

Revisiting the infant industry argument [☆]

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Abstract

This paper identifies a flaw in the infant industry argument that previous literature has ignored. A simple model first replicates the infant industry logic but subsequently shows that, in the presence of a ‘traditional technology’ with poor growth potential, the infant-industry logic is likely to fail. Under protectionism domestic producers substitute advanced technologies with the low-growth alternative, thereby inhibiting learning and economic growth. Protectionism’s adverse effect on development is magnified by complementarities among advanced input goods and, under adequate conditions, in a three-country setting. © 2006 Elsevier B.V. All rights reserved.

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1. Introduction

According to the infant industry argument, developing countries suffer dynamic losses from free trade by specializing according to their comparative advantage on sectors with poor dynamic learning externalities. This logic is very old and has been extensively studied. It enjoyed great popularity after World War II, when extensive protection was meant to foster industrialization and economic growth in post-colonial developing countries (see Baldwin, 2003). Some decades later, Young (1991) was the first to offer an elegant and rigorous formulation of protectionism’s

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positive effects on long-run economic growth in the presence of learning by doing externalities. Yet these theoretical achievements came at a time when a paradigm change had been accomplished and a large part of the developing countries had liberalized their trade policy. The elegant formalization on the one hand and the downturn of political relevance on the other could have marked the end of the academic discussion concerning infant industry protection. But recent years have seen renewed interest in the infant industry argument — both in trade theory (Leahy and Neary, 1999; Miravete, 2003; Kaneda, 2003; Melitz, 2005) and empirics (Luzio and Greenstein, 1995; Lee, 1997; Das and Srinivasan, 1997; Dozin and Vamvakidis, 2004; Ohyama et al., 2004).

Motivated by the renewed attention, the present paper identifies a drawback of the infant industry logic which has been unnoticed so far. It shows that the well-known mechanism is likely to fail in a standard setup of infant industries when economic agents have access to a ‘traditional technology’ of low growth potentials: under protectionism advanced industries with positive dynamic externalities are now out-competed by the domestic traditional technology so that traditional production structures prevail and economic growth ends. Under free trade, however, a developing country integrates into the world production chain according to its comparative advantage and benefits from its trade partners’ productivity growth via conventional price effects and improving terms of trade. In this case, trade is the better of two mediocre alternatives. But dynamic gains from trade can be much bigger for developing countries. In the presence of demand complementarities among intermediate products with learning externalities, the access to adequate foreign complements may be necessary for a developing country to start producing in a growth-generating sector. Advanced sectors that lie idle when foreign complements or inputs are missing will flourish under a liberal trade regime. A final extension shows that the benefits from trade for developing economies carry over to and can even be amplified in a multi-country setting.

Criticizing infant industry protection has a long tradition. Baldwin (1969) convincingly questions the required conditions on the learning process; some authors emphasize that the use of a production subsidy is a more efficient instrument to induce learning externalities (see Baldwin, 2003; Melitz, 2005 on this point). Others show that refinements of the argument involving asymmetric information (Grossman and Horn, 1988) or time inconsistency (Leahy and Neary, 1999) weaken rather than strengthen the case for infant industry protection. Contrary to previous criticism, the present paper does not question the key assumptions that drive the infant industry logic. It simply supposes that, in an otherwise standard infant industry setup, agents have access to a technology of low growth potential. This arguably realistic assumption is enough to turn infant industry protection into a precarious strategy.

Unlike conventional models, the present paper predicts that trade liberalization increases returns to high-tech production in developing countries and stimulates technological upgrading through improved access to adequate input goods. This *static* effect is supported by recent case-studies and cross-country empirics, which show that the impact of foreign input goods on domestic firm productivity can be significant and large and tends to promote skill intensive sectors (Hasan, 2002; Feenstra and Hanson, 2003; Fernandes, 2003; Amiti and Konings, 2005). For example, Amiti and Konings (2005) estimate from Indonesian data that a “10 percentage point fall in [...] import tariffs leads to [...] an 11% productivity gain for importing firms”. Regarding *dynamic* effects, the model predicts that economic growth is enhanced via imports of intermediate goods. Indeed, Mazumdar (2001) finds that imported intermediates have positive growth effects; in an important earlier article De Long and Summers (1991) show that “favorable supply conditions for producers’ equipment” are a key for economic growth. Such findings

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