Foreign Direct Investment spillovers and the absorption capabilities of domestic firms in the Argentine manufacturing sector (1992-2001)

> Daniel Chudnovsky, Andrés López and Gastón Rossi CENIT

FDI Spillovers (I)

TNCs usually have "**ownership advantages**" :

- Access to state of the art technologies and financial resources
- Superior organizational and marketing systems
- Innovative capabilities

...but they are not always able to reap all the benefits associated with those advantages, so different kinds of positive spillovers for domestic firms may arise

FDI Spillovers (II)

- a) Human capital spillovers:
- **b)** Intra-industry spillovers (horizontal):
 - Knowledge "leakages"
 - Competitive pressure
- *c)* Inter-industry spillovers (vertical)
- TNCs may have an incentive to help their clients and/or suppliers to take advantage of their knowledge assets
- In contrast, it is in their interest to prevent knowledge leakages to their competitors

FDI Spillovers (III)

TNCs may also lead to <u>negative spillovers</u>:

- Horizontal: when domestic firms are forced to reduce their production or exit the market, as a result of the increasing presence of foreign firms
- Vertical: when domestic suppliers are displaced from the market as a consequence of the affiliates' bias in favor of foreign suppliers

How to reap the benefits from FDI presence? (I)

- Domestic firms' absorption capabilities may be a key determinant of the possibility of reaping positive spillovers
- Firms are different in their capabilities, strategies and objectives, and these differences matter in terms of their performance (*evolutionary approach*)
- Domestic firms which already had high absorption capabilities or that in the 90s improved their accumulated ones, could be better equipped to meet the challenge

Hence, we would expect that these firms might have reaped positive spillovers from TNCs presence

How to reap the benefits from FDI presence? (II)

If spillovers arise from "knowledge leakages", and these leakages are to some extent only local …

> We would expect that domestic firms in sectors where TNCs affiliates undertake R&D activities might have reaped positive spillovers

Research questions

- i. Have TNCs affiliates achieved higher levels of productivity than their domestic counterparts?
- Has the growing presence of TNCs generated positive or negative horizontal and vertical (backward) spillovers for domestic firms?
- Do domestic firms with high absorption capabilities have better opportunities of receiving positive spillovers from TNCs presence than firms with low absorption capabilities?
- Are TNCs affiliates with strong innovative activities in host countries more likely to generate positive spillovers than those affiliates with a weak innovative behavior?

The received literature

- Studies on FDI spillovers have been made:
 - With different techniques and methodologies
 - Covering both developed as well as developing countries
 - In countries that have and have not received large FDI inflows
 - Considering very heterogeneous time periods
 - Using different endogenous as well as exogenous variables
 Hence, it comes as no surprise to find that some of them reveal the existence of positive spillovers, others find negative spillovers while the rest find "mixed" results (or results that are conditional on certain variables)

The received literature: Pioneer studies

- Pioneer works (70s and 80s) usually found evidence of positive intra-industry spillovers, but they:
 - Used cross sectional data, which posed obstacles to the dynamic analysis of the impacts of FDI
 - Failed to control for time-invariant differences in productivity across sectors which might be correlated with, but not caused by, foreign presence

The received literature: Recent studies (I)

- Recent studies, mostly based on <u>panel data</u> techniques:
 - Allow to control for non-observable sectoral factors which influence investment decisions
 - Generally find evidence of negative spillovers (Aitken and Harrison, 1999) or "mixed" results

The received literature: Recent studies (II)

- Factors analyzed in recent studies as conditioning FDI positive spillovers:
 - Productivity and/or technological gaps between TNCs and domestic firms:
 - A large gap could mean a lot of scope for technological learning
 - A <u>too</u> large gap could also be an obstacle for spillovers to arise because local firms are away from the technological practices of TNCs
 - Domestic firms absorption capabilities
 - TNCs investment sectors
 - TNCs affiliates innovative activities in host countries

FDI spillovers in Argentina. Basic data (I)

- Information source: database of 722 manufacturing firms with detailed data for 1992, 1996, 1998 and 2001
- 69% of the enterprises was founded before 1975, while only 7% of them was created in the 90s

Hence, surveyed firms were mostly born during the ISI process

- However, more than 50% of the enterprises founded before 1975 changed ownership
- These changes mostly occurred in the 90s and generally involved the acquisition of indigenous firms by TNCs

FDI spillovers in Argentina. Basic data (II)

- Number of foreign firms in the database
 - **1992: 71**
 - **1998: 133**
 - **2001: 145**
- The foreign presence grew in almost all sectors measured in terms of sales and employment

The gains were mostly due to changes of ownership

- **TNCs affiliates**, *vis a vis* domestic firms, have:
 - Larger size
 - Higher labor productivity levels
 - Higher ratios between skilled and total employees
 - Lower R&D expenditures relative to sales)

Answering the research questions (I)

- i. Expectedly, TNCs have higher productivity levels than domestic firms
- ii. The presence of TNCs in Argentina generated neither positive nor negative spillovers for domestic firms. This is valid both for horizontal as well as for vertical spillovers

Answering the research questions (II)

- iii. Domestic firms with high absorption capabilities are more likely to receive horizontal and backward positive spillovers from TNCs presence than those with low absorption capabilities
- iv. Higher levels of innovative activities by TNCs affiliates did not enhance the possibilities of domestic firms to reap positive spillovers
 - Domestic firms with high absorption capabilities reap positive spillovers, no matter the innovative behavior of TNCs affiliates

Conclusions

- Studies on spillovers need to take into account the heterogeneities in firms' capabilities, since they seem to be a key determinant of the possibilities of domestic enterprises to benefit from foreign investments
- 2) Though most surveyed firms were born and grew in the same economic and institutional scenario, they have developed different productive and technological trajectories, which finally led them to have higher or lower absorption capabilities so as to meet the challenge of the reforms and the FDI boom of the 90s