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## **INTERNATIONALISATION AND INNOVATION: EVIDENCE ON THEIR DOUBLE CAUSALITY**

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## Objective

*Share with you some conclusions regarding the relationship between innovation and internationalisation*



**Obtained evaluating Spanish exporters in terms of patterns of innovation and internationalisation**

Filipescu, D.A., Rialp, A., Rialp, J. (2009): Internationalisation and technological innovation: Empirical evidence on their mutual relationship. *Advances in International Marketing* 20 , pp. 125-154

Filipescu, D.A., Prashantham, S., Rialp, A., Rialp, J. (2013): Technological innovation and exports: Unpacking their reciprocal causality. *Journal of International Marketing* 21 (1) , pp. 23-38.



# Relevance of the subject

- ✓ *Internationalisation* and *innovation* are two of the most important factors determining business success today.
- ✓ *Innovation* is the application of better solutions that meet new requirements, inarticulated needs, or existing market needs.
  - ✓ Develop new products and processes (technological innovation) is critical to achieve sustainable competitive advantage (Porter, 1998);
- ✓ *Internationalisation process* or increasing involvement of enterprises in international markets. Often results on vital growth, useful learning outcomes and enhanced financial performance (Prashantham, 2005).



## A focus on internationalisation

- *Traditional internationalisation process*: experience in domestic markets → knowledge → international entrance (Johanson and Vahlne, 1977);
- *Knowledge* is at the core of received wisdom on internationalisation (Prashantham, 2005). Internationalisation of the firm is determined by its *market knowledge* (Johanson and Wiedersheim-Paul, 1975);
- *Born-Globals*: “business organisations that, since their inception, have sought to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries” (Oviatt and McDougall, 1994); they have been described as especially innovative in their internationalization (Oviatt and McDougall, 1994; Knight and Cavusgil, 2004).



## A focus on innovation and innovative firms

- *Innovation process* is a complex sequence of decisions, is a two-stepped process (Veugelers and Cassiman, 1999):
  - the firm decides whether or not to innovate
  - the firm decides which innovation strategy to develop and how to acquire the necessary technology to accomplish its innovation goals
- *Innovative firms*: create *product and process technologies* or *improve* them, in order to be more competitive (Molero, Buesa and Fonfría, 1998):
  - *Technological innovation*: product, process, radical and incremental (De Propis, 2002)



## A focus on internationalisation and innovation

- *Techno-globalism* the relationship between *technological innovations* and *internationalisation* of the firms (Archibugi and Michie, 1995);
  - *Techno-globalism* means that the generation, transmission and diffusion of the technologies is more and more international
    - Innovative firms higher tendency to enter foreign markets: increase sales volume and spread the fixed costs of innovation over a larger number of markets (Zahra, Ireland and Hitt 2000; Pla and Alegre 2007; Bianchi 2009; Filipescu, Rialp and Rialp 2009; Love and Mansury 2009; Hortinha, Lages and Lages 2011).
- *Globalisation* is understood as the international connectivity of markets and the interdependence of national economies (Acs *et al.*, 2001).



# Theories

## Resource-based view

Penrose (1959)

Barney (1991, 2001)

Fahy (2002)

## Gradual internationalisation theory (U-Model)

Johanson and Vahlne (1977, 1990)

## Innovation literature review

Schumpeter (1934)

Molero (1998)

De Propriis (2002)



## Research questions



**RQ 1:** Does the innovation of the firm lead to the internationalisation of the firm?

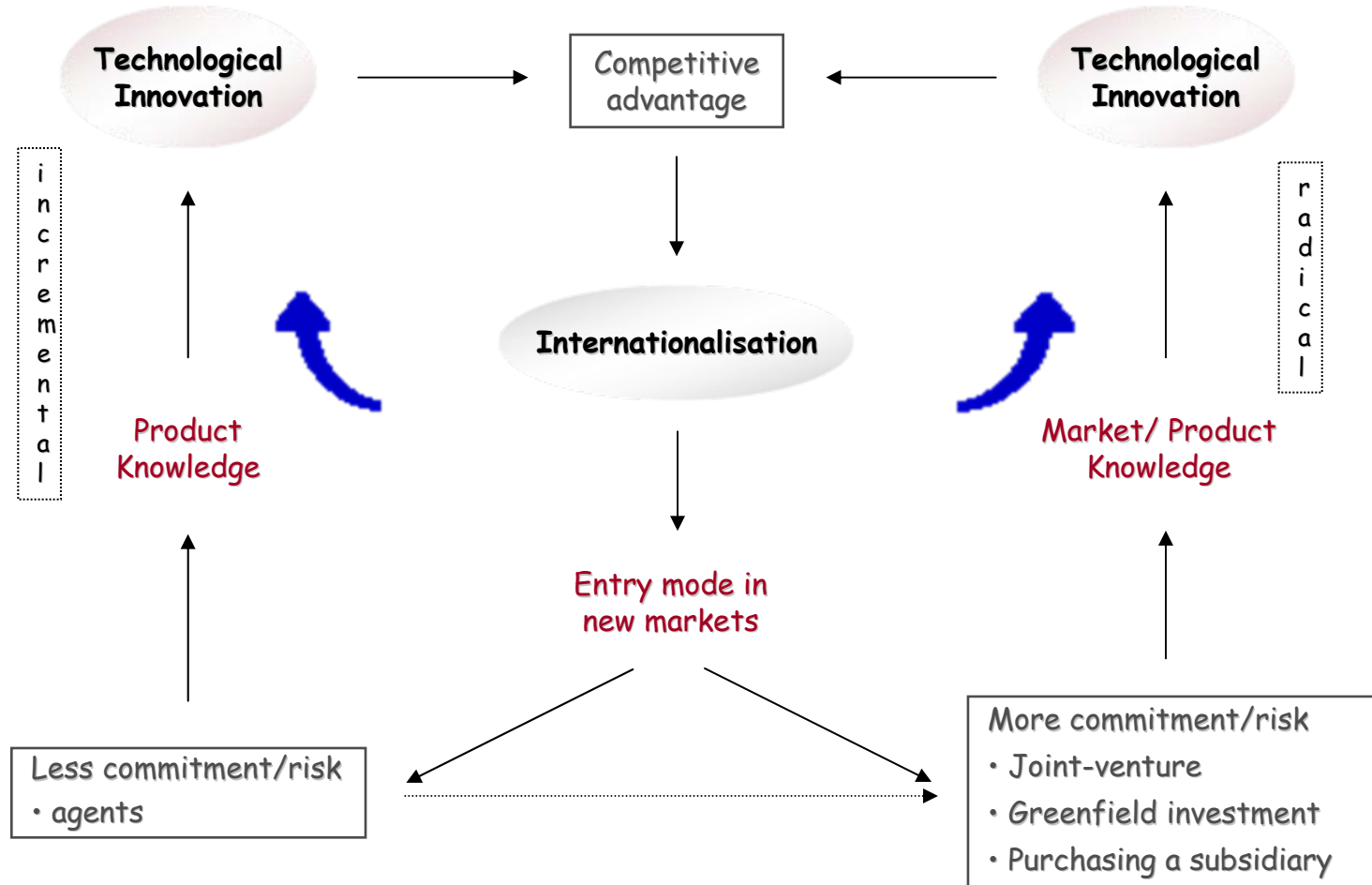
**RQ 2:** Does the internationalisation of the firm imply more innovation for the firm?

**RQ 3:** Does the market entry mode of the firm lead to a different type of innovation?





# Possible connection



## Evidences

<b>Type of investigation</b>	Explorative
<b>Methodology</b>	Case-studies
<b>Selection of the cases</b>	Theoretical, not statistical sampling, with a focus on international innovative Spanish firms.
<b>Design of the investigation</b>	Analysis of multiple cases related to a unit of principal analysis.
<b>Sources of information</b>	Semi-structured interviews with general managers, export/commercial department managers and R&D managers. Secondary sources of information: company website, internal documentation, product and firm brochures.
<b>Validity and reliability</b>	Triangulation of the information. Pre-established protocol of the interviews. A previous report of each case was edited.



## Evidences



Family business which began its activity in the baking industry in the 50s.



Company from the optical industry which was founded in 1937.



*Pinturas Lobo* is a company from the chemical industry that began its activity in 1972. In 1998 it was purchased by *Euroquímica* which kept its ideology.



Family business founded in 1954 with leader spirit in the converting sector and specialised in printing and converting flexible packaging materials.



TECNITOYS began its activity in the toy industry in 1990 and, in 1992, it purchased a well-known international brand from the same activity, *Scalextric*.





## Individual analysis



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ANALYSIS OF THE CASES

(I)



<b>Foundation/ Export/ Innovation</b>	It was founded in the 50s. It began to export in 1998. It has always been an innovative firm.
<b>Innovation</b>	It has an R&D department for every product family. The innovation allowed the firm to select the entry modes in different markets. The innovation realised is a product and an incremental one.
<b>Motivation to begin exporting</b>	Necessity to survive in a global world.
<b>Foreign sales</b>	15%
<b>Grants from public organisms</b>	Non-significant
<b>Export</b>	Export department since its beginning. Both the geographical and the cultural factors have been important. The most frequently implemented entry mode: agents.
<b>Knowledge/ Adaptation</b>	The knowledge acquired in foreign markets enables it to adapt its products.
<b>Commitment/ Type of knowledge</b>	Less commitment. Product knowledge
<b>Cyclic relation</b>	Confirmed both relationships.



## Individual analysis



<b>Foundation/ Export/ Innovation</b>	It was founded in 1937. It began to export around 1950. It has always been innovative.
<b>Innovation</b>	It has an R&D&I department. The innovation allowed the firm to select the entry modes in different markets. The innovation within the firm is both in product and in process, both incremental and radical.
<b>Motivation to begin exporting</b>	Necessity to survive in a global world.
<b>Foreign sales</b>	30%
<b>Grants from public organisms</b>	Very well-valued
<b>Export</b>	Export department. The markets are selected depending on their economic potential. Emphasis on product differentiation. The most used entry mode is by an agent and sometimes through proxies.
<b>Knowledge/ Adaptation</b>	The firm has a great knowledge of the markets and it adapts its product immediately to every market.
<b>Commitment/ Type of knowledge</b>	Less and more commitment. Product knowledge and market/product knowledge.
<b>Cyclic relation</b>	The innovation that a firm realizes is not an indispensable condition for it to become international but it is a very important factor; confirmed both relationships.

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ANALYSIS OF THE CASES

(II)





## Individual analysis



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ANALYSIS OF THE CASES

(III)



<b>Foundation/ Export/ Innovation</b>	It was founded in 1972 and began to export in 1998. It has always been innovative.
<b>Innovation</b>	It has an R&D department which allows it to achieve new markets and different entry modes. The innovation realized is a product one, both radical and incremental.
<b>Motivation to begin exporting</b>	Desire to be competitive in the domestic market.
<b>Foreign sales</b>	15%
<b>Grants from public organisms</b>	Very well-valued
<b>Export</b>	Export department since its beginning. Geographical distance is important in order to select new markets. The most common entry mode is by agents.
<b>Knowledge/ Adaptation</b>	The firm possesses a vast knowledge about the markets. The product cannot be adapted too much because of its specificity.
<b>Commitment/ Type of knowledge</b>	Less and more commitment. Product knowledge and market/product knowledge.
<b>Cyclic relation</b>	Confirmed both relationships.



## Individual analysis



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ANALYSIS OF THE CASES

(IV)



<b>Foundation/ Export/ Innovation</b>	It was founded in 1954, it began to export in 1960 and afterwards began to innovate.
<b>Innovation</b>	It has an R&D department for every firm inside the group and a responsible person for innovation. It has the possibility to select different entry modes. It realizes process, product, incremental and radical innovation.
<b>Motivation to begin exporting</b>	Necessity to have a stable activity and regular sales.
<b>Foreign sales</b>	90%
<b>Grants from public organisms</b>	Very well-valued
<b>Export</b>	Export department since its beginning. Both cultural and geographical proximity are important. The entry modes are by an agents, proxies and own plants.
<b>Knowledge/ Adaptation</b>	Being for so many years in the international market, it has gained experience which helps in the creation of the new products.
<b>Commitment/ Type of knowledge</b>	Less and more commitment. Product knowledge and market/ product knowledge.
<b>Cyclic relation</b>	An already innovative international product has more possibilities to enter new markets; confirmed both relationships.



## Individual analysis

**SCALEXTRIC**

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ANALYSIS OF THE CASES

(V)



<b>Foundation/ Export/ Innovation</b>	It was founded in 1990 and began to export in 1992 when it also began to innovate.
<b>Innovation</b>	It has had an R&D department since the beginning of its activity. The innovation allowed the firm to select the entry modes in different markets. It realizes product and process innovation, incremental and radical one.
<b>Motivation to begin exporting</b>	Important for the stability of the firm.
<b>Foreign sales</b>	25%
<b>Grants from public organisms</b>	Non-significant
<b>Export</b>	Export department since its beginning. Both geographical and cultural distances are taken into account. The modes of entry used are through agents and distributors.
<b>Knowledge/ Adaptation</b>	The knowledge acquired in other markets has helped the firm extrapolate in new ones.
<b>Commitment/ Type of knowledge</b>	Less and more commitment. Product knowledge and market/product knowledge.
<b>Cyclic relation</b>	Confirmed both relationships.



## Results

- ✓ The five companies do not show contrast regarding the innovation and international phenomena;
- ✓ 3/5 were created around the middle of the past century and were leaders in the local market, 2/5 being also extremely innovative (EUROPASTRY and INDO); the other 2 are more recent, one of them having the innovation process highly developed (COMEXI), and the second beginning to innovate immediately after being present in other foreign markets (SCALEXTRIC);
- ✓ The five companies have well-developed R&D departments which have appeared since the beginning of the innovation process of every company;
- ✓ The fact of being innovative has had a strong influence on their international activities. It has affected, f.e., the selection of the entry modes (5/5);
- ✓ The five companies innovate more in the products not in the processes, and incremental not radical; 3/5 develop all four types of innovation (INDO, COMEXI, SCALEXTRIC);
- ✓ In 4 cases, the motivation to begin the international activities is the necessity to survive in a global world. Exception: PINTURAS LOBO which has begun to export thinking about its competitiveness in the domestic market.



## Results

- ✓ 2/5 are Born-Global firms (COMEXI and TECNITOYS);
- ✓ Cultural and geographical distance are the most considered for the selection of the markets;
- ✓ The selection of entry modes is quite different:
  - Agents (all the five firms);
  - Delegations (INDO and COMEXI);
  - Acquisition or foreign direct investment (COMEXI);
  - Retailers (TECNITOYS);
  - Creation of some concentric circles (PINTURAS LOBO).
- ✓ The five firms have obtained product and/or market/product knowledge, as a consequence of the mode of entry chosen;
- ✓ 4/5 choose modes of entry which imply both less and more commitment. Exception: EUROPASTRY (only less commitment);
- ✓ 2/5 (EUROPASTRY and TECNITOYS) have never received grants; the rest values them positively;



## Answers research questions

### Answers: RQ 1 and RQ 2

The five companies showed a propensity to internationalise due to the innovation that already existed within them. On the other hand, the fact of developing international activities was influencing in a positive way the innovation.

### Answer: RQ 3

When the firm chooses an entry mode which implies less commitment to the market, it is more common that an incremental and product innovation will be realised. When more commitment is chosen then the radical innovations in products are more probably



## A step forward (2nd study)

*Is there a causal effect between technological resources and innovation in product and process and firms' export breadth and depth; and, subsequently, is there a causal effect between export breadth and depth and firms' technological resources and innovation in product and process?*

- **Export activity** - voluminous literature examines the effects of technological resources and innovation on the exporting behavior of firms (Basile 2001; Barrios, Görg and Strobl 2003; Cho and Pucik 2005; Díaz, Aguiar and Saá 2008; Kyläheiko et al. 2011; Vila and Kuster 2007; Cassiman and Golovko 2010).
- **Technological innovations** some literature examines the reverse relationship viz. the effect of exports upon firms' technological resources and innovation (Golovko and Valentini 2011; Hitt, Hoskisson and Kim 1997).

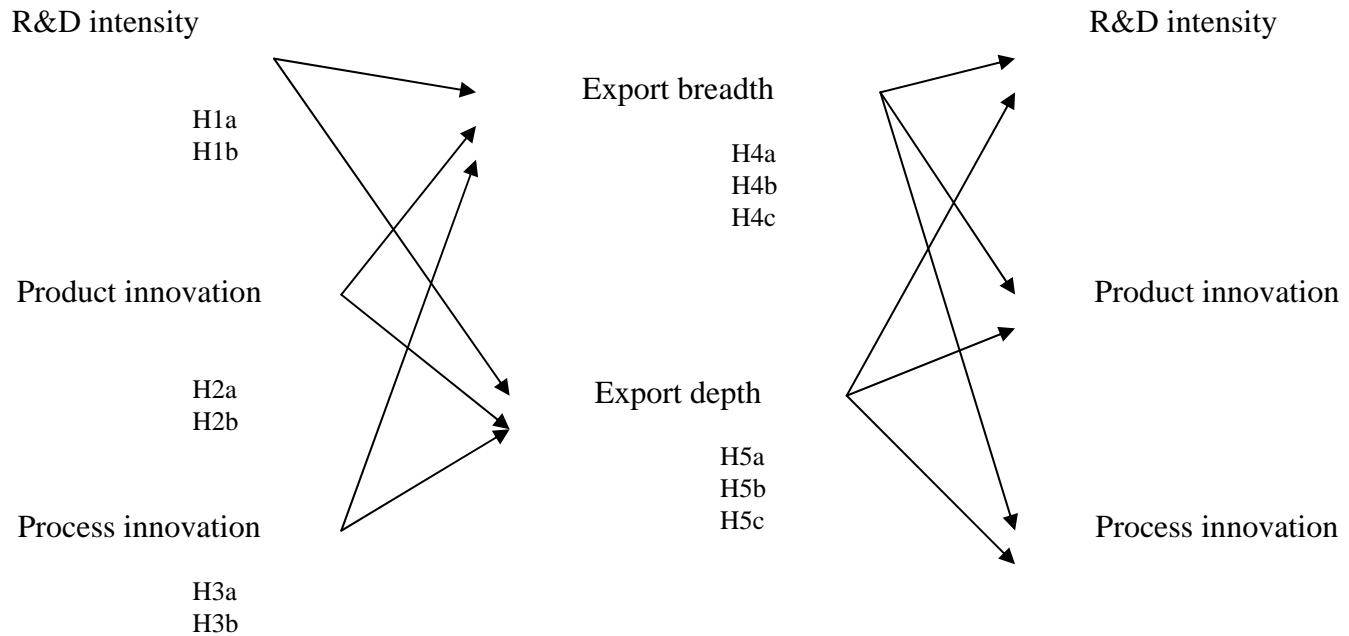
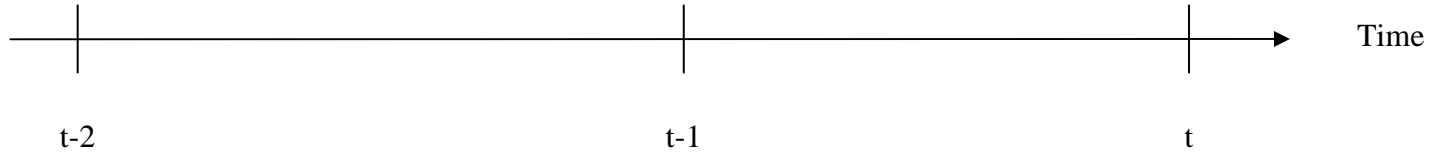


## Double causality

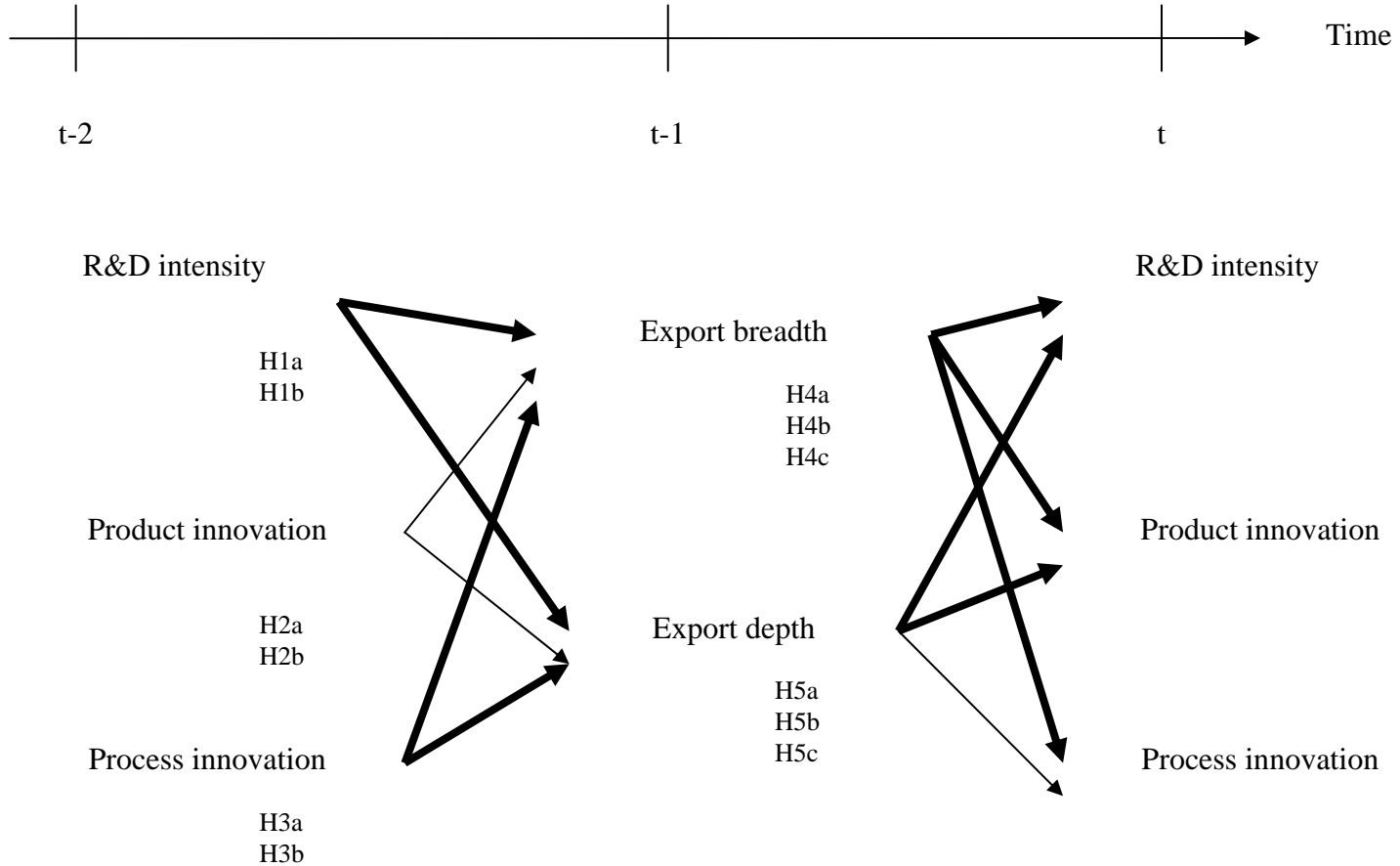
- The potential double causality of this relationship has been generally overlooked (Kumar and Saqib 1996; Salomon and Shaver 2005; Zahra, Ireland and Hitt 2000).
- There is almost no evidence with regard to whether more innovative firms (based upon R&D, product and process innovations) subsequently perform better in terms of export breadth (number of export markets) and depth (export intensity) and, conversely, whether more active export activities conducted by the firm foster further innovations (few notable exceptions: Filatotchev and Piesse 2009; Golovko and Valentini 2011; Monreal, Aragón and Sánchez 2012).
- Golovko and Valentini's (2011) study highlights a "dynamic virtuous circle" when referring to innovation and exports, arguing that they are "complementary activities that reinforce each other, and whose individual marginal contribution to SMEs' sales growth is higher if the other activity is also in place" (p. 375).



# Our proposal



# Results



## Conclusions of this 2n study

- **R&D intensity and process innovations** provide firms with **cost advantages**, which can result in **higher export activities** (in terms of export depth and breadth).
  - This has been a traditional competitive advantage of Spanish firms abroad, rather than differentiation based upon product innovation.
- Technology, from the perspective of the RBV, can generate competitive advantages based on cost, and not only through product differentiation (López and García 2005) and firms that develop process innovations are highly focused on maintaining their international market position (Becker and Egger 2007).





## Conclusions of this 2n study

- The higher the firms' previous level of **export breadth** the higher its subsequent **R&D intensity, product and process innovations**, since it can gain exposure to new market knowledge and different patterns of consumer behavior.
- Salomon and Shaver (2005) consider exports as information generating activities by which firms can access foreign knowledge bases and also increase innovation.
  - They relate exporting with product innovations because firms gather consumer feedback fairly quickly, and this subsequently results in the tailoring of products to meet the needs of heterogeneous foreign consumers.
- A firm's **export depth** achieved in a previous year also helps it to subsequently increase the **R&D intensity and product innovations** rather than processes.
  - A considerable **learning-by-exporting effect** upon technological innovation, reinforcing product more than process innovation capacity, exists for Spanish exporters during the period being examined here (1994-2005).



## Conclusions of this 2n study

- Technological resources and innovations provide sustainable competitive advantages that give firms the possibility to initiate and/or increase exports and compete in a more proactive and innovative way in different markets.
- Furthermore, firms' export breadth and depth can embody more technological resources and innovations, since their presence in foreign markets offers new perspectives
- The experiential market knowledge acquired abroad will help them to maintain their competitive advantages and even create new ones (Filipescu, Rialp and Rialp 2009; Golovko and Valentini 2011; Prashantham 2005).
- **Consequently, the relationship between the two processes is reinforced as once involved in international activities, innovative firms acquire international knowledge and experience which will lead them to achieve further technological innovation.**



## Contributions to Practitioners

- Exporting firms should be mindful of the full extent of the **benefits that internationalization and innovation offer**: enhance **revenue growth** but also achieve **learning outcomes**.
- When a firm's domestic market experiences sluggish growth, exporting firms are able to **achieve growth**.
- Failing to articulate, identify, and capture the international and technological learning available to firms would represent a major missed opportunity (Prashantham and Dhanaraj 2010).

**KEY MESSAGE:  
INNOVATION AND EXPORTS MUTUALLY REINFORCE EACH OTHER.**



## Contributions to Practitioners

- Exporting firms should have **appropriate expectations regarding the type of innovation that exporting will help achieve and the type of export expansion that innovation will yield.**
- If managers are interested in **increasing their firms' export breadth and depth in one year, then R&D intensity and process innovation** (more than product innovation) **developed the previous year represent an important input.**
- If managers desire to **improve technological resources and innovations** in their firms, we outline the importance of firms' **export breadth and depth.**
  - In particular, **product innovations appear to benefit** (more than do process benefits) **from greater exports within a one-year interval.**



## Contributions to Practitioners

- Resources for innovating and for internationalizing are needed: **take advantage of strategic alliances and services provided by public organisms.**
- **Manage effectively and efficiently the knowledge related to internationalization and innovation:**
  - Develop the **organizational structure** of the firm to generate, share and exploit knowledge (internal as well as external)
  - Take advantage of **ICT**



## Contributions to Public Policy

- **Reinforce the absorptive capacities** of the national firms to assimilate and obtain international knowledge, regarding foreign markets, competition and products (develop **specific trainings**).
- Develop infrastructures for **technological collaborations** in the national territory (role of **Research and Technology Centers**)
- **Promote cooperation** between national firms and leading firms in the field.
- Provide **export incentives for high-tech industries**.
- Give **incentives in order to selected foreign direct investment as an entry mode**.
- **INTEGRATE services**



## Public Policy: Catalan Evidence

- The Catalan experience: joint innovation and internationalization.
- Joint COPCA and CIDEM => ACCIO10
- ACC1Ó is a new organisation that results from the **merger of COPCA and CIDEM**.
- Both of them have been working over the last 20 years on providing support to Catalan companies.
- **COPCA** has been the Catalan Trade Promotion Organization, helping companies become international.
- **CIDEM** supported innovation, technology transfer and research and development.



## Contributions to Public Policy

ACC1Ó is the new Catalan Government Agency created to support the **competitiveness of Catalan companies**.

**PARTICIPANTS:** Public Administration + participation of the Catalan private sector (such as business associations, financial or academic institutions, etc.)

**head office:** in Barcelona.

**STAFF:** After the merger a total staff of **367 people** and **38 offices around the world**.

With this new organisation the purpose is to offer a **UNIQUE** and **INTEGRAL** response to the needs of the Catalan companies.

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**Merci beaucoup pour votre attention !!!!!**

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