Chile’s Journey Toward a Knowledge Economy: Progress and Challenges

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About ITIF

- The world’s leading science and technology policy think tank.
- Supports policies driving global, innovation-based economic growth.
- Focuses on a host of issues at the intersection of technology innovation and public policy across several sectors:
  - Innovation and competitiveness
  - IT and data
  - Telecommunications
  - Trade and globalization
  - Life sciences, agricultural biotech, and energy
What Is Innovation and Why Does It Matter?

- The improvement of existing products, processes, services, and business or organizational models.

- The transformation of existing conditions into preferred ones.

- Accounts for 90% of the variation in income per worker across nations.

- Facilitates economic diversification that can help overcome the “middle income trap.”
Innovation Economics: The Race for Global Innovation
Innovation Industries Share Three Distinct Characteristics

1. They compete by inventing next-generation products or services.

2. They are characterized by very high initial fixed costs (e.g., R&D/design), but low marginal costs.

3. They fundamentally embody and depend on intellectual property.
Necessary Conditions for Global Innovation to Flourish

1. Access to large markets (e.g., economies of scale).

2. No excess (e.g., non-market-based) competition.

3. No “forced localization requirements” that unnecessarily fragment global production systems.

4. Robust intellectual property rights and protection thereof.
IPRs Are Vital to Innovation, As They:

1. Create incentives for domestic innovation.
2. Enable a virtuous cycle of innovation.
3. Induce knowledge spillovers that help others to innovate.
4. Boost domestic levels of exports, R&D, and FDI.
5. Promote the international diffusion of technology, innovation, and knowhow.
Stronger IPRs Lead to Increased R&D, FDI, and Exports

- Strengthened patent, trademark, and copyright protections have a “statistically significant” association in relation to domestic R&D, inbound FDI, and exports.

- A 1% ↑ in: copyright protection = 3.3% ↑ in domestic R&D
  trademark protection = 1.4% ↑ in domestic R&D
  patent protection = 0.7% ↑ in domestic R&D

- A 1% ↑ in: copyright protection = 6.8% ↑ in FDI
  trademark protection = 3.8% ↑ in FDI
  patent protection = 2.8% ↑ in FDI

Source: OECD, “Policy Complements to the Strengthening of IPRs in Developing Countries”
Ryan: “Patents provided incentives for biomedical technology entrepreneurs to make risky investments into innovation in Brazil.”

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Innovate4Health – Latin America

- Argentina: World’s first lung cancer vaccine.
- Brazil: Mobile app that helps individuals with disabilities communicate.
- Chile: Biomarkers detecting poisonous seafood.
- Colombia: Treatments for burn victims.
- Mexico: Antivenom medications.

https://medium.com/innovate4health
Robust IPRs Support the Diffusion of Innovations

- Study of 642 new drug launches in 76 countries from 1983 to 2002.
- Finds speed/extent of diffusion strongly associated with countries’ patent and price regulation systems.
- Moving from a regime of no product patents to long product-patent terms reduces drug launch lags by 55%.

Source: Cockburn, Lanjouw, and Schankerman, Patents and The Global Diffusion of New Drugs, 2016
Compulsory Licenses Fail to Deliver Intended Results

- Analyzed 30 compulsory licenses of HIV/AIDS retroviral drugs against 673 comparable procurements.
- “Compulsory licensing often delivered suboptimal value compared to intl. procurement alternatives.”
- Prices higher in two-thirds of cases, with a price premium of 25%.

Source: Reed F. Beall, Randall Kuhn, and Amir Attaran, “Compulsory Licensing Often Did Not Produce Lower Prices For Antiretrovirals Compared To International Procurement”
Innovation Policy Recommendations for Chile

✓ Turn Chile’s universities into real engines of innovation.

✓ Give universities rights to IP stemming from publicly funded R&D.

*The Economist*: “Possibly the most inspired piece of legislation to be enacted in America over the past half-century.”

**OPINION**

*Innovation's golden goose*

The reforms that unleashed American innovation in the 1980s, and were emulated widely around the world, are under attack at home.
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✓ Turn Chile’s universities into real engines of innovation.

✓ Give universities rights to IP stemming from publicly funded R&D.

✓ Offer entrepreneurial leave programs for students and faculty.

✓ Introduce industry-university collaborative R&D tax credits.

✓ Recognize IP rights as foundational to Chile’s knowledge and innovation-based economy.
Thank You!

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