

Conference on Globalization, Political Economy and Trade Policy

On April 24 and 25, 2009, the Globalization and Monetary Policy Institute joined with Southern Methodist University to cosponsor a conference on Globalization, Political Economy and Trade Policy at SMU's Collins Executive Education Center. Nine scholarly papers were presented and discussed in three sessions.

The first session consisted of two papers describing offshoring's impact on the distribution of work and the relative unemployment and wages of unskilled labor. A third offering focused on how foreign direct investment (FDI) flows from more- to less-developed countries influence innovation.

The second session started with a paper focusing on the rationale for multilateral trade agreements, followed by two presentations on international protection of intellectual property. The first two papers in the last session concern export dynamics, and the third discusses the relationship between bilateral trade agreements and multilateral trade liberalization.

Offshoring and FDI

Princeton University professor **Gene Grossman** presented the conference's first paper, titled "Task Trade Between Similar Countries" and coauthored with his Princeton colleague Esteban Rossi-Hansberg.

Most models treat the objects of international trade as final goods, not abstract tasks. However,

final goods are produced by combining the outputs of the tasks, which might be regarded as similar to intermediate goods. This final step has to be done in the headquarters country. In a previous paper, the authors proposed a theory of task trade between countries with dissimilar relative factor endowments, generating interesting results that differ from the traditional factor endowment-based Heckscher–Ohlin model.

In the present paper, Grossman and Rossi-Hansberg propose a theory of task trade between countries that have similar relative factor endowments but differ in size. Firms produce differentiated goods by performing a continuum of tasks, each of which generates local spillovers. Tasks can be performed at home or abroad, but offshoring costs vary. A crucial assumption is that the tasks are characterized by external economies of scale at the national level.

In equilibrium, tasks with the highest offshoring costs may not be traded at all. Among the remainder, those with higher offshoring costs are performed in the country that has higher wages and aggregate output. When offshoring costs aren't too high, firms concentrate certain tasks in particular locations to realize external economies of scale. Grossman and Rossi-Hansberg discuss the relationship between equilibrium wages, equilibrium outputs and relative country size, examining how the pattern of specialization reflects the

model's key parameters.

The theory predicts the pattern of task specialization for countries that differ only in size. The authors find an equilibrium always exists in which the larger country has higher wages and greater aggregate output of final goods.

If offshoring costs are low enough and the countries aren't too different in size, another equilibrium may exist in which the smaller country has higher wages and greater aggregate output. In either case, the country with the higher wages and output performs tasks that are more difficult and costly to offshore.

Syracuse University professor **Devashish Mitra** presented the second paper, titled "Search and Offshoring in the Presence of Animal Spirits," coauthored with Priya Ranjan of the University of California at Irvine.

The authors introduce two sources of unemployment in a two-factor, closed-economy general equilibrium model—search frictions and fairness considerations. Models with search friction are the most widely used for analyzing unemployment in a general equilibrium setting. Recently, models with fairness considerations have generated increasing interest.

Basically, this kind of model assumes unskilled workers demand wages that aren't too far below those of skilled workers. This normally leads to unemployment of unskilled workers but not necessarily skilled workers.

In the present paper, the authors find that a binding fair-wage constraint increases the unskilled unemployment rate and can at the same time lead to a higher jobless rate for skilled workers. The wages of unskilled workers increase and the wages of skilled workers decrease.

Next they introduce offshoring of unskilled jobs into the model, which makes it more likely that the fair-wage constraint becomes binding. Offshoring of unskilled jobs always leads to increases in unskilled unemployment, decreases in skilled unemployment and increases in skilled

workers' wages. The unskilled wage can increase or decrease as a result of offshoring.

The opening session's final paper, titled "Southern Innovation and Backward Knowledge Spillovers: A Dynamic FDI Model," was presented by professor **Keith E. Maskus** of University of Colorado at Boulder and coauthored with his colleague Yin He.

The focus is a theory concerning the trade and FDI relationships between the more-advanced countries of the North and the less-developed countries of the South.

The authors develop a model in which the portion of Northern firms choosing to become multinationals is endogenous. In the benchmark model, Northern firms engage in innovation based on the local knowledge stock and learning-by-doing (LBD), and a share of these products is transferred to Southern production via FDI. An increase in Southern imitation limits the rate at which countries become multinational.

Up to this point, the model is pretty standard. The Maskus and He innovation involves extending the model to permit Southern innovation based on the amount of local knowledge and LBD. Because Southern firms have higher innovation costs, this generates inefficient specialization in both regions and reduces global growth. The authors also allow for "backward spillovers" to Northern innovation, which partially restores global efficiency and growth.

Backward spillovers from the South to the North do occur. In his presentation, Maskus pointed out that the video compact disk was invented in China, but the technology wasn't patented. A Japanese firm learned and patented the technology, which eventually evolved into the DVD.

The model's results highlight a possibility not widely recognized. Specifically, technology transfer through multinational investment tends to rise with a decline in imitation risk, perhaps achieved through strengthening intellectual property protection. Thus, multinationals may kick off a process

in the South in which local imitation and LBD establish the possibility of domestic innovation as R&D costs fall.

In equilibrium, however, all Southern firms that innovate and invest in multinational subsidiaries must obtain the same economic return and cover both the innovation costs and the FDI setup cost. This implies that costs of innovation will remain higher in the South than the North. As a result, inefficient specialization can reduce FDI and global knowledge accumulation.

To counter this, a Southern policy of strengthening intellectual property protection and reducing the costs of inward investment can expand multinational contacts and growth, an effect enhanced by backward spillovers to the advanced countries.

Trade and Intellectual Property

Stanford University professor **Kyle Bagwell** kicked off the second session with “Profit Shifting and Trade Agreements in Imperfectly Competitive Markets,” coauthored with his Stanford colleague Robert W. Staiger.

The authors have been leaders in the analysis of multilateral trade agreements. They argue that countries constrained by such agreements are less likely to alter the terms of trade in their favor and impose negative externalities on other countries. Their previous work has mainly concentrated on perfectly competitive markets.

Under imperfect competition, trade policies can alter the terms of trade, shift profits from one country to another and moderate or exacerbate existing distortions associated with monopoly power. In light of the various ways trade policies may influence welfare, we might expect that new rationales for trade agreements would arise under imperfectly competitive markets.

In their paper, the authors consider a sequence of trade models that feature imperfectly competitive markets, finding the same basic rationale for trade agreements as under perfectly

competitive markets. In all the models, addressing inefficient terms-of-trade restrictions in trade volume is the only rationale for trade agreements—whether or not governments have political or economic objectives.

Having identified the problem trade agreements might solve, Bagwell and Staiger proceed to the next step and evaluate the form that efficiency-enhancing pacts might take. Once again, their results parallel the established results for models with perfectly competitive markets.

In particular, Bagwell and Staiger show that the principles of reciprocity and non-discrimination (i.e., most-favored-nation provisions) are efficiency-enhancing because they undo the terms-of-trade restrictions in trade volume that occur when governments pursue unilateral trade policies.

The analysis suggests that the important implications of the terms-of-trade approach are quite general, applying not just to perfectly competitive but also to a wide range of imperfectly competitive markets. However, they emphasize that this paper considers only markets for which the number of firms is fixed.

In a companion paper in 2008, they considered imperfectly competitive models in which the number of firms is endogenous. They concluded that the inefficiencies associated with terms-of-trade motivations provide the only rationale for trade agreements in this setting as well.

Edwin Lai of the Federal Reserve Bank of Dallas presented the next paper, “Innovation, Intellectual Property Protection and Globalization,” coauthored with Davin Chor of Singapore Management University.

Patent protection often takes the form of restrictions on how easily innovators are allowed to invent around existing patents, which the authors term “patent breadth.” Lai and Chor explore the implications of a patenting regime based on patent breadth by incorporating such intellectual property protection considerations in a quality-im-

provement model of technology, trade and growth.

The authors first study how changes in patent breadth affect innovation rates and welfare in a closed-economy benchmark. In considering whether to increase patent breadth, policymakers face a tradeoff between the benefits of higher innovation rates and the costs of higher prices from granting patent-holders monopoly pricing power for a longer duration. They find an optimal breadth under certain reasonable conditions, suggesting government intervention to protect intellectual property will improve welfare.

The paper goes on to formulate an open-economy model in which countries interact through trade and firms patent internationally. They find a stable equilibrium for patent breadth in which national governments underprotect intellectual property from a global perspective.

This result is similar to findings in a 2004 paper by Lai and Grossman, which analyzed international patent protection based on duration rather than breadth. Interestingly, home and foreign patent-breadth policies are strategic complements—at least in the symmetric equilibrium. This contrasts with Grossman and Lai's finding that home and foreign patent-length policies are strategic substitutes.

In the present paper, Lai and Chor also find that countries with larger domestic markets or lower innovative capabilities would tend to set larger patent breadths. In addition, globalization's reduced trade frictions lead countries to lower patent breadths. As a result, globalization actually leads to lower equilibrium research intensities in all countries. Other studies have found that globalization has no general impact on research intensities, making this result even more surprising.

Next on the program was professor **Lee Branstetter** of Carnegie Mellon University, who presented a paper titled "Intellectual Property Rights, Imitation and Foreign Direct Investment: Theory and Evidence," coauthored with Columbia's Raymond Fisman, Harvard's C. Fritz Foley and

SMU's Kamal Saggi.

The paper analyzes the effects of strengthening intellectual property rights in developing countries on the level and composition of industrial development. The authors first develop the theory of a North–South product cycle in which Northern innovation, Southern imitation and FDI are all endogenous.

The theory predicts that intellectual property rights reform in the South leads to increased FDI from the North as developed country firms shift production to less-developed country affiliates. This FDI accelerates Southern industrial development, bringing increases in both the South's share of global manufacturing and the pace at which production of recently invented goods shifts to the South. In addition, the model predicts that Northern resources will be reallocated to R&D as production shifts to the South, driving an increase in the global rate of innovation.

The authors go on to test the model's predictions by analyzing the responses of U.S.-based multinationals and domestic industrial production to intellectual property rights reforms in the 1980s and 1990s.

First, they find that multinational companies expand the scale of their activities in countries that reform intellectual property rights. Multinationals that make extensive use of intellectual property disproportionately increase their use of these inputs.

Second, there is an overall expansion of industrial activity after intellectual property rights reform, and highly disaggregated trade data indicate an increase in the number of initial exports in response to reform. These results suggest that the expansion of multinational activity more than offsets any decline in indigenous firms' acquiring intellectual property through imitation.

Export Dynamics and Trade Pacts

The third session's first paper, titled "A Search and Learning Model of Export Dynamics," was

presented by New York University professor **Jonathan Eaton** and coauthored with Marcela Eslava, C. J. Krizan, Maurice Kugler and James Tybout.

A goal of policy in many developing countries is establishing new markets for nontraditional exports. Well-known success stories from Latin America include Brazilian regional jets, Chilean wines and Colombian cut flowers. By finding new buyers abroad, governments hope to create jobs, bolster demand for their currencies and further industrial development.

The paper presents a preliminary theoretical framework for analyzing export dynamics at the firm level. Specifically, the authors assume that export success reflects a process of search and learning in foreign markets. Producers interested in a particular overseas market devote resources to identifying potential buyers. When they find one, they learn something about their products' appeal in this market. They also learn about the potential for profits by observing the experiences of rivals selling similar products in the foreign market.

Taking stock of the available information, firms initially not selling in the foreign market update their beliefs about potential export profits, and they adjust the intensity of their search efforts accordingly, attempting to maximize their net expected profit streams. Export gains take place when firms receive positive early signals about potential profits, both from their own experiences and from rivals' experiences, and they intensify their search and marketing efforts, adding quickly to their foreign client base.

World Bank economist **Caroline Freund** presented the next paper, "Export Entrepreneurs: Evidence from Peru," coauthored with her World Bank colleague Marta Denisse Pierola.

Like the previous paper, this one considers the dynamics of exporting firms' entry and exit. In developing countries, many exporters produce only for foreign markets. These firms tend to be larger and more productive than firms focused on the domestic market, and they often produce

several products and export to many markets.

To understand this type of export entrepreneurship, Freund and Pierola examine data on Peru's nontraditional agriculture exports from 1994 to 2007. This sector grew sixfold over the period, driven in large part by firm entry and new product and market discoveries.

The authors identify a pattern of trial and error: Firms frequently enter and exit both products and markets. Exits are more likely after one year and among firms that start small. Large exporters tend to be the first to discover products and markets new to their country, and they export more products to more markets.

Freund and Pierola develop a model that explains how entrepreneurs decide to develop new export products and markets in a business environment characterized by sunk costs of discovery and uncertainty about costs and foreign demand. The model explains many features of the Peruvian data.

The authors' theoretical framework assumes uncertainty about exporting and sunk costs—this leads to a process of trial and error, with a high share of exits after one year. Good entrepreneurs develop large firms that tend to export more to a given product and market, enter more markets and more products, and enter new markets and products earlier. Firms also start small and grow exports over time to avoid large losses from uncompetitive products. The data seem to confirm these predictions.

The conference's last paper was "Bilateralism, Multilateralism and the Quest for Global Free Trade," presented by Ryerson University professor **Halis Murat Yildiz** and coauthored with Kamal Saggi of SMU.

Whether bilateralism is a stepping stone or stumbling block to multilateral trade liberalization has long been a topic of intense debate. This paper develops an equilibrium theory of trade agreements and evaluates the relative merits of bilateralism and multilateralism.

The authors envision a three-country game in which each nation faces a range of policy options in negotiating trade agreements—join with both trading partners (i.e., practice free trade), select just one of them for a bilateral pact, or don't deal with either of them (i.e., opt for the status quo under which all countries impose their optimal tariffs on each other).

To determine whether bilateralism matters, they also analyze this game under the assumption that countries follow a purely multilateral approach to trade liberalization. Thus, both the degree and nature of trade liberalization are endogenously determined.

First, Yildiz and Saggi find that global free trade is the only stable equilibrium, regardless of whether countries can pursue bilateral agreements. This lends support to the view that bilateral trade agreements aren't stumbling blocks to multilateral trade liberalization.

The second finding focuses on countries with asymmetric endowment levels. For them, there exist circumstances under which free trade is a stable equilibrium only if countries are free to pursue bilateral trade agreements. This supports the view that bilateral trade agreements are stepping stones to multilateralism. These results hold even when governments are politically motivated—that is, they value producer interests and tariff revenue more than consumer benefits that come from freer trade.

—Edwin Lai