



Newsletter

Issue 26, 2009

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Successful launch for GEP in China

GEP marked the opening of its new branch in China by hosting a major international conference on the country's ever-growing role at the heart of the global economy.

We were honoured that the University's Chancellor, Professor Fujia Yang, officially opened this Conference and launched 'GEP in China'. Some of the world's leading authorities on China participated in the event, which coincided with the 30th anniversary of the reforms that changed the country's economic path.

Delegates at the Conference considered issues such as openness, liberalisation, trade reforms and foreign direct investment – all key factors in China's dramatic transformation into an emerging superpower.

The opening of the branch of GEP at the University of Nottingham, Ningbo, China, marked the latest chapter in GEP's own continuing globalisation process. Earlier this year it opened GEP in Malaysia at the University of Nottingham's purpose-built Semenyih campus, near Kuala Lumpur.

David Greenaway and Shujie Yao, the co-organisers of the conference said "We are justifiably proud to have a



David Greenaway addressing the GEP Conference at the University of Nottingham, Ningbo, China

presence in China, which increasingly represents the epicentre of the globalisation phenomenon.

"The standard of our inaugural conference, with highly esteemed delegates travelling from around the world to take part, showed we can have every faith in the success of this project."

GEP's China and the World Economy research programme began in 2005 in response to growing interest in the nation's rapid integration into the global economy.

Shujie Yao added: "The quality of our fundamental research has always been guaranteed by the calibre of our academics, many of whom are from China.

"Now that we actually have a branch in China, we can only continue to enhance our credibility and standing and add to the understanding of contemporary China around the world."

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David Greenaway and GEP

GEP pays tribute to its Founding Director, Professor David Greenaway



David Greenaway

A global vision

One of David Greenaway's goals when he founded the Leverhulme Centre for Research on Globalisation and Economic Policy (GEP) in 2001 was to create a research facility that would come to be regarded as a national asset. David has taken his leave from the Directorship of the Centre seven years later, on his appointment as Vice-Chancellor of the University of Nottingham. His colleagues in GEP are delighted that David continues to play a role in GEP and remains involved as a GEP Research Fellow. Tributes from friends and colleagues show GEP is not just a national asset but one that has attracted international recognition and respect.

Under David's guidance, GEP has earned universal esteem for the quality of its research and the calibre of the staff, postgraduate students and visiting scholars it has attracted from around the world. It has become a key component of the academic nexus, renowned for its commitment to the dedicated and pioneering study of globalisation issues.

With branches of GEP now in Malaysia and China, the Centre has also cemented its reputation and augmented its work by establishing a physical presence in countries and regions that now lie at the very heart of the globalisation story.

In the beginning

Before GEP there was GLM, a large research project that studied globalisation and labour markets. It began life in January 1998 and was initiated with a £1m grant award from the Leverhulme Trust.

The principal researchers, all of whom were named on the successful grant application, were; David Greenaway; Rod Falvey, Chris Milner; Peter Wright; Steve Thompson, of Nottingham University Business School; and Bob Hine and Geoff Reed, both now retired. They were soon joined by a handful of fellow researchers, four Postdoctoral Research Fellows and a dozen External Fellows.

Two years later David led an application for, and secured, a second grant; this time of £2m, from the Leverhulme Trust. This grant took effect from 2001, when GEP came into being in earnest.

This additional grant allowed GEP to deepen the existing *Globalisation and Labour Markets* programme and initiate two new programmes: *Globalisation, Technology and Productivity* and what became *Theory and Methods*.

Professor Chris Milner, a member of the original team, recalls: "Like many others who have been associated with these earlier developments and subsequently with GEP, I view David as first a friend and then a colleague and collaborator. He is a great motivator and builder. I have worked with him for more than 30 years and have witnessed his great talents and energy.

"Before GEP he had considerable success in building the then Department [now School] of Economics and another Centre in the School – CREDIT, the Centre for Research on Economic Development and International Trade. He had the knack of making people want to be a part of these organisations and to co-operate. You can do this only if people respect you and enjoy your company.

"The winning of major funding support from the Leverhulme Trust, first for a new research programme and then for GEP, gave further impetus to the development of Economics here at Nottingham. It also provided opportunities

for David to build an international network of researchers working on globalisation and economic policy issues. The scale of activity grew, and this required a capacity to manage, but the approach and style were as before: make GEP an interesting and welcoming place for young and established researchers and it will flourish."

Sure enough, the Centre went from strength to strength; but – as in the case of globalisation itself – there were always new and significant avenues to be explored. The route to perhaps the most significant of all was cleared in 2005 when another major research award – a £1.5m grant that was secured with a successful application entitled *Surviving and Succeeding in a Globalised World* – allowed David and his growing team not only to strengthen and lengthen the work on their existing programmes but to introduce a fourth: *China and the World Economy*.

Today Nottingham, tomorrow...

GEP was already well established and respected when it was decided a shift in the epicentre of the globalisation phenomenon necessitated a change in GEP's own approach. The result was the China and the World Economy (CWE) programme.

When CWE joined the Centre's existing programmes in 2005 it was acknowledged that China's economic reforms represented one of the most significant aspects of the globalisation process. Now there is a strong case for arguing they have come to represent its defining story.

Recognising that China's transformation – and, to a lesser extent, that of its regional neighbours – offered extraordinary scope for in-depth and valuable study, the CWE programme appointed a team of Internal and External Research Fellows and PhD students with experience in and on China. Collaborations with other researchers and institutions both inside and outside China were also sought.

The opening in January 2008 of GEP in Malaysia, based at the University of Nottingham's purpose-built Semenyih

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Campus, underlined GEP's dedication to the thorough examination of the Asian economies and their effects on the rest of the world.

This was re-emphasised by the landmark launch 11 months later of GEP in China at the University of Nottingham, Ningbo, China. Seven years after the Centre was founded, foresight and determination – and not least the financial support of the Leverhulme Trust – placed GEP at the hub of globalisation research, ideally situated to add to the wider understanding of contemporary China and in so doing further enhance the facility's credibility.

As Professor Shujie Yao, co-ordinator of the *China and the World Economy* programme, explains: "It is no exaggeration to say the rise of China over the past three decades has shaken the world, which is why we need a full appreciation of the huge opportunities it presents and the critical challenges it creates. David was one of the people who recognised that and worked to put us in a perfect position to make it happen."

The landmarks and the legacy

"David's legacy is immense. The idea and initiative to set up GEP came from him, and the energy and drive to build it into what it is now came from him. Now it is important that we sustain and build upon that legacy." – Professor Chris Milner, Professor of International Economics, GEP, CREDIT

In March 1999, still as GLM, the Centre hosted its first major conference, the papers from which were published as a special issue of the *Review of International Economics*.

"David has masterfully leveraged his resources to create a global network of scholars and policy analysts that is second to none. His support and encouragement have been instrumental for dozens of scholars in the development of our research programmes." – Carl Davidson and Steven Matusz, GEP External Research Fellows and Professors in the Department of Economics, Michigan State University.

GEP hosted at least one conference every 12 months in its first few years. As the Centre's reputation grew, so the number of conferences increased. By 2006 it was hosting five. In 2008 it hosted seven. David also spearheaded the establishment of the GEP Annual Post-Graduate Conference, which attracts submissions from around the world, and GEP's Schools' Conferences, aimed at sixth-form students interested in studying economics. The Schools' Conference has become so popular that this year GEP ran two events in order to meet demand and has started Schools' Conferences in Malaysia too.

David's contribution has been massive. He has been the driving force behind the growth of GEP and its success in linking into both the academic community and the world of policy.' – Ken Warwick, Deputy Chief Economist, Department for Business, Enterprise and Regulatory Reform.

David oversaw the establishment of a number of public lecture series. *The Nottingham Lectures in International Economics* represent a 'masterclass' series and attract leading academics from around the world. *The World Economy Annual Lecture*, *The World Economy Annual Asia Lecture* and *The World Economy Annual China Lecture* are all sponsored by Wiley-Blackwell, publisher of *The World Economy*, of which David is Managing Editor. *The Leverhulme Globalisation Lecture Series* attracts speakers from the policymaking and media community. To add to this list GEP secured funding from Boustead Holdings Berhad to host the *Boustead Annual Globalisation Lecture* at the University of Nottingham, Malaysia.

'It is thanks to David Greenaway's leadership that GEP has become such a powerful voice in the debate over the future of the global economy. His energy and entrepreneurialism, backed up by a formidable body of research, have established Nottingham as a key centre. And anybody who has received one of his invitations knows his considerable powers of persuasion.' – David Smith, *The Sunday Times* Economics Editor.

The final word goes to Sir Richard Brook, Director of the Leverhulme Trust – one of Britain's largest funders of education and research and a vital supporter of GEP.

'The hope of the Leverhulme Trust in placing a sequence of major awards at the University of Nottingham was that concentrated attention could be given to the globalisation theme. That the resulting Centre should now receive worldwide recognition for the energy, professionalism and vision of its work – and that the impact of its research should make it a true focal point and necessary port of call for the discipline and for those who work in it – is one man's doing. David turned an idea into a reality and took everyone with him in doing so. He has transformed the academic landscape and – almost unique in this culture – built a happy community to explore it.'

David Greenaway: Career Summary

Leicester Polytechnic, 1975 to 1978;

University of Buckingham, 1979 to 1987;

University of Nottingham, 1987 to present

as:

Professor of Economics;

Head of School of Economics;

Director of GEP;

Dean of Law & Social Sciences;

Pro-Vice-Chancellor;

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Successful Launch for GEP in China

The Conference on China and the World Economy, took place on 6th and 7th November and attracted delegates from China, Japan, Singapore, Korea, Canada, Germany and the UK.

The World Economy Annual China Lecture

Among the highlights of GEP's launch in China was the inaugural *The World Economy Annual China Lecture*, delivered by Professor Shujie Yao, co-ordinator of GEP's China and the World Economy research programme. In his Lecture, Shujie said the Chinese stock market crash that wrecked the dreams of millions of ordinary investors was brought about by mismanagement, envy and greed (see article on page 5).

Conference papers

In keeping with the extensive range of issues addressed by GEP's China and the World Economy programme, a wide variety of research was presented at the conference.

Alessandra Guariglia and fellow GEP economists **David Greenaway** and **Zhihong Yu** found that foreign firms in China are much more likely to be successful if they set up in partnership with domestic producers. Their findings, based on a study of data from 21,582 Chinese companies between 2000 and 2005, showed foreign ownership had a positive effect on productivity and profitability. However, a firm's productivity began to decline once foreign ownership reached beyond 64%.

Alessandra said: "Our research suggests the most efficient and profitable firms are joint ventures. Foreign firms can introduce better technology and better management practices, but it seems that if they operate alone they miss out on the valuable contribution that local producers can offer – like political connections, knowledge of domestic markets and Chinese marketing expertise."

China was urged to embrace tighter environmental controls after a study concluded its ever-burgeoning economy is otherwise likely to bring more and more pollution. Economists examined data for 112 Chinese cities for the period from 2001 to 2004 to determine various levels of water and air pollution. They discovered China's own firms had the strongest detrimental effect on industrial emissions.

Study co-author **Dr Robert Elliott**, a GEP External Research Fellow and Reader in Economics at the University of Birmingham, said the results offered "little scope for optimism" if tougher measures are not adopted. He said he was encouraged by recent moves by the Chinese government to recognise the importance of environmental regulations but added: "Even more stringency and enforcement are crucial. China is the biggest polluter in the world. Seventeen of the world's 25 most polluted cities can be found there, so its economic gains have come at a cost."

China was also encouraged to invest more in educating and training its population to sustain its extraordinary levels of economic growth. A major study of the factors behind the country's boom revealed human capital, despite having a positive influence, remains "inadequate" and "scarce". Data from

China's 30 provinces was examined to establish exactly what has fuelled the nation's growth since its economic reforms.

Studying the period from 1984 to 2004, economists found that in every year except two – 1989 and 1990 – the overall main contributor to Total Factor Productivity (TFP) was technological progress.

Study co-author **Kui-Wai Li**, an Associate Professor at the Department of Economics and Finance at City University, Hong Kong, said this confirmed earlier theories that physical capital was the most important element in China's post-reform growth.

But he warned human capital would become increasingly crucial as the country's economic voyage continues – and that policymakers would need to address the issue soon. He said: "It is important for China to upgrade its human capital, because it will become significant in the more mature stage of economic development."

Pioneering research claimed China's controversial population-control policies helped bring forward its economic boom by a decade – but should now be abandoned. The first study of its kind revealed how the nation's unique demographics had a major impact on "economic take-off".

An effect of the so-called "one-child policy" was to increase the proportion of the population of working age and earning – with the resultant improvement in saving rates leading to more investment and boosting productivity. But study author **Zhihao Yu**, a GEP External Research Fellow, argued: "The one-child policy's major historical role has probably now come to an end. In 15 years China will find that the first baby-boom generation, born in the early 1960s, will start to retire and the dependency ratio – between those of non-working age and working age – will become too high. This is why China should now replace the one-child policy with a more relaxed population-control policy."

Shujie said all the contributions echoed and reinforced GEP China and the World Economy research programme's own commitment to world-class research.



**Conference Speaker
Professor Xianguo Yao,
Zhejiang University**



Shujie Yao

The Economic Psychology of the Chinese Stock Market Bubble and Crash

This year has seen a series of major economic explosions – not least the spectacular bursting of the Chinese stock market bubble, which has shattered the dreams of millions of ordinary Chinese investors. **Professor Shujie Yao** delivered *The World Economy Annual China Lecture* at the University of Nottingham, Ningbo, China, which looked at the economic psychology behind the bubble and the consequences for Chinese investors.

GEP gratefully acknowledges sponsorship from Wiley-Blackwell (publishers of *The World Economy*) for this Lecture Series.

The bubble started developing in late 2005 when the stock market began to pick up momentum. By the end of 2006 it was clear that the bull had become a bubble. By September 2007 the Price/Earnings ratio of the Shanghai Stock Exchange (SSE) was 73; the P/E of the SZSE – the Shenzhen Exchange – peaked at 69.6. In comparison, in the US the P/E ratio of the S&P, which peaked a few months later, only hit 21.8 and American companies were significantly more efficient and profitable.

The turning point in China was November 2007 when PetroChina

became the world's first trillion-dollar company after it was listed on the Shanghai Exchange, attracting fevered trading from ordinary investors speculating on the price. (The labour force of PetroChina was 10 times greater than that of Exxon Mobil, yet its US rival was three times more profitable.) The SSE Composite Index had risen in two years from just over 1000 to over 6000.

Today the picture looks very different. In the space of 10 months to mid-September 2008 the SSE Composite Index fell by over 70%. The

bursting of the Chinese bubble happened before the meltdown in the West and should be seen as separate – it was not caused by the West's Credit Crunch.

So why did this happen? The first cause may have been poor government management around the process of listing mega-state-owned enterprises on the stock market. The haste to list so many in such a short time (and dressing them

up for sale by stripping off debts and injecting billions of dollars to

The stock market bubble was driven by three key psychological factors: greed, envy and speculation.

improve their balance sheets) created a false impression for investors who were encouraged to believe they could make huge and quick profits.

The second was the poor and irrational economic psychology of Chinese investors – especially small investors who have little knowledge about the markets and their capacity to go down as well as up (the Shanghai and Shenzhen Exchanges were both opened only in the early 1990s as part of the Chinese government's attempts to develop a capital market for domestic and foreign investors).

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Shujie Yao (left), with David Greenaway chairing the Lecture

The stock market bubble was driven by three key psychological factors: greed, envy and speculation.

It was greed – the desire to get rich in a spectacular way – that led to householders gambling on the stock market to the point that they invested as much as a third of their savings (9.31 trillion RMB) in the stock markets.

It was envy – seeing others prospering and not wanting to be left behind – that lured around one in 10 Chinese to be directly involved in stock trading and many more indirectly.

Finally, it was speculation – most investors bought only for short-term gain. Partly this was due to the lack of alternatives – returns on bank deposits (the only other way for householders to invest in China) tend to be negative in real terms. But lack of professional knowledge made these investments highly speculative in nature. Householders either purchased shares randomly or just followed others without analysing the performance of listed companies. They pooled all their available funds, which not only included savings deposits but also mortgages, or even pensions, to trade in stocks. When the markets turned, they held on for recovery and further gains.

Big interest groups that exploited the boom were the biggest winners; small investors the net losers – fuelling the already serious inequality problem in today's China. When these investors no longer had any cash to speculate, the bubble burst and the psychology moved to the opposite extreme.

In the long term, Chinese investors will become more aware of the potential risks and returns of the stock markets and become less volatile, avoiding the huge and abrupt boom and bust evident in the last two years. Then stock markets will become a more reliable avenue of investment, supporting China to become a mature market economy. The government can play an important role in this process, providing more information and legal protection to investors and preventing the listed companies, especially the state-owned companies, from deliberately acting against small investors.

But for now fear, disappointment and lack of confidence characterise the market. It will take some time for the market to become bullish again.



Audience of 500 at the Lecture at the University of Nottingham, Ningbo



Leonardo Iacovone

Multi-Product Exporters: Some New Stylised Facts

When the world becomes more globalised, how do exporting firms adjust their product margins? **Leonardo Iacovone**, The World Bank, and **Beata Javorcik**, University of Oxford and GEP External Fellow, provide some new stylised facts from their latest studies.



Beata Javorcik

Understanding the micro-foundations of economic growth has increasingly attracted the attention of economists interested in understanding the process of structural change and development. Trade theory has been at the forefront of this quest thanks to a number of recent contributions incorporating micro-heterogeneity and capturing endogenous dynamics across firms and within firms (e.g. product switching and decision to export only some of the products manufactured). Yet, due to data limitations, there is little evidence to corroborate or contradict the predictions emerging from these models. Do firms adjust the number of products exported in response to changes in trade policy? Which products are the most affected? Are any changes at the firm or product level needed before the introduction of a new product into export markets?

Our recent work focusing on the period of increasing international integration of Mexico after the introduction of NAFTA (1994-2003) sheds some light on firm-product dynamics, particularly in the context of export decisions. Our analysis is based on a unique dataset at the firm-product level, covering over 6,000 plants responsible for 85% of Mexican industrial output. The information is disaggregated at the product level and covers 3,396 unique products. We document a significant degree of churning at the product level taking place in response to declining trade costs. Each year between 150 and 300 producers in our sample introduce a new export product. This is equivalent to about 10% to 20% of exporters active in a given year. A marginally smaller number of exporters drop an existing export product and a much smaller, but still not negligible, number of firms simultaneously introduce and drop export

products. Interestingly, our findings suggest that this churning is not a random process but is related to firms' core competencies. It appears that in response to a declining trade cost Mexican firms expand products in which they already specialise. The higher the ranking of a product (in terms of its share in firm-level exports), the more likely the expansion of its exports. In contrast, the less "important" a product is for a firm, the higher the chance that it will be dropped from export markets.

Another striking pattern emerging from the data suggests that the introduction of new export products tends to be preceded by increased investment in physical assets and technology acquisition. We observe an increase in investment outlays in the two-year period before a new export variety is introduced. After the introduction, the level of investment registers a slight decline. A similar pattern is observed in the case of investment in technology acquisition. Interestingly, we find no evidence of increased R&D activity being undertaken in preparation for exporting.

The surge in investment prior to entering export markets is accompanied by an increase in the domestic unit values of future export products. This pattern is consistent with quality upgrading taking place before introducing a product into export markets, a phenomenon often described in anecdotal evidence.

Recent theoretical and empirical contributions point towards the importance of information asymmetries, trust and search costs as crucial determinants of trade patterns. Are the implications of these predictions visible in

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micro-level dynamics? It appears to be the case. We find that firms entering foreign markets for the first time start small, both in terms of the number of exported products and the volume. Moreover, new exporters not only start small but also start by exporting products that they are already selling on the domestic market. In fact, in about 85% of cases firms decide to enter foreign markets with a product they have been selling in Mexico. In contrast, experienced exporters are more likely than new exporters to introduce into export markets products not previously sold domestically. In nearly one-third of cases experienced exporters introduce into export markets a product they have not previously sold in Mexico.

These and other findings in our studies confirm the importance of the current research efforts to "unbundle" the firm and move from firm-level analysis to the more disaggregated firm-product level. They suggest that focusing on the product dimension, which constitutes an additional margin of adjustment available to firms responding to trade liberalisation, can provide new insights. Such insights may be useful to policymakers aiming to devise effective policies to stimulate export response in developing countries.

We document a significant degree of churning at the product level taking place in response to declining trade costs... This churning is not a random process but is related to firms' core competencies.

Further readings

Besedes, T., and T. J. Prusa (2006): "Product differentiation and duration of US import trade", *Journal of International Economics*, 70(2), 339–358.

Iacovone, L., and B. S. Javorcik (2008a): "Multi-Product Exporters: Diversification and Micro-Level Dynamics", Mimeo, University of Oxford.

Iacovone, L., and B. S. Javorcik (2008b): "Shipping Good Tequila Out: Investment, Domestic Unit Values and Entry of Multi-Product Plants into Export Markets", Mimeo, University of Oxford.

Rauch, J., and J. Watson (2003): "Starting Small in an Unfamiliar Environment", *International Journal of Industrial Organisation*, 21, 1021–1042.

GEP 8th Annual Postgraduate Conference

GEP will host its 8th Annual Postgraduate Conference
at the University of Nottingham
on 26th and 27th March, 2009

For further details, see the GEP Conference website
or contact the Conference Organisers

tom.ivlevs@nottingham.ac.uk or liza.jabbour@nottingham.ac.uk



Fabrice Defever

How do multinational firms organise their international production processes?

Trade literature has concentrated mostly on the impact of outsourcing—for example, employment and growth. However, we know relatively little about firms’ motivation behind different sourcing modes. **Fabrice Defever**, GEP Research Fellow, offers some new empirical findings based on his recent paper, which was awarded the UCL and LICOS Best Paper on Trade and EU Policy prize at the European Trade Study Group (ETSG) 2008 Annual Conference.

Firms are acting more and more on a global scale. They source an increasing part of their intermediate inputs from foreign countries. Baldwin (2006) argues that the actual globalisation process occurs at the level of the firm, which can fragment their production stages and/or delocalise tasks because of lower communication and coordination costs. The empirical literature confirms that a growing share of international trade consists of intermediate inputs. Yeats (2001) reports that more than 30% of world trade is manufactured in 1995 correspond to shipments of intermediate products and components.

Trade in intermediate inputs takes place both within the firm (internalisation) and outside the boundaries of firm (outsourcing). The question whether firms internalise or outsource is crucial to the understanding of the pattern of

trade and makes its impact on host and source countries unpredictable. Internalisation is a growing phenomenon in France, while the United States experiences a reverse trend. From 1990 to 1999, French intra-firm import has increased by 88.4%, whereas it decreases by 9.8% in the US during the same period. Understanding these different trends requires a small theoretical detour.

This “make or buy” decision has a long tradition in economics, especially in industrial organisation. However, it has only recently been introduced in trade models.

Antràs and Helpman (2004, 2008) have developed elegant theoretical models that rely

on contract incompleteness and firm-level heterogeneity. Contracts are typically incomplete either because they are difficult to write and/or because the court cannot enforce them. In their models, the firms’ sourcing mode depends on the interaction not just between its productivity and its factor intensity but also the contracting environment of the exporting country. Firms that rely largely on intermediate inputs might choose to internalise if outsourcing involves substantial organisation costs in countries with a poor contracting environment. There exist thus systematic characteristics between firms and their mode of sourcing from particular markets. These

facts are of course unobservable at the aggregate level and more economic evidence at firm level is needed.

Our recent empirical analysis demonstrates the relative role of firm-level

and country-level determinants of internalisation. We rely on a French business survey carried out by SESSI on all firms belonging to an international and industrial group. The sample covers about 80% of the manufacturing imports of industrial firms in 1999. In addition, the dataset provides information on the geographical breakdown of firms’ imports at product level and their mode of sourcing. Here are some of the most salient facts.

Fact 1. The most productive French firms outsource

Each sourcing mode has different costs that might not be appropriate for all firms, given their production process. For instance, firms that source their inputs internally might have lower

Firms that outsource are more productive than firms that internalise the production of intermediate inputs.

organisation costs because they combine the coordination costs of two independent organisations. Among the firms that have been surveyed by SESSI, 70% respond that internalising the production of intermediate inputs involves cheaper organisation costs than outsourcing. This explains why the most productive firms (i.e. those that are likely to compensate these organisation costs) choose to outsource).

Figure 1 ranks the cumulative distribution of firms' total factor productivity according to their sourcing modes. A lower cumulative distribution corresponds to a higher average productivity of the considered group.

As Figure 1 shows, firms that outsource are more productive than firms that internalise the production of intermediate inputs.

Fact 2. Factor intensities affect the sourcing mode

Firms that are highly productive are able to pay higher organisation costs and outsource. However, they also need to have a production process that is adapted to this mode of sourcing. The theory of incomplete contract has long acknowledged the role of factor intensity for the sourcing mode decision. The production of a final good requires the inputs of both the firm and its supplier. The relative input intensity governs the sourcing mode. In fact, a firm finds it more profitable to incentivise its foreign suppliers by outsourcing when its production process relies intensively on their specific factors.

We find two important results. First, in line with the theory, French firms outsource when they use intensively intermediate inputs in their production process. Second, empirical studies using US data find that unskilled-labour intensive industries outsource more (see Nunn and Trefler 2008 for a detailed analysis on the boundaries of US MNEs). However, we find that within the same industry factor intensities at firm level matter. French firms that are relatively more intensive in unskilled labour are more likely to outsource.

Fact 3. Host country characteristics matter

About 87% of French firms' transactions are imported using outsourcing only from developed countries. When analysing the geography of French firms' imports, the interaction between firm-level and country-level attributes reveals some interesting patterns.

We observe that relative factor intensities simultaneously determine the sourcing modes of French firms and the location of their intermediate inputs' suppliers. French firms that use relatively intensively unskilled labour in their production process outsource the production of intermediate inputs from relatively unskilled abundant countries. Firms that have more complex production processes that involve the input of skilled-labour choose, however, to internalise and import from relatively skilled labour abundant countries.

Moreover, the contracting environment of the exporting country plays a major role. The theoretical literature finds different predictions on the impact of the contracting environment on the sourcing mode (Antràs and Helpman 2004, 2008). We find that French firms internalise in countries with better contracting environment.

This commentary is based on Defever, F. and F. Toubal (2007). Productivity and the Sourcing Modes of Multinational Firms: Evidence from French Firm-Level Data, CEP Discussion Paper No 842.

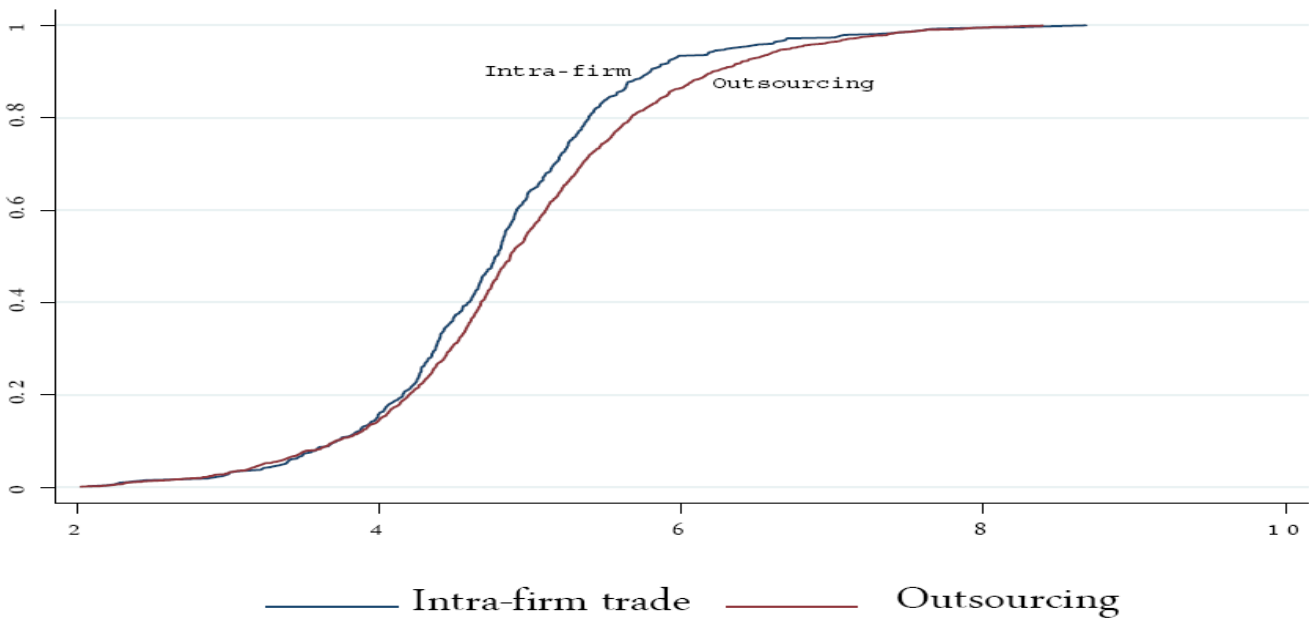


Figure 1. Cumulative Distribution of the Logarithm of Total Factor Productivity

Leverhulme Globalisation Lecture

Professor David Blanchflower

We were delighted to welcome Professor David Blanchflower, Dartmouth College and Member of the Bank of England Monetary Policy Committee, to Nottingham to present a *Leverhulme Globalisation Lecture*, on 29th January.

Professor Blanchflower's Lecture was on the topic 'Macroeconomic Policy Responses in the UK'

A video of the Lecture can be found at http://www.gep.org.uk/leverhulme/events/public_lectures

Nottingham Lectures in International Economics

Professor John Sutton

London School of Economics

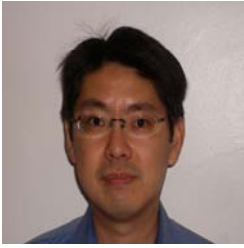
will present the
2009 *Nottingham Lectures in International Economics*
'The Globalisation Process'

Three Lectures on:

History and Theory; Quality and Trade; and Capability Transfer
on 23rd, 24th and 25th February, 2009

at the University of Nottingham

For further details, contact sue.berry@nottingham.ac.uk



Toshihiro Atsumi

Port Opening and the Economic Geography of Japan in the 19th Century

What are the effects of opening on a country's internal geography? **Toshihiro Atsumi**, GEP Postdoctoral Research Fellow, shows why the opening of Japan's ports in the 19th century may have played a vital role in the historical shift in the country's economic geography.

Japan is celebrating the 150th anniversary of its re-engagement in world trade after nearly two-and-a-half centuries of self-imposed economic isolation. A distinct feature of the modern economic geography of Japan is the bias toward the east side of the country, including Tokyo and the Kanto region. Interestingly, however, in the past it was west Japan, in particular the Kinai region comprising Kyoto and Osaka, that was the industrialised economic core. Looking into regional population statistics, the origin of the eastward shift of economic activities within Japan is found to be in its port opening era in the mid-19th century, the era also known as the "missing quarter century" which lacks social and economic indicators (Figure 1).

The experience of the port openings in Japan in 1859 and the subsequent change in its internal geography, which to our knowledge had not been satisfactorily given economic explanations, lead us to consider the link between foreign trade regimes and internal geography. Studying the economy of Japan at the

time revealed the importance of textiles, both in the domestic economy and international trade. Clothing was the major item in consumption expenditure apart from food, and Japan's international trade was largely in textiles: Japan exported raw silk to import cotton and woollen fabrics. Raw silk was mainly produced by farmers in east Japan, where the climate was less suitable for crops.

Inspired by the characteristics of the Japanese economy and geography around the 19th century, we developed a two-region geography model with agricultural raw materials, based on the footloose entrepreneur model (Forslid and Ottaviano 2003) from the New Economic Geography (NEG) literature. It is a model that explains agglomeration of the manufacturing industry characterised by increasing returns to scale run by mobile skilled workers. The focus of our analysis is the regional distribution of the manufacturing industry in the presence of agricultural raw materials produced in one region *Continued on next page*

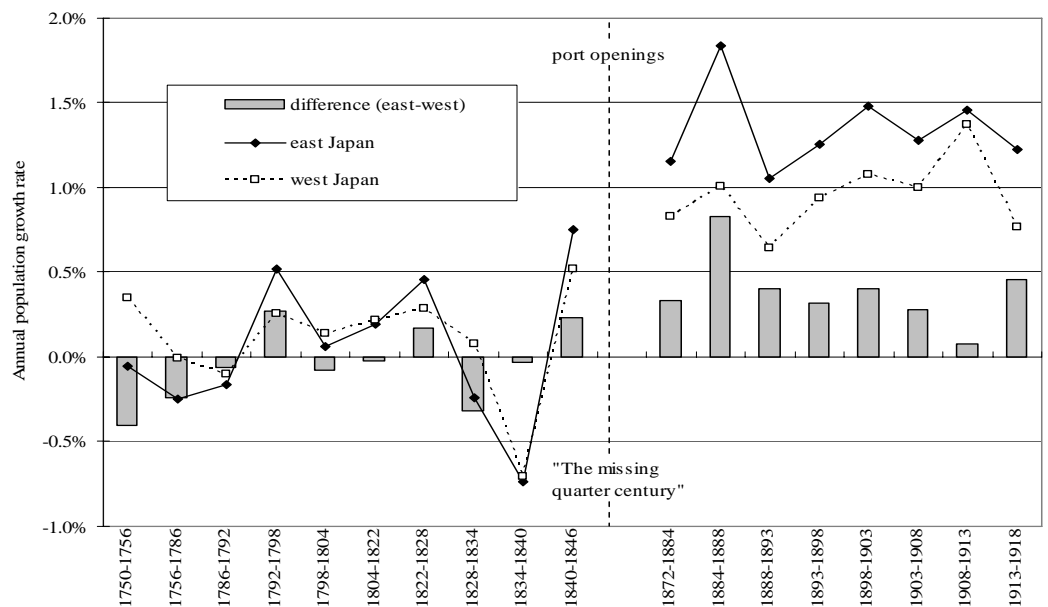


Figure 1: Average annual population growth rates of east

and transport costs under different trade regimes. The main result from the model is that there is a tendency of the manufacturing industry moving towards raw materials when foreign trade is liberalised: in autarky, manufacturing can be geographically dispersed when transport costs of agricultural raw materials are low. However, opening up to international trade is likely to make manufacturing agglomerated in the raw material region, in response to the competitive pressure of imported foreign manufactured goods.

We applied the model to the case of Japan, focusing on the silk industry. The silk fabric firms run by skilled workers that produce final goods can be considered as the manufacturing firms in the model, and the farmers in the eastern region producing raw silk as suppliers of the raw materials.

Our first finding is that the silk fabric production and skilled labour may well have been dispersed between the east and the west in the autarkic era with a larger share in west Japan, which is consistent with historical observations. In autarky, firms operate in the west even though it is a disadvantaged location in terms of raw material prices because there is a large enough local market, given that it is protected with high enough transport costs of the final goods. However, opening up to international trade has asymmetric effects on the two domestic regions. Firms both in the east and in the west lose due to imports of cotton/woollen fabrics but eastern firms do better because of their cost advantage in raw materials compared to the firms in west Japan and the increased

local market size through raw silk exports. Then the western firms exit the western market and entry occurs in the east, which involves migration of skilled workers toward the east. This leads to a new spatial equilibrium with international trade in which mobile resources and economic activities are more agglomerated in east Japan. The historical literature has emphasised raw silk exports and the gains to the eastern raw silk farmers in Japan's 19th-century trade. In addition to this effect, our work suggests that the asymmetric impacts of openness on regional firm performance and the resulting geographic reallocation of human capital during the "missing quarter century" may have had an

important long-run effect on the economic geography of Japan, characterised by the eastward shift.

Existing studies on international trade and domestic geography - including Krugman and Livas-Elizondo (1996) and Paluzie (2001) - have worked with neutrality of geography, that is,

only the distance between locations are considered as a geographic factor. Our analysis introduced the differences in natural conditions between regions that affect the nature of agriculture. An implication of the case of Japan is that such natural characteristics of geography may also be important in determining the internal impact of international trade liberalisation and therefore in this sense the effect can be situation-specific.

The asymmetric impacts of openness on regional firm performance, and the resulting geographic reallocation of human capital may have had an important long-run effect on the making of the economic geography of Japan.

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Artjoms Ivlevs

FDI, the Brain Drain and Trade: Channels and Evidence

In this article Artjoms Ivlevs, GEP Postdoctoral Research Fellow, explores the complex interactions between FDI, trade and immigration.

Globalisation has become a major feature of the modern economic world. For many, the integration of goods and factor markets is believed to bring substantial gains to the countries opening their borders to trade, foreign capital and migration. In spite of the joint determination of migration, investment (FDI) and trade, the large and growing theoretical and empirical literatures on the migration-investment-trade nexus have not been analysed in an integrated framework. Diaspora and human capital effects have been emphasised in the migration-FDI literature; the nature of FDI (vertical or horizontal) has been emphasised in the FDI-trade literature; and substitutability-complementarity relations have been emphasised in the trade-migration literature.

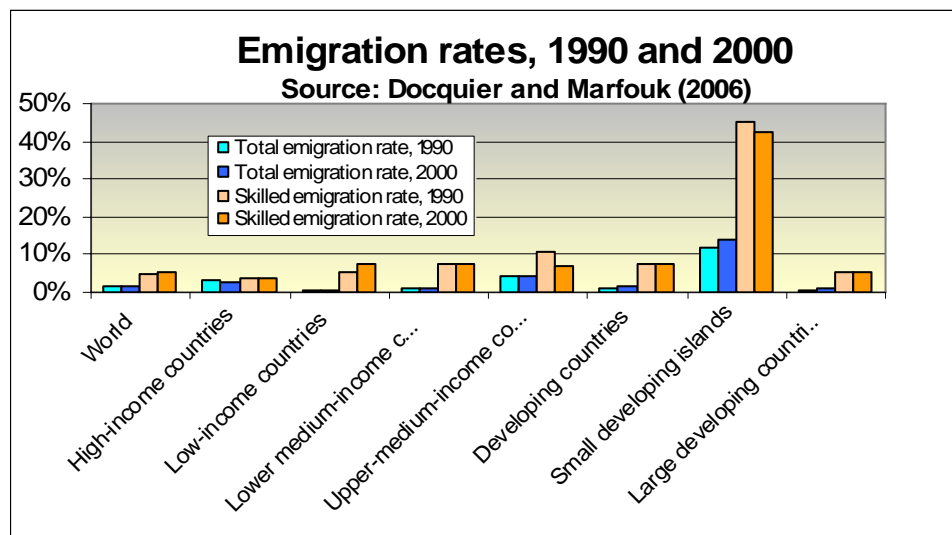
Recent data on the skill composition of emigration for 1990 and 2000, compiled by Docquier and Marfouk (2006), show that for all developing countries skilled emigration is a sizeable fraction of the labour force (see figure). The availability of these data makes it possible to incorporate the skill composition of emigration in the debate about the links between trade, migration and FDI and explore the channels through which emigration affects welfare in

sending countries earlier identified in the 'brain drain' literature.

We explore the links between FDI, trade and the composition of migration, considering all three jointly. First, assuming that FDI responds to changes in the reward to capital, we investigate the effects of changes in the skill composition of the labour force through migration (emigration is assumed exogenous and determined by immigration policies in host countries) on FDI. If exports in migration sending countries are relatively less skill-intensive than non-traded goods, a skewed pattern of emigration towards skilled labour which raises the price of the non-traded good will also raise the net capital reward, thereby leading to positive FDI. While non-traded sectors are usually assumed to be low-skill-intensive, recent migration patterns suggest that this may not always be the case (e.g. the emigration of medical workers).

Second, we consider the effects of a change in trade costs. If imports and non-traded goods are weak substitutes in consumption, a reduction in import-related costs which lowers the relative price of imports will lead to an increase in the price of the non-traded good.

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Peter Wright

Conference report: Workshop on 'Testing Trade Models with Labour Market Heterogeneity'

Report by **Peter Wright**

The Research Institute for Industrial Economics (IFN), the Leverhulme Centre for Research on Globalisation and Economic Policy (GEP) and CIBER at Michigan State University ran a joint workshop on 5th and 6th December at Villa Källhagen, which is beautifully situated on the Djurgården pensinsula in the middle of Stockholm.

The theme of the workshop was "Testing Trade Models with Labour Market Heterogeneity". Trade models with heterogeneous firms have been a major focus of research for the past decade. More recently, some trade theorists have begun to enrich these models by incorporating heterogeneity in the labour market as well. Such research holds the potential to uncover connections between the nexus of worker and firm decisions with characteristics of the global environment. The idea of the workshop was therefore to bring together a small group of theorists who are working on such models with empiricists who are familiar with matched worker-firm data sources.

The sessions were arranged thematically: theoretical developments; empirical studies; matched worker firm data. Participants gave short presentations, with the aim of encouraging discussions and examining research possibilities.

Those making theoretical presentation sought to draw out the testable predictions of their models. **Carl Davidson** (Michigan State University) kicked off the conference by talking about labour market adjustment to globalisation with heterogeneous agents. In models that he has been developing with **Steve Matusz and Susan Zhu** (Michigan State University) firms are ex ante similar but adopt different technologies, employ different skill mixes of workers and pay different wages. However, openness to trade affects what is likely to occur. The predictions that such models had for wages and the matching of workers to firms was discussed by Susan Zhu.

Nicholas Sly, also from Michigan State University, talked about a model in which heterogeneous managers match and supervise the production of multiple goods. In this scenario, trade rationalises production in three ways: firstly, firms become more specialised by dropping marginal product lines;

secondly, production is reallocated within industries toward the most efficient firms; finally, trade rationalises the matching behaviour of managers, leading to improved team formation. Overall wage inequality rises as trade costs fall, with some workers benefiting whilst others lose.

Udo Kreickemeier (Nottingham) then discussed a model in which individuals differ in their entrepreneurial ability. Firms run by more able entrepreneurs have higher productivity and make higher profits than those that are not. Also, because of 'fair wage' considerations, such firms share some of the rents with their workers and they are paid more as a consequence. In such a framework, international trade leads to a self-selection of the best firms into export status, and aggregate welfare increases if this selection effect is sufficiently strong. The gains from trade are, however, accompanied by greater inequality between entrepreneurs and workers. Inequality within these two groups of individuals also increases.

Devashish Mitra (Syracuse University) then discussed research that he and Priya Ranjan (University of California, Irvine) had undertaken on offshoring and heterogeneous firms, with particular reference to the predicted impact on labour market outcomes. Again, the most productive firms offshore and increased globalisation can exacerbate the difference in labour market outcomes in good and bad firms.

Finally, **Stephen Redding** (Yale) suggested that predicting the impact of trade liberalisation on aggregate unemployment and inequality is not straightforward as liberalisation changes the sectoral composition of the economy. When countries are nearly symmetric, the sectoral composition effects reinforce the within-sector effects, and both aggregate inequality and aggregate unemployment rise with trade liberalisation. Further, trade liberalisation could be consistent with increasing inequality in every country.

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FDI, The Brain Drain and Trade

A reduction in export-related transaction costs will make export goods more profitable and will always increase the price of the non-traded good. Then, if the elasticity of substitution between imported and non-traded good is less than 1, the reduction in trade costs will result in higher price of capital and positive FDI. The effect of a reduction in trade costs on FDI works independently of the effects of the composition of emigration.

Correlations on a sample of 103 developing countries using emigration rates by skill for 1990 and 2000 support the predictions of our theoretical framework. Over 1990-2000, the conditional correlation between FDI flows and the pattern of emigration suggests that an increase in the emigration rate of high-skilled workers (net of low-skilled emigration) by 10 percentage points is associated with an increase in annual FDI (as a share of GDP) of about 0.2 percentage points.

The complementarity between skilled emigration and FDI is generally robust.

The complementarity between skilled emigration and FDI is generally robust, notably to different measures of FDI and to different samples (i.e. excluding transition economies or small islands). It is also fairly robust to an alternative estimation on a smaller sample in which diaspora-related FDI has been purged.

Finally, we find that average tariffs are negatively correlated with net FDI inflows. The inclusion or exclusion of the tariff variable does not affect the sign and significance of the coefficient of the migration variable. Taken together, the results are supportive of studying the migration-trade-FDI nexus in a general equilibrium setting, taking into account the skill composition of emigrants.

Further readings

Docquier, F, A. Marfouk (2006), "International migration by educational attainment (1990-2000), Release 1.1", In C. Ozden and M. Schiff (eds). *International Migration, Remittances and Development*, Palgrave Macmillan, New York.

Kugler, M. and H. Rapoport (2007), "International Labor and Capital Flows: Complements or Substitutes?", *Economic Letters*, 1 (2), 155-62.

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Testing Trade Models with Labour Market Heterogeneity

Those presenting results from empirical studies sought to present stylised facts that they had already uncovered in their work. **Fredrik Sjöholm** (IFN) talked about his recent work using Swedish matched employer-employee data and described the impact that increased multinational activity and foreign acquisitions had had on the relative demand for different job tasks.

Fredrik Heyman (IFN) also noted that foreign direct investments have played a key role in increased globalisation of the past decades, with an increasing number of workers employed in affiliates of foreign-owned multinational enterprises. This has raised concerns about the impact on wages and employment in countries such as Sweden. Fredrik surveyed the literature to assess the validity of this view and then provided some additional evidence based on recent work using match worker-firm data for Sweden.

This was followed by **Alexander Hijzen** (OECD), who provided some stylised facts on the impact of foreign ownership on workers using internationally comparable evidence from linked employer-employee data for Brazil, Germany, Portugal and the UK. In his presentation he looked not only at wages but also other employment conditions, such as working hours, low pay, job stability and union bargaining power.

In his talk, **Gabriel Felbermayr** (University of Hohenheim) suggested that 'bad' labour institutions in one country might impact on labour market outcomes not only in that country but also in those that are related to it through trade in goods. This contention he found to be supported by a cross-country study of 20 OECD countries for 1982-2003.

Discussions on the suitability of national datasets for the testing of trade models with labour market heterogeneity were made by: **Pedro Martins** (Queen Mary), Brazilian and Portuguese data; **Peter Wright** (GEP, University of Nottingham), UK data; **Thorsten Schank** (University of Nürnberg), German Data; **Anders Åkerman** (IFN), Swedish data; **Katariina Nilsson Hakkala** (Helsinki School of Economics), Finnish data; and **Fabrice Defever** (GEP, University of Nottingham), French data.

Finally, **Richard Upward** (GEP, University of Nottingham) talked about the econometric practicalities of estimating worker and firm heterogeneity using linked employer-employee data.

The intention is to run a follow-up conference in the summer of 2010 at the University of Nottingham.

New GEP Research Papers

www.gep.org.uk/research_papers

2008/46

Soumyananda Dinda and Arijit Mukherjee: *International Outsourcing, Tax and Patent Protection*

Summary: We show that, in the case of a vertical technology transfer, if there is imperfect knowledge spillover under a weak patent protection, the strong patent protection in the developing country increases the profit of the developed-country firm if there is a uniform tax rate in the developing country. If there is either perfect knowledge spillover under weak patent protection or the developing country charges discriminatory tax rates, the profits of the developed-country firms are the same under weak and strong patent protections in the developing countries.

2008/45

Arijit Mukherjee and Yingyi Tsai: *International Outsourcing and Welfare Reduction: an Entry-deterrence Story*

Summary: We show that international outsourcing may reduce welfare of the outsourcing country by deterring market-entry, thus showing a new effect which is different from the employment and the quality effects creating negative impacts of outsourcing. Entry deterrence under outsourcing reduces domestic welfare if both the profit extraction and cost saving from outsourcing are sufficiently small.

2008/44

Richard Kneller and Zhihong Yu: *Quality Selection, Chinese Exports and Theories of Heterogeneous Firm Trade*

Summary: This paper develops a new heterogeneous firm model of international trade in which firms differ in their product quality and vary their prices across according to the level of competition. This new model is consistent with evidence that we present on the spatial distribution of Chinese export prices

2008/43

Sui Sui and Zhihao Yu: *Export Market Expansion Strategies and New Evidence for the Theory of International New Ventures*

Summary: This paper uses a multinomial-logit model to study the dynamics of the sequential entries of Canadian exporters into different foreign markets, and how firms' characteristics affect their different strategies for internationalization

2008/42

David Greenaway, Joakim Gullstrand and Richard Kneller: *Exchange Rate Uncertainty and Export Decisions in the UK*

Summary: Using data on UK manufacturing firms, we examine the effects of exchange rate uncertainty on firm decisions on export entry and export intensity. The use of micro data and new measures of exchange rate uncertainty enable us to test for hysteresis effects in a new way and to test the sensitivity of results to a range of different measures.

2008/41

David Greenaway, Joakim Gullstrand and Richard Kneller: *Firm Heterogeneity and the Geography of International Trade*

Summary: This paper exploits detailed firm level data, which includes information on the destination of exports to investigate causal links between enterprise productivity and the number and the relative size of the markets a firm serves. Our results confirm that conflating adjustment at the internal and external margins does bias trade resistance effects. Combining detailed firm specific information with data on destination characteristics confirms the importance of a range of country specific characteristics and facilitates the estimation of both distance and market size elasticities

2008/40

Artjoms Ivlevs and Jaime de Melo: *FDI, the Brain Drain and Trade: Channels and Evidence*

Summary: We study the links between migration, trade, and FDI for developing countries taking into account the skill composition of emigrants. We find a complementarity relationship between skilled emigration and FDI.

New GEP Research Papers (continued)

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- 2008/39** **Holger Görg, Verena Lauber, Birgit Meyer and Peter Nunnenkamp:** *Firm Heterogeneity and Choice of Ownership Structure: An Empirical Analysis of German FDI in India*
- Summary:** We examine the role of firm-level heterogeneity when German MNEs decide on the share of ownership in affiliates in India. We combine two largely unnoticed firm-specific datasets on German MNEs with varying equity stakes in Indian affiliates. We show that, most notably, the productivity of the German parents matters only for ownership shares in new affiliates.
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- 2008/38** **Paulo Bastos, Natália P. Monteiro and Odd Rune Straume:** *Firm Heterogeneity and Wages in Unionised Labour Markets: Theory and Evidence*
- Summary:** We analyse - theoretically and empirically - the effect of firm heterogeneity on wage determination in unionised labour markets.
-
- 2008/37** **Alessandra Guariglia, Xiaoxuan Liu, and Lina Song:** *Internal Finance and Growth: Microeconomic Evidence on Chinese Firms*
- Summary:** We study the links between cash flow and firm growth in China. Our results suggest that the growth of private firms was fostered by the availability of internal finance.
-
- 2008/36** **Manuel Cabral, Rod Falvey and Chris Milner:** *Endowment Differences and the Composition of Intra-Industry Trade*
- Summary:** This paper considers the relationship between endowment differences and different types of trade. An illustrative theoretical model is used to derive hypotheses which are then tested on EU trade
-
- 2008/35** **Agelos Delis and Theofanis P. Mamuneas:** *A Dual Definition for the Factor Content of Trade and its Effect on Factor Rewards in US Manufacturing Sector*
- Summary:** This paper introduces a dual definition of the Factor Content of Trade (FCT) and relates changes in FCT with changes in factor rewards. Our results suggest that there was no Leontief Paradox between 1967 and 1991 and that technological change is the most important determinant of wage inequality between skilled and unskilled workers in US manufacturing.
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- 2008/34** **Jürgen Bitzer, Holger Görg and Philipp J.H. Schröder:** *Can Trade Really Hurt? An Empirical Follow-up on Samuelson's Controversial Paper*
- Summary:** Based on trade and investment data from 17 OECD countries this paper provides the first evidence that outward knowledge spillovers through exports and foreign direct investment do occur and that these spillovers can potentially harm the export and investment sending country.
-
- 2008/33** **Spiros Bougheas and Holger Görg:** *Organizational Forms for Global Engagement of Firms*
- Summary:** In this paper we demonstrate the advantages of developing models of international firms that allow for a rich menu of organisational forms.

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