# Income content and the structure of exports in Portugal, 1990-2005

## Miguel Lebre de Freitas (GEE) Workshop on Portugal and the challenges of globalization

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#### Two ideas:

- 1. "Poor countries export poor country goods, rich countries export rich country goods" (Hausmann and D. Rodrik, 2005, "What you export matters", NBER 11905.)
- 2. The process of structural transformation (moving the specialization pattern towards more sophisticated products) is condicional on a country existing capabilities.

These, in turn, develop and are accumulated as a bequest of activities in which the country already developed comparative advantages(Hausmann and Klinger, 2006, "Structural transformation and patterns of comparative advantage in the product space", CIE, Harvard)

Two questions:

- 1 How has the Portuguese Export Basket evolved in terms of "income content"? (today)
- 2 To which extent the current specialization pattern is helping or impairing the process of Structural Transformation? (ongoing Work with Susana Salvado (UNL, GEE).

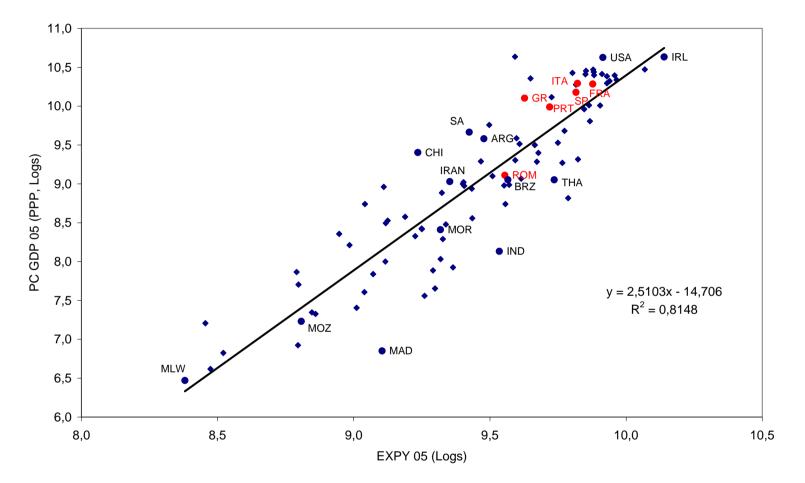
How has the Portuguese Export Basket evolved in terms of "income content"?

Two measures:

- PRODY: measures the "income content" of each product, as an weighted average of per capita incomes of the countries that export it.
- EXPY: measures the "sophistication level" of a country export basket, as an weighted average of the PRODYs of the products exported by that country.

### Data:

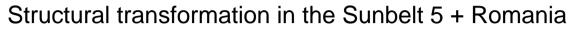
- ONU COM TRADE (NC4)
- IMF for data on Per Capita GDP, PPPs
- 1245 products, **96** countries, 2005
- 1235 products, **80** countries for comparisons 1995-2005
- Countries with population less than 2 million excluded



"Income content" of export baskets (EXPY) and Per Capita GDP 2005

Hausman et al (2005) found that EXPYs are highly correlated with per capita GDP and are also a good predictor of subsequent growth: ("You become what you export")

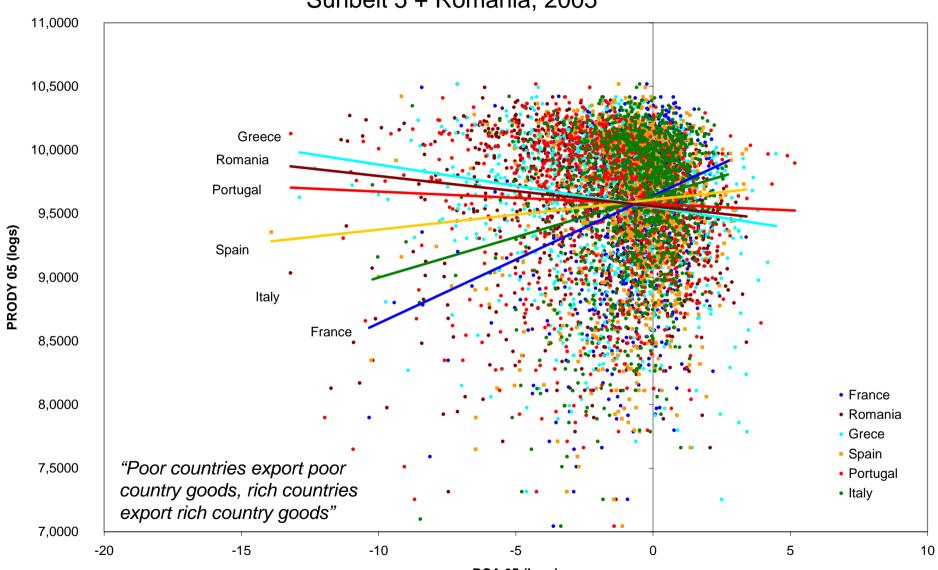
How have export baskets evolved in terms of "income content"?



25.000 **1**990 **1**995 2000 2005 20.000 ЕХРҮ (2005 РКОDY) 15.000 10.000 5.000 Portugal Spain Greece Romania Italy France (% change (4,3%) (4,4%) (10,4%) (1,5%) (19,2%) (2,6%) 1995-2005)

**Evolution of EXPYs, at constant 2005 PRODYs** 

#### Income content (PRODY) and revealed comparative advantage



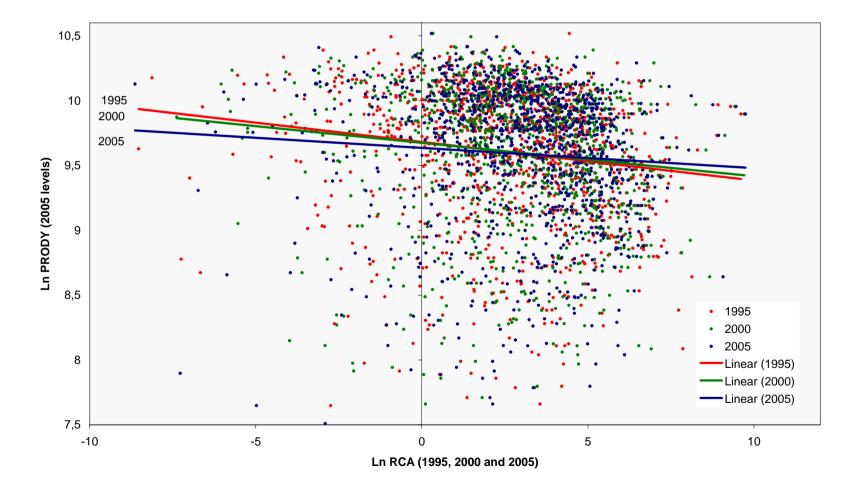
Sunbelt 5 + Romania, 2005

RCA 05 (logs)

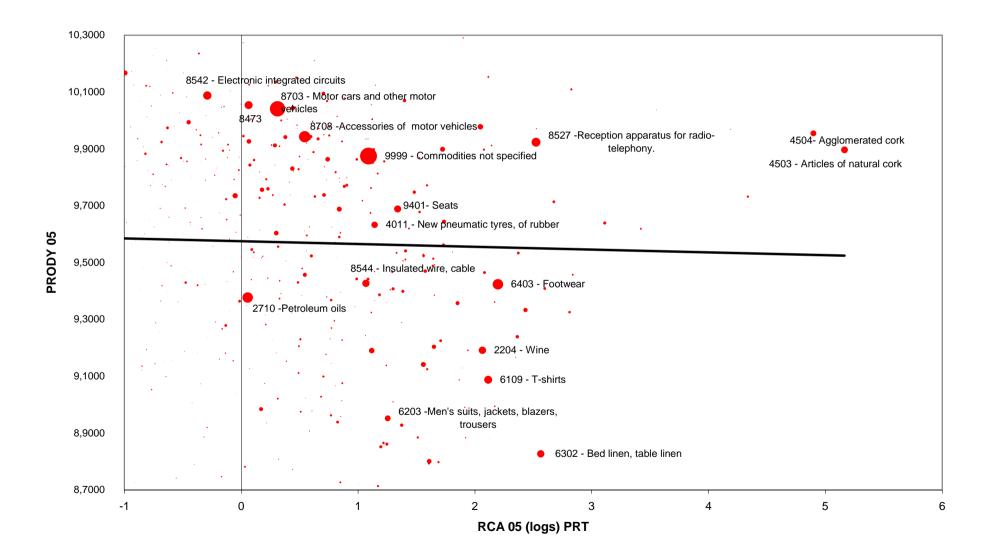
#### Income content (PRODY) and revealed comparative advantage

Portugal, 1995-2005

RCA and PRODY (constant PRODY, 2005 levels)



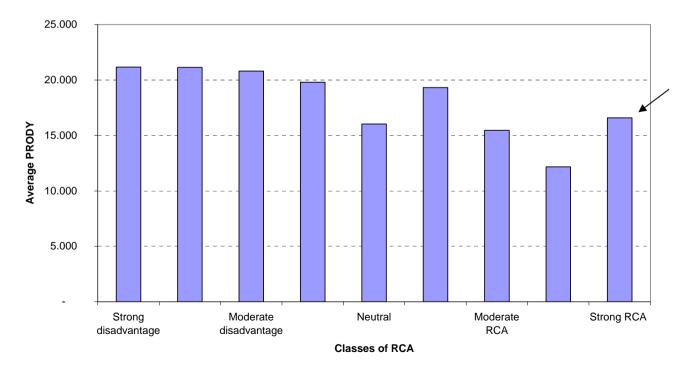
#### Income content (PRODY), RCA and shares on exports (bubbles) Portugal, 2005



Classes of RCA	Count	Share on exports	EXPY	Average PRODY
Strong disadvantage	369	0,007	139,3	21.172
	171	0,024	498,1	21.140
Moderate disadvantage	142	0,040	824,7	20.807
	134	0,063	1.242,6	19.805
Neutral	83	0,126	2.019,4	16.028
	110	0,240	4.626,3	19.315
Moderate RCA	89	0,248	3.839,7	15.461
	50	0,171	2.080,7	12.169
Strong RCA	17	0,083	1.371,1	16.589
Total		100,0%	16.642	

Relative advantage and PRODY, weighted by export shares Portugal 2005

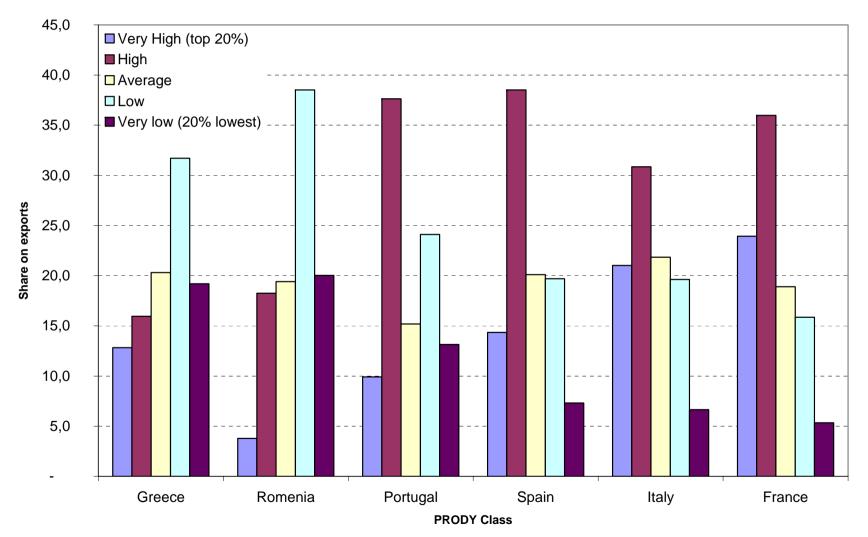
Classes of RCA and PRODY levels: Portugal 2005



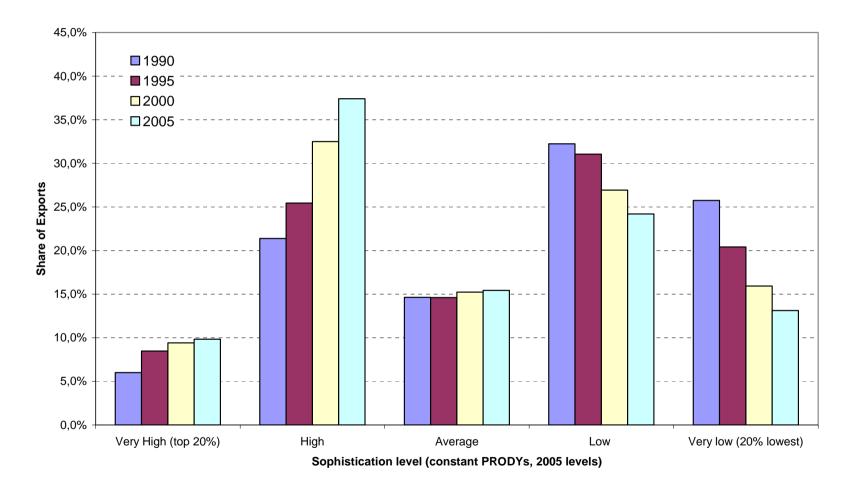
73% of which are:-Reception apparatus for radio-telephony

- Articles of natural cork
- Agglomerated cork

#### Structure of exports by classes of PRODY Sunbelt 5 + Romania, 2005



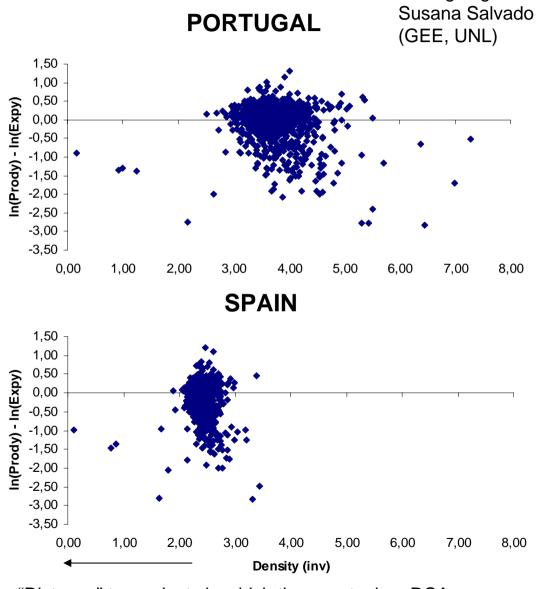
#### Structure of exports by classes of PRODY Portugal 1990-2005



#### **Question 2: How green is your valey?**

How close are (upscale) products in which a country didn't develop RCA?

(i.e, to which extent are these products "surrounded" by products in which the country already developed RCA)?



Preliminary results of an ongoing Work with

"Distance" to products in which the country has RCA