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Trade and business-cycle synchronization: evidence from Mexican and U.S. manufacturing industries

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Abstract

We provide evidence that production-side links between Mexico and U.S. manufacturing sectors became stronger after NAFTA was enacted and, as a consequence, business cycles in these countries became synchronized. This suggests that the positive effect of trade on business-cycle synchronization found in previous studies for industrial countries could also hold for trade between industrial and less developed countries. The entry of other unskilled-labor-abundant countries into global trade, however, seems to be affecting Mexico's competitiveness in some industries and causing Mexico's share in the U.S. market to decline. If third-country competition reduces Mexico's manufacturing output relative to the U.S., would that weaken the degree of business cycle synchronization between these two countries? Furthermore, in some industries in which strong Mexico–U.S. production-sharing links seem to persist, overall North American output is apparently being affected by the global movement of these activities towards the Asian bloc.

JEL classification: E32; F15; F32

Keywords: Business cycle synchronization; Trade integration; NAFTA

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1. Introduction

Ever since Mundell's (1961) seminal work on optimum currency areas, the net benefits of forming a monetary union have been argued to rise as the countries involved exhibit stronger links through trade, a higher synchronization in their business cycles, a larger cross-country mobility of labor, and the possibility of sharing risks through, for example, fiscal transfers. Frankel and Rose (1998) point out that at least two of these criteria – the degree of trade intensity and of business-cycle synchronization – are endogenous to the decision to form a currency area. In particular, forming a currency union may reduce transaction costs and, as a consequence, may strengthen commercial links between member countries. Furthermore, deeper trade integration may modify the extent of business-cycle synchronization between the countries. Thus, the potential effect of trade integration on business-cycle synchronization must be addressed explicitly when assessing the expected benefits of a monetary union.

Theoretically, the effect of trade integration on the degree of business cycle synchronization could be positive or negative. If demand shocks dominate business cycle fluctuations, we should expect trade integration to strengthen the transmission of shocks from one country to another, especially through the impact of these shocks on import demand. The presence of industry-specific shocks, however, may strengthen or offset this effect. If, as a result of differences in comparative advantage, trade leads each country to specialize in different industries, then the net effect of trade integration on business cycle correlation could be negative (Eichengreen, 1992; Krugman, 1993). In contrast, if trade is mostly of an intra-industry nature, so that the countries' production structure tends to become similar with enhanced trade, then trade integration should lead to a higher degree of business cycle synchronization (Frankel & Rose, 1998). In this context, the positive effect of trade on business cycle synchronization across industrial countries that has been found by several authors (e.g., Artis & Zhang, 1999; Clark & van Wincoop, 2001), could be due mainly to the intra-industry nature of their trade (see Imbs, 2000; Fidrmuc, 2001).

If the positive effect of trade integration on business cycle synchronization found in the empirical literature is driven by intra-industry trade, then we should expect such an effect for integration among industrial and developing countries only if their trade is also predominantly of an intra-industry nature. Given the current trend towards international fragmentation of production, this may indeed be the case, even if relative factor endowments of industrial and developing countries differ substantially. In particular, developing countries have tended to become part of regional production-sharing networks and specialize in unskilled-labor-intensive stages of production. In this context, trade in the components and parts of a final product has risen rapidly between developing and industrial countries (see, e.g., Feenstra, 1998; Arndt & Kierzkowski, 2001; Deardorff, 2001). Empirical evidence concerning the possible links between trade and business cycle synchronization for developing countries that become commercially integrated with industrial countries, however, is mostly absent in the literature.

In this paper, we try to fill this gap by analyzing the effect of the North American Free Trade Agreement (NAFTA) on the degree of business-cycle synchronization between Mexico and the United States. The first question we address, is whether NAFTA enhanced