



Innovation and Technological Catch-Up in Emerging Countries: The Case of the Wine Industry

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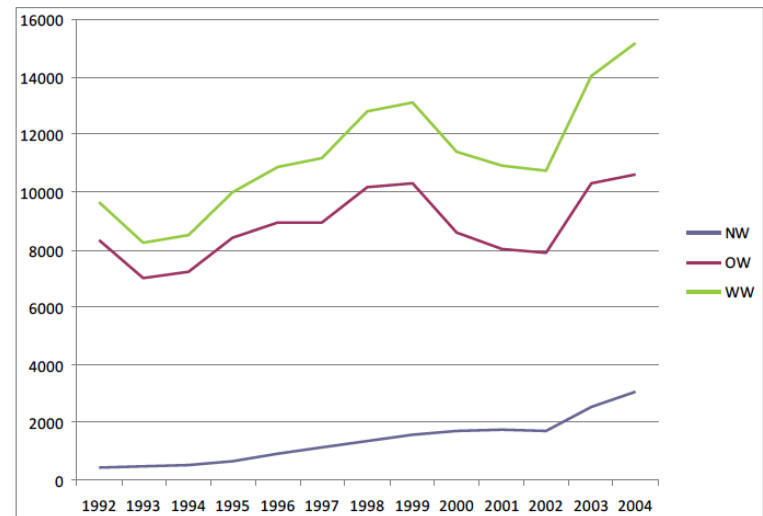
Why studying innovation and technological catch-up in the wine industry?

- Most studies on catching up are focused on high tech sectors (e.g. telecom, ICTs, software);
- Though, a large number of developing countries are still highly dependent on agriculture and agro-food industries;
- What has happened in the wine industry in countries such as Argentina, Chile and South Africa represents an extraordinary opportunity to investigate how a traditional agro-food industry can become highly competitive and catching up in the global market, when **following a different trajectory from the long-standing leading countries, a new pathway in which innovation, science and research do play a prominent role.**

The context

- Up to the end of the 1980s, 'Old World' (OW) countries, and particularly France and Italy, dominated the international wine market;
- Since the beginning of the 1990s, their supremacy has been challenged by new international players, who are recording spectacular performance in terms of both **exported volumes and values**;
- These 'New World' (NW) countries include affluent frontrunners that are relatively new to the wine sector, such as USA and Australia, and less developed but rapidly growing latecomers such as **Chile, Argentina and South Africa**

Wine exports by group of countries (1992-2004)



Catching up

- The concept of catching up has been commonly used in the economic literature to indicate the ability of a country to reduce the income and productivity gaps through copying and using, with some delay, the blueprints made available by the leaders;
- The spectacular catch-up in NW countries is better described as a process going far beyond the mere adoption of new technologies, and depending on the ability of countries in creative adaptation and innovation along and beyond the model followed by forerunners (Abramovitz; 1986);
- The wine industry is an excellent empirical illustration of Perez and Soete's (1988) **windows of opportunities opening up for latecomers at times of relevant market and technological discontinuities.**

Market discontinuities

1. **New markets** (US, UK, Scandinavian countries, recently Asia; baby-boomers, women): consumers with no prior experience;
2. **Old World (Italy, France, Spain)**: decline in consumption and shift of market from quantity to quality;
3. Increasing importance of **supermarkets and consolidation of distribution**;

Large quantity of good quality, easy to drink wines.



New World market-driven scientific approach to wine production

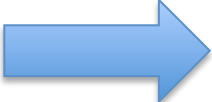

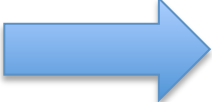
- ① Large investments to improve **viticulture and oenological** techniques, brand promotion and marketing;
- ② Investments in **domestic research** and **openness to foreign knowledge and technology**; 
- ③ Strong linkages **I-U linkages** (*bridging researchers*); 
- ④ New **institutional settings** supporting the industry. 

Figure 2a - Network of research collaborations* between countries (1992 – 1996)

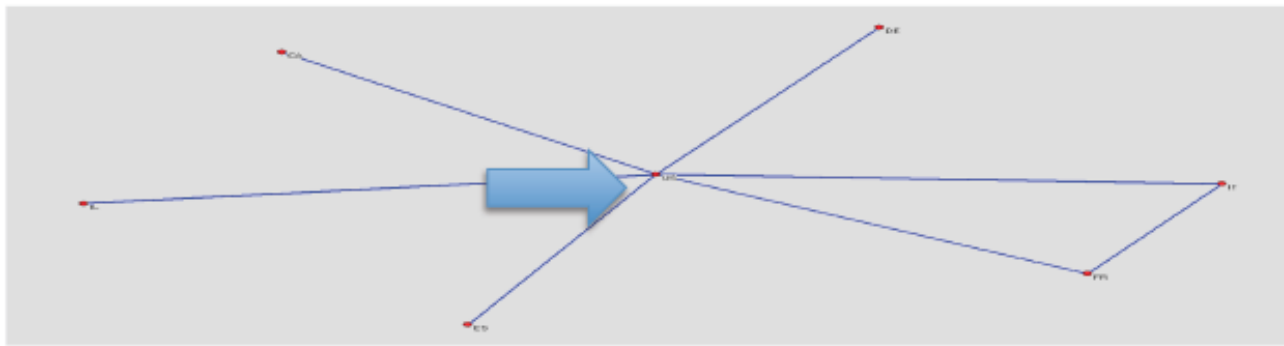


Figure 2b - Network of research collaborations* between countries (1997 – 2001)

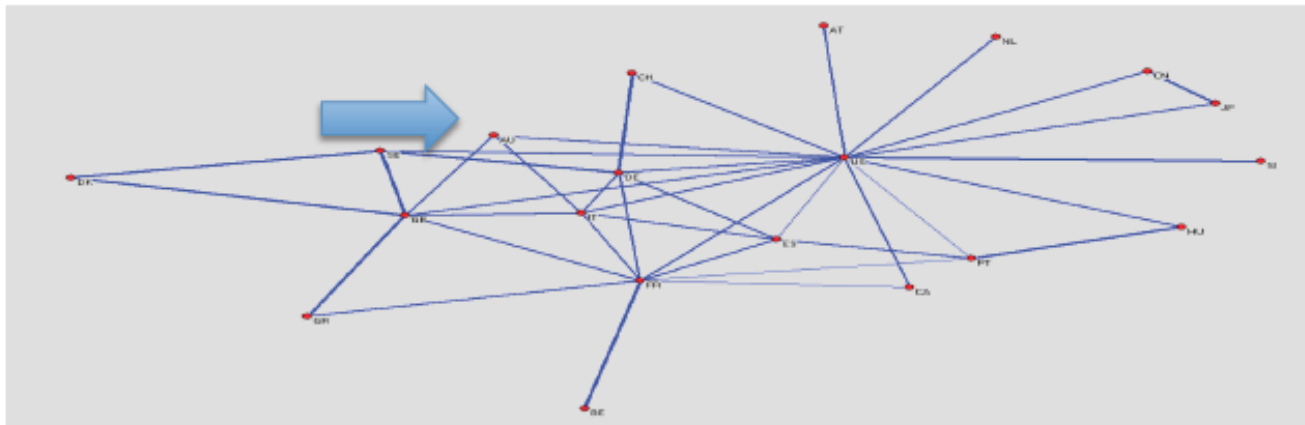
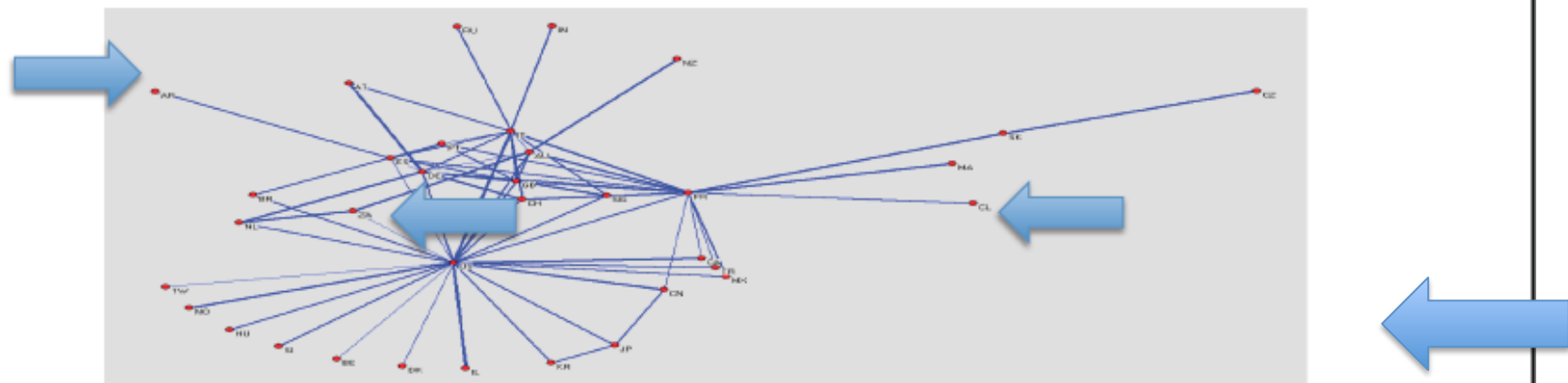


Figure 2c - Network of research collaborations* between countries (2002 – 2006)



U-I networks in Chile and SA

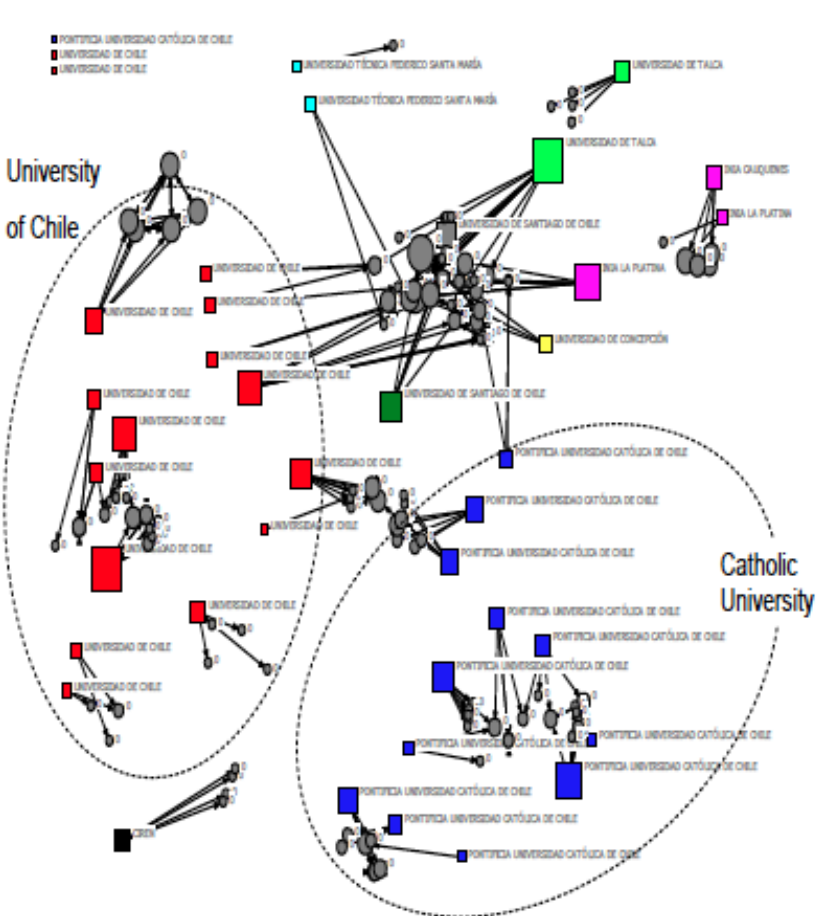


Figure 6 University-Industry network in Chile

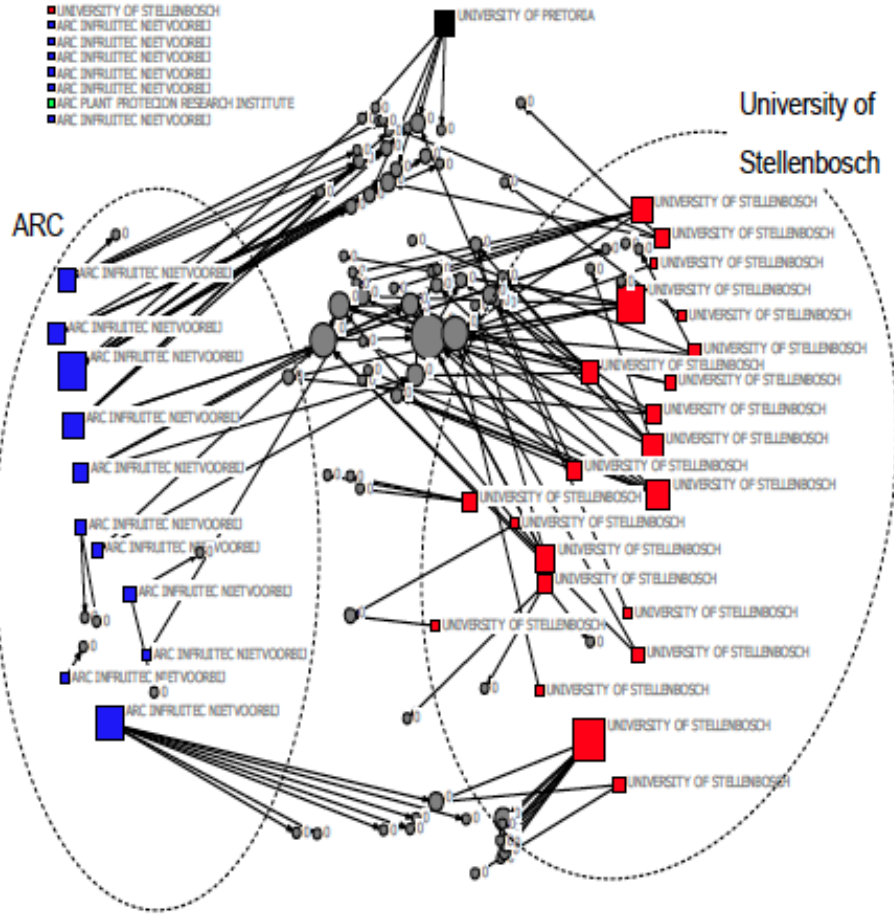


Figure 7 University-Industry network in South Africa



Lessons learned

- ① **Traditional sectors** are not necessarily low-tech but they can be **knowledge intensive and highly innovative**;
- ② Innovation is not just the result of formal R&D but it is better represented by ***innovation capabilities***: skill upgrading, development of new routines, building up of entrepreneurial and marketing capabilities, reduction of time-to-market, environmental management, compliance with food safety regulation and fair trade certification, etc.;
- ③ Access to **foreign knowledge and local capability building** are complementary activities;
- ④ **Networks of private and public actors** are key to learning and innovation (intermediary bodies and bridging researchers).

Policy Implications

- Invest in public universities, tertiary formal education and PROs, paying a special attention to the specialization and specificity of wine regions;
- Attract and support talents taking advantage of their international linkages to build domestic research and innovation competences;
- Experiment with new forms of governance of public–private partnerships, so as to implement participatory mechanisms in setting research agendas.

Unanswered key questions

- Has the success of the wine industry in Argentina, Chile and South Africa helped to reduce marginality and poverty in rural areas?
- A question arises on whether only a restricted number of powerful families and land-owners have in fact benefited from these successful catching up stories, or whether this has sparked a process of inclusive growth involving also more marginal people;
- Questions about redistribution of rents, diffusion of benefits and improvement of livelihood conditions of rural people need to be addressed in further research.

Edited by
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The Changing Geography
of Wine Production



THANK YOU

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