International Trade and Macroeconomics: Introduction

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This issue of the *International Review of Economics and Finance* provides a forum for contributions in the emerging field of "International Trade and Macroeconomics." Researchers in the field of international trade and those in international macroeconomics recently have found new common ground, arising in part from a convergence of theoretical developments within each field, and in part from events in the world economy raising questions that are of importance to both groups and require the perspective of both groups to address satisfactorily.

Theoretically, this fast-growing field is distinguished by the effort to complete the microeconomic foundations of international macroeconomic models by featuring firm-level dynamics, that is, the entry decisions of individual producers into domestic and export markets. This means the range of goods produced and exported changes over time in response to economic circumstances, with implications for macroeconomic aggregates such as GDP, consumption, and prices. Consideration of these micro-foundations has implications for a wide range of traditional macroeconomic issues, including international macroeconomic spillovers through trade channels and international price dispersion, as well as raising new questions regarding the welfare effects of consumer preference for variety, and the benefits of expanding available variety through imports.

The growth of this field has also been encouraged by a host of new questions raised by the financial crisis of 2008-09. For example, coincident with the crisis was a dramatic collapse in trade. This raises the question of how trade depends upon the financial market, which traditionally was a topic in the domain of international macroeconomics, but not trade. It also raises the question of how trade acts as a transmission channel in generating a global business cycle. Researchers of both international macroeconomics and trade fields have been drawn to these questions, and are finding that taking a joint approach yields new and exciting answers.

The first thee papers in this special issue deal with the topic of financial markets. The remaining four papers explore other questions where trade micro-foundations shed new light on classic international macroeconomic issues. These include foreign direct investment, price dispersion, public finance, and international business cycle transmission.

The first paper, by Beatriz de Blas and Katheryn Niles Russ, studies the issue of international banking, which has been a topic of special interest in macroeconomics since the banking failures and financial crisis of 2008-09. The paper studies if a country benefits from opening itself to the international banking market, and how this depends upon the domestic market structure. It develops a model of heterogeneous imperfectly competitive lenders, which compete in terms of the interest rate they charge borrowers. Under a Bertrand negotiating process, commonly used in the trade literature, the most efficient lender offers a rate equal to the next best lender, and takes the difference as a markup. Understanding the market structure leads to novel conclusions about the benefits of international banking. If banks are allowed to enter a domestic market by acquiring the most efficient domestic bank, this leads to a fall in domestic competition that can be detrimental. Because it does not affect the second most efficient bank in the market, the most efficient bank does not pass its efficiency gain on to borrowers in the form of lower rates, but instead it raises its markup. The alternative, permitting cross-border loans, allows domestic borrowers to benefit from the efficiency of foreign banks without these negative side effects on domestic market structure. These results have clear implications for the current debate over whether openness in the global financial market is more a source of efficiency gains or a source of instability, and what form financial openness should take in a reformed international financial architecture.

A prominent example of trade and macroeconomics intersecting is the collapse in trade volume during the financial crisis of 2008-09. While the fall in output during the "Great Recession" was obviously large, the fall in trade volume was proportionately even larger. It has been suspected that the disruption in the financial market that is blamed for the fall in output might also have caused the dramatic fall in trade, and that the effects of the crisis might have been felt differently by firms with different exposure to financial markets related to their trade activities. Brahima Coulibaly, Horacio Sapriza, and Andrei Zlate explore the latter hypothesis empirically using firm-level data from six emerging Asian economies. A contribution of the paper is to construct firm-specific measures of global demand that make it possible to disentangle the negative effect of falling demand on sales from that of financial constraints. This allows the authors to show that better pre-crisis financial conditions shielded firm sales from the effect of declining global demand. So did some firms' ability to substitute external finance with trade credit from suppliers to support their levels of operating capital during the crisis. For a given degree of financial vulnerability, less reliance on trade credit as a replacement for falling external finance was associated with larger declines in firm sales. The paper thus provides a valuable roadmap to understand the consequences of heterogeneous access to finance and substitution across financing sources for the response of firms to the crisis.

The paper by Ling Feng and Ching-Yi Lin sheds new light on the possible interactions of financial frictions and international goods trade by focusing on the extensive margin of trade, that is, the range of goods that are traded, in a combination of empirical and theoretical analysis. Empirically, panel regressions find that credit tightness works to reduce trade both in the extensive margin as well as the intensive margin, where the latter is the volume of trade per good. Theoretically, the paper develops a dynamic stochastic model that combines elements from trade theory, such as export entry decisions subject to fixed and sunk costs, along with elements of financial models from macroeconomics, such as a financial constraint that restricts access to credit based on firm value and hence expected profits.

Because exporting involves additional fixed and sunk costs not incurred by non-exporters, the model shows that exporters need more loans than their domestic counterparts to generate each unit of profit. A higher loan to profit ratio means that exporters face a more binding financial constraint, and they are more greatly affected when shocks further tighten this financial constraint. The model thus provides a simple potential explanation for why financial shocks have particularly large effects on trade.

Growth is one field of macroeconomics that has long acknowledged the importance of international trade, and one of the most robust results in that literature is the positive effect that international openness has on growth in developing economies. The paper by Dong-Hyeon Kim, Shu-Chin Lin and Yu-Bo Suen focuses on an important part of this relationship, studying empirically whether trade and foreign direct investment (FDI) function to raise the overall domestic level of investment, which is clearly an essential step in capital accumulation and growth. The relationship is far from obvious, as depending on the degree of substitutability between international and domestic funding for investment, FDI may not succeed in raising the overall level of investment in a country. Indeed, the paper finds that trade and FDI play very different roles in different countries, depending upon the level of sophistication in institutions pre-existing in the country. Trade is actually detrimental to domestic investment in countries with lower levels of sophistical in human capital and financial system, but FDI has a positive effect. In countries with more developed institutions the opposite appears to be true, with trade playing a more positive role than FDI. These results have the potential to inform policies in countries deciding how to sequence reforms opening their goods and financial markets to the world.

The price setting practices of firms across domestic and export markets have long been a classic subject of theoretical and empirical exploration in the fields of international macroeconomics and trade. Different pricing strategies impact the transmission of monetary policy within and across countries. In turn, the nature of the monetary regime can affect the firms' choices of pricing behavior across markets. Julien Martin and Isabelle Méjean's paper studies the impact of Economic and Monetary Union (EMU) in

Europe on the pricing practices of exporting firms by analyzing the behavior of French exporters in setting prices across EMU destinations for their products. The paper finds a significant effect of EMU on price dispersion across destinations: transition to the single currency is estimated to have reduced the dispersion of export prices by one percent relative to European Union destinations outside EMU. The highly disaggregated data allow the authors to study the role of firm heterogeneity and show that adoption of the euro had a more significant impact on the pricing practices of large exporters. When heterogeneity is accounted for, the reduction in price dispersion across markets generated by the single currency becomes larger, at four percent relative to non-EMU destinations. The paper thus provides strong support for the conventional argument that adoption of a common currency should strengthen market integration and reduce deviations from the law of one price.

In the wake of the "Great Recession" the use of fiscal policy to manage the macroeconomy has received renewed attention, as governments turned to fiscal policy as a viable alternative to monetary policy tools that already had been applied to their maximum limit. The international dimension of these policies generated significant controversy, as countries including the U.S. and China adopted "buy national" clauses that limited government spending to domestic goods rather than imports. The paper by Mario Larch and Wolfgang Lechthaler takes a public finance approach to the issue, creating a model that combines elements of trade theory and public finance theory to determine the socially optimal level of government spending and analyzing whether government spending should exclude imports. On one hand, the paper finds that a buy national clause can eliminate a classic externality, whereby fiscal expenditure benefits foreign producers at a cost born by home taxpayers. On the other hand, a buy national fiscal policy is more expensive due to the fact that it fails to purchase foreign products when they are cheaper than domestic goods, which leads to lower overall consumption and welfare. This paper shows how the lessons learned from international trade theory can be fruitfully applied to classic questions in the field of public economics.

We close this special issue with a paper by Chin-Yoong Wong and Yoke-Kee Eng that studies the implications of vertical specialization and trade in intermediate inputs for the ability of a New Keynesian model to reproduce and explain business cycle evidence within and across a set of nine East and Southeast Asian economies. The key innovation of the paper is to consider a richer structure of vertical, sequential linkages—a three-stage vertical structure—than usually featured in the literature. Wong and Eng use state-of-the-art Bayesian techniques to estimate the parameters of their model and show that the estimated model successfully reproduces a wide set of business cycle moments for the countries of interest. Most important, the model successfully reproduces the empirical observation that increased trade results in stronger business cycle comovement across countries—a result that proved elusive for a wide range of less richly specified models. By showing that their richer trade and processing structure outperforms the standard frameworks in a fully developed quantitative exercise, Wong and Eng provide another example of how research at the intersection of international trade and macroeconomics can deliver novel, important insights into traditional and new questions on the functioning of the global economy.

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