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**“MADE IN ITALY” AND “MADE IN CHINA”. EMPIRICAL ANALYSIS AND  
INDUSTRIAL POLICY IMPLICATIONS<sup>1</sup>**

Marco R. Di Tommaso

Lauretta Rubini

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Marco R. Di Tommaso  
Associate Professor of Applied Economics  
Faculty of Economics, University of Ferrara  
[ditommaso@economia.unife.it](mailto:ditommaso@economia.unife.it)

Lauretta Rubini  
Research Grant  
Faculty of Economics, University of Ferrara  
[rubini@economia.unife.it](mailto:rubini@economia.unife.it)

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## 1. THE PECULIARITIES OF THE ITALIAN SPECIALISATION

As it is widely acknowledged, Italy has been keeping its specialisation in sectors that international standard classifications (i.e. OECD, UNComtrade) define low tech.

In this, Italy sets apart from other industrialised countries (tab. 1), while it seems to have many similarities with emerging economies, which are increasingly growing in the current markets (tab. 2). This peculiar Italian position in the international scenario suggests that it could be useful to study in more depth this structural differentiation.

TAB. 1. Relative Comparative Advantages (RCA) of G7 countries, 2005

|                  | Italy | Japan | USA  | France | UK   | Germany | Canada |
|------------------|-------|-------|------|--------|------|---------|--------|
| Low Tech         | 1.53  | 0.21  | 0.74 | 1.09   | 0.91 | 0.72    | 0.53   |
| Medium-low Tech  | 1.27  | 0.76  | 0.92 | 1.05   | 0.99 | 1.01    | 1.62   |
| Medium-high Tech | 1.19  | 1.62  | 1.02 | 1.38   | 1.06 | 1.42    | 0.53   |
| High Tech        | 0.45  | 1.10  | 1.19 | 0.79   | 1.10 | 0.77    | 1.84   |

Source: Elaboration of the authors on ITCS data, SourceOECD 2008

TAB. 2. Relative Comparative Advantages (RCA) of Italy and emerging countries, 2005

|                  | Italy | China | South Korea | Malaysia | Thailand | India | Brazil | Mexico |
|------------------|-------|-------|-------------|----------|----------|-------|--------|--------|
| Low Tech         | 1.53  | 1.67  | 0.45        | 0.82     | 1.44     | 2.33  | 1.86   | 0.69   |
| Medium-low Tech  | 1.27  | 0.87  | 1.53        | 0.95     | 0.92     | 1.45  | 1.17   | 0.78   |
| Medium-high Tech | 1.19  | 0.52  | 0.91        | 0.33     | 0.81     | 0.41  | 0.72   | 1.02   |
| High Tech        | 0.45  | 0.77  | 1.34        | 1.80     | 1.06     | 0.23  | 0.27   | 1.00   |

Source: Elaboration of the authors on ITCS data, SourceOECD 2008

This is confirmed by the fact that, in the first decade of the new century, the sustainability of the traditional Italian specialisation remains one of the most debated issues (Nardozzi, 2004; Toniolo e Visco 2004; Grilli e Mariotti 2006; Barba-Navaretti et al., 2007; Quinteri e Lanza 2007; Lissovolik, 2008; Bennet et al., 2008).

Questions are still open: is it possible for Italy to remain competitive specialising in macro-sectors that are commonly classified as *low-and-medium-tech*? Is it possible in such *mature* sectors to succeed in facing the growing competition from those countries that it does not seem to be possible to challenge on the cost side? Have these sectors a future in Italy

and can they keep on contributing substantially to the growth and wealth of our country?

The answers to those questions are still controversial. However, in general, the typical *made-in-Italy* specialisation and the lack of structural change are considered among the most evident signals of the (presumed) *decline of the Italian industry*. It would mean to insist on productions that almost all our industrialised competitors have already abandoned. *Competitors* that, in their historical development processes, clearly “revealed” (to economists, entrepreneurs and policy makers) how the relation between growth, structural change and specialisation should be. Being “trapped” in those sectors (traditional, mature, low-tech,...) could be one of the signs of the marginalisation of the Italian industry from the international production and trade dynamics (Di Tommaso, Baradel and Rubini, 2008; Barbieri, Di Tommaso and Rubini, 2009).

Indeed, the country appears to be trying to keep non defensible positions against the competition of the new emerging countries, while not being able to promote the desired and “natural” structural change that would push our firms and our territories towards higher tech productions.

In this framework our work aims at contributing to the debate by providing new insights on the hypothesis of trade overlap between the Italian and the new emerging economies productions.

The first insight is methodological. The comparisons among specialisations often hide a high differentiation among products belonging to the same macro-category. In the light of this, our analysis will be based on 4 digit level data.

The second insight deals with the complex nature of the goods that are currently traded on the international markets. Again, it is important to underline— more than what is commonly done – the different nature of products that only superficially appear to be homogeneous.

To summarise, what follows aims at contributing to the debate on the sustainability of the current Italian productive specialisation, by testing the hypothesis (through highly disaggregated data and adjusting the analysis to consider the “differences” among products) of trade overlap between the Italian production and that of emerging economies specialised on those sectors commonly referred to as “traditional”. After suggesting a different methodology to select the “critical sectors” in which competition with emerging countries is particularly fierce, we will discuss the industrial policy implications emerging from our hypothesis and the results of our analysis.

To study these issues, we have chosen to start from a pilot case study on the comparison between the Italian and the Chinese productions, given the current political-strategic relevance of the phenomenon. It is important to stress that it is a case study, and thus the results are limited to the case itself. However, we also believe that the methodology used can be easily extended

to other case studies focused on the assessment of the contemporary competitive scenarios.

## 2. THE ITALIAN AND CHINESE TRADE OVERLAP. METHODOLOGY TO SELECT “CRITICAL SECTORS”.

### 2.1 *Premise*

The analysis of the Chinese growth in its impact on the global economy (and industry) has generated a wide and interesting literature (Nolan, 2001; 2003; Prasad, 2004; Spatafora et al., 2004; Kaplinski, 2006). More specifically, industrial economics and international trade experts are showing a growing interest on implications for the Italian productions of the integration of China (Chiarlone, Helg 2001; Amighini, Chiarlone 2004; Monti, 2005; Bugamelli, 2001; Fortis, 2005; Quintieri, Lanza 2007; Di Tommaso, 2006).

Nevertheless, *the Italy and China issue* (Di Tommaso, 2006) is particularly complex and requires therefore further analysis.

As already mentioned, first of all we need to develop a methodology to identify and aggregate the sectors in which we assume the existence of “critical” overlapping, in which therefore there could be a particularly fierce competition between the Italian and the Chinese products.

The lion’s share of the current literature, in fact, studies the degree of trade overlapping between Italy and China referring to those sectors that, because of their high internal heterogeneity, seem to be too wide to offer accurate indications. Indeed, very often within each macro-sector it is possible to identify substantial differences among products. Such differences are due to qualitative characteristics, both tangible and intangible (Di Tommaso *et al.*, 2004; Di Tommaso and Paci, 2005a and 2005b; Di Tommaso and Dragomirescu, 2008; Di Tommaso, Baradel and Rubini, 2008) that imply the use of different technologies, know how and inputs. Many of the considerations that (both in Italy and abroad) animate the debate on the *Italian decline* still risk to be based on product categories within which there are strong differences that (as we will suggest in the following section) would be instead very important to take into account, in particular while comparing the productions of such different countries as Italy and China.

To summarise, to use macro-sectors not sufficiently or properly disaggregated could give birth to the risk of identifying trade and international specialisation overlapping that are actually not as such. For these reasons, in the following analysis we have first of all decided to select

the sectors in which both Italy and China are competitors at international level using 4 digit disaggregated data (SITC Rev. 3 classification).

A second argument is dedicated to the need to reconsider the terminology (content wise) of the product/sector/categories aggregations that are the focus of our analysis.

In most cases the current literature divides the products into macro-categories based on a priori definitions on the technology and knowledge intensity of the products (such as, among others, ICE, OECD, UNIDO). For example, textiles, clothing and furniture are usually considered low-tech sectors if compared to sectors such as software and hardware, which are considered high-tech by definition. These classifications are internationally accepted and in many cases are useful to the analysis. However, we think that in some cases it would also be useful to classify sectors according to the stock of knowledge incorporated in the products. This approach would allow to underline differences among products that are only apparently similar but that markets do not consider as such (examples refer to fashion, food or furniture sectors in which often products can be considered knowledge-intensive). Furthermore, the importance of inputs and of the intangible content of products traded on the contemporary markets should suggest classifications more careful regarding the “differences” among products that are only apparently similar (Foray-Lundvall, 1996; Eustace, 2004; Lev, 2001).

In this framework our analysis does not replicate the traditional *à la Pavitt* classification (Pavitt, 1984), i.e. the distinction between “traditional”, “scale-intensive”, “specialised” and “knowledge intensive” sectors. This is because among the objectives of this work there is also the willing to avoid the misunderstandings due to the assumption that within the “traditional” category there are homogeneous goods and thus products characterised by a low degree of technology and knowledge.

## 2.2. *The identification of the “critical sectors”*

In this first phase of the analysis, the aim is to identify the sectors in which the Italian export seems to be more exposed to the Chinese competition. Such “critical” sectors are selected comparing the data on Italian and Chinese exports (source: UN Comtrade that provides data on commodities international trade flows) in order to identify the categories in which there is a significant trade overlap between the two economies (Di Tommaso, Baradel and Rubini, 2008; Barbieri, Di Tommaso and Rubini, 2009). In particular:

- a. we collected data on the export values of Italy and China to the rest of the world (2005 data). Data are disaggregated to the 4 digits according to the classification SITC Rev 3 (Source: UN Comtrade);

- b. values and shares (on the total export of each country) for all the 4 digit product categories have then been ranked in descending order;
- c. we compiled two country lists (one for China and one for Italy) selecting the n sectors that: (c1) show the largest share on the total exports of the considered country, and (c2) they totally represent 80% of the exports of the selected country to the rest of the world. This has allowed us to exclude from the analysis those sectors which are marginal for both countries, representing in total only 20% of the total national exports.
- d. Finally, we selected the “critical” sectors, which appear in both country lists.

Tab. 3 shows the 51 “critical” sectors resulting from the above-mentioned procedure.

TAB. 3. Italy and China, the “critical” sectors, 2005

| SITC 3 Code | Commodity Description                                  | % on tot. Italian exports | % on tot. Chinese exports | RCA Italy | RCA China |
|-------------|--|---------------------------|---------------------------|-----------|-----------|
| 3340        | Petroleum products                                     | 0.030181                  | 0.009952                  | 0.883051  | 0.291175  |
| 6523        | <b>Other 85% +cotton fabric &lt;200g</b>               | 0.002919                  | 0.004061                  | 3.291901  | 0.118829  |
| 6524        | <b>Other 85%+cotton fabric 200g+</b>                   | 0.002255                  | 0.002912                  | 2.637716  | 0.085212  |
| 6531        | <b>Fabric, synthetic filament, yarn</b>                | 0.002104                  | 0.007318                  | 1.267899  | 0.214098  |
| 6552        | <b>Other knitted or crocheted fabrics</b>              | 0.002488                  | 0.004488                  | 1.601669  | 0.1313    |
| 6613        | Building stone, worked. etc                            | 0.004928                  | 0.003276                  | 5.652558  | 0.095836  |
| 6791        | Tube, etc. seamless, iron steel                        | 0.003592                  | 0.002678                  | 1.66848   | 1.244045  |
| 6842        | Aluminium, aluminium alloy, worked                     | 0.005115                  | 0.003028                  | 1.247254  | 0.73828   |
| 6911        | Metal structures, parts                                | 0.002815                  | 0.003982                  | 1.294826  | 1.831553  |
| 6942        | Screws, bolts, nuts, iron steel                        | 0.003037                  | 0.002771                  | 1.890776  | 1.724763  |
| 6974        | <b>Tables, kitchen, household articles, nes</b>        | 0.001988                  | 0.004141                  | 2.464483  | 5.134403  |
| 6991        | Locks, safes, strong boxes                             | 0.005613                  | 0.005372                  | 2.198347  | 2.103753  |
| 6996        | Articles iron, steel, nes                              | 0.007115                  | 0.00602                   | 2.334743  | 1.975524  |
| 7415        | Air conditioning machinery, parts                      | 0.003364                  | 0.007857                  | 1.453033  | 3.394087  |
| 7434        | Fans, cooker hoods with fan                            | 0.003148                  | 0.003559                  | 3.456378  | 3.908255  |
| 7478        | <b>Taps, cocks, valves and similar appliances, nes</b> | 0.009657                  | 0.003699                  | 4.127029  | 1.580835  |
| 7599        | Parts, data proc. etc. mch                             | 0.003607                  | 0.044277                  | 0.194056  | 2.382328  |
| 7643        | TV, radio transmitters, etc                            | 0.00491                   | 0.036812                  | 0.326623  | 2.448909  |
| 7649        | Parts, telecommun. equipment                           | 0.005416                  | 0.038514                  | 0.413248  | 2.938688  |
| 7712        | Other electric power machineries, part                 | 0.002187                  | 0.011591                  | 0.608299  | 3.223981  |
| 7725        | Switch. apparatus, <1000v                              | 0.005511                  | 0.005905                  | 0.963917  | 1.032732  |
| 7731        | Insulated wire, etc. condctr                           | 0.004909                  | 0.007511                  | 0.874338  | 1.337783  |
| 7758        | Electro-thermic appliances, nes                        | 0.006323                  | 0.011415                  | 2.495629  | 4.505488  |
| 7764        | Electronic microcircuits                               | 0.007492                  | 0.02233                   | 0.283598  | 0.845206  |
| 7781        | Batteries, accumulators                                | 0.001262                  | 0.008251                  | 0.520592  | 3.402991  |
| 7788        | Elect machinery, equip., nes                           | 0.002024                  | 0.003865                  | 0.679236  | 1.297066  |

|      |  |          |          |          |          |
|------|--|----------|----------|----------|----------|
| 7843 | Other parts, motor vehicles  | 0.031728 | 0.010193 | 1.40855  | 0.452515 |
| 7851 | Motorcycles etc.   | 0.003628 | 0.003753 | 2.250675 | 2.328416 |
| 7853 | Invalid carriages, parts   | 0.002655 | 0.002744 | 2.725074 | 2.81632  |
| 8131 | <b>Lamps, light fittings nes</b>   | 0.003735 | 0.007284 | 2.333422 | 4.550877 |
| 8211 | <b>Convertible seats, parts</b>  | 0.010805 | 0.008756 | 2.743162 | 2.22298  |
| 8213 | <b>Metal furniture nes</b>   | 0.001913 | 0.003063 | 2.281715 | 3.653276 |
| 8215 | <b>Furniture, nes, of wood</b>   | 0.00912  | 0.007227 | 2.904221 | 2.301605 |
| 8311 | <b>Handbags, nes</b>   | 0.004757 | 0.002675 | 5.558384 | 3.125583 |
| 8414 | <b>Trousers, bib and brace overalls, breeches and shorts, men's</b>                        | 0.003084 | 0.00618  | 1.464914 | 2.935191 |
| 8415 | <b>Shirts</b>  | 0.001306 | 0.003701 | 1.301283 | 3.687359 |
| 8421 | <b>Overcoats, other coats etc.</b>   | 0.001399 | 0.004397 | 1.945088 | 6.112548 |
| 8423 | <b>Jackets and blazers, women's or girls', of textile materials, not knitted</b>           | 0.001101 | 0.003415 | 1.363101 | 4.228677 |
| 8426 | <b>Trousers, bib and brace overalls, breeches and shorts, women's</b>                      | 0.003461 | 0.008269 | 1.49946  | 3.582391 |
| 8453 | <b>Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted o crocheted</b> | 0.006575 | 0.014602 | 2.133088 | 4.737574 |
| 8454 | <b>T-shirts, singlets and other vests, knitted or crocheted</b>                            | 0.002676 | 0.008217 | 1.106945 | 3.398856 |
| 8458 | <b>Other garments, not knitted</b>   | 0.001498 | 0.003125 | 2.111309 | 4.403679 |
| 8462 | <b>Hosiery, etc. knitted</b>   | 0.002547 | 0.002665 | 3.576103 | 3.741318 |
| 8481 | <b>Leather apparel, accessories</b>  | 0.002036 | 0.005223 | 2.47654  | 6.354074 |
| 8512 | <b>Sports footwear</b>   | 0.001702 | 0.006975 | 1.516847 | 6.214896 |
| 8514 | <b>Other footwear, leather uppers</b>  | 0.015382 | 0.008925 | 4.913007 | 2.850677 |
| 8931 | Plastic containers etc.  | 0.003415 | 0.004401 | 1.14965  | 1.481754 |
| 8939 | Plastic articles nes   | 0.005741 | 0.007907 | 1.66638  | 2.295049 |
| 8942 | Children's toys  | 0.001224 | 0.010186 | 0.586976 | 4.884647 |
| 8947 | Sports goods   | 0.001836 | 0.007105 | 1.097929 | 4.249259 |
| 8973 | <b>Gold, silver jewellery, ware</b>  | 0.01269  | 0.003268 | 3.699081 | 0.952532 |

Source: Authors' elaboration on UN Comtrade data (2008)

The first two columns of tab. 3 quantify the weight of every category on the total exports of the considered country; the third and fourth column indicate the Revealed Comparative Advantage (*RCA à la Balassa*), which measures the intensity of the Italian and Chinese specialisation in each category.

This very preliminary analysis suggests some observations:

- a. all the product categories selected (except the first one) belongs to the manufacturing sector, i.e. categories 5-8 of the SITC classification Rev. 3;
- b. the RCA analysis suggests that Italy and China are both specialised in 32 out of the 51 “critical” sectors, where RCA is greater than 1 for both countries (highlighted in blue in tab. 3). In particular, both countries are highly specialised in some categories that are commonly considered as “typical” of the *made-in-Italy* industry (in bold in tab. 3).

Briefly, results shown in table 3 seem to remark the conclusion reached by several authors (Chiarlone, Helg 2001; Biggeri, 2005) according to whom the Italian and Chinese specialisation model appear to be similar. In particular they are both specialised in the manufacturing sector, with specific reference to the typical *made-in-Italy* industries (such as clothing and footwear, furniture, lamps, jewels, etc.).

However, it is important to stress the fact that the RCA index used to assess the trade overlap in table 3 is based on the assumption of product homogeneity within each product category.

The following analysis aims at overcoming such assumption by introducing an index that attempts to capture the qualitative differences between products generally considered homogeneous, but that may actually not be as such.

### 3. THE “DIFFERENCES” BETWEEN THE ITALIAN AND THE CHINESE PRODUCTS

#### 3.1. Introduction

Once identified the product categories for which we assume that the competition between Italy and China is relevantly intense, herewith we discuss the hypothesis of good homogeneity within the same product category.

As mentioned above, the aim of this paper is to challenge the common (and often implicit) assumption according to which goods belonging to the same product category (even highly disaggregated as we have done in the previous section), are homogenous.

Two goods belonging to the same product category are considered to be apparently similar because they appear to respond to the same consumer demand (to travel, to wear clothes, to decorate, etc). In reality, they can be deeply different since they can (or cannot) satisfy different (and more complex) consumers' desires. For example, intuitively, motorbikes can differentiate in several characteristics such as speed, braking space, fuel consumption per km, number of passengers, etc. In addition, it is evident that the purchase of a motorbike does not simply satisfy the consumer's need for mobility but also a need for building himself an identity, signalling his social class and his status, etc. More generally, it is reasonable to argue that apparently similar goods can be qualitatively differentiated (both horizontally and vertically) because of the plurality of tangible characteristics (as the braking space at 100km/hr) and intangible characteristics (design, colour match, comfort, etc) that offer complex answers to the equally complex demands of the modern consumers (Barbieri, Di Tommaso and Rubini, 2009).



Therefore, it seems reasonable to state the intuitive (because based on the observation of the real world) hypothesis according to which, in current markets, goods belonging to the same trade category can always (or with only rare exceptions) be differentiated horizontally, i.e. per quality. In many cases, then, such goods are so qualitatively different that we can even say that the goods in question are vertically differentiated (and this is the main interest of this article). In other words, in these cases the different tangible and intangible characteristics of goods commonly classified in the same 4 digit category make them able to respond to a sensibly different consumers' demand. Such goods are "different" for consumers because of their tangible and intangible qualitative characteristics, among which are also central those not specifically related to the product itself, such as the reputation and the image of the country/territory of origin.

The following analysis aims at quantifying and highlighting the differences in quality that can characterise the comparison between the Italian and the Chinese products. In particular, we have decided to study the price differentials on the international markets by means of an index able to quantify how "different" consumers show to consider goods that only superficially appear to be "similar" in the two countries.

### *3.2. Prices and quality*

The relation between prices and quality is not a new concept in the literature (Grubel-Lloyd, 1975; Abd-el-Rahaman, 1986; Freudenberg Müller, 1992) even if, according to us, there is still a need for further analysis. Starting from the Eighties, given the growing intra-industry trade among countries, the literature has suggested various models on international trade that overcome the assumption that products classified in the same category due to standard nomenclatures are actually homogeneous (Gray, 1979; Loertsher-Walter, 1980; Aiginger, 1997). Starting from these models several studies arose trying to consider quality as a differentiation factor among products included in the same category. In these studies quality is mainly considered as a set of measurable features and is studied analysing the unit prices (value of exports of product  $i$  / volume of export of product  $i$ ). Among the most commonly used indexes it is worth to mention the Abd-El-Rahaman and the Gruber and Lloyd indexes. Both introduce hypotheses of quality differentiation of products based on the relation between unit prices.

As far as Italy is concerned, the analysis of trade overlap considering quality has been afforded by Faini and Heimler (1990), de Nardis and Traù (1999), Amighini and Chiarlone (2004) e Quinteri and Lanza (2007). Amighini and Chiarlone assert that the trade overlap between Italy and

China is significantly reduced adjusting the standard trade overlap index (IS) with the quality content of the considered goods. Also interesting is the result of de Nardis and Traù, who have compared (even if only for 1994) the Italian export flow to OECD countries with those of a group of 23 industrialised and emerging countries. They have identified a high similarity of the Italian specialisation with the exports of industrialised countries in the mechanical sector and in some basic industries and with export of emerging countries in the traditional productions and in some mechanical sectors. Their analysis also shows that, by differentiating the products according to quality, the similarity with exports of industrialised economies decreases but remains high, while those with exports of emerging countries tends to disappear. De Nardis and Traù conclude therefore that in 1994 Italy was not in direct competition with emerging countries (which count on low production costs), even if exports are oriented towards the same production typologies. More recent and articulated is finally the work of Quinteri and Lanza, who edit a collection of articles aimed at explaining the vivacity of the Italian exports, posing at the centre of the study the issue of quality and of the methodologies aimed at quantifying it.<sup>2</sup>

In this framework, the next step of our analysis is related to the study of price differentials and quality differentials with specific reference to the comparison between Italian and Chinese productions. In particular, we will suggest a new index based on the *relative unit price differentials* (Di Tommaso, 2008a e 2008b).

### 3.3. The Revealed Unit Price Differentials (RUPD)

The Revealed Unit Price Differentials (RUPD) are based on the following behaviour: consumers and/or firms are available to pay more for goods that belong to the same category and that have been produced in different countries (Barbieri, Di Tommaso and Rubini, 2009).

In short,

$$RUPD_{ItaChi} = \frac{(pu_{i,t} - pu_{j,t})}{Max(pu_{i,t} - pu_{j,t})} * 100$$

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<sup>2</sup> See also the very recent work of Lissovolik (2008). In his IMF Working Paper the author concentrates on the *non-price-competitiveness* of the Italian industry and he also suggests some interesting insights (and preliminary estimations) on quality and unit prices.

where  $pu_{i,t}$  and  $pu_{j,t}$  are the unit prices of product  $i$  and  $j$  respectively at time  $t$ .

This index seems to be useful to question the above mentioned common belief according to which two products included in the same category (even if it has been disaggregated to the 4 or 5 digit level) are always homogeneous.

Positive values of the index could suggest *horizontal* qualitative differences, while higher values of the index could suggest the presence of *vertical* qualitative differences. As previously underlined, goods which are apparently similar because of the need they satisfy (to dress up, to travel, to make light, to make coffee, etc.) could present high price differentials because in reality they are far from being homogeneous. These price differentials would reflect substantial differences among the products, due to a variety of tangible qualitative features, but that could also differentiate (both vertically and horizontally) because of intangible contents. This is the case when the purchase meets not only the primary need (to dress up if it is cold, to move from a city to another one, to illuminate a dark room, to drink a coffee), but it can also offer to the consumer the satisfaction of other needs (status, prestige, social acceptance, etc.), which make the good “qualitatively” different and much more complex than firstly thought.

In this framework, the RUPD “reveals” ex post how much more a consumer has shown to be available to pay for a specific good in comparison to another good present on the market, belonging to the same category and produced in another country. If the RUPD are calculated using sufficiently disaggregated data (at least at the 4 or 5 digit level) we can hypothesise that such index can actually reflect how different consumers perceive a product in comparison with another one, implicitly considering it non homogeneous and not substitutable.

Obviously, price differentials are function of different variables, some of which are not related to the quality of goods. First of all differences in the input costs. Secondly different tax and tariff regimes. Thirdly also exchange rates can have an impact on the prices of goods exported from different countries. Finally, high price differentials could also be the result of specific firm strategies aimed at maximising returns instead of volumes (Lissovolik, 2008; Bennett *et al.*; 2008; Bugamelli-Tedeschi, 2005; Quintieri-Lanza, 2007). However, this does not weaken the hypothesis according to which the RUPD could represent an interesting proxy for the quality “perceived” (and paid for) by the purchaser of a good: we read such differentials as an indicator of how “different” a consumer or a firm perceive and evaluate two goods apparently similar (and normally included in the same category) both present on the international markets and produced in two different countries. For example, the motivations explaining why two ties, one made in Italy and the other one made in Vietnam, have different prices on the European or on the American market are manifold; nevertheless, the revealed price

differential represent how much the consumers of Berlin, Paris or New York are available to pay for such a difference and, if sufficiently high, can be considered a realistic proxy for differences in quality of the considered goods. This is further reinforced if RUPDs are constantly high over time. With incomplete information it is reasonable to assume that information asymmetries between producers and consumers result in the acceptance of higher prices that could not reflect differences in quality. However, it is equally reasonable to assume that high price differentials that remain high over time go beyond information asymmetries among actors (that can influence the first purchase of a good but not its re-purchase by a rational consumer) and reflect instead how much a consumer consider qualitatively different two good belonging to the same category (Barbieri, Di Tommaso and Rubini, 2009; Di Tommaso, Baradel and Rubini, 2008).

### 3.4 RUPD for the Italian and the Chinese productions

As previously anticipated, in order to verify empirically the hypothesis presented in the previous section, we have decided to select a “pilot” case study, calculating the RUPDs and comparing the results over time using data on Italian and Chinese world exports. Referring to this specific case study, the RUPDs have been calculated as follows:

$$RUPD_{ItaChi} = \frac{(pu_{i,Ita,t} - pu_{i,Chi,t})}{Max(pu_{i,Ita,t} - pu_{i,Chi,t})} * 100$$

Table 4 presents the results with reference to the 51 « critical » sectors previously identified for the years 2000, 2003 and 2007.

TAB. 4. Italy-China: RUPD in the 51 “common” sectors

| SITC-3 Code | Commodity Description                                  | RUPD          |               |               |
|-------------|--|---------------|---------------|---------------|
|             |  | 2000          | 2003          | 2007          |
| 7781        | Batteries, accumulators                                | -71.75        | -70.86        | -82.62        |
| 7712        | Other electric power machineries, part                 | -57.6         | -61.07        | -71.16        |
| <b>7478</b> | <b>Taps, cocks, valves and similar appliances, nes</b> | <b>-25.51</b> | <b>-16.91</b> | <b>-24.26</b> |
| 7725        | Switch. apparatus, <1000v                              | -21.57        | -6.562        | -11.26        |
| 3340        | Petroleum products                                     | -6.00         | -1.079        | 4.41          |
| 8942        | Children's toys  | -17.63        | -12.02        | 10.29         |
| <b>8213</b> | <b>Metal furniture nes</b>                             | <b>64.95</b>  | <b>73.90</b>  | <b>21.05</b>  |
| 7731        | Insulated wire, etc. condctr                           | 15.59         | 18.31         | 21.89         |
| 7415        | Air conditioning machinery, pts                        | 17.45         | 28.13         | 27.39         |

|             |   |              |              |              |
|-------------|---|--------------|--------------|--------------|
| <b>8211</b> | <b>Convertible seats, parts</b>   | <b>28.86</b> | <b>24.71</b> | <b>35.97</b> |
| <b>6523</b> | <b>Other 85% +cotton fabric &lt;200g</b>  | <b>10.02</b> | <b>14.19</b> | <b>36.09</b> |
| 6842        | Aluminium, aluminium alloy, worked  | 20.68        | 31.36        | 41.03        |
| <b>6524</b> | <b>Other 85%+cotton fabric 200g+</b>  | <b>20.96</b> | <b>37.56</b> | <b>45.76</b> |
| 7758        | Electro-thermic appliances, nes   | -46.79       | -26.76       | 49.07        |
| <b>6531</b> | <b>Fabric, synthetic filament, yarn</b>   | <b>35.97</b> | <b>57.45</b> | <b>53.51</b> |
| 8931        | Plastic containers etc.   | 51.95        | 63.54        | 54.39        |
| <b>6552</b> | <b>Other knitted or crocheted fabrics</b>   | <b>77.69</b> | <b>79.40</b> | <b>55.56</b> |
| 7843        | Other parts, motor vehicles   | 47.76        | 52.75        | 56.34        |
| 7649        | Parts, telecommunication equipment  | 62.20        | 51.44        | 57.38        |
| 6791        | Tube, etc. seamless, iron steel   | 46.13        | 54.37        | 57.58        |
| <b>6974</b> | <b>Tables, kitchen, household articles, nes</b>   | <b>52.70</b> | <b>61.14</b> | <b>57.83</b> |
| 6911        | Metal structures, parts   | 43.75        | 56.20        | 58.03        |
| <b>8215</b> | <b>Furniture, nes, of wood</b>  | <b>25.52</b> | <b>40.73</b> | <b>61.88</b> |
| 7643        | TV, radio transmitters, etc   | 67.98        | 75.26        | 67.81        |
| 6613        | Building stone, worked, etc   | 53.25        | 69.07        | 68.92        |
| 6991        | Locks, safes, strong boxes  | 65.67        | 71.70        | 69.00        |
| 8939        | Plastic articles nes  | 59.76        | 68.75        | 69.76        |
| 6996        | Articles iron, steel, nes   | 57.72        | 62.96        | 70.24        |
| 6942        | Screws, bolts, nuts, iron steel   | 56.02        | 62.77        | 70.36        |
| 7788        | Elect machinery, equip., nes  | 34.10        | 65.39        | 71.40        |
| <b>8458</b> | <b>Other garments, not knitted</b>  | <b>57.04</b> | <b>56.13</b> | <b>71.76</b> |
| <b>8481</b> | <b>Leather apparel, accessories</b>   | <b>50.31</b> | <b>68.07</b> | <b>72.11</b> |
| 8947        | Sports goods  | 67.84        | 74.19        | 73.20        |
| <b>8454</b> | <b>T-shirts, singlets and other vests, knitted or crocheted</b>                             | <b>75.80</b> | <b>83.87</b> | <b>81.85</b> |
| 7599        | Parts, data proc. etc. mch  | 93.21        | 89.06        | 82.30        |
| <b>8453</b> | <b>Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted</b> | <b>77.45</b> | <b>83.69</b> | <b>83.13</b> |
| <b>8131</b> | <b>Lamps, light fittings nes</b>  | <b>77.19</b> | <b>82.72</b> | <b>83.80</b> |
| <b>8414</b> | <b>Trousers, bib and brace overalls, breeches and shorts, men's</b>                         | <b>75.56</b> | <b>83.65</b> | <b>85.51</b> |
| <b>8514</b> | <b>Other footwear, leather uppers</b>   | <b>77.13</b> | <b>84.76</b> | <b>86.12</b> |
| <b>8512</b> | <b>Sports footwear</b>  | <b>76.42</b> | <b>83.09</b> | <b>86.92</b> |
| <b>8415</b> | <b>Shirts</b>   | <b>80.62</b> | <b>87.46</b> | <b>87.25</b> |
| 7853        | Invalid carriages, parts  | 79.29        | 85.67        | 87.65        |
| <b>8426</b> | <b>Trousers, bib and brace overalls, breeches and shorts, women's</b>                       | <b>82.23</b> | <b>85.04</b> | <b>87.87</b> |
| 7851        | Motorcycles etc.  | 80.15        | 94.01        | 88.63        |
| <b>8421</b> | <b>Overcoats, other coats etc.</b>  | <b>78.59</b> | <b>85.84</b> | <b>89.45</b> |
| <b>7434</b> | <b>Fans, cooker hoods with fan</b>  | <b>76.72</b> | <b>88.07</b> | <b>90.95</b> |
| <b>8973</b> | <b>Gold, silver jewellery, ware</b>   | <b>88.34</b> | <b>77.72</b> | <b>91.68</b> |
| <b>8423</b> | <b>Jackets and blazers, women's or girls', of textile materials, not knitted</b>            | <b>90.84</b> | <b>94.11</b> | <b>92.60</b> |
| <b>8311</b> | <b>Handbags, nes</b>  | <b>66.28</b> | <b>96.92</b> | <b>98.47</b> |
| 7764        | Electronic microcircuits  | 64.46        | 36.07        | n.a.         |
| <b>8462</b> | <b>Hosiery, etc. knitted</b>  | <b>-2.55</b> | <b>16.68</b> | <b>n.a.</b>  |

Source: authors' elaboration on UNComtrade data

Before proceeding in the analysis of the results, it is worth underlining some specific features of the RUPD index, which can be of help in interpreting the results:

- 1) the index has an exponential trend: if its value is 50 it means that the Italian price is twice the Chinese one; if it is 75 the Italian price is 4 times higher than the Chinese one; if it is equal to 90 the Italian price is 10 times higher than the Chinese price.
- 2) Even if every classification and division is subjective by definition, it could be useful to set some thresholds in the RUPD values to take into consideration while examining the results of our pilot case study:
  - a.  $|0-25|$  = the price differential between Italian and Chinese products is small: there is an overlap of the two countries in the specific sector considered;
  - b.  $|25-50|$  = there is a price differential between Italian and Chinese products, but it is relatively low;
  - c.  $|50-75|$  = Chinese and Italian prices are sensibly different and it is therefore less likely that the two products overlap;
  - d.  $|>75|$  = RUPD is noticeably high.

For both the b) and c) categories, the difference in revealed prices for Italian and Chinese goods is so high that it is very likely it signals differences in the perceived quality of goods included in the same category. For these groups, therefore, it is reasonable to assume that there is not a direct competition between Italy and China.

- 3) As anticipated, the hypothesis of non-overlap between Italy and China in case of high RUPDs is further reinforced if RUPDs remain high over time. In fact, if a high RUPD for a specific year could be determined by information asymmetries and/or experience goods (i.e. those goods whose real value can be fully appreciated by consumers only after the purchase), a high RUPD that remains high over time implies a difference in the quality levels of the Italian and Chinese goods perceived by a rational consumer.

In the light of these considerations, we can now highlight some of the results emerging from tab. 4:

1. In general, price differentials are positive and in many cases the values are high. In 2007, in 35 cases the RUPD value is higher than 50, 22 of which with a percentage higher than 70.
2. As regards the trend of price differentials, in 33 cases the RUPD has grown over time. Furthermore, in 29 cases its value has always been higher than 50 across years. What it is also interesting to note is that in 16 cases the price differential for the considered years is always higher than 75, which means that consumers have shown to be available to pay for an Italian good a price that is 4 times higher than the price of a

Chinese good included in the same 4 digit category. 13 out of these 16 cases where price differentials are constantly very high belong to categories that the literature has labelled as Made in Italy productions (in bold).

#### 4. FINAL REMARKS: RESULTS, RESEARCH AGENDA AND POLICY IMPLICATIONS

##### *4.1. Summary of the main steps of the analysis*

This article studies the sustainability of the current Italian productive specialisation on the international competitive scenario. In this framework we have analysed the case study of Italy *versus* China in order to contribute to the debate that considers the Italian industry as facing difficulties also because of the pressures coming from emerging countries specialised in the same productive sectors.

Our analysis has suggested a different perspective from those presented in the literature on the overlap of Italian and Chinese productions: we have identified some “critical” sectors in which it is possible to assume that the competition between the two countries is particularly fierce. We have then suggested a comparison among the different productions disaggregating the available data to the 4 digits, and insisting on the necessity to highlight the qualitative differences between the Italian and the Chinese goods. To this aim we have suggested an analysis based on the revealed unit price differentials between the productions of the two countries. Data have highlighted the presence of differences – in some cases very high – between *madeinItaly* and *madeinChina*.

##### *4.2. Main results and the research agenda*

The analysis of the current debate leads us to assert that a realistic comparison among products from different countries should be based on the possibility to underline the qualitative differences among goods that are formally included in the same product category and that we could therefore be induced to consider as homogeneous. In this perspective we have decided to analyse price differentials suggesting a new index to use in this kind of studies: the RUPD. It is a tool that has to be refined but that already allows us to underline some interesting findings. There are no doubts that price differentials are a function of several variables, many of which are not related to product quality (input cost, taxes and tariffs, exchange rate, firm strategy, local market structure, to cite some). However, in the present work

the trend of price differentials over time is studied from the point of view of the demand and it reveals ex post (i.e. after the purchase has been made) important information on the perceived quality: in other words, they are signs of how “different” a consumer or a firm has evaluated two apparently similar goods (Barbieri, Di Tommaso and Rubini, 2009).

#### 4.3. Firm strategy and industrial policy

Our analysis has underlined the importance of qualitative differences as evaluated by the purchaser of a specific good within a wider set of goods that are available on the international markets. It is now necessary to find out which are the implications at firm strategy level and for policy makers.

Firstly we must reflect upon the capacity of Italian firms and localities to offer “different” goods, investing on such diversity as a way to increase their market shares. In this context, and referring to the Made in Italy, it is important to check in the future the relation between price differential trends, the productions of new emerging countries and the volumes of Italian exports. It would be desirable to see a non negative relation among these variables, that is between quality and quantity of (qualitatively higher) exported goods. However, this is only one of the possible scenarios. In fact, the capacity to continue to offer qualitatively different goods is not something that should be taken for granted. Analogously, the demand reactions regarding the offer of quality are not automatic.

In this framework, three are the relevant actions that both firms and localities should implement: innovation, property rights protection and communication.

*1. Innovation.* The different quality of Italian productions, even if rooted within the old history of a firm and of a locality, depends from a continuous attention towards research, training and innovation. In this context, two are the aspects that it is worth underlining.

The first one is that the Italian industry, in particular the sectors typically included in the *madeinItaly* productions, bases its innovative capacity also on the territorial systems. In Italy, product innovation - considered as the capacity to offer qualitatively different goods even in mature sectors - still has a collective dimension. Consequently, the possibility to continue to offer “different” goods depends both from firm strategies but also from the industrial policy and its local dimension. In this framework, policies have to concentrate on the local engines of production and knowledge: firms and universities. The relevance of the relation between university and firms is intuitive; what is more complex is the equally relevant development of relations in the field of applied research: recently, Italy have experienced



some success stories in this field, which should be encouraged also in the *madeinItaly* sectors.

The second aspect that we want to highlight deals with the qualitative features that in the previous sections we have labelled as “intangibles”. The “qualitative difference” – and therefore the capacity to maintain high price differential over time with a country like China – also depends from the intangible content of Italian products. We refer to complex features that can differentiate qualitatively even mature products, such as, for example, the use of advanced material, the design, the investment in research, training and innovation, etc.. In other words, the possibility to offer high quality products depends from the knowledge that is embedded in the products themselves, which is a function of the competences of firms and localities. However, it is also important to underline the relevance of other intangible factors such as reputation, image or history that very often are not directly related to the production of a specific good, but are instead linked to the *place* where the good is produced. These are the intangible assets of a firm (*made by Armani*) but also of a locality (*madeinItaly*, *madeinTuscany*, *madeinMilan* ...). Their optimal production requires adequate public (policy) and private (firm strategy) reactions.

2. *Property rights*. It is also necessary to underline the importance of “defending” the (tangible and intangible) diversity and therefore the quality of Italian products on the side of *rights*. In this field there is a problem of protection both of firm innovation and of the territorial knowledge and innovative capacity; more in general, there is a national problem of protection of the *madeinItaly*.

This is a delicate field of policy action that should be treated first of all by the Government in the proper international bodies (Di Tommaso, 2007; Barbieri, Di Tommaso and Rubini, 2009). In this framework, the relationship with Europe is not easy. For example, on the issue of imports from Asian countries, because of its peculiar productive specialisation our country is in a substantially different position in comparison with other European countries (maybe except for France and part of Spain): many European governments represent the interests of producers in other sectors and of consumers that, if not properly informed/educated, could maximise their purchase behaviour simply buying goods with a poor quality level but noticeably less expensive. The relationship between quality and future export volume growth is mainly related to the political capacity to manage the issue of intellectual property rights at a international level, also in typical *madeinItaly* sectors. This is one of the biggest issues that are still unsolved on the contemporary markets and that explains why many qualitatively high products struggle to defend themselves from unfair competition. Furthermore, in the case of the *knowledge-and-intangible-intensive* products that are typical of successful *madeinItaly*, the issue is even more

complex because of the difficulty in defining the qualitative difference that have an intangible nature.

3. *Marketing and communication.* In the light of what we have just mentioned, another important issue emerges: the need for communication. If it is true that Italian goods are “different”, such difference has to be perceived (in order to be properly evaluated) by consumers and firms. The information asymmetry between producers and consumers could in fact penalise those products that are qualitatively more complex and end in a competitive advantage for Chinese products. A strategic role, in this context, should be played by the marketing strategies of firms but also by the promotion *policies* of Italian products.

The communication to consumers and firms of the plurality and complexity of the qualitative tangible and intangible characteristics that are embedded in *madeinItaly* goods is a necessary component of the *non-price-competitiveness* that *madeinItaly* will be able to play on the international markets. The specificity of the Italian productive system, the (also) territorial bases on which is rooted its competitive capacity, the limited dimensions of its firms, the fact of being specialised in *knowledge-and-intangibles-intensive* goods, lead once again the underline the necessity to identify proper policy solutions able to guide the proven capacity of the Italian firms to innovate and to offer high quality goods on the international markets.

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