

# **Division of Humanities and Social Studies**

COL Robert B. Blose, Jr., USMC  
Director

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# Economics Department

Professor William R. Bowman  
Chair

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Faculty members of the Economics Department were actively engaged in research on a broad range of subjects in 2000-2001. Though every member of the department - professors and officers of varying ranks as well as visiting professors - was involved in productive scholarly and/or creative activities, several of these publications, presentations and research areas deserve mention in this introduction.

Associate Professor Karen E. Thierfelder, who was once again the departmental nominee for the U.S. Naval Academy Research Excellence Award, continued to develop and apply computable general equilibrium models to international trade flows. Working with several different teams of researchers, she was involved in the publication of eight papers and four conference presentations, and she continued her work on five research projects that are in various stages of completion. Her major contribution, however, was the publication of her co-authored article entitled "The Impact of NAFTA on the United States," which appeared in the winter edition of the *Journal of Economic Literature* and is the most prestigious publication of any faculty member in the department to date. Assistant Professor Suzanne McCoskey, who went to South Africa in the winter of 2000 on a prestigious Fulbright Scholarship, has a number of research projects and subsequent papers that have resulted in an in-depth analysis of this region of the world. Specifically, her work on analyzing the role of women in relation to economic development in Sub-Saharan Africa is especially noteworthy. The results from this research were presented at an econometric modeling conference in South Africa in July 2001. In addition, she published a paper on "Comparing Panel Data Cointegration Tests with An Application to the "Twin Deficits" Problem," with Chihwa Kao. Other department faculty professors have also made substantial contributions to both research and to the U.S. Navy. Professor Bowman's work on various military manpower topics has had a direct impact on helping provide useful information to the Navy's Personnel Command. Professor Francis McDonald served as the Crowe Chair for his first year.

Within the Economics Department, students majoring in Economics also distinguished themselves. The Frederick L. Sawyer Prize, awarded to the best senior research paper by a graduating Economics major, was won by Midshipman 1/C Chee H. Toh for his paper "What Effect Would Japan's Membership in ASEAN have on its Bilateral Trade with the Region?", written under the direction of Associate Professor Thierfelder.

## Sponsored Research

### **Rules of Engagement – An Economics Theory**

Researcher: Assistant Professor Matthew J. Baker  
Sponsor: Naval Academy Research Council (NARC)

This paper applied a model of bargaining and the breakdown of bargaining to the study of the forces leading to conflict. The goal of the research was to explain when and why parties can set up specific types of rules to govern bargaining and conflict. The research was essentially an application of the vast literature on settlement and litigation in law and economics.

### **OECD Trade Policies and the Effects on Developing Countries**

Researcher: Associate Professor Karen E. Thierfelder  
Sponsor: International Food Policy Research Institute (IFPRI)

This paper developed a global computable general equilibrium model that included the United States, Canada, Mexico, the Common Market of the South (MERCOSUR), the European Union (EU), Japan, Food Insecure Developing Countries,

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Other Developing Countries and Other High Income Countries. The model is being used to analyze the effects of trade and domestic policy changes in the high-income countries (U.S., Canada, EU and Japan) on developing countries, particularly those that are food insecure. It focuses on agriculture and food processing sectors and includes domestic policies that distort production and trade such as the Common Agricultural Program (CAP) in the EU and Japan's restrictions on rice imports.

The information for the paper was obtained by using detailed country data from a recently updated database maintained at Purdue University by the Global Trade Analysis Project (GTAP). The code for the global Computable General Equilibrium (CGE) model has been written, and it models the domestic programs in each country.

### **Regional Trade Agreements in Southern Africa**

Researchers: Associate Professor Karen E. Thierfelder,  
Sherman Robinson (International Food Policy Research Institute) and Jeffrey Lewis  
Sponsor: International Food Policy Research Institute (IFPRI)

After protracted and difficult negotiations, South Africa and the European Union (EU) recently signed a Free Trade Agreement (FTA). Because of South Africa's prominence in the sub-region, implementation of this agreement will have an impact not only on South Africa, but also on all the South Africa Development Community (SADC) economies. This paper traces how this impact may be felt over time, using a multi-region model constructed to focus on sectoral and geographic trade patterns. It includes details on Southern African countries found in the Global Trade Analysis Project (GTAP) version 5 database. The global model used consists of Botswana, South Africa (and Namibia), Malawi, Mozambique, Tanzania, Zambia, Zimbabwe, the rest of Southern Africa, the rest of Sub-Saharan Africa, and five regions aggregated from the other countries in the database: High-income Asia, Low-income Asia, North America, the EU and the Rest of the World. The model is being used to evaluate the effect of the EU-South Africa FTA on trade patterns and Gross Domestic Product (GDP) in the region. Then it considers alternative SADC regional trade strategies to see how each interacts with the EU-South Africa FTA. Finally it evaluates different types of regional agreements such as (1) a "hub and spoke" in which South Africa is the hub and the EU and other Southern African countries are the spokes; (2) an FTA with all countries in Southern Africa and the EU; and (3) a global tariff reduction.

This research extended earlier work done on regional trade agreements in Southern Africa by expanding the countries in the model. The original work had the region "Southern Africa;" now that region has been decomposed in to Botswana, Malawi, Mozambique, Tanzania, Zambia, Zimbabwe and the rest of Southern Africa.

### **Genetically Modified Food and Global Trade Pattern**

Researcher: Associate Professor Karen E. Thierfelder  
Sponsor: Naval Academy Research Council (NARC)

This research extended work on genetically modified (GM) food and global trade patterns. The analysis was done in a global computable general equilibrium model. Production of cereal grains and oilseeds was segmented into GM and non-GM markets. There is a productivity shock in the GM sectors, which represents the production advantages of using GM technology. Food processing sectors were also segmented into GM and non-GM varieties. The paper maintained identity preservation by allowing the GM variety to use only GM intermediate inputs and the non-GM variety to use only non-GM intermediates.

The model has been used to analyze the effects of changing consumer preferences towards GM foods in Western Europe and Japan on production and trade patterns. The results suggest that the markets do adjust - for example the U.S., a major GM adopter and a major grain exporter on world markets, produces more of the non-GM varieties as consumers in its export markets choose not to consume GM varieties. Also, GM sales expand in the markets in which consumers are indifferent. As preferences shift away from GM products, the price wedge between non-GM and GM varieties increases - Europeans and Japanese consumers are willing to pay a price premium for the non-GM variety.

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## Independent Research

### **An Equilibrium Conflict Model of Land Tenure in Hunter-Gatherer Societies**

Researcher: Assistant Professor Matthew J. Baker

The paper is a game-theoretical study of the conditions under which exclusive and exhaustive land ownership might emerge. This was done by developing and applying a theory in understanding the structure of land ownership among a variety of different hunter-gatherer societies. This paper has already been through one round of revisions for the *Journal of Political Economy*.

### **Optimal Title Search**

Researcher: Assistant Professor Matthew J. Baker

This paper is a study of the tradeoffs inherent in the required length of a search of property title records prior to sale. A theoretical model was developed of these tradeoffs, and then the paper studied how this theoretical model might explain differences in states' title search conventions.

### **Optimal Land Inheritance Rules**

Researcher: Assistant Professor Matthew J. Baker and Thomas Miceli

This paper describes the forces leading to different types of land inheritance rules (such as primogeniture), and describes the impact the onset of a market in land has on the efficacy of the rule. We used a cross-cultural sample of 862 different societies to assess the accuracy of the model.

### **The Old Ball Game: Organization of 19th Century Professional Baseball Clubs**

Researcher: Assistant Professor Matthew J. Baker

The paper is an economic explanation of the structure of baseball teams circa 1872. The puzzle is that, at the time, half the teams were cooperative (player owned) and half were stock clubs (owned by a manager). The paper seeks to explain why the cooperative teams didn't last.

### **Gender and Development in Sub-Saharan Africa**

Researcher: Assistant Professor Suzanne K. McCoskey

When considering modern theories of economic development [see for example Meier (1995), *Leading Issues in Economic Development*] it becomes clear that the position of women in society plays a very important role. From issues of fertility (and thus population growth) to division of labor and productivity, women's participation in the economy and promotion thereof can be crucial to the future development of low-income countries. Understanding and conducting statistical analysis concerning the exact nature of this relationship can be complicated by (1) the explicit heterogeneities across developing countries and (2) the simultaneity of the question involved (i.e. while women's participation in the economy impacts development, development also impacts the level of women's participation in the economy.) This paper analyzed this question using panel data econometric modeling for simultaneous equations.

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## **An Empirical Investigation of Fiscal and Trade Balances in South Africa**

Researcher: Assistant Professor Suzanne K. McCoskey

In recent years there has been a wide-ranging debate on the potential relationship between fiscal and trade balances. This paper investigated the historical relationship between fiscal policy (the budget deficit) and the trade balance (current account) in South Africa. Utilizing annual data within a national accounting framework this paper tested the hypothesis that a link between fiscal and trade balances occurs through the Mundell-Fleming transmission mechanism. The results showed that a link between the fiscal balance and trade indeed exists through the proposed transmission mechanism, although vector auto regression analysis failed to establish a statistically significant relationship of interest rates on the exchange rate while finding exchange rates significant to interest rates.

## **Misdiagnosing Structural Breaks with Small Sample Unit Root Tests: Does the South African Economy Really Walk Randomly?**

Researcher: Assistant Professor Suzanne K. McCoskey

As discussed by Perron (1989), a common problem when testing for unit roots is the presence of a structural break that has not been accounted for in the testing procedure. In such cases, unit root tests are biased to non-rejection of the null hypothesis of non-stationarity. Lee, Huang, and Shin (1997) show that in tests for stationarity structural breaks impact the size (instead of power) of the test. In this paper the potential for misunderstanding stationarity properties for small time dimensions was further investigated. Using Monte Carlo simulations the paper expanded on the results of Lee, Huang and Shin and showed the results of power and size for both tests of the null of non-stationarity (ADF and Phillips-Perron) and the null of stationarity (KPSS.) Finally, examples are provided from times series data in South Africa to show the danger of misdiagnosis and the resulting misspecification that can occur.

## **Quality and Price Effects in a Vertically Differentiated Duopoly with Marginal Cost Differentials**

Researcher: Assistant Professor Pamela M. Schmitt

Two versions of a vertical product differentiation duopoly model were analyzed to study how marginal cost differentials affect prices, product quality levels, and welfare. In both models, firms played a two-stage game. In the first stage, firms simultaneously chose product quality levels. In the second stage, firms simultaneously chose prices. Firms chose to differentiate their quality levels, avoiding the Bertrand competition equilibrium of zero profits for the pricing game. In the benchmark model, the marginal cost was assumed to be equal for both firms. The benchmark model was then extended to include marginal cost differentials. The equilibria from two cases were derived. In the first case, the firm producing the high-quality good faced a higher marginal cost. In the second case, the firm producing the low-quality good faced a higher marginal cost. The model with marginal cost differentials predicted that when the firm producing the high-quality good had a higher marginal cost, both firms increased price and upgraded product quality. When the firm producing the low-quality good had a higher marginal cost, both firms decreased price and downgraded product quality. The two cases were parameterized, interpreting marginal cost differences as wage differentials, with one firm being unionized. The unionized workers proposed a wage demand that was accepted by the firm in equilibrium, but was above the competitive market wage. In each case, consumer surplus decreased, and producer surplus increased. Social welfare always decreased.

## **The Impact of a Marginal Cost Increase on Price and Quality: Theory and Evidence from Airline Market Strikes**

Researcher: Assistant Professor Pamela M. Schmitt

This paper examined the impact of a marginal cost increase for one firm on price and quality in a duopoly market. The results were derived theoretically and then tested empirically. The marginal cost increase was interpreted as an increase in the

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wage one firm pays its workers. The predictions were tested with two airline strikes during the 1990's. Quality was proxied in three ways: (1) the number of flights per day, (2) the percentage of flights cancelled, and (3) the percentage of flights arriving late. The results showed that the strike coefficients for the effects on quality were most consistent with theoretical predictions when quality was measured as the number of flights per day. These results are encouraging because of the three measures of quality. It seems that number of flights per day is the measure of quality that is most controllable by the firm. The strike coefficients for the direct effect on price were most consistent with theoretical predictions when quality rankings were determined by the percentage of flights canceled. The strike coefficients for the total effect on price were most consistent with theoretical predictions when quality rankings were determined by the percentage of flights arriving late.

### **Ultimatum Games with Outside Options and Asymmetric Payoff**

Researcher: Assistant Professor Pamela M. Schmitt

This study examined the independent and dependent effects of outside options and asymmetric chip values on the decisions of Proposers and Responders in ultimatum bargaining games. The results indicated that both chip offers and dollar offers were higher when the Responder had an outside option than when the Proposer had an outside option. When the Proposer had an outside option we found that the chip offers and dollar offers were lower than previously found in similar studies with asymmetric chip values. When the Proposer had the higher payoff conversion rate chip offers were higher, but dollar offers were lower. When the Proposer had the higher payoff conversion rate we found that rejection rates were lower than previously found in similar studies, regardless of which player had an outside option. When the Responder had the higher payoff conversion rate, rejection rates were lower than those found in similar studies with outside options, regardless of which player had an outside option, but higher than those found in similar studies with asymmetric chip values.

### **Clinical Pathways and the Costs of Stroke Care**

Researchers: Genevieve Schmitt, Assistant Professor Matthew J. Baker,  
Assistant Professor Pamela M. Schmitt, and Marcella Wozniak

Clinical pathways were developed to provide quality care and reduce hospital charges. The University of Maryland (UMMS) instituted an ischemic stroke pathway in 1996. This study analyzed the impact the pathway had on length of stay (LOS) and hospital charges. As part of a NIH-funded study, demographic and clinical data were collected from patients admitted with cerebral infarction between 1993 and 1996. All patients had ischemic stroke as determined by physician review. The LOS and charges were obtained from the hospital computer database. The LOS, discharge destination, total and itemized charges were analyzed using two-tailed t-tests within a multiple linear regression model. For patients with an ischemic stroke, the average LOS in 1993 was 12.8 days compared to 9.3 days in 1996 ( $p < 0.01$ ). The total, routine, pharmacy, and therapy charges were significantly lower in 1996 compared to 1993. However, discharge destination, X-ray, lab, supplemental, and operating charges did not significantly change. In both years, cardioembolic strokes were associated with increased LOS. These preliminary analyses showed a significant decrease in the LOS for patients after the implementation of a clinical pathway. The charge decreases were not uniform among all charge categories. Patient outcomes, as measured by discharge destination, did not worsen. In additional multiple variable analyses, we examined the impact of temporal trends and the effect of clinical characteristics (*e.g.*, Barthel Index) on LOS and charges.

### **An Analysis of the Marginal Cost of Funds in the 1-2-3 Trade Model**

Researchers: Associate Professor Karen E. Thierfelder  
and Shantayanan Devarajan (The World Bank)

This research extended earlier work done on the marginal cost of funds in developing countries. In the previous research, three different single country computable general equilibrium (CGE) models were used (Bangladesh, Cameroon, and Indonesia) to analyze the effects of different tax policies on welfare. It was found that if countries have distorting policies in place, it is possible to devise a tax system that actually improves welfare because it reduces the effects of other distortions in the model. The countries analyzed differed in terms of commodity detail and the types of existing policies.

In this project, the analysis of the marginal cost of funds in a stylized CGE model was used. (It is known as the 1-2-3 model because it has one country with two production processes and three goods.) This paper provided estimates for a wide range of countries that the World Bank maintains data on in the detail used in the 1-2-3 model.

### **The Mundell-Flemming Model Meets Salter-Swan**

Researcher: Associate Professor Karen E. Thierfelder

In this research, the paper explored some of the theoretical properties of the computable general equilibrium models used for empirical research and analyzed the macroeconomic properties of the model as described in the classic Mundell-Flemming model. The research showed how the macroeconomic relations hold in real trade models, as described by the Salter-Swan model. This research was undertaken in response to criticisms that empirical trade models are not consistent with macroeconomic models of financial flows among countries.

## **Research Course Projects**

### **Investigating the Fisher Effect with Time-Series Regression**

Researcher: Midshipman 1/C John Perkins, USN

Adviser: Assistant Professor Suzanne K. McCoskey

In this paper the Fisher Effect was revisited for a cross-national set of countries using new time series econometrics techniques. The Fisher Effect explains that interest rates should be linked to expected future inflation rates, thus holding stable the real rate of return. Using such tools as Vector-Autoregression, Granger Causality, Cointegration Testing and Unit Root Testing, little evidence was found to support the Fisher Effect empirically. One of the countries included in the study was South Africa.

### **What Effect Would Japan's Membership in ASEAN Have on its Bilateral Trade with the Region?**

Researcher: Midshipman 1/C Chee H. Toh, USN

Adviser: Associate Professor Karen E. Thierfelder

In October 2000, Japan signed an inaugural bilateral free trade agreement with Singapore in its efforts to develop a stronger financial and economic presence in the South East Asia region. The bilateral trade agreement will include areas such as trade in goods, services, regulatory procedures, investment and competition policy. Forthcoming talks will probably touch on issues such as agricultural trade, trade tariffs, free movement of skilled labor and capital, establishing common rules in electronic commerce, and enhancing cooperation in financial services. With Singapore being a key player in the Association of South East Asian Nations (ASEAN), the Japan-Singapore bilateral trade agreement is likely to have a positive impact on trade between them, and may also boost Japanese trade with other ASEAN countries. This represents a new era for Japan-ASEAN cooperation. To explore the issue even further, this paper investigated the effect of Japan's membership in ASEAN on Japan's bilateral trade with the region.

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## Publications

### Journal (Refereed) Manuscripts

BAKER, Matthew J., Assistant Professor, and Miceli, Thomas, "Statutes of Limitations for Accident Cases: Theory and Evidence," in *Research in Law and Economics*, p. 47-67, JAI Press, 2000.

This paper provides a theoretical and empirical analysis of statutes of limitations for accident cases. The theoretical model formalizes the trade-off underlying a finite statute of limitations: while a shorter statute limits injurers' exposure to liability, thereby curbing incentives for care. It also limits costly litigation associated with legal error. Despite difficulties in constructing the data, the empirical model performs reasonably well in explaining variation in the statute lengths.

BAKER, Matthew J., Assistant Professor, Bradley, Betsy and Gallo, William, "Factors Associated with Home Versus Institutional Death among Connecticut Cancer Patients," *Journal of the American Geriatrics Society*, forthcoming.

This paper analyzes the determinants of death site for patients in the Connecticut Tumor Registry. By fitting a series of logistic models to the data, we find many significant factors aid in explanation of place of death, including income, race, sex, and location. The results suggest that development of effective, low-cost means of providing terminal care such as hospices may provide significant benefits.

BAKER, Matthew J., Assistant Professor, Miceli, Thomas, Sirmans, C. F. and Turnbull, Geoffrey, "Property Rights by Squatting: Adverse Possession Statutes and Land Ownership Risk," *Land Economics*, forthcoming.

This paper provides a theoretical and empirical model of the trade-off inherent in adverse possession statutes. While longer statutes lower the costs of maintaining and monitoring property rights, they also increase the number of possible past claims standing against property. Using this logic, the paper shows that jurisdictions undergoing rapid development should prefer shorter statutes, while more stable jurisdictions should prefer longer statutes. The paper finds that the theory provided matches well with patterns in state adverse possession statutes.

Dutkowsky, D. and McCOSKEY, Suzanne K., Assistant Professor, "Near Integration, Bank Reluctance, and Aggregate Discount Window Borrowing," *Journal of Banking and Finance*, Vol 25, No. 6, pp. 1013-1036.

This study puts forth stationarity considerations in explaining the observed breakdown between aggregate Discount Window borrowing and the spread between the Federal Funds rate and the discount rate during the post-1987 period. Tests with bi-weekly data indicate stationarity for adjustment borrowing, but cannot reject the unit root for the spread. The Goodfriend-Dutkowsky dynamic implicit cost formulation can accommodate the contrasting stationarity properties. Structural restrictions are compatible with stationary borrowing and a stationary or near integrated spread. While empirical findings from the static model indicate greater bank reluctance to borrow over time, the dynamic model gives considerably less support.

McCOSKEY, Suzanne K., Assistant Professor, and Kao, C. "Comparing Panel Data Cointegration Tests with An Application to the "Twin Deficits" Problem," *Journal of Propagations in Probability and Statistics*, Vol. 1, No. (2), pp. 165-198.

This paper surveys recent developments and provides a Monte Carlo comparison on various tests proposed for cointegration in panel data. In particular, five tests for heterogeneous panel data are investigated for empirical size and size-adjusted power. In addition an application is shown where a panel of data for a subset of OECD countries is used to test for a long run relationship between trade deficits and budget deficits: the so-called "twin deficits" problem.

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McCOSKEY, Suzanne K., Assistant Professor, "Convergence in Sub-Saharan Africa: A Non-Stationary Panel Approach," *Applied Economics*, forthcoming.

Given the development of times series econometrics and non-stationary data analysis, St. Aubyn (1999) demonstrates a new paradigm for testing income convergence, or better defined, income stability, namely testing the stationarity of pair-wise income differentials. In this paper, a panel data set of Sub-Saharan African countries is constructed and panel cointegration and unit root tests are used to investigate the convergence properties of incomes and standards of living within Africa. Overall, little evidence is found to substantiate claims of convergence across Africa, although in some cases, smaller convergence clubs within Africa may be found. In addition the use of non-stationary panel data techniques are proposed for the testing and establishing of coherent convergence clubs.

Burfisher, Mary E., Robinson, Sherman and THIERFELDER, Karen E., Associate Professor, "North American Agriculture and the WTO," *American Journal of Agricultural Economics*, Vol. 82, pp. 768-774, August 2001.

Since the Uruguay Round, North American countries have implemented less distorting farm programs. In this paper, a brief summary is provided of the research on the links between less distorting programs and production. Then, the paper uses North American agriculture as a setting to explore the potential for one type of less distorting program - direct payments - to affect output through its effects on risk aversion. To do this, the paper models risk in a stylized way in a computable general equilibrium (CGE) model of the United States, Mexico, and Canada, and accounts for the effects of increased direct payments in reducing the risk premium, a discount that producers apply to returns from production activities that are characterized by risk. It also accounts for the economy-wide distortions from direct payments.

Burfisher, Mary E., Robinson, Sherman and THIERFELDER, Karen E., Associate Professor, "The Impact of NAFTA on the United States," *Journal of Economic Perspectives*, Vol. 15, no. 1, pp.125-144, Winter 2001.

In this paper, a comparison is made between arguments made during the NAFTA debate to post-NAFTA data to see whether, in fact, they were borne out by actual events. The comparisons must be qualified by the fact that other macroeconomic forces also affect trade, GDP, and employment. Also, NAFTA has a 15-year phase-in period, so its full effects have yet to be realized. To address the first point, the paper reviews results from controlled experiments using models that isolate the effects of NAFTA. After discussion on aggregate trade issues, the paper focuses on three sectors that were especially contentious during the NAFTA debate: agriculture, autos, and textiles. The analysis provides lessons for future debates over regional trade agreements in which the U.S. may participate. In particular, the paper comments on the significance of bilateral trade balances; adjustment costs of trade liberalization; interactions between domestic policies and trade policies; and the links between regional trade agreements and multilateral free trade.

Nielsen, Chantal Pohl, Robinson, Sherman and THIERFELDER, Karen E., Associate Professor, "Genetic Engineering and Trade: Panacea or Dilemma for Developing Countries?", *World Development*, pp.1307-1324, August 2001.

Advocates of the use of genetic engineering techniques in agriculture contend that this new biotechnology promises increased productivity, better use of natural resources and more nutritious foods. Opponents, on the other hand, are concerned about potentially adverse implications for the environment and food safety. In response to consumer reactions against genetically modified (GM) foods in some countries - particularly Western Europe - crop production is now being segregated into GM and non-GM varieties. This paper investigates how such changes in the maize and soybean sectors may affect international trade patterns, with particular attention given to different groups of developing countries.

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Devarajan, Shantayana, THIERFELDER Karen E., Associate Professor, and Suthiwartnarueput, Sethaput, "The Marginal Cost of Funds in Developing Countries," *Policy Evaluations with Computable General Equilibrium Models*, (Amedeo Fossati and Wolfgang Wiegand editors), New York: Routledge Press, pp.39-55, 2001.

The notion that raising a dollar of taxes could cost society more than a dollar is one of the most powerful ideas in economics. The reasoning is simple. By causing agents to alter their behavior as a result of the tax—consumers buying less, for example, the tax lowers welfare by more than it collects in revenue. The difference, often referred to as a "deadweight loss", leads to the marginal cost of raising a dollar of public funds being higher than a dollar. The power of this idea derives from its implications. One is that the higher is the Marginal Cost of Funds (MCF), the fewer public goods will be provided. Another is that, if the MCF across different tax instruments varies greatly, directions for revenue-neutral tax reform are readily apparent.

It is curious that there have been so few estimates of the MCF for developing countries. For one thing, tax reform and the evaluation of public projects are the bread-and-butter of policymakers in developing countries. For another, the issues mentioned above are particularly salient in these countries. The presence of an informal sector means that some elasticities could be quite high; tax rates tend to be high because the taxable base is so small; and developing countries are replete with distortionary taxes, including taxes on trade, sales and income. This paper attempts to partially remedy the situation by providing estimates of the MCF for three developing countries: Cameroon, Bangladesh and Indonesia.

Burfisher, Mary E., Robinson, Sherman and THIERFELDER, Karen E., Associate Professor, "Developing Countries and the Gains from Regionalism," *American Journal of Agricultural Economics*, pp.736-748, 2001.

Much of the debate over whether or not developing countries gain from Regional Trade Agreements (RTAs) has focused on two characteristics that are common to developing countries: their relatively high tariffs and their high trade dependencies on one or a few developed trade partners. In this paper, a third common characteristic is addressed: their use of distorting domestic policies that are closely linked to trade restrictions. The paper argues that participation in a RTA can create pressures for domestic policy reforms. The paper analyzes the case of a developing country, Mexico, forming an RTA with two larger countries, the United States and Canada, in the North American Free Trade Agreement (NAFTA). Mexico exhibits all three characteristics of a developing country: relatively high tariffs, a high trade dependency on the U.S., and an extensive and pervasive system of farm support that was linked to the restriction of trade. For the analysis, a 26-sector, multi-country, computable general equilibrium (CGE) model is used. The paper finds that there are welfare gains from trade liberalization in all three countries only when domestic reforms are in place. Mexico gains from NAFTA only when it also removes its domestic distortions in agriculture. Then, agriculture can generate allocative efficiency gains that are large enough to offset the terms of trade losses that arise because Mexico has higher initial tariffs than other RTA members.

Anderson, Kym, Nielsen, Chantal Pohl, Robinson, Sherman and THIERFELDER, Karen E., Associate Professor, "Estimating the Global Market Effects of GMO's," *Agricultural Biotechnology: Markets and Policies in an International World*, (Phillip G. Pardey, editor), Washington D.C.: International Food Policy Research Institute, pp.49-74, September 2001.

To illustrate the usefulness of quantitative models for informing GMO debates, this paper draws on recent studies by the authors that use existing empirical models of the global economy to examine what the effects of widespread adoption of genetically modified crop varieties in some (non-European) countries might be in light of different policy and consumer preference responses. In one study, the Global Trade Analysis Project (GTAP) model is used to examine the effects of an assumed degree of GMO-induced productivity growth in selected countries for maize and soybean. Those results are compared with what they would be if (a) Western Europe chose to ban consumption and hence imports of those products from countries adopting GM technology or (b) some Western European consumers and intermediate users responded by boycotting imported GM-potential crops. Another study uses a GAMS-based global computable general equilibrium (CGE) model in which a country can produce both GM and GM-free varieties of maize and soybeans. As in the GTAP analysis, there is an assumed degree of GMO-induced productivity growth for the GM variety. The model is used to explore the impact on production, trade and the relative price of the GM and non-GM varieties of a preference shift towards GM-free food in Western Europe and High-income Asia. The final section discusses areas where future empirical work of this sort might focus.

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## Technical Reports, Book Reviews, and Book Chapters

FREDLAND, J. Eric, Professor, book review, The Yard: Building A Destroyer at the Bath Iron Works by Michael S. Sanders, New York: HarperCollins, 1999, in *Armed Forces and Society*, Vol. 27, No. 3, Spring 2001.

Nielsen, Chantal Pohl, THIERFELDER, Karen E., Associate Professor and Robinson, Sherman, "Consumer Attitudes Towards Genetically Modified Foods," Danish Institute of Agriculture and Fisheries (SJFI) Working Paper no. 1/2001, pp. 1-46, January 2001.

This paper analyzes the price, production and trade consequences of changing consumer preferences regarding the use of genetically modified organisms (GMOs) in food production. The analytical framework used is an empirical global general equilibrium model, in which the entire food processing chain - from primary crops through live-stock feed to processed foods - is segregated into genetically modified (GM) and non-GM lines of production. This model is used to analyze the implications of widespread use of genetically engineered crops in some regions while consumers in Western Europe and High-income Asia adopt a critical attitude toward GM foods. Two different representations of consumer preferences changes are illustrated: (1) a change in price sensitivity: *i.e.*, consumer demand is sensitive to a decline in the price of GM foods relative to non-GM varieties, and (2) a structural demand shift for a given price ratio: *i.e.*, consumers simply demand less of the GM variety relative to the non-GM variety.

## Presentations

GOODMAN, Rae Jean B., Professor, "Using the Jigsaw Method to Teach Macroeconomics," American Economics Association, New Orleans, January 2001.

JANZEN, Leslie N., Lieutenant Colonel, USMC, and PATEL, Alpa B., Midshipman 2/C, (USN), "The Economic Impact of Non-State Actors on National Failure: Columbia, a Case Study, and an Economic Regression of Social Indicators as Indicative of National Failure," Purdue University Conference on Failed Nations, Florence, Italy, April 2001.

KENDRY, Adrian P., Crowe Professor, "Supply Chains and the Defense Industrial Base," Western Economic Association International, Vancouver, July 2000.

McCOSKEY, S.K., Assistant Professor, "Income Convergence in Sub-Saharan Africa," Fifth Annual Conference on Econometric Modeling for Africa, University of Witwatersrand, Johannesburg South Africa, 5-7 July 2000.

McCOSKEY, Suzanne K., Assistant Professor, "An Empirical Investigation of Fiscal and Trade Balances in South Africa," Fifth Annual Conference on Econometric Modeling for Africa, University of Witwatersrand, Johannesburg South Africa, 5-7 July 2000. (presented by co-author Renee Koekemoer).

McCOSKEY, Suzanne K., Assistant Professor, "Misdiagnosing Structural Breaks and the Test of the Null of Stationarity: Does the South African Economy Really Walk Randomly?," Fifth Annual Conference on Econometric Modeling for Africa, University of Witwatersrand, Johannesburg South Africa, 5-7 July 2000. (presented by co-author Elna Pretorius).

SCHMITT, Pamela M., Assistant Professor, "Ultimatum Games with Asymmetric Payoffs, Outside Options, and Incomplete Information," Southern Economic Association, Washington, D.C., November 2000.

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SCHMITT, Pamela M., Assistant Professor, "Price and Quality Effects After a Strike: Theory and Evidence from Airline Markets," Southern Economic Association, Washington, D.C., November 2000.

SCHMITT, Pamela M., Assistant Professor, BAKER, M.J., Assistant Professor, Schmitt, G., and Wozniak, M., "Clinical Pathways and the Costs of Stroke Care," American Academy of Neurology, Philadelphia, PA, May 2001.

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