

# newsletter

Leverhulme Centre for Research on Globalisation and Economic Policy

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Leverhulme Centre  
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## Compensating Trade-Displaced Workers: A mountain or a molehill?

*One of the most debated issues on globalisation is whether and how to compensate the losers. In this article, John Martin summarises the talk he gave about this topic in Nottingham at the Leverhulme Globalisation Lecture. He claims that the job threat posed by globalisation is real but governable if there is the right political will. John is Director for Employment, Labour and Social Affairs at the OECD.*

One recurring theme in the long-standing debate about globalisation concerns how best to compensate the losers. This reflects economic theory as well as economic and political realities. Trade liberalization creates winners and losers, leading to a *potential* Pareto improvement if the welfare gains exceed the losses. This, in turn, translates into an *actual* Pareto improvement if the losers are compensated and there is a net gain in welfare for society.

This issue has come to the fore again recently, particularly in connection with the perceived threat to jobs in OECD countries from “offshoring” of business services and the growing integration of China, and more recently India, into the world trading system. It is argued that many OECD jobs are at risk from these developments and there is a need for effective policies to foster worker adjustment and compensate the losers. But the evidence

suggests that compensation often does not occur in the real world; or only partially. This fact raises two questions: Why is compensation rarely forthcoming? What might be desirable elements in a compensation strategy?

Realising the gains from trade implies labour reallocation from declining to expanding sectors. But this is also true for technological shocks and demo-



John Martin, OECD

## Trade-displaced workers, contd...

graphic shocks. New labour reallocation inevitably involves some workers being displaced from their jobs and becoming unemployed.

A recent OECD study shows that adjustment costs are higher for trade-displaced workers than for other job losers. In both the United States and Europe, workers displaced from jobs in the industries facing the most intense international competition are slower to become re-employed and experience larger wage losses once re-employed than do job losers in other industries. Large wage losses on the *post*-displacement job are a particularly important source of workers' losses in the United States. By contrast, long-term unemployment and labour force withdrawal following displacement are the biggest sources of earnings losses in Europe. In both the United States and Europe, the adjustment costs borne by trade-displaced workers are highly variable, implying that adjustment assistance needs for this group are very diverse.

The higher average costs borne by workers displaced from jobs in high-international-competition industries, vis-à-vis other displaced workers, do not appear to be causally related to international competition; having more often provoked their layoffs. Compared with other job losers, displaced manufacturing workers in both Europe and the United States tend to be somewhat older, less educated and to have had higher tenure on the lost job: all characteristics that are associated with above-average re-employment difficulties and larger earnings losses following re-employment. Trade-displaced workers are also more likely to have vocational skills specialised to declining occupations and industries.

Three rationales have been put forward in the literature for compensation/adjustment assistance for trade-displaced workers. First, there is an *efficiency* argument: output is lower due to involuntary unemployment of trade-displaced workers. Second, there is an *equity* argument: it is unfair that a minority of workers should lose from a policy that increases overall welfare. The final rationale is a *political-economy* one: continued political support for trade liberalisa-

tion is contingent on society providing adequate compensation for workers who lose their jobs as a result.

The question then arises: do these three rationales create a strong case for compensating trade-displaced workers? The evidence suggests that, on both efficiency and equity grounds, the answer is negative for a *specific* trade-related programme as opposed to having a programme for *all* permanently displaced workers irrespective of the source of job loss. However, there could be an exception to this preference for general programmes on political-economy grounds.

One prominent example of the latter is Trade Adjustment Assistance (TAA) in the United States. TAA has been in existence for over four decades. During that period it has undergone many changes, most recently in 2002 when a health care benefit and a limited wage insurance component was added. All the evidence suggests that TAA has not been effective in fostering adjustment since procedures for certification are very time-consuming and arbitrary; and relatively few certified workers get re-employment services. Instead, TAA's main purpose is to extend unemployment benefits and serve as a political sop to freer trade. Since the US spent less than \$1 billion on TAA in 2003, it seems a good bargain on the political-economy front, even if it is manifestly unsuccessful in promoting worker adjustment.

The EU Commission recently proposed a new Globalisation Adjustment Fund (GAF) under the UK Presidency. The stated aim is "to soften the negative impact of globalisation on laid-off workers and to improve their chances of finding new and better jobs by providing money for training and relocation". Details about the GAF are very sketchy but it appears that the motivation for it is also a political economy one. At the time of writing, it is unclear whether the GAF will get off the ground or not. In any event, it is not obvious that the EU needs to spend more on labour market policies: in 2003 it spent 2.5% of GDP compared with only 0.5% in the United States. Rather it needs to spend these large resources in a much more effective manner.

What should be the main elements in a good compensation/adjustment assistance programme for permanently displaced

*"A recent OECD study shows that adjustment costs are higher for trade-displaced workers than for other job losers."*

*"...the labour-market policy challenge from globalisation is real but it is manageable"*

workers? First, a country has to have the right framework conditions. These include:

- macroeconomic policies conducive to sustained growth and price stability;
- flexible labour and product markets; and an effective education and training system.

Second, a country needs an effective nexus of labour market policies encompassing unemployment benefits and re-employment services. OECD evidence suggests that the following elements should figure in such a package:

- set replacement rates at reasonable levels and avoid open-ended duration of benefits;
- make basic job-search services available to all job losers. This can involve counseling and the preparation of individual action plans, especially for those at risk of long-term unemployment, and advance notification of plant closures;
- monitor effectively the job-search activity of displaced workers. The emphasis should be on “activating” the unem-

ployment and this may involve benefit sanctions if the unemployed do not look for work actively;

- take steps to ensure that there is a financial gain from taking a job compared with remaining on benefits. This can be achieved in a variety of ways, e.g. via an in-work benefit like the EITC in the United States or a wage subsidy;
- ensure that much greater use is made of active labour market programmes that work and phase out those that do not, drawing on insights from the growing scientific literature on programme evaluations.

In sum, the labour-market policy challenge from globalisation is real but it is manageable. There is little justification for policies that target explicitly trade-displaced workers except on political-economy grounds. Instead, what is required is a balanced package of largely familiar policies: good macroeconomic policy; flexible labour and product markets; activation of the unemployed; and effective lifelong learning policies. And, most importantly, the political will to implement them.

#### Further readings:

OECD (2005), *Employment Outlook*, Paris, Chapters 1 and 4.

J. P. Martin and D. Grubb (2001), “What Works and for Whom: a Review of OECD Countries’ Experiences with Active Labour Market Policies”, *Swedish Economic Policy Review*, Vol.8, No.2, Fall.

# *The World Economy* Annual Lecture 2006

## Professor Richard Baldwin

*Professor of International Economics, Graduate Institute of International Studies, Geneva*

### *on “Asian Regionalism”*

*Thursday 22nd June 2006, University of Nottingham*

*For further details contact [sue.berry@nottingham.ac.uk](mailto:sue.berry@nottingham.ac.uk)*

# Globalisation and the Headaches of National Accountants

*Globalisation is a complex phenomenon and as such, Tony Clayton argues, has made the work of national accountants really tough. Measuring the economic activity of countries is a task fraught with difficulties but globalisation and the shift towards services have made it even more complicated. In this article, Tony gives an overview of the main problems globalisation poses to national accountants trying to measure it and to assess its impacts on national economies. Tony is Head of New Economy Measurement at the UK Office for National Statistics and is a GEP Policy Associate.*

## Why the problem?

Spare a thought for national accountants, for whom the increasingly global economy is a real headache. Their job is to capture economic activity in one country, in terms which represent the output of local economic units, and the welfare of national residents. And they are faced with more and more firms and consumers who work, trade, live and spend as if national boundaries didn't exist.

Globalisation is, of course, nothing new. But its first two historic phases didn't offer the same complexity of measurement as today's structural change. The 19<sup>th</sup> century growth of trade in goods and capital, and the accompanying explosion in migration of labour, was mainly based on measurable transactions between firms and individuals who might move halfway round the world, but then tended to stay put.

Phase two of globalisation, in the 20<sup>th</sup> century, was most visible in firms from OECD countries exporting capital and business models to create 'clones' outside their home territory. Operations like Hindustan Lever or Ford UK were the result. Apart from difficulties in tracking capital movements, these were relatively straightforward for statisticians.

The rise of large scale trans-national value chains over the last 50 years gives the national accountants their problem. Among the difficulties they create are:

— 'toll processing' where goods move from one country to another, undergo a process and move back, or to a third country, without changing ownership, so the statisticians may lose track of where value is created;

— increasing specialisation by firms in specific business processes, accompanied by location of processes in clusters with competitive advantage; this reshaping of value chains will not be picked up by classification systems for economic activity based on final products rather than type of intermediate process;

— the role of intangibles, especially services and information products which can be transferred within and between firms without payment, or sold to consumers electronically without requiring any physical transfer;

— financial flows of capital, or payments for goods and services by multinationals which reflect the incentives of tax regimes rather than real international transfers of value.

## What are the statisticians doing?

EU statistics organisations should be prepared for these challenges. After all, creation of a single market in which firms could operate on a pan-European scale started in the 1960s, so the measurement challenge has been some time coming. But the country with the most developed statistical framework for tracking the activities and employment of firms beyond its borders is the US, with its multinational survey in operation since the 1950s.

One experiment to gather data in an integrated form from multinational enterprises (MNEs), run by a group of leading statistics offices (Canada, France, Italy, Netherlands and the United Kingdom) through the UN's Conference of European Statisticians, has just come to an end. This attempted to gather data from their headquarters on a range of their international operations, rather than collect data from each sub-

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*“Globalisation is, of course, nothing new. But its first two historic phases didn't offer the same complexity of measurement as today's structural change.”*

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## *Globalisation and headaches, contd...*

subsidiary in each country. This has turned out to be surprisingly problematic – partly because different countries have different statistical demands, but also due to the difficulty of balancing what companies say they do in each country against other locally available data. Work is now underway to improve business registers and put them on a more consistent basis across EU countries to see if this will make the difference. UNCTAD has also been working to build capacity in foreign direct investment data compilation and policy formation in developing countries.

Europe is about to introduce collection of annual Community statistics on the structure and activity of foreign affiliates. This will cover ‘inward’ measures on foreign owned firms in the EU member states, and ‘outward’ on EU owned firms elsewhere. The aim is to compile ‘inward’ statistics covering turnover, production, value added, employment, purchases, personnel costs, R&D, investment and exports and imports of goods and services with an intra-group breakdown. ‘Outward’ statistics are harder to collect, and will cover a reduced list of structural statistics, with exports and imports of goods and services (again with an intra-group breakdown).

### **Globalisation and policy**

But even this new set of measures will not give answers on the most recent set of globalisation concerns – the ‘offshoring’ of economic activity and employment by EU (and US) firms to lower cost sources of IT enabled services. Some of these transfers of activity take place by firms setting up new subsidiaries, but many are based on external contracts. 2004 / 5 saw an initial flurry by international statistics experts to try to set up surveys for ‘outsourced and offshored jobs’. Most have come to the conclusion that the concept of an ‘offshored’ job has little meaning in the bigger picture of international trade.

In the light of this, OECD’s expert session on globalisation in November 2005 saw three themes dominate discussion. First, attempts by the US, France and a number of other member countries to quantify offshoring confirmed that the number of job reductions directly attributable to relocation of activities is a relatively small proportion of ‘job churn’ in the employment markets of developed countries. In many cases the outward movement of activity is attributable to skill shortage in the original home base; the most convincing evidence for this has emerged in a major study of German ‘job exports’ showing that subsidiaries of German firms in eastern Europe are, on

average, more skill intensive than their parent companies.

Second, work by OECD economists showed that the proportion of employment in ‘offshorable occupations’ is growing in OECD countries, which is another way of saying that the proportion of IT enabled knowledge employment is growing. IMF statistics show that some member states (US, UK, Netherlands) have been very successful in growing the shares of their exports from these services, while others have seen them fall. The evidence of differential performance in this growing market for ‘difficult to measure’ services is accumulating, but the reasons for it are less clear.

Third, a number of studies (some by GEP) are addressing the need to understand how globalisation affects the performance of individual firms. It has been established, since the mid 1990s for the US and since 2001 for the EU, that multinational enterprises (MNEs) outperform domestic firms in terms of multifactor productivity (MFP). Work by LSE and ONS has shown that a major part of this advantage, especially for US firms, relates to the way they use IT. The effects of shared (and, in local accounting terms, uncosted) global IT systems mean that an extra PC on a desk in a US multinational delivers twice the productivity payback of one in a UK domestic firm.

New work, looking at the degree of global engagement by firms, shows a graduated pattern of productivity effects. ONS firm level data has been used by Criscuolo and Lever to look at multifactor productivity, and they find that for both manufacturing and service firms US multinationals show the greatest MFP advantage, followed by other MNEs. In manufacturing, use of imported service purchases and then presence in export product markets are associated with higher productivity, while in services presence in export markets is more significant than use of imported services. OECD is pursuing this line of analysis to look at similar effects using firm level data in other countries, and also the interaction between global procurement, international investment and productivity.

The micro-data work gives a pointer to a measurement challenge facing statisticians providing the evidence policy-makers need to deal with globalisation. The UK’s continuing international competitiveness depends on exports of knowledge based services. As the International Trade in

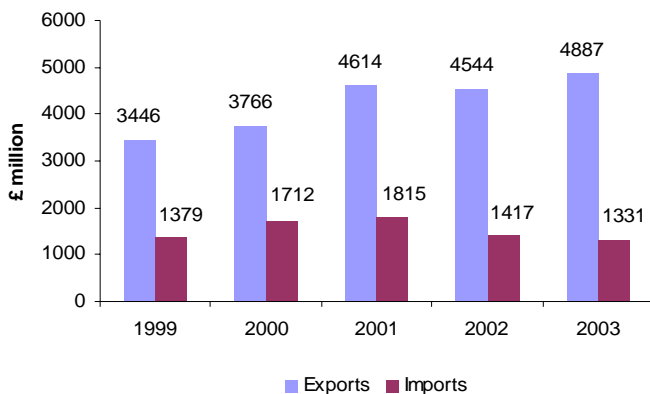
## Globalisation and headaches, contd...

Services survey (see below) shows, in many areas the balance of UK service trade is positive and growing. But our understanding of ‘real’ productivity in these activities is still relatively uncertain. Problems of measuring real output in areas such as management consulting are real.

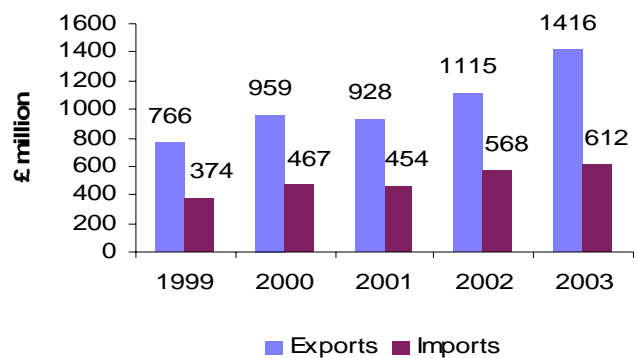
One of the historic reasons for focusing productivity analysis

on manufacturing is that efficiency in producing goods has in the past been the dominant factor in international competitiveness. As trade in services becomes a much larger part of OECD countries’ export performance, measuring how successful they are in building productivity performance of creative and service activity will move centre stage.

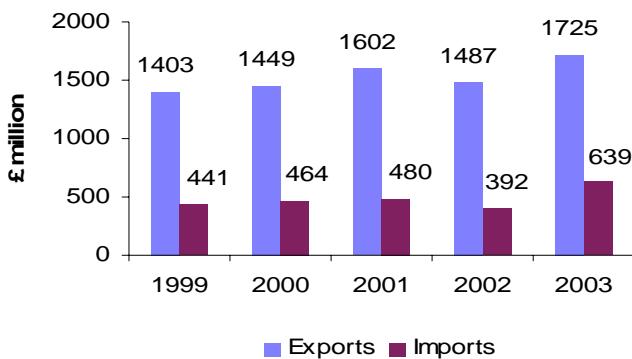
**Computer Services Industry Trade in Services**



**Advertising and Market Research Industry Trade in Services**



**Consulting Engineers Industry Trade in Services**



**Management Consultancy Industry Trade in Services**



### Further readings:

Gorg, Hanley and Strobl (2004). “Outsourcing, foreign ownership, exporting and productivity, an empirical investigation with plant level data”, GEP paper 04/08.

Dahlia Marin (2004) “A land of Poets and Thinkers? -Less so with Eastern Enlargement? Austria and Germany”, Munich University; available at <http://epub.ub.uni-muenchen.de>.

Desiree Van Welsum and Graham Vickery (2005). *Employment in Offshorable Occupations*, OECD

Criscuolo and Leaver (2004). “Offshore outsourcing and productivity”, OECD/ONS, available at <http://www.oecd.org/dataoecd/55/23/35637436.pdf>

Bloom, Sadun and VanReenen (2005). “It ain’t what you do, it’s the way you do IT”, LSE/ONS, available at <http://www.statistics.gov.uk/ci/nugget.asp?ID=1240>.



## Leverhulme Globalisation Lectures 2006

### Martin Wolf

*Associate Editor and Chief Economics Commentator, The Financial Times*

### on “Global Payments Imbalances: Will They End in Tears?”

*9<sup>th</sup> March 2006*

*5 pm, University of Nottingham*

### Tony Venables

*Chief Economist, Department of International Development*

*4<sup>th</sup> May 2006*

*5 pm, University of Nottingham*

### Will Hutton

*The Work Foundation*

*9<sup>th</sup> November 2006*

*5 pm, University of Nottingham*

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# A Brief History of International Trade with Perspectives on Theory and Methods

## Part II: Theory and Empirical Methods

*In the previous part of a two-part article, Daniel Bernhofen analysed the main turning points of international trade theory in a historical perspective. In this article Daniel reflects upon the most fruitful research directions that international trade may take in the foreseeable future. He argues that one of the most promising and challenging endeavours is to link more closely empirical tests with robust theoretical predictions. Daniel is Professor of International Economics at the University of Nottingham and Co-ordinator of the Theory and Methods Programme in GEP.*

The Danish Philosopher Soren Kierkegaard once said: “Life can only be understood backwards, but it must be lived forwards”. In the last issue I provided a brief history of the field of international trade, focusing on the key turning points in the development of the discipline up to the late 1980s. Now I offer some perspectives on the current state of international trade. First, I will discuss progress on the theoretical frontier and then the inter-relationship between theory and empirical methods.

Two and a half decades after the emergence of what has been called the ‘new trade theory’, it is safe to say that the industrial organisation (IO) approach has had a lasting impact on modern trade theory.

There are currently two new theoretical initiatives. The first initiative is to embed the standard partial equilibrium oligopoly models of trade into a general equilibrium framework. This has provided a framework for investigating the factor market implications of international mergers, acquisitions and a venue for investigating Michael Porter’s notion of a nation’s competitiveness.

Another initiative has been the exploitation of industrial organisation insights to understand what has been called the globalisation of production or the international slicing of the production chain. This new theoretical literature investigates the forces that might explain the decision strategies behind global outsourcing activities. The new element here is the incorporation of modern contract theory into trade theory. Conceptually, this literature takes a more distinct perspective on the firm than the standard monopolistic competition or oligopoly theory of trade. While the latter theories have kept the neo-

classical view of the firm, i.e. a black box that is characterised by a cost function contract theory aims to explain the boundaries of the firm. The contract theory literature is also quite distinct from the so-called heterogeneous firm literature, which still utilises the neoclassical view of the firm. In the latter, a cost assumption about a representative firm is replaced by an assumption about the representative distribution of costs.

Although it is too early to evaluate the impact of these new theoretical approaches, it is possible to identify criteria for the

survival of theories. The two key criteria are robustness and empirical relevance. The key theoretical insights from the competitive theoretical

trade literature have survived because of their robustness regarding model assumptions and specifications. For example, the comparative advantage pattern of trade prediction is robust with regard to all conceivable modifications, with the exception of government export subsidies. As we know all too well from the EU’s Common Agricultural Policy, export subsidies can create all kinds of trading patterns. As a result, the theory of comparative advantage is looking forward to celebrating its 200<sup>th</sup> birthday. By contrast, the new theoretical insights from the strategic trade policy literature, suggesting a welfare-improving role of government intervention, proved to be highly sensitive to the mode of firm competition and the omission of the opportunity costs of government spending.

The second criteria, empirical relevance, leads us to the interrelation between theory and empirics. Here I sense an implicit assumption among many empirical researchers that a theory is only empirically relevant if it can be tested. I believe this

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*“Many theories are very difficult to test. But they are nevertheless empirically relevant because they provide important insights ...”*

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## *History of international trade, contd...*

belief is misleading. Many theories are very difficult to test. But they are nevertheless empirically relevant because they provide important insights about the empirical world around us. The ultimate test for survival is the test of time.

Although the last decade has witnessed a dramatic increase in empirical studies in international trade, only a few empirical studies have provided convincing tests of theories in international trade. In my view, there are two reasons for this. First, the lack of identification of robust theoretical predictions. And second, the lack of data compatible with the underlying critical assumptions of the theories.

On the theoretical side, more effort should be spent on investigating the robustness of predictions. Although all theoretical predictions depend on assumptions, it is helpful to distinguish between critical and simplifying assumptions. Simplifying assumptions can be relaxed without altering the predictions, critical assumptions drive the results. A prediction can be viewed as

robust, if it is based on a minimum of critical assumptions.

International data is now more widely available than a few years ago. However this has become a mixed blessing. Although there has been a dramatic increase in the quantity of empirical work that is aimed at ‘testing theory’, the links between theory and the empirical analysis are often vague. In

*“...the links between theory and the empirical analysis are often vague.”*

the absence of a ‘controlled data environment’ statistically significant relationships can only suggest correlations, not causality. And theoretical

predictions are about causality.

There is an opportunity for the Theory and Methods Programme to bridge the gap between theory and empirics. On the theoretical side, this requires an increased sensitivity towards the robustness of theoretical predictions. On the empirical side, this requires the tedious collection of data that is compatible with the critical assumptions of the theories whose predictions we would like to test. This might not be an easy endeavour, but the rewards will be worth the effort.

# GEP Annual Conference

22<sup>nd</sup> – 24<sup>th</sup> June 2006

## “China and the World Economy”

### Speakers include:

Mary Lovely (Syracuse)

Deborah Swenson (UC Davis)

Shujie Yao (Middlesex)

Lina Song (Nottingham)

Holger Görg (GEP, Nottingham)

Will Martin (World Bank)

Sandra Poncet (CEPII, Paris)

Nannan Lundin (OECD)

Xiaolan Fu (Cambridge)

Linda Yueh (London School of Economics)

Tain-jy Chen (China Institute of Economic Research, Taiwan)

For further details see the GEP website [www.gep.org.uk](http://www.gep.org.uk) or contact [sue.berry@nottingham.ac.uk](mailto:sue.berry@nottingham.ac.uk)

# Productivity Effects of FDI in Developing Countries

*FDI is generally believed to have a positive impact on the growth of developing countries. In this article Beata Smarzynska Javorcik reviews the micro-econometric evidence of the impacts of FDI on productivity. This suggests that acquisitions by foreign firms increase the productivity of the newly acquired companies and that productivity externalities generated by foreign multinationals are more likely to take place across rather than within sectors. Beata is Senior Economist in the Trade Team of the Development Economics Research Group at the World Bank and a GEP Policy Associate.*

Many countries compete fiercely to attract foreign direct investment (FDI) which is reflected in the fact that there exist more than 160 national and over 250 sub-national investment promotion agencies. Policymakers, especially those in developing countries, hope that FDI inflows will bring much-needed capital, new technologies, marketing techniques and management skills. Although all of these potential benefits of FDI are viewed as important, particular emphasis is placed on the contribution of FDI to increasing productivity and competitiveness of the domestic industry. Recent studies, reviewed in this article, suggest that such hopes may be justified as there exists evidence consistent with (i) FDI having a positive direct effect on recipient firms; (ii) foreign presence in manufacturing sectors leading to productivity spillovers in sectors supplying intermediate inputs, and (iii) FDI inflows into services industries contributing to increased productivity of local manufacturing firms relying on services inputs.

Starting with the first area, conventional wisdom suggests that multinational companies have an advantage over local firms, which allows them to offset the extra cost of operating in distant and unfamiliar markets. Indeed many empirical studies have shown that foreign affiliates outperform local firms in the host country. However, is the superior performance of foreign affiliates due to the intrinsic advantages of foreign ownership or are foreign investors simply good at picking the best performing local plants as acquisition targets? To examine the causal link between foreign ownership and plant performance, a recent study (Arnold and Javorcik, 2005) applies propensity score matching to plant-level data from the Census of Indonesian Manufacturing covering the period 1983–96. The matching technique creates the missing counterfactual of an acquired plant had it remained under

domestic ownership. It does so by pairing each plant that will receive FDI in the future with a domestic plant with very similar observable characteristics operating in the same sector and year. Propensity score matching is then combined with a difference-in-differences approach, whereby the causal effect of foreign ownership is inferred from the divergence in the average productivity growth paths between each acquired plant and its matched control plant.

The results suggest that foreign ownership has profound effects on the operations of FDI recipients. After receiving FDI, plants improve their performance advantage measured in terms of total factor productivity. The estimated increase in plant productivity is quite large, reaching

*“The results suggest that foreign ownership has profound effects on the operations of FDI recipients”*

about 34 percent in the third year of foreign ownership. Approximately half of the positive productivity effect is realised during the year foreign investment takes place with the remainder occurring during the following two years. These productivity improvements take place simultaneously with increases in investment outlays, employment, wages and output, which suggests an on-going restructuring process. Plants receiving foreign investment also become more integrated into the global economy by exporting a larger share of their output and sourcing a larger share of their inputs from abroad.

The finding that foreign ownership has a positive effect on the productivity of recipient plants suggests that FDI inflows may present potential for knowledge spillovers to other local firms. Yet studies based on firm-level data cast doubt on the existence of spillovers from FDI in developing countries. The researchers either fail to find a significant effect or find evidence suggesting that foreign presence has a negative impact on domestic firms in the same sector (see Görg and Greenaway, 2004 and Saggi, 2006 for a review). A recent

## *FDI and developing countries, contd...*

publication (Javorcik, 2004), however, argues that researchers have been looking for FDI spillovers in the wrong place. Since multinationals have an incentive to prevent information leakage that would enhance the performance of their local competitors, yet at the same time may benefit from transferring knowledge to their local suppliers, spillovers from FDI are more likely to take place *across* rather than *within* sectors. In other words, spillovers are most likely to take place through contact between domestic suppliers of intermediate inputs and their multinational clients, and thus they would not have been captured in the earlier studies.

Using firm-level panel data from Lithuania, Javorcik (2004) demonstrates that the productivity of Lithuanian firms is positively correlated with the extent of potential contact with multinational customers but not with the presence of multinationals in the same industry. The magnitude of the effect is economically meaningful. A one-standard-deviation increase in the foreign presence in the sourcing sectors is associated with a 15 percent rise in output of Lithuanian firms in the supplying industry. The productivity effect is found to originate from investments with joint foreign and domestic ownership but not from fully-owned foreign affiliates, which is consistent with the evidence of a larger amount of local sourcing undertaken by jointly owned projects.

The studies mentioned above focus on FDI inflows into manufacturing sectors. However, FDI inflows into services industries may be beneficial to the host country as well. Foreign investors may improve and expand the set of available producer services and introduce international best practices. By doing so, they may also induce domestic competitors to make similar improvements. Given the limited scope for using cross-border trade to substitute for domestically produced services inputs, the performance of downstream sectors may be tied more directly to the quality and availability of services supplied by providers operating domestically than is the case for physical intermediate inputs.

A greater choice of services providers may in turn affect the performance of manufacturing sectors in three ways. First, entry of internationally successful players into services indus-

tries may lead to higher quality and reliability of services. For instance, international phone communications or electricity provision may become more reliable due to new investments in infrastructure and credit decisions may be made faster as competition among banks increases. This will in turn limit disruptions to production and decrease the operating costs in downstream manufacturing sectors. Second, new services may become available as a result of foreign entry. Examples include new financial instruments, multi-modal transport services or digital value-added services in telecommunications. Availability of such services may allow manufacturers to introduce productivity-enhancing changes to their operations, such as receiving production orders on-line or setting up on-line bidding systems for suppliers. Third, services liberalisation may lead to a wider availability of services

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*“Spillovers are most likely to take place through contact between domestic suppliers of intermediate inputs and their multinational clients...”*

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that were previously restricted to certain groups of users, such as expanding internet coverage into rural areas or the availability of business services to smaller firms. The improved access may in turn enhance competitiveness of smaller or remotely located enterprises.

The results of a firm survey conducted by the World Bank in the Czech Republic in 2004 show that Czech firms perceive the effects of services liberalization as positive. The vast majority of respondents reported that liberalisation of services industries contributed to improvements in quality, range and availability of services inputs in their country.

To examine formally the link between services liberalization and the performance of services users, a recent study (Arnold, Javorcik and Mattoo, 2006) relates total factor productivity of manufacturing firms to the state of liberalisation in upstream services sectors. The study uses firm-level panel data from the Czech Republic for 1998–2003. The reliance of each manufacturing sector on each services sector, assessed on the basis of the national input-output matrix, is used as a

## *FDI and developing countries, contd...*

weight to create manufacturing sectors' exposure to services reform. The study employs several proxies to capture the extent of liberalisation in services sectors. The first measure is a set of policy reform indices published by the European Bank for Reconstruction and Development. Time-varying indices are available for banking, telecommunications, electric power, railway transport, road transport and water distribution. The other measures capture a particular aspect of liberalisation: (i) the extent to which foreign investors have entered Czech services industries, proxied by the share of an industry's output produced by foreign-owned companies; (ii) the progress of privatisation in services industries, proxied by the share of an industry's output produced by private companies; and (iii) the level of competition in services industries, measured by the market share of the four largest providers. The empirical specification also includes a comprehensive set of controls for other channels through which increased openness may affect firm performance.

The results demonstrate a positive correlation between liberalisation in services sectors and the productivity of manufacturing firms relying on services inputs. A positive and statistically significant relationship is found for the policy reform index, the presence of foreign providers in services sectors and the extent of privatisation in services industries. The relationship between the presence of foreign providers in services sectors and the performance of manufacturing firms relying on services inputs is the most robust. These findings are consistent with services sector liberalisation, as manifested by FDI inflows into the sector, being associated with improved availability, range and quality of services which in turn contribute to improved performance of manufacturing firms using services as inputs.

Taken together, the results of these three studies highlight the potential of FDI for enhancing competitiveness of host economies through productivity improvements and technology transfer.

### **Further readings:**

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## **Annual Postgraduate Conference**

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# Ethnic Networks and International Trade

*International trade is hampered by many formal and informal barriers. The latter consists of the lack of information about demand, languages, business practices and laws of foreign countries. In this article Cletus C. Coughlin argues that immigrants can provide this sort of information about their country of origin. Ethnic networks can therefore help to overcome informal trade barriers and boost exports. Cletus is Vice President and Deputy Director of Research at the Federal Reserve Bank of St. Louis and a GEP Policy Associate.*

In recent years researchers have paid increasing attention to trade costs, which are all the costs incurred between the marginal cost of producing a good and the price paid by the final user. A non-exhaustive list of trade costs includes transportation costs, governmentally-imposed barriers (e.g., tariffs), information costs, contract enforcement costs, foreign exchange transactions costs, and distribution costs. Anderson and van Wincoop (2004) calculate that even for developed countries such costs can be quite large—170 percent as an ad-valorem tax equivalent estimate.

My discussion, which relies on joint research with Subhayu Bandyopadhyay and Howard Wall (2005), is focused on a subset of trade costs: information barriers and contract enforcement costs. Such costs are very difficult to measure directly. Clearly, information is essential for identifying advantageous exchange possibilities. In addition to information, confidence or trust that the parties involved in an exchange will perform according to their commitments is crucial before transactions are agreed upon. A lack of information and a lack of trust are frequently identified as informal barriers to trade. These informal barriers to trade likely deter international trade to a larger extent than domestic trade and, therefore, contribute to explaining why, even after adjusting for economic size and distance, intra-national trade flows tend to swamp international trade flows.

Prior research, theoretical as well as empirical, has iden-

tified immigrant networks as an important intermediary that can mitigate these informal barriers in home-country markets by providing information about demand, languages, business practices, and laws, as well as instilling confidence to facilitate international trade. By reducing the cost of searching across national borders and by serving as a means of enforcing contracts, immigrants increase the likelihood of a match between a buyer and a seller that results in a completed transaction.

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*“A lack of information and a lack of trust are frequently identified as informal barriers to trade.”*

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The traditional focus of research exploring the connection between immigration and international trade has been on how immigration affected fac-

tor supplies in the source and recipient countries. The change in factor supplies affects production and, ultimately, trade flows. Recently, most notably due to the research of James Rauch (2001) and various co-authors, attention has been drawn to the network effects associated with immigrants. Our focus is on how immigrant networks have affected U.S. exports at the level of individual states.

Many of the recent studies of U.S. trade have used exports at the state level to examine the immigrant-export connection. Such a focus is potentially important because the immigrant-export connection depends on networks of individuals and families in which proximity is likely to play a role. The use of state-level data allows for the use of proxies that are closer to what is suggested by economic theory. The underlying theory sug-



## *Ethnic networks and trade, contd.*

gests that an increase in the number of immigrants from a specific country into a specific state increases the source-country information in the state. The increased information effectively reduces transaction costs, which stimulates exports from the state to the country. As Dunlevy (2005) has argued, if the effect of immigrants cannot be found at the state level, then doubt is cast on the results based on national data.

Four recent studies — Co et al. (2004), Bardhan and Guhathakurta (2005), Herander and Saavedra (2005), and Dunlevy (2006) — have used state-level export data. Each examines the basic issue of the impact of immigrants on exports; however, they extend the basic literature in different ways. All are based on a gravity model, specifically a pooled cross-section model.

Co et al. (2004) examine state exports for 1993 using 48 states. They use 28 export destinations, 14 of which overlap with the destinations that we use. Export destinations are split into developed and developing countries. Separate network elasticities are estimated for the two sets of countries. These average elasticities are quite close, with an estimate of 0.29 for exports to developed countries and 0.27 for exports to developing countries. Thus, a ten percent increase in immigrants leads to an average increase in exports to both developed and developing countries of slightly less than three percent.

Bardhan and Guhathakurta (2004) compare exports from the states on the east coast with those on the west coast using data for 1994-1996. The effects of two networks — one business network and one sociocultural — are explored. A statistically significant finding is that transnational business ties increase exports from both coasts. Meanwhile, a statistically significant relationship for immigrant networks is found only

for west coast states. The ethnic-network elasticity of exports ranges from 0.24-0.26 for west coast states and 0.06-0.09 for east coast states.

Using state exports to 36 countries for 1993-1996, Herander and Saavedra (2005) examine the relationship between state exports and in-state and out-of-state immigrants. First, they examine the standard link between a state's immigrant population and its exports to the home country and find an ethnic-network elasticity of 0.18. Second, they argue that because a state's exporters have access to the ethnic networks of other

*“...ethnic-network elasticities are actually much more important than has been reported previously, but they are most important for a subset of countries.”*

states, the number of immigrants from the destination market in the rest of the states should also matter. They found that there was a positive link be-

tween a state's exports to a country and the number of immigrants from that country in the rest of the United States.

Finally, using average exports to 87 countries for 1990-1992, Dunlevy (2006) estimates various specifications and finds a range for the ethnic-network elasticity of exports from 0.24-0.47. Dunlevy also examines four corollaries associated with the basic proposition of a link between exports and immigrants. He finds immigrant networks are especially useful for exports to countries with more corruption and to those with a less similar language. Institutional differences and differences across goods were not found to affect exports.

In line with recent research, our dataset is a panel of exports from U.S. states to 29 foreign countries. Our analysis departs from the literature in two ways. Our first departure is to control for unobserved heterogeneity with properly specified fixed effects, which we can do because our dataset contains a time dimension absent from previous studies. Our second departure is to remove the restriction that the network effect is the

## *Ethnic networks and trade, contd.*

same for all ethnicities.

Our estimation of various gravity models shows very clearly that the estimates of ethnic-network elasticities are sensitive to the restrictions imposed on the models. For example, our estimation of a pooled cross-section model with a common network effect, which is a standard estimation in the existing literature, produces an elasticity of 0.24. Such an estimate is comparable to prior estimates. However, our estimation of a fixed-effects model with a common network effect produces an elasticity of 0.13, which is much lower than most existing estimates.

Turning to our second departure from the existing literature, our statistical results, which are consistent with economic theory, reveal that ethnic-network elasticities vary across countries. The possibility that the ethnic-network elasticity differed across countries was recognised previously; however, prior to our attempt, no one had attempted to estimate separate elasticities for exports to different countries. Using a common gravity model with country-specific networks evidence of a statistically significant ethnic network was found

for six of the 29 countries. Using a country-specific gravity model evidence of a statistically significant relationship was also found for six of the 29 countries, four of which were also statistically significant in the preceding estimation. A noteworthy finding is that, for those countries where a statistically significant relationship is found, the estimated elasticities are much larger than the estimates generated assuming a common network effect. Our bottom line is that ethnic-network elasticities are actually much more important than has been reported previously, but that they are most important for a subset of countries.

We must stress, however, that we are not arguing that immigrant networks are unimportant for exports to countries in which we do not find statistical significance. Our analysis relies on the standard proxy for immigrant networks that is based on the number of immigrants in a state. This proxy is undoubtedly less than ideal and may be seriously flawed as a measure of networks for some countries. Networks are not necessarily larger for each new immigrant but rather depend on the skills of the immigrants, which might not be accurately gauged by the quantity of immigrants.

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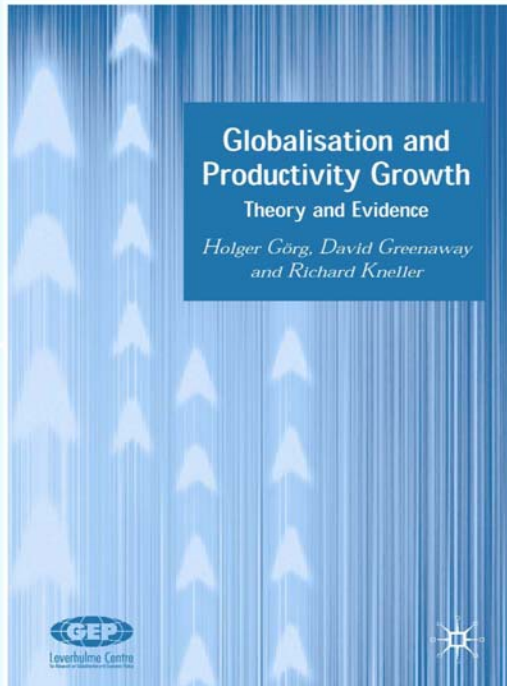
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