

## **Some notes on the effects of trade in intermediate products on the patterns of specialization**

Topic: GVC upgrading

Author: Gabriel Brondino

Co-Authors: Davide Villani

In recent times, an increasing number of papers have dealt with the problem of establishing to what extent the fragmentation of production or production sharing affects the determinants of the patterns of specialization. As known, differences in technology is one of the main motives for international trade, among others (such as differences in endowments or economies of scale). Models that emphasize this aspect are usually called Ricardian models.

In Ricardian models in which only trade in final goods is allowed, an important criterion to determine in which sector each country will specialize is to compare relative unit labor requirements against relative wages (Dornbusch et al. 1977). If trade in intermediate products is also allowed, to what extent does this criterion still holds? In a recent paper, Baldone et al. (2007) have show, using a numerical example, that, in such context, if this criterion is followed, the pattern of specialization will not lead to minimum international prices. Our purpose is to provide a more formal treatment and analyze the theoretical conditions under which the criterion ceases to hold. For this analysis, we employ linear programming analysis techniques.

The increasing importance of trade in intermediate products also affects the interpretation of relevant empirical indicators to describe the patterns of specialization.

Such indicators are mainly based on final output trade. We attempt to develop alternative indicators complementary to those available in the literature (Breda and Cappariello 2012). Such indicators will be developed within an input-output accounting framework.

The data employed will be the one provided by the World Input Output Database (WIOD) (Timmer et al. 2015).

The work attempts to provide new insights on the discussion around patterns of specialization, contributing theoretically and empirically to the discussion on the relevance of absolute cost advantages in the determination of international specialization.