

TELECOMMUNICATIONS IN THE LENS OF TRADEMARK DATA

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Research question:

**WHAT CAN WE LEARN FROM THIS NEW
INDICATOR OF INNOVATION,
INDUSTRIAL CHANGE, AND
INTERNATIONAL COMPETITIVENESS?**

Overview:

Motivation

Conceptual issues

Empirical application

Conclusions

“... too much energy has gone into squeezing the last bit of juice out of old data collected for different purposes relative to the design of new types of data”

Kenneth Arrow

The motivation:

Measuring innovation

- **Is a difficult task since it is a multidimensional phenomenon**
- **Is an important task since it is a key driving force behind growth**

The argument:

Trademark data can be seen as

- **A partial output indicator of innovative activity**
- **An empirical tool for researching industrial dynamics**

In search of a new indicator:

WHY TRADEMARKS?

Trademark statistics are interesting because:

- increasingly available on electronic platforms
- regular and detailed long-term data
- close to commercialisation of new products

Major indicators of innovative activity:

Input indicators

- Research & Development expenditures
- Technical employees

Output indicators

- Publications
- Patents

What are trademarks?

" A distinctive sign used to distinguish the goods or services of an enterprise from those of another "
(WIPO, 2003)

Types of trademarks (not mutually exclusive):

- letters, words or combinations of words
- symbols (logos)
- tri-dimensional signs

AND ...

- sound, smell, colour, hologram ...

Examples of trademarks:

Word mark

Yellow Pages

Slogan

"Let your fingers do the walking"

Logo

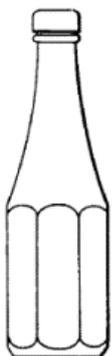
"walking finger logo"



Tri-dimensional mark

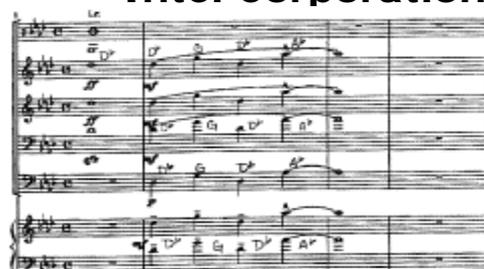
bottle shape for ketchup

tured by



IZ

Sound mark
Intel Corporation



Trademarks as an IPR:

The exclusive right to use or license the mark throughout the territorial area designated in association with the Nice Classes (up to 45) of goods and services claimed in the trademark application for 10 years, indefinitely renewable.

Institutions involved:

- National patent and trademark offices (e.g. INPI)
- World Intellectual Property Organization (WIPO)
- Office for Harmonisation in the Internal Market (OHIM)

OHIM manages the Community Trade Mark (CTM)

It costs from about € 2079 + € 200 by Nice Class over 3 classes.
A successful registration can take up to one year.

Trademarks as indicators of what?

The case can be made that trademarks capture new products introduced in the marketplace.

If so, the trademark indicator is a partial measure of innovative and entrepreneurial output with the advantage of covering:

- Services;
- SMEs;
- Export initiatives.

Limitations: MANY! ...of which...

- the 45 Nice classes are very aggregate
- agencies do not identify the industry of the applicant
- a TM can be filled covering many Nice classes, and a brand can be protected by many types of TM (confusing!)

The empirical source:

The Institute for the Harmonisation of the Internal Market (IHMI) is an EU institution.

The Community Trade Mark (CTM) is an EU-wide intellectual property right.

Available from 1996 for EU and non-EU countries.

Focus: **Class 9 (instruments and ICTs)**
 Class 38 (Telecom services)

Community Trade Marks (CTMs)

Total applications 1996-2009 by the world



Source:
OHIM (2010),
Annual Report

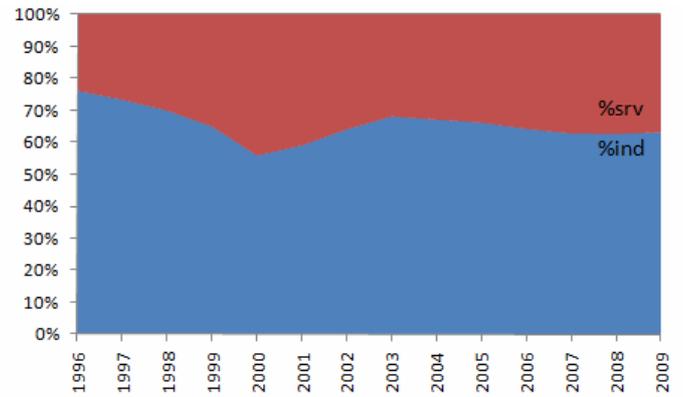
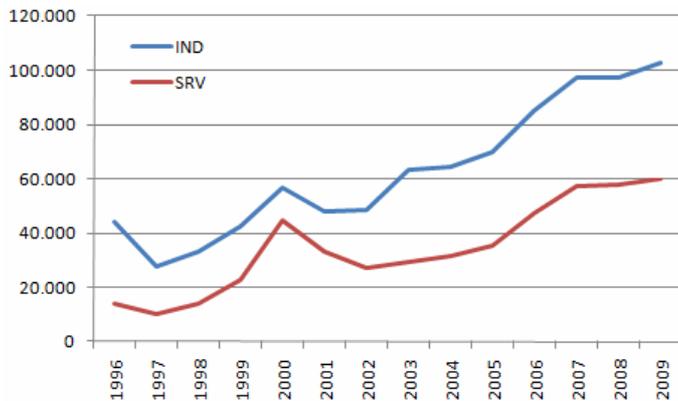
Patterns and trends in Community trademarking

- **Around 2/3 of the applications come from within the EU, 1/3 from the rest of the world**
- **Germany, UK and Italy concentrate 60% of CTM applications within the EU-15 for the whole period**
- **Correcting for size (pop.; GDP) small countries come out best: Nordic countries, Ireland and Austria**
- **The US lost position as largest community trademarker to Germany**

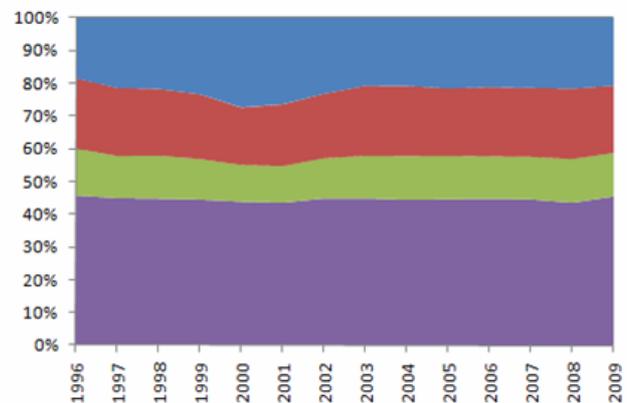
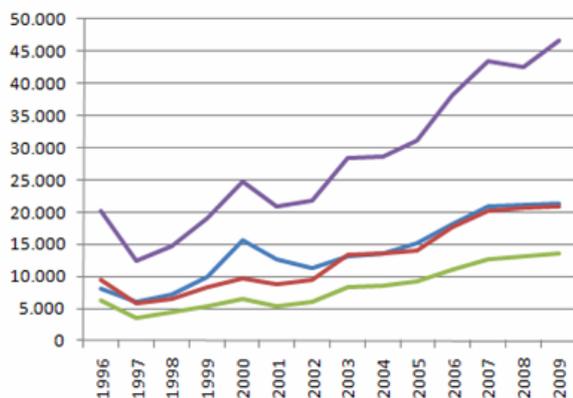
Top classes in applications 1996-2009

TOP-10	World		EU-15	
1	Instruments & ICT	10%	Instruments and ICTs	8%
2	Advertising and consultancy	7%	Advertising and consultancy	8%
3	R&D services	7%	R&D services	6%
4	Paper and packaging	6%	Education, culture, sports	6%
5	Education, culture, sports	5%	Paper and packaging	5%
6	Clothing and footwear	5%	Clothing and footwear	5%
7	Telecoms	4%	Telecoms	3%
8	Pharma and fine chemicals	4%	Pharma and fine chemicals	3%
9	Light chemicals and cosmetics	3%	Light chemicals and cosmetics	3%
10	Finance	3%	Leather and similar materials	3%

Goods (IND) and services (SRV) applications 1996-2009

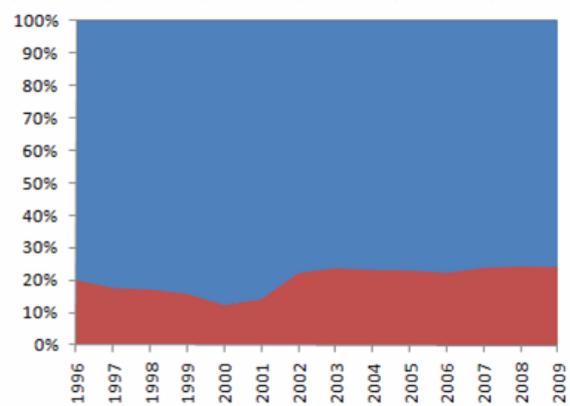
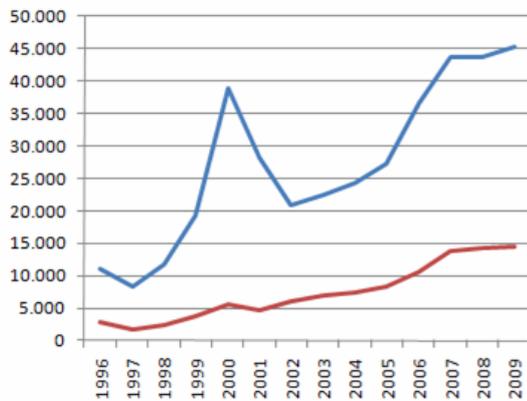


Manufactured goods by technology-intensity (CTM applications, 1996-2009)



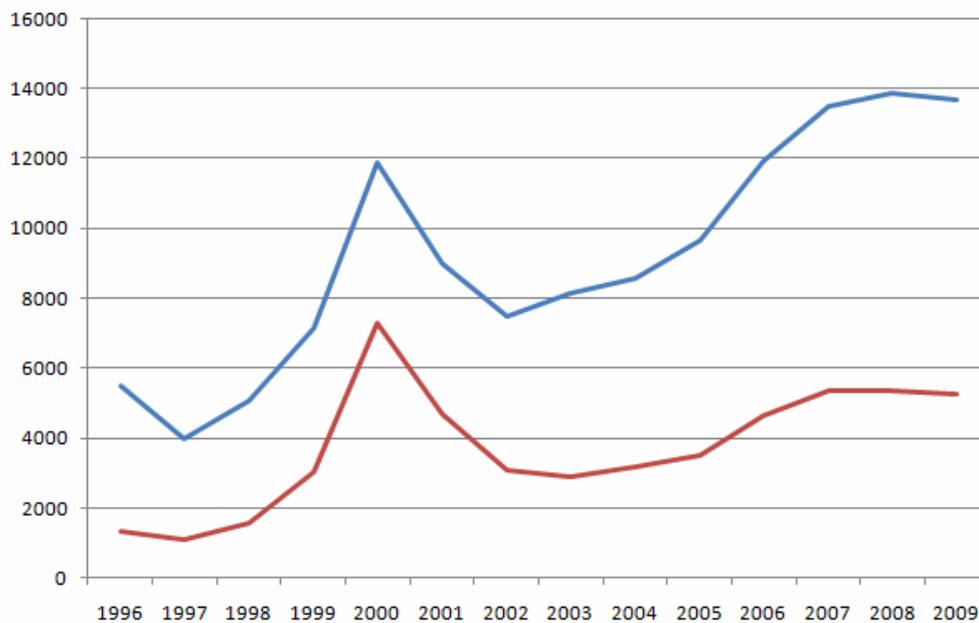
- HT
- MH
- ML
- LT

Service products by information-intensity (CTM applications, 1996-2009)



- High-info
- Low-info

Telecom equipment and services (CTM applications, 1996-2009)



- Instruments and ICT
- Telecom services

Multiplication of telecom brands in Portugal: a case-study

Late in the year 2000 a new mobile communications service was launched. It focused on teenagers and practised attractive price discounts for calls within a network of subscribers. Few months latter alternative products of competing operators mushroomed.

Original product

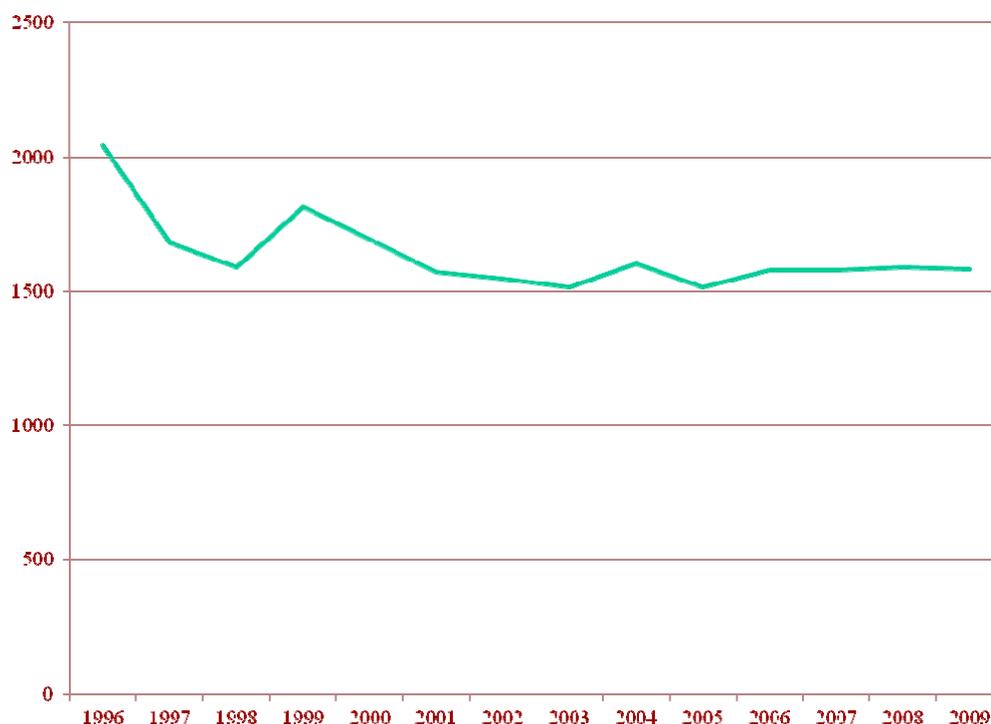


Quasi-clones



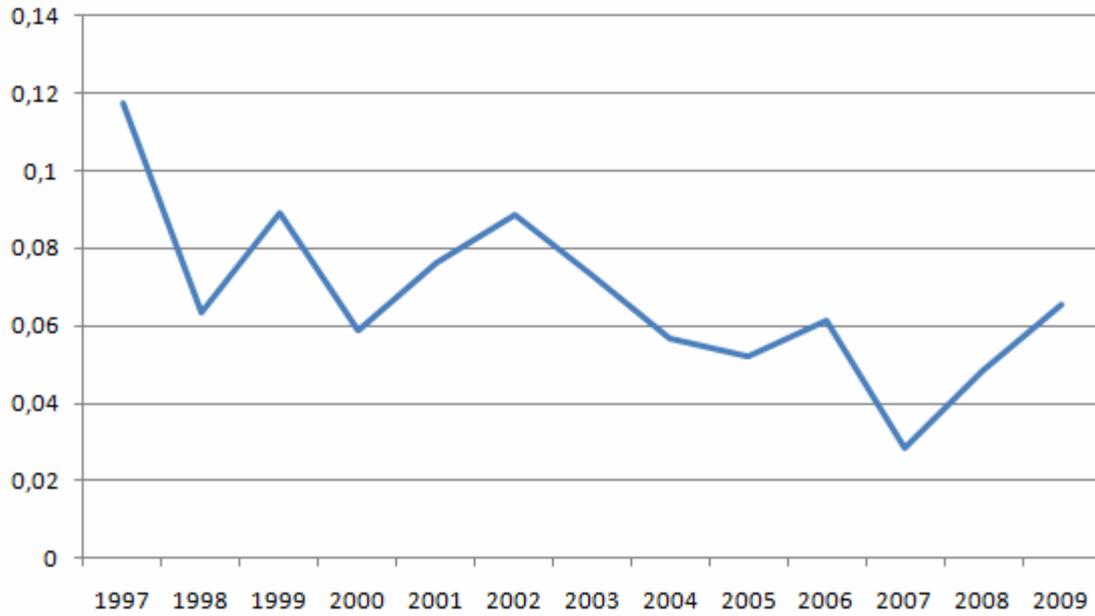
Telecom services (market concentration, 1996-2009)

$$IHH = \sum_{i=1}^k S_i^2$$



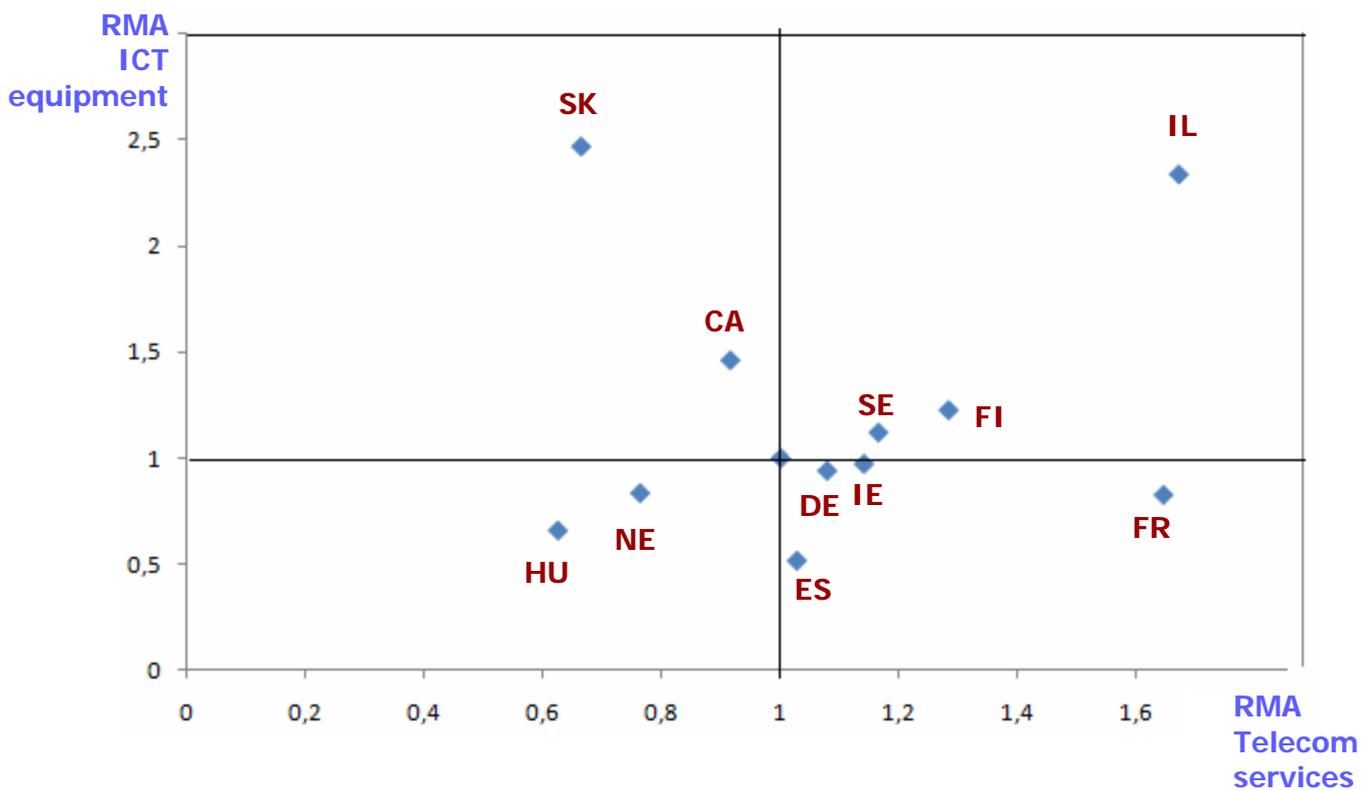
Telecom services (market instability, 1997-2009)

$$II = \frac{1}{2} \sum_i^n |S_{i2} - S_{i1}|$$



Reveled marketing advantage

$$RMA_{it} = \left[\frac{tm_{it}}{\sum_i tm_{it}} \right] / \frac{\sum_i tm_{it}}{\sum_{it} tm_{it}}$$



Conclusions

- **A unique and under-used source of information**
- **Trademarks reflect product innovation and industrial evolution**
- **A complementary indicator to existing STI indicators**