



UNIVERSITÀ
DI PAVIA



UNIVERSITÀ
DI PAVIA

When GVC & IS (finally) meet

Roberta Rabelotti

<http://robertarabellotti.it>

Department of Political and Social Sciences

Università di Pavia



GVC and IS are complementary (not conflicting) frameworks

- Extra-national sources of knowledge are crucial in the innovation process in less developed countries (LDCs);
- According to UNCTAD (2013) **Global Value Chains (GVCs)** account for some 80 % of global trade;
- Therefore, GVCs are key external sources of knowledge for firms in LDCs.

The GVC framework

- Focus on the role played by the firms coordinating the GVC (e.g. lead firms) in fostering and supporting the innovation/upgrading process;
- This depends on the **governance patterns and on the power relations characterizing the GVC**;
- General positive expectation that the **lead firms produce a positive impact on suppliers** by transferring them valuable knowledge to compete in global end-markets;
- Here, the IS framework and in general evolutionary economics can usefully complement the GVC approach.

What is missing?

- GVC studies tend to overlook the wide **heterogeneity existing at the local level**, as local suppliers in developing countries are very different in terms of their capacity to absorb, master, and change knowledge and capabilities that lead firms in GVCs can potentially transfer to them;
- To understand **whether and how firms involved in GVCs** (as well as clusters, regions and countries) **innovate**, the focus should be not only on the GVC governance patterns and on the role played by the lead firms;
- But also on the domestic technological capabilities **at the level of firms** (Morrison, Pietrobelli & Rabellotti, 2008), **industries, clusters/regions** (Pietrobelli & Rabellotti, 2007) and **innovation systems** (Pietrobelli & Rabellotti, 2011).

GVC & Innovation

- In a recent literature survey since 2005 (De Marchi, Giuliani & Rabelotti, 2015), based on Scopus and on grey literature, we have found **only 50 GVCs** dealing with GVC & Innovation;
- In these 50 GVC cases we have searched for empirical evidence on:
 - a) The *local firms' degree of innovativeness*: product, process, market and organizational innovations undertaken at the level by local firms involved in GVCs;
 - b) The *learning mechanisms* adopted in the innovation process, considering the extent to which local firms use:
 1. *GVC learning sources* (direct and indirect technology transfer from lead firms);
 2. *Learning sources internal to the firms* (e.g. R&D);
 3. *External learning sources from non-GVC actors* (e.g. local universities).

3 types of GVCs

- With cluster analysis (innovation; learning in GVC; learning outside GVC):
 - ① *GVC-led Innovators (9)*: innovative local firms, which intensively use knowledge sources from within the GVC (e.g. *Coffee GVC in Brazil lead by Illycaffè*);
 - ② *Independent Innovators (14)* also innovative firms, but whose learning sources from outside the GVC (e.g. *Chinese wind GVC*);
 - ③ *Weak Innovators (27)*: a large group of scarcely innovative firms, drawing selectively on some of the knowledge sources available within the GVC but poorly using other forms of learning (e.g. *Kenyan clothing GVC selling to the US market*).

Innovation in GVC: a virtuous *liaison*?

not always...

- Many local suppliers involved in GVCs do not use the GVC as a privileged source of knowledge access;
- In most of the observed cases, **GVC-related knowledge is exploited only as complementary source to other channels of knowledge** (e.g. firm level efforts, collective learning at the local level, imitation, learning from other non-GVC actors);
- About half of our empirical observations are GVCs where **innovation is hardly taking place**, a condition that coexists with local firms' relative closure to both GVC-related and other kinds of knowledge sources, as well as with poor local skills;
- Therefore, **local heterogeneity** – at the level of firms, clusters, regional or national system of innovation – **strongly conditions the extent to which suppliers in developing countries take advantage of GVC-related knowledge.**

The way ahead

- More empirical research about **learning and innovation heterogeneity** at level of firms, clusters, regions and countries at the Southern-end of the GVCs;
- More empirical research about the relationship between **innovation and upgrading** in GVC, and in particular **social and environmental upgrading**;
- More empirical research on **GVCs led from the South**.

Thank you

Check my website for other works on
related topics

<http://robertarabellotti.it>

Cluster analysis

- *Innovation* measured on a scale ranging from 0 (no innovation) to 1 (high innovation) based on the types of innovation performed (product, process, organizational and market), plus one whether product innovation was new-to-the-world;
- *Learning within the GVC* measured summing the number of the GVC channels used by the firm on the total possible cases (codified on a 0-1 scale);
- *Learning outside the GVC* measured summing the number of channels used by the firm outside the GVC on the total possible cases (codified on a 0-1 scale).

How could we address these issues?

- Case studies;
- Firm level analyses:
 - data on FDI integrated with patent data;
 - Innovation surveys integrated with other firm level surveys;
- Country/Sector analyses:
 - TIVA/WOID integrated with patent data, R&D and STI statistics.