Journal of International Economics 98 (2016) 216–232

Contents lists available at ScienceDirect

Journal of International Economics

journal homepage: www.elsevier.com/locate/jie

Specialization across goods and export quality☆

Francisco Alcalá *

Facultad de Economía, Universidad de Murcia, Campus de Espinardo, E-30100 Murcia, Spain
IVIE, Valencia, Spain

ARTICLE INFO

Article history:
Received 10 October 2008
Received in revised form 5 September 2015
Accepted 13 September 2015
Available online 24 September 2015

JEL classification:
F10

Keywords:
Comparative advantage
Absolute advantage
Quality
Vertical differentiation
Cournot competition

ABSTRACT

This paper explores the link between specialization across goods and specialization within goods along the quality dimension. It develops a tractable many-country, many-industry Ricardian model with an integer number of heterogeneous firms producing each good, under a generic assumption about the distributions of firm efficiencies. In equilibrium, each country exports a range of qualities for each good that overlaps with the ranges of other countries following patterns that relate to wage differences, trade frictions, and absolute advantage. Under plausible assumptions and conditional on wages, the average quality of a country's exports within an industry increases with the country's revealed comparative advantage in the industry.

1. Introduction

Empirical research has shown that accounting for specialization both across goods and within goods along the quality dimension is indispensable for interpreting current patterns of international trade.[1] Although existing models of trade tend to focus on the determinants of one or the other of these dimensions of specialization, the two are likely connected. Fig. 1 is suggestive of a potential relationship. For several products, this figure shows a positive correlation between the unit value of US imports from different countries (where unit value is interpreted as a proxy for quality) and the exporting country's revealed comparative advantage (RCA) in the corresponding product (see Section 4 for details). In these examples, a positive relationship between the two variables is apparent and holds regardless of whether the sample of exporting countries is split into different groups according to their income level.

This paper analyzes the link between specialization across goods and specialization within goods along the quality dimension in a model with many vertically differentiated industries. The main result is that, under plausible assumptions and conditional on wages and some other variables, the average quality of a country's exports within an industry (or product category) increases with the country's RCA in that industry. The paper develops a tractable framework that features several novel elements that can also be useful in generalizing results in the trade literature with heterogenous producers.[2] The analysis is conducted using a many-country, many-industry Ricardian model with an integer number of heterogeneous firms producing each good, under a generic assumption about the distributions of firm efficiencies. The paper uses Cournot competition in the main text, but it identifies the conditions under which the key results hold for a broader class of market structures that includes Dixit–Stiglitz monopolistic competition (DSMC).

Working with models that have an integer number of firms is important because it is difficult to reconcile the continuum of firms with both the small number of exporters and the many country bilateral trade flows that are zero (Eaton et al., 2012). In this model's equilibrium,

☆ I thank Jonathan Eaton, Tim Kehoe, and the two referees for their very detailed and useful comments. I also benefitted from the comments and discussions at multiple presentations. Marta Solaz, Pilar Choren, and Abel Fernández provided excellent research assistance. Part of this research was conducted while visiting NYU and Columbia University, whose hospitality is very much appreciated. Financial support was provided by the Spanish Ministerio de Ciencia e Innovación, project ECO2011-28501, Ministerio de Economía y Competitividad, project ECO2014-53419-R, and Fundación Séneca de la Región de Murcia, project 11885/PHCS/09. This is a considerably revised version of a paper that previously circulated under the title "Comparative Advantage across Goods and Product Quality".

* Tel.: +34 868 883767; fax: +34 868 883758.
E-mail address: alcala.paco@gmail.com.

[1] On the importance of the quality dimension, see Schott (2004), Hummels and Klenow (2005), Khandelwal (2010) and Hallak and Schott (2011), among others in a rapidly expanding literature.

[2] See Bernard et al. (2003) and Melitz (2003) for path-breaking papers in this literature. On the empirics of trade and firm heterogeneity, see Bernard and Jensen (1995) for pioneering work and Eaton et al. (2011) for recent influential research. Redding (2011) and Bernard et al. (2012) review this literature.

http://dx.doi.org/10.1016/j.jinteco.2015.09.005
0022-1996/

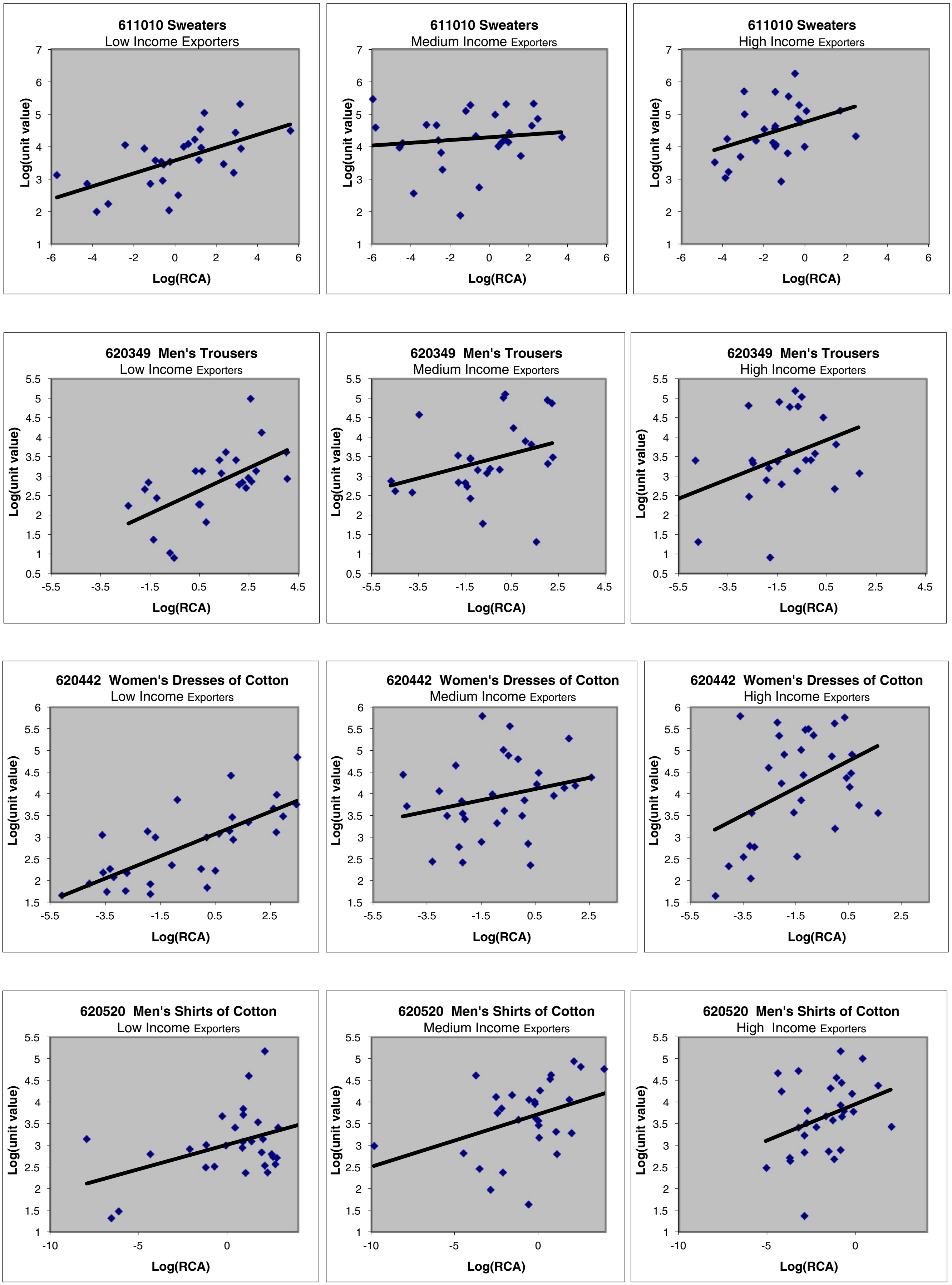

Fig. 1. Correlations between exporter's RCA and exports' average unit value for selected goods (6-digit HS-1996 products).