France	R	12–15	20	21	30	18
Germany[4]	8–12	4–6	13	20	21	26
Italy	n.a.	8–10	18	22	46	25
Japan[5]	R	5	30	n.a.	n.a.	n.a.
Netherlands[3]	6–8	3–5	4	6	n.a.	11
Russia	R	15–20	84	R	R	R
Spain	R	15–20	41	41	63	n.a.
Sweden	R	3–5	20	16	21	9
Switzerland	8–12	4–6	9	14	19	n.a.
United Kingdom	45–55	0	0	5	n.a.	23
United States	35–45	40–50	44	37	48	14

Source: Chang 2002a, p. 17, table 2.1.

Notes:
R = Numerous and important restrictions on manufactured imports existed and therefore average tariff rates are not meaningful.
1 These are very approximate rates, and give range of average rates, not extremes.
2 Austria-Hungary before 1925.
3 In 1820, Belgium was united with the Netherlands.
4 The 1820 figure is for Prussia only.
5 Before 1911, Japan was obliged to keep low tariff rates (5% or below) through a series of unequal treaties with the European countries and the USA. A table in *World Development Report 1991* by the World Bank (1991, p. 97, box table 5.2) gives Japan's *unweighted* average tariff rate for *all goods* (and not just manufactured goods) for the years 1925, 1930, 1950 as 13%, 19%, 4%.

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Evidence – utilization of trade tariffs protection (import duties)

Table 2.2
Protectionism in Britain and France, 1821–1913
(measured by net customs revenue as a percentage of net import values)

Years	Britain	France
1821–5	53.1	20.3
1826–30	47.2	22.6
1831–5	40.5	21.5
1836–40	30.9	18.0
1841–5	32.2	17.9
1846–50	25.3	17.2
1851–5	19.5	13.2
1856–60	15.0	10.0
1861–5	11.5	5.9
1866–70	8.9	3.8
1871–5	6.7	5.3
1876–80	6.1	6.6
1881–5	5.9	7.5
1886–90	6.1	8.3
1891–5	5.5	10.6
1896–1900	5.3	10.2
1901–5	7.0	8.8
1906–10	5.9	8.0
1911–13	5.4	8.8

Source: Nye 1991, p. 26, Table 1.

And tariffs discriminate

- 2002: **India's** exports paid more tariffs, in absolute value, in the USA than the UK (3 times larger and which exported much more)
- **Bangladesh** paid as much as France as tariffs to the UK, in total value (despite the fact that its economy was 3% of that of France)
- Import tariffs on final, manufactured products may be significantly higher than on raw materials, thus making it more difficult for exporters of raw materials to move into exports of manufactures outside of the narrow scope given by standardized, cheap labour simple manufacturing

Boeing (USA) vs Airbus (Europe)

- Large corporations competing for the same market, in oligopolistic markets of limited size.
- Costs of "price war" prohibitive for companies and governments (which subsidised them) in the long run, affecting their ability to invest and innovate (as resources were spent seeking subsidies, subsidizing and lowering prices).
- Strategic trade options:
  - Eliminate one of them, or
  - Specialize them in different market niches (this is, divide/share the market between oligopolies according to specificities in market demand and characteristics of production – product and market differentiation)
- Second option (market sharing) was adopted in what Paul Krugman called strategic, oligopolistic trade theory/policy

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EU vs China (trade and industrial policy)

- China joined the WTO in December 2001
- Trade with the EU grew very fast, initially with exports of China being light industries – greatly affecting exports of EU peripherical economies to the EU, as they exported the same as China, but not as competitively.
- Since EU countries that are members of the Euro mechanism have no independent monetary policy, they could not devalue the currency, and devalued wages instead.
- Trade deficit of EU vs China increased sharply, but affected mostly peripherical economies, which to compete against China for the EU market, not so much German and France, which were exporting technology intensive products

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EU vs China (trade and industrial policy)

- China utilised huge economic surplus to finance technological development: science and technology effort at home and purchase of technology based/focuses firms in the world
- The structure of exports of China to EU started to change towards technology intensive products (52% of China's exports to the EU in 2019), competing with Germany and France.

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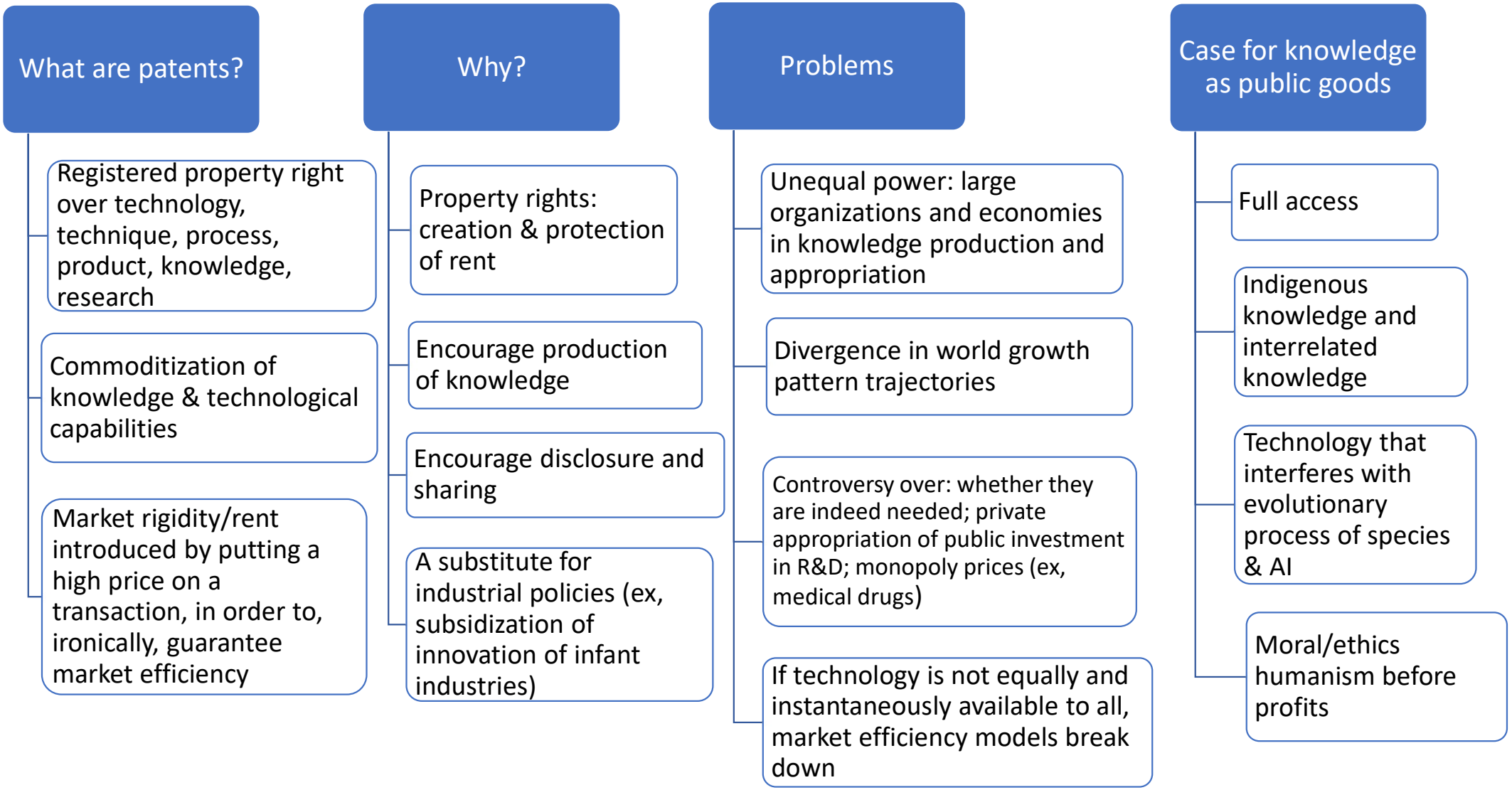
EU vs China (trade and industrial policy)

- France and Germany, who had opposed selective industrial policies to protect peripherical EU economies, begun to work on industrial policy to counteract China: new investment and trade codes; new trade tariff barriers associated with human/workers rights, environment, phytosanitary regulations, transparency; limitations to foreign (outside of EU) purchase of technologically intensive firms and capabilities in the EU, public investment in research & development (R&D) in high tech areas, such as 5G infrastructure and technology, artificial intelligence (AI), and so on.
- Is a political window opening for a serious debate and reconsideration of the role of industrial and trade policy in the EU, more broadly? To what extent this can be done given the dynamics of financialization of the European capitalist economies, the existing rules and regulations in the EU and WTO, and the fragility of public finances following the financial crisis of 2008 and the pandemic caused by SARS-CoV-2?

Patents and industrial policy



The fight for patents

- Swiss authorities refused to grant patents on chemicals (against German industry) – it remained so until 1978
- Netherlands abolished the patent system in 1869, to be forced to reestablish it only by 1912 (this is how **Philips** was developed, “borrowing” Edison's patent on light bulbs)

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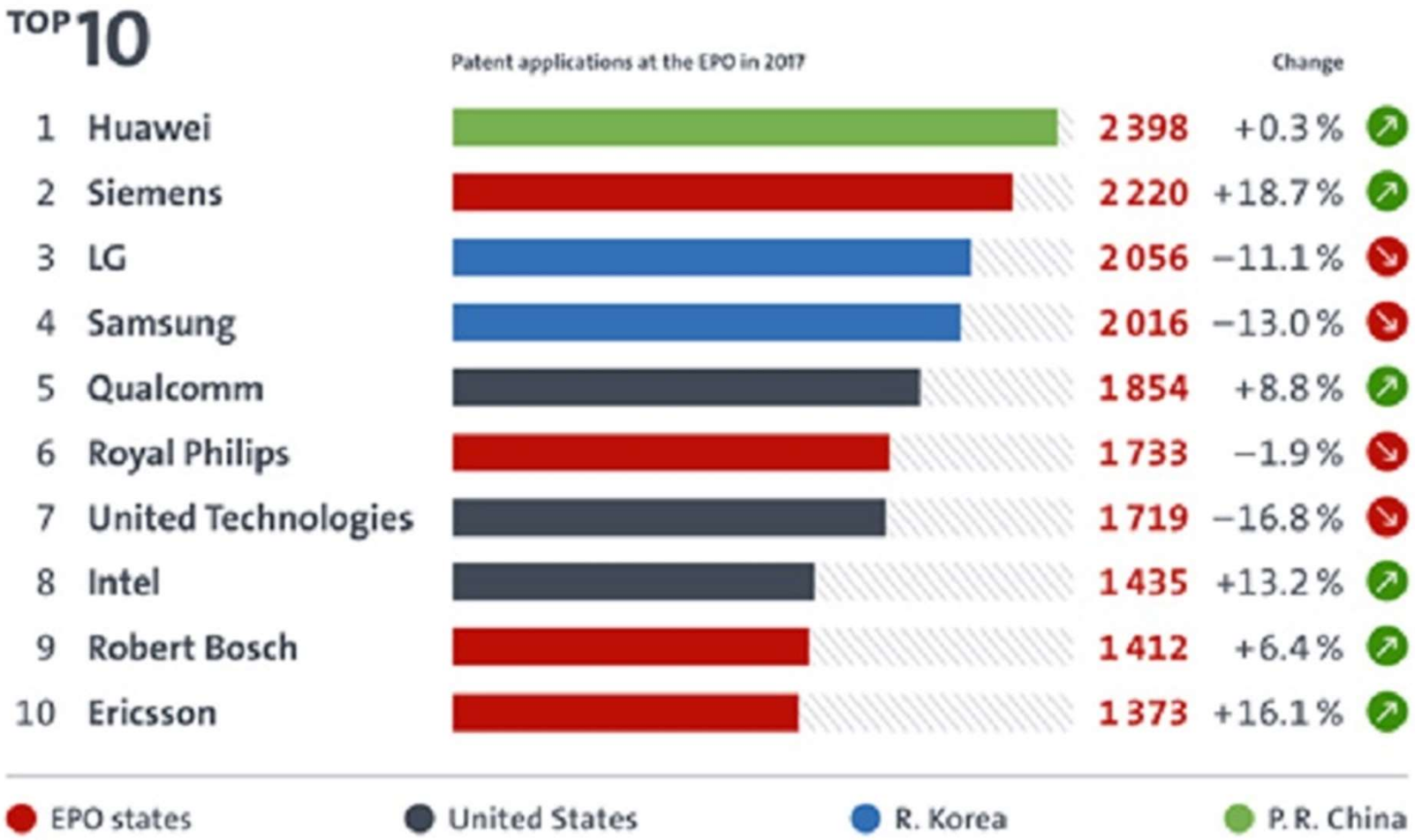
Top PCT firm applications in Europe (2017)



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Justin Lin vs Ha-Joon Chang

The peer reviewed journal *Development Policy Review* 2009, 27(5), published a debate between Justin Lin (then senior economist and vice-president of the World Bank), and Ha-Joon Chang (Professor of political economy of development, University of Cambridge), titled ***Should Industrial Policy in Developing Countries Conform to Comparative Advantage or Defy it? A Debate Between Justin Lin and Ha-Joon Chang***

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Justin Lin vs Ha-Joon Chang

The two economists share similar frameworks of analysis but disagree about a variety of issues, namely:

- the degree of market conformity with or departure from endowed comparative advantages in industrial policy. Hence, they disagree about the relevance given to states or markets in the development process.
- Justin Lin models comparative advantages with the HOS trade theory (comparative advantages given purely by endowed relative factor intensity), whereas Ha-Joon Chand models his comparative advantages on Ricardo's, which takes into consideration how conditions of production (including technologies) may result in different economic trajectories associated with different directions of specialization and linkages potential.

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Justin Lin vs Ha-Joon Chang

- the interpretation of observations from history, namely about conformity and departure from comparative advantages, state and market failure,
- and the relevance of neoclassical models that inform economic policy without consideration for specifics of technological dynamics, costs of adjustment and differences between sectors, firms, technologies and markets.

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Critique of industrial policy

Neoclassical critique

- State capabilities: incomplete information and information asymmetries
- Political economy: rent-seeking and predatory state
- Legitimacy and democratic control
- Institutions required (institutions are not factor endowments)

Critique of industrial policy

Broader, heterodox critique:

- State vs market debate is an inadequate description of how the economy functions; states and markets are influenced by the same forces (linkages/economic pressures and agents), whose interaction forms the structures of accumulation, and states operate through markets
- Political “will” and “power”, as well as feasibility of policies – drawn from political economic conditions
- How industrial policy is defined, quite apart from how it is formulated, implemented and monitored, reflects competing economic and political pressures and interests that choose to highlight some aspects of policy at the expense of others

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Critique of industrial policy

- All policies of significance have impact on industrial performance.
  - Macroeconomic policies: demand, interest rates and exchange rates, all of which have a direct impact on industrial performance through market access, costs of capital and intermediate goods and export competitiveness at the margin.
  - Labour market policies: industrial relations, wage rates and the skills of the working force, also have a direct impact on industrial performance.

- Global view of industrial policy calls attention of analysis and policy to:
  - industrial policy is situated within the context of the economy as a whole and responds to a strategy of capital accumulation of one type or another;
  - many factors concur to influence which specific policies are adopted and/or chosen to be mentioned, and why the impact of similar policies may differ substantially over time and across countries and industries;
  - industrial policy takes place within the framework given by the specific economic and political structures and dynamics of capital accumulation, their internal tensions and struggles.

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Conclusions

1) Growth trajectories, speed, sustainability and transformative power are related to socioeconomic transformation, which, in the literature, is associated with industrialization

2) The power of **industrialization** arises from (a) evidence that links "virtuous" cycles to industrialization; (b) dynamic and cumulative increasing returns; (c) the social and historical nature of capital accumulation and capitalist transformation of society.

3) **Neoclassical economics** understands industrialization as a market conforming process based on endowed comparative advantages. H-O models predict long term convergence and equalization of relative factor intensity and prices

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Conclusions

4) **Structuralist** economics argues for dynamic industrial policy on the grounds of required non-marginal change;
5) **New-institutionalists** argue for industrial policy on the grounds of static (coordination of investment and response to crises) and dynamic (coordination of interdependence, learning and innovation) coordination, because of coordination failure.
6) **Neoclassical** critique of industrial policy/strategy focus on state capacity, rent-seeking, predatory states, legitimacy and democratic control and the “cost” and difficulty to building required institutions.

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Conclusions

7) Broader and **heterodox** critique emphasises that all significant policies have impact on industrial performance, that industrial policy is located within a specific economy as a whole, responds to economic linkages and pressures and conflicting interests of agents, the relative success or failure of IP depends on many different socially and historically related factors, and that the industrial policy and industrial and growth patterns emerge from specific structures of capital accumulation, social tensions and struggles associated with it and how they are resolved.