

# **The Trade Comovement Puzzle and the Margins of International Trade**

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## **Summary**

International business cycle synchronization has crucial implications for various policy issues such as what is the proper exchange rate policy, effect of monetary policy, etc. Globalization including trade across borders, financial market integration, and international policy coordination, can alter the interdependence among countries and regions. Empirical studies show that countries that trade more with each other tend to have more correlated business cycles. Yet, traditional international business cycle models predict a much weaker link between trade and business cycle comovement.

We propose that the international diffusion of technology through trade in varieties may be driving the observed comovement by increasing the correlation of total factor productivity (TFP). Our hypothesis is that business cycles should be more correlated between countries that trade a wider variety of goods.

First, we find empirical support for this hypothesis. After decomposing trade into its extensive and intensive margins using disaggregate bilateral trade data, we find that the extensive margin explains most of the trade-TFP and trade-output comovement. This result is striking because the extensive margin accounts for only a third of total trade.

We then develop a three-country model of technology innovation and international diffusion through trade, in which TFP correlation increases with trade in varieties. A numerical exercise shows that the proposed mechanism increases business cycle synchronization relative to traditional models. Impulse responses to a TFP shock in one country reveal a strong positive effect on the output of its trading partner. Finally, our model implies a trade-output coefficient that is 40% of that observed in the data and 5 times higher than that predicted by standard models.