How to do smart industrial policy (IP)

Robert H. Wade

LSE
This talk

• (1) the proximate determinant of wealth of a nation: firms’ capabilities. Standard for judging IP: effects on firm capabilities.
• (2) Nature of IP
• (3) Map of the literature on IP
• (4) East Asian IP
• (5) US IP: network creation
• (6) US IP: direct support: wind turbines
• (7) China IP: wind turbines
• (8) Conclusions: LAC must do more smart IP
Development is difficult!

- Q: how many ‘non-western’ national economies have become ‘developed’ over past 200 years?
- A: less than 10.
- State average income mobility matrix: most movement downwards 1960-2005
- Compare standard neoclassical story: devt easy provided govts don’t screw up mkts, & limit ‘interventions’ to ‘market failures’
- This is the ‘marathon race’ metaphor of devt
Globalisation: 3 waves

• (1): 2nd half 19C: explosion of international trade, based on differences in factor endowments. Ricardo 1820s, Hecksher & Ohlin 1920s

• (2) After WW2 to 1990: much of it ‘intra-industry’ trade b/w similar industrial economies (German cars to France, French cars to Germany). Production immobile. Belassa 1967, Krugman 1979 on monopolistic competition

• (3) 1990 -- today: opening of China & India & FSSU. Trade in industrial goods b/w ecies of different levels of industrial capabilities. Production mobile: ‘outsourcing’. Poses trade-off b/w (a) profits of western companies, (b) jobs in low-income ecies, (c) middle-class jobs in West
The wealth of nations

- Proximate causes of relative ‘wealth’ of nation X relate to ‘capabilities’ of its firms. Capabilities determine productivity, quality of products (‘vertical differentiation’), & ability to switch product lines (‘horizontal diffn’)

- These determine ability to compete against firms in other ecies (ER etc constant), esp in 3rd wave of globn
Indicators of firm capabilities

- Country’s composition of Xs: sector, quality.
- Ctry with high share of Xs in textiles & clothing will be poor ctry. One with high share in pharma & machine tools will be rich ctry.
- Cf Bangladesh & US
- Quality: at given price everyone wants higher quality
- Capabilities cluster geographically. Why? (1) firms learn fr each other. (2) ‘social overhead capital’
Industrial policy (IP)

• Firm capabilities (some of them) are scarce, and valuable.
• Key Q: how can state help to increase firms’ capabilities? State help can be expensive; some firm capabilities more valuable than others. So state help must be selective (which creates winners & losers)
What is IP?

- IP = state strategy, based on medium- to long-term perspective, using variety of instruments, to promote new industrial & technological capabilities of higher order than those currently existing in the economy, beyond what “free market” forces might promote
- Capabilities to produce more higher quality goods & more higher value-added new products
- Must be **selective**: sectors or functions
- Can also assist “death” of sunset industries.
- Complementary to ER policy & interest rate policy
Research on IP: (1) effectiveness

• 3 broad conclusions:
  • (1) IP unnecessary, & ineffective (Howard Pack)
  • Most m’stream ecsts believe that in market economies resources flow smoothly to where most efficient, most profitable. No mkt segmentation.
  • Accept that mkt prices might diverge from social valuation (= “mkt failure”). But say, “govt failure > mkt failure”. Therefore, avoid govt interventions of IP type; “the mkt knows best”
  • Gary Becker (Uni Chicago): “The best IP is none at all”
  • Helmut Schmidt: “People who have visions shd see a doctor”
(1) Effectiveness (ctd)

• (2) IP can be effective when it fixes ‘mkt failures’ & promotes sectors within ey’s existing compv advantage (Dani Rodrik; Justin Lin)

• (3) IP can be effective in promoting sectors where ey will be able to get benefits from higher value-added products (Chang; Wade)
Research on IP: (2) feasibility

- Regardless of whether IP effective in past, today it is less feasible, because of WTO rules (Linda Weiss)
Research on IP: (3) determinants of state capacity

• The political & class determinants of state’s ability to undertake IP successfully (Atul Kohli; John Zysman)

• Argument: ‘strong’ states can escape ‘regulatory capture’ & implement IP successfully. But may also be very corrupt
Research on IP: (4) content of IP

- What IP instruments have different states used at different times? Eg subsidies; tariffs; govt procurement.
- Has the US used IP? If so, how?
- Have major states increased or decreased their IP interventions since Crisis?
World Bank, OECD et al

- Since 1980s, Washington Consensus: ‘the 3 –ations: stabilization, privatization, liberalization’
- WB, OECD et al hostile to IP.
- Eg WB & East Asia Miracle report 1994
- OECD Development Center: major report being written about challenges to DCs in upgrading production structure; no agreement on whether to call it ‘IP’ & how much to endorse active role of state.
Implication of economists’ hostility

• It doesn’t matter if a country looses one industry after another, b/c there is always some activity within its compv advantage it can specialize in.

• Financial Times: “The malady of mfg”: Jpn wrong to retain manufacturing (using robots). Shd concentrate on (1) research, (2) telling other c’ies what to produce for Jpn companies to put their brand names on.

• FT: Rise of China good for LAC b/c it returns it to its sectors of ‘historical compv advantage’
Fallacy of mainstream economists

• “Those who know only abt generic firms competing in abstract mkts know nothing useful at all. Nobody can understand real-world industrial Kism without understanding the nature & history of specific industries that rival countries struggle to obtain, by fair means or foul”

Revived interest in IP since 2008

• (1) Even Michael Porter now argues that US needs IP, having earlier said that only firms (not countries) have strategies
• (2) Justin Yifu Lin, Chief Economist of World Bank 2008-12, “new structural economics”
• Reaction from WB ecsts negative
• WB’s recent ‘competitive partnerships initiative’
• (3) Head of France’s Strategic Investment Fund: “We consider it legitimate for the public authority to worry abt nature & evolution of industrial fabric of our ctry…The state has a right to have a vision”.
Revived interest (ctd)

• Sergio Marchionne, boss of Fiat: “An economy that forsakes mfg to focus on financial & other services depletes itself. It loses workers, its skills base is eroded, it sacrifices econ stability – all precious resources that, once they have disappeared, are v difficult to rebuild” (quoted in Phillip Inman, Guardian, 22/11/11, p.28)
E Asian IP, post WW2

• Jpn was pioneer; Taiwan & SK looked to Jpn as model (cf LAC, no model)
• All had top-level coordination/planning bodies at heart of govt (eg Jpn EPA, MITI)
• Also, all had grass-roots ‘industrial extension service’: public agencies staffed by engineers who engaged with firms/factories
• Eg Taiwan’s Indust Devt Bureau
Grass-roots IP in Taiwan

- IDB, within Ministry of Econ Affairs. Started in early 1950s
- Staffed mainly by engineers, divided into sector teams
- Acted as “industrial extension service”: transferred info abt markets & technologies to factory floor, & info abt factory floor to “center” (fed to top-level Council for Econ Planning).
- IDB officials practiced “nudging” IP – nudging foreign firms to ‘marry’ with local suppliers (not “picking winners”). Eg Philips’ specialized glass
- Few incentives under direct control
EA IP (ctd)

- Instruments: (1) Information provision for Xers. Taiwan External Trade Devt Corpn. Detailed info: eg NZ
- (2) Incentives for Xs: (a) duty drawback; (b) EPZs; (c ) Export Months, Export Prizes, ‘national duty’
- (3) Fiscal incentives for higher quality
- (4) Concessional credit
- (5) Science parks: incentives to commercialize
US IP: hidden dev’al state

• US has no national strategy, no overarching coordinating agency
• Many say, wrongly, US has no IP; its pre-eminence due to free mkts
• In fact, US is a hidden “developmental state”. US IP decentralized.
• Hidden b/c of “mkt fundamentalist”/Republican hostility
US IP: (1) network creation

- Uncoord federal agencies create & maintain supra-firm networks linking the agencies, firms, sources of finance, federal labs, universities. CHART
- Many IP programs are under “defence” umbrella & therefore protected from market fundamentalists
- Eg DARPA (Defence Advanced Research Projects Agency). Spawned the internet; created SEMATECH; etc etc.
- CIA, Army, Navy, have VC funds
- Also non-military agencies: Dept of Energy, National Institute Standards & Tech, National Institutes of Health; and state-level agencies
innovation

Federal agencies & labs

For-profit firms

Academic research, university-industry collaboration centers

VCs, banks, equity mkts
US network IP

- **Role of govt:** Networks of firms, involving pooling of knowledge, tend to be **fragile**, because of Prisoners’ Dilemma problems. Govt **stewardship** can mitigate.
- “Network building IP” does not involve “govt picking winners”; involves collaboration with **private** firms & relies on **mkt** mechanisms
- Evidence suggests benefit/cost ratios tend to be high. Eg internet!
- But still Republicans/mkt fundamentalists want to shut down (most) of the programs.
US IP: (2) direct promotion

• Eg wind turbines: From 1995 US gvt gave tax credits for installation of wind capacity. But required annual Congress approval; withheld in some years; boom-bust cycle in wind investment.

• Since 2009, as part of American Recovery & Reconstruction Act, tax credits de-linked from annual Congress approval; & new cash grants introduced.
US wind IP (ctd)

• In 2010 capacity jumped by 15% over 2009. In 2011 US has 21% of world wind capacity, for 10 million homes
• Why the increase in gvt support in 2009?
• Before 09, justification for wind IP was: ‘environment’, ‘energy independence’. Both long-term
• After 09, also ‘protecting & creating American jobs’. Politically powerful.
• But most of the IP funding has gone for purchase of foreign-made turbines. Since 2010 funding directed towards US-based makers (even if foreign owned)
• States (eg CA) have passed RES (Renewable Energy Standards)
• US has remained within WTO rules
China IP: wind

• China now world’s biggest investor in renewable energy (& in dirty coal!), clean technologies, waste management
• By 2010 China had world’s biggest capacity in wind turbines (> US, Germany)
• Mkt share of foreign firms: 2004: 79%; 2009: 17%. Now, turbine mkt hostile to foreign producers (including those producing in China)
• Chinese wind companies now investing in US, Europe (Greece), India, Australia
China wind IP (ctd)

- Success driven by active state role, in ‘top down’ way
- Public procurement biased to Chinese firms. High local content requirements. Subsidies for Ch makers, & for research by Chinese companies.
- WTO consistent – b/c Ch not signed Govt Procurement Agreement. US says Ch not complying with Agreement on Subs & Countervailing Measures. Ch scaling back subsidies, now that its firms competitive.
US & China wind IP

• Neither relied on tariffs or antidumping investigations to limit imports
• Both used subsidies, & public procurement to direct purchases to firms producing within their territory.
• Ch discriminated against foreign-owned firms producing in Ch (US did not)
Lessons from experience abt “how to do IP”

• **3 key dimensions** of successful IP:
  • (1) development of medium- to long-term national strategy for structural change;
  • (2) establishment of public-private alliances/networks, out of which comes the strategy;
  • (3) state has sufficient “autonomy” to avoid state capture by vested interests;

• **Premise:** In fast-changing global economy each side has *some* of information needed to identify constraints & opp’ies; but less than could be got by coordinating efforts.
Public-private alliances

• Successful countries include: Ireland, Finland, Singapore, Sweden, Spain, Australia, Japan, Korea, Malaysia, Taiwan

• All established national “pilot councils”, including public & private (business, labor, TU, academic, science) membership.

• Councils = neutral, high-level forum with technical support, for discussing direction of country’s development; & forging consensus about necessary changes in direction, policies, institutions.
Balance b/w internal relations & external relations with publics

- A difficult balance.
- Deliberations in public-private alliances have to be in **private**.
- Alliances must have communication strategy involving civil servants, policy makers, representatives of business & trade unions spreading the ideas of the developmental state within civil society.
- Citizens must be involved in public forums.
Finland's Science & Tech Policy Council

- Founded in 1987.
- Chaired by PM, 7 ministers, 2 business reps, 1 labor, 7 academic & science = 18 members.
- Meets 4 times/yr
- Supported by 2 subcttees (one for science, one for education), and by secretariat of 4 fr Ministry of Education.
- Every 3 years publishes a consensus-based report on opportunities/challenges, with recommendations for budget resource allocation.
Ireland's Nat Econ & Soc Council

- Established in 1960s
- Chaired by senior civil servant in PM's office; senior civil servants of plan-relevant ministries, 5 reps fr business, 5 fr TUs, 5 from farmers, 5 fr NGOs, 5 independents appointed by govt.
- 3 year terms.
- Gets technical + admin support from secretariat of 9, most of whom technical experts.
- Meets once a month for half day/day.
Ireland (contd)

• NESC avoids current issues; but at same time, it tries to focus on pragmatic specifics by framing specific future problems & channelling discussion around solutions.

• Deliberations are private.
Lessons: implementation of IP

• Lead ministry for steering the public-private alliances and for leading implementation must **NOT** be finance ministry.
• Leadership of strategy shd be vested in one or two “real” economy ministries (eg of industry & trade, or education & science).
• Process must be supported by top political level of govt (eg PM)
• Process shd be supported by a strategic “think tank” for technical analysis (eg Ireland – Dept of Enterprise, Trade & Empt; Iceland – National Inst Econ Research, as was).
• IP must be translated into specifics: **officials have to know what they are expected to do** which is different from what they did.
Conclusions

- (1) Almost all non-western c’ies which became developed in past 200 yrs have had strong state promotion role (HK?)
- (2) Yet mainstream economists treat the biggest success stories as ‘outliers’; and say that DCs shd not practice IP
- (3) Mainstream ecsts believe US has no IP. Not true: has long practiced form of ‘hidden’ IP: netwrk building; as well as more overt IP (Boeing)
Conclusions (ctd)

• (4) Since GFC of 08 many gvs – ACs & DCs -- have increased IP. But not with tariffs & antidumping measures; with subsidies & public procurement

• This allows govts to declare commitment to ‘open borders’, & to keep pushing for FTAs, BITs, & unilateral trade liberalization in DCs – even as they abandon ‘level playing field’ at home.
Conclusions (ctd)

• (5) In face of Chinese competition govts in Latin America must help to build up non-traditional exports & replace some imports
• (6) Question 1: HOW to organize a strategy: both at national level & at “meso” level (firm networks)
• Look to other countries’ experience: eg East Asia, US, Finland, Ireland, Chile
• (7) Q 2: What instruments work well, in what political conditions?
• (8) Q 3: Dimensions of discrimination: by sectors; by location (producers at home vs. producers abroad); by nationality (eg against foreign firms producing locally).
• (9) Q 4: How do WTO rules limit scope for IP?
References

• R. Wade, Governing the Market, PUP, 2004

• F. Block & M. Keller (eds), State of Innovation, Paradigm, 2001

• R. Devlin & G. Moguillansky, Breeding Latin American Tigers, ECLAC & World Bank, 2011
Iceland’s 1990-2008 development strategy

- Strategy focused on expanding scope for private market actors: therefore, public sector interventions to privatize public enterprises, lift restrictions, loosen regulations; hence banks privatized, monetary policy targeted inflation, ER floated, no restrictions on capital flows.

- Plus, public provision of education, health, social protection, infrastructure

- Assumption: “mkt-based price incentives for private businesses will promote satisfactory rate/growth & employment structure”
Results of devt strategy by 2007

- Gigantic current account deficit/GDP
- Massively overvalued ER
- Bank assets-liabilities/GDP 2nd highest in world
- Housing bubble; stock mkt bubble
- Finance sector financed (a) finance, (b) construction, (c) fishing
- Non-traditional firms & exports squeezed
Iceland’s post-Crash predicament

- Iceland will not be an international financial center/tax haven in North Atlantic; finance will not be growth sector.
- Must raise productivity & develop innovations in “traditional” sectors (fishing, ag, aluminium, geothermal)
- Must diversify economy by boosting growth of “new” sectors like IT, biotech, and ...
Iceland’s post-Crash IP

• Government has only one “primitive” IP instrument: subsidy to R&D.

• Govt has done little to (1) steer formulation of vision of economy’s future growth, (2) develop incentive schemes to promote structural change & productivity growth, (3) encourage networks b/w firms, VCs, banks, universities
Evidence about import substituting industrialization (ISI)

- Mainstream belief: ISI (trade protection, capital controls, targeted credit) is a bad devt strategy; export-oriented industrialization (EOI) is good. Hence, Washington Consensus
- Labor productivity grew 2x as fast in 60-75 than 90-05, due to much faster STRUCTURAL change from low-productivity to high-productivity sectors
Pro IP argument:

- **Mkt prices** give signals for *incremental* change; but can block larger economic diversification & innovation.
- What an economy produces today determines the skill & comparative advantage of tomorrow – an effect which is “external” to private decision-making.
- Govt can help steer resource allocn to shape compv advantage of tomorrow.
- Therefore, CA in mfg substantially *man-made*
Pro IP (contd)

- Govt can “fail” (as can mkts); but govt has advantages over private sector in observing & using aggregate information about whole economy & its links to other economies, & in exercising economy-wide foresight.

- Govt can use its authority & resources to overcome “collective action” problems in coordination b/w private firms (eg pooling information through networks)
Pro IP: historical evidence

- 19\textsuperscript{th} & 20\textsuperscript{th} C catch-up/leapfrogging: directive role of state crucial: UK < US & Prussia; rise of Jpn; NICs
- Since 1950 developed countries have used standard set of policy tools to grow new industries, especially when new industry faces strong incumbants (s.a. renewable energy industries facing fossil-fuel industries):
  - subsidies, lower tax rate, low-interest loans, public procurement