

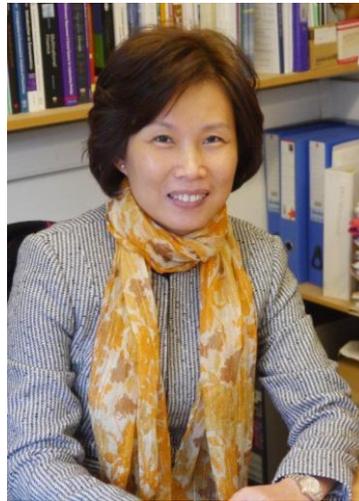


IN THIS ISSUE

Dear Colleagues and Friends,

Happy New Year!

Starting this year, we are renewing our bi-annual TMD Centre newsletter. Having worked hard yet quietly for a while, we have a lot of progress and changes to report to you. Following the expansion of the group, we have moved to our new office located in the University's Science Area and the programme has been renamed as the "TMD Centre". We aim to support full and valuable engagement with the science and technology community, bridge and integrate ideas and talents in both social and natural sciences/ engineering, produce novel research outputs, and make a difference.



I hope this newsletter will be a welcome messenger helping us to communicate our research and ideas worldwide and keeping us connected with all of you.

The TMD Centre will host the 6th Academy of Innovation and Entrepreneurship Annual Conference in Oxford on Aug 29-30. It would be a great opportunity for us to meet again and share our ideas. I look forward to seeing many of you again in Oxford!

Xiaolan



Diffusion of Innovation in Low Income Countries Project

Learn more about this ESRC/DFID funded project in Page 2.



Collaborative Innovation in China Research Project

Learn more about this project funded by the Cairncross Foundation in Page 2.



TMD Centre News

Read the latest news of the TMD Centre in Page 4.



## The Diffusion of Innovation in Low Income Countries (DILIC) Project

The TMD Centre launched the [Diffusion of Innovation in Low Income Countries](#) (DILIC) Project in September 2012. DILIC is a pioneer research project directed by Prof Xiaolan Fu that aims to investigate how technological innovation is diffused and adopted in low income countries (LICs). Funded by a prominent ESRC-DFID grant, it has an international breath with investigators from the University of Oxford, advisors from the University of Cape Town, Tshwane University of Technology and UNCTAD, and collaborators from UNU-MERIT (University of Maastricht), and the Ghanaian Science and Technology Policy Research Institute. For countries in the bottom of the development pyramid, technological innovation is decisive for industrialisation and catch-up. Technological innovation has, however, been traditionally concentrated in a few developed countries given the costs and risks involved in fomenting technological advances.

The scarcity of human and financial resources, absorptive capacity, know-how, and policymaking and institutional bodies that implement and diffuse technological innovation have acted as a barrier to development in LICs. The [DILIC Project](#) aims to fill a knowledge gap by examining in-depth the diffusion of innovation in Ghana together with the China's role of potential vector of technological innovation. The project looks at the determinant factors and transmission channels for effective innovation creation, diffusion and adoption in LICs under institutional, resource and affordability constraints. It analyses the determinants of knowledge diffusion in LICs from leading innovators to latecomers, in particular the role of university-industry linkage and inter-firm networks. It examines the effect of external knowledge diffusion to LICs, in particular the productivity impact of South-South trade and FDI with a special focus on Chinese trade and FDI in Africa.

And ultimately it seeks to develop an SME open innovation network model to increase frugal innovation for the poorer societies in LICs. One of the research aims is to collect data on innovation processes of 500 informal and formal firms in Ghana.



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## Collaborative Innovation in China Research Project



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*“Collaborative innovation with other enterprises has emerged as a crucial way for Chinese firms to reduce innovation risks and increase the possibility of R&D success”*

As China's strategic orientation for economic development moves from manufacturing towards innovation, more and more Chinese firms devote themselves to the exploration of new technologies and the development of novel products and services. In achieving such vision, collaborative innovation with other enterprises has emerged as a crucial way for Chinese firms to reduce innovation risks and increase the possibility of R&D success. Following this significant trend, our project investigates how Chinese firms choose innovation partners from a wide range of enterprises and research institutes, how they build collaborative relationships, and the mechanisms of coordination and knowledge integration between partners in terms of value co-creation under different organizational and institutional settings.

We also differentiate between radical innovation and incremental innovation, identifying the situations in which Chinese firms chase technology leadership or market expansion strategies and how such situations influence the choices and mechanisms of collaborative innovation. The goal of our project is to understand and explore the role of collaborative innovation as a key driver of change in terms of local economic development in emerging economies. This project is part of the Integration of the Rising Powers into the Global Innovation System project led by Prof Xiaolan Fu. The research team include Dr Bin Hao (Cairncross Foundation Visiting Research Fellow at the TMD Centre), Dr Jizhen Li of Tsinghua University, and Professor Rongping Mu of the Chinese Academy of Sciences.

### How does the importance of incentives change when firms become more open in innovation?

By Prof Xiaolan Fu

When firms open up to external resources for innovation, do internal incentives still matter? A research carried out by Prof Xiaolan Fu published in *Research Policy* investigates the moderating effect of open innovation on the relationship between incentives and innovation efficiency using a survey database of British firms. While both openness and incentives are positively associated with innovation efficiency, a substitution effect is found between openness and incentives. While long-term incentives appear to enhance efficiency to a greater extent than short-term incentives, the substitution effect of openness is stronger regarding long-term incentives.

Fu, Xiaolan (2012) 'How Does Openness Affect the Importance of Incentives for Innovation?', *Research Policy*, 41 (3): 512-523

### Collaborating with foreign universities will help radical innovation in developing countries

By Prof Xiaolan Fu

While much prior research has focused upon the role of universities-industry linkage in promotion of innovation, there has been little research distinguishing the different roles of domestic and foreign universities in this pursuit, investigating how the effect varies by type of partner. A research carried out by Prof Xiaolan Fu and Dr Jizhen Li of Tsinghua University investigates the different impact of intra- and inter-national university-industry collaboration on industrial innovation in emerging economies using a national firm-level survey database from China. It finds that collaboration with domestic universities has played a significant role in the diffusion of advanced technology and the creation of imitative innovations in China while their contribution to the creation of ground-breaking innovations is limited at the current stage of development in China. International innovation collaboration with foreign universities, especially with those in the Newly Industrialised Economies and the emerging South, appears to be fruitful in enhancing the creation of ground-breaking innovations in indigenous Chinese firms. However, the contribution of universities in US/EU/Japan is only beneficial to foreign-invested firms.

Fu, Xiaolan (2012) 'The international dimension of open innovation in China', lecture given at Haas Business School, University of California, Berkeley, USA

### Mobile, radio and ICT in agriculture

By Dr Giacomo Zanello

The recent spread of mobile phones and radios in rural areas of developing countries, where previously communication was impossible and the transportation infrastructure often poor, poses an important question: is this spread of new technologies just part of the modernization process of rural areas or can it also be an important development tool? A recent research by Giacomo Zanello explores the possible effects and the impact ICTs use — not the simply ownership — have in enhancing market participation in food crop markets among smallholders in northern Ghana. Zanello uses a novel dataset of 393 households in northern Ghana with detailed information on market transactions and ICTs usage. Results show that receiving market information via mobile phones has a positive and significant impact on market participation, with a greater impact for households with a surplus of food crops. Instead, radios have larger impact on the quantity traded. This may reflect the nature of mobiles in reducing searching costs, while radios provide an updated and regular flow of information which affect the patterns of crops consumed and sold. Gathering new evidence compared to previous literature, Zanello emphasises that the most significant factor is how ICTs are used, rather than their ownership.

Zanello, G. (2012). 'Mobile phones and radios: Effects on transactions costs and market participation for households in northern Ghana', *Journal of Agricultural Economics*, 63(3): 694-714.

### Findings from firm level survey in Guangdong on Chinese outward direct investment

A firm-level survey in Guangdong province jointly carried out by Oxford University and Guangdong University of Foreign Studies investigates the motivations, barriers and impact of OFDI on investing firms' performance, exports, innovation and their domestic investment. A report summarises the findings from the survey will be launched in early 2013.

23 January 2013

### TMD Centre Director Quoted by People's Daily on China's Interaction with World Economy

Prof Xiaolan Fu, Director of the TMD Centre, was interviewed by the People's Daily in its 'The Year in Review' published on 24 December, along with five other China experts. People's Daily is the most influential newspaper in China. According to Professor Fu, the road to global economic recovery faces greater uncertainty due to the debt crisis in Europe and the 'fiscal cliff' in the US. The increase in demand and supply following China's economic growth and its deep interaction with the world economy through trade, investment, cooperation and aid has become a major driver of global economic recovery. 'Of course, Chinese firms should also seize the opportunities that arise from the changing global economic environment for their acquisition of new markets, resources and know-how. The Chinese government and firms should also firmly follow their own agenda and continue the system reforms, structural change and industrial upgrading' she said.

9 January 2013



Photo: Prof Xiaolan Fu receiving Teaching Excellence Award

### TMD Centre Director Speaks at 1st Global EURAXESS Links Conference

Prof Xiaolan Fu, Director of the TMD Centre, spoke at the plenary sessions of the 1st Global EURAXESS Links Conference entitled "Linking Researchers Worldwide" in Beijing. EURAXESS Links is a networking tool for European researchers working outside Europe and non-European ones wishing to pursue a research career in Europe. In her presentation, Prof Fu discussed China's role in European innovation collaboration, the role of EURAXESS for employers and valorising mobility within a researcher's career. Together with two other speakers, she also met Mr Markus Ederer, Ambassador of the EU to China, and discussed her experience of being an international researcher and made suggestions on strengthening EU-China research exchange.

19 November 2012

### ODID's TMD Centre Signs MoU for Joint Research with Chinese Academy of Sciences Centre

The TMD Centre has signed an agreement to pursue joint research and teaching with the Centre for Innovation and Development (CID) at the Chinese Academy of Sciences (CAS) in a ceremony in Beijing attended by Vice Chancellor Andrew Hamilton and Prof Fang Xin, Vice Secretary and member of the Presidium of CAS. The Memorandum of Understanding with CID, which is part of the Academy's Institute of Policy and Management, envisages joint research in the areas of science, technology and innovation policy (STIP), and management as well as interdisciplinary studies on the impact of STI on economic and social development. The TMD Centre and CASCID have already collaborated on several joint research activities. The two centres also plan to organize joint research workshops, symposia, conferences and summer schools as well as promote regular researcher exchange schemes and short-term PhD research visits.

24 May 2012



Photo: TMD Centre and CID Signing MoU for Joint Research

### TMD Director Appointed Advisor to DFID/ESRC Growth Programme Directorate

The TMD Director, Prof Xiaolan Fu, is invited to the Advisory Board of the DFID/ESRC Growth Program Directorate (DEGP). She will work with fellow advisors, Prof Justin Lin and Prof Hubert Schmitz, to advise on the Directorate's research and impact in the area of innovation and productivity growth in low income countries. The DEGP aims to produce high quality evidence on growth generated and incorporated into policy by developing countries. The DEGP will be based at the Overseas Development Institute.

29 October 2012

### TMD Centre co-hosts the Oxford Forum on China and the World Economy

ODID, the TMD Centre and the Oxford University China Centre held a forum on China and the World Economy on May 9 2012. The world economy is at a crossroads, facing the danger of a double dip recession. Whilst China has served as a major engine of global economic growth, it also faces various internal and external challenges. It seems a particularly important time to review the world economic situation and prospects and China's role in global economic growth and development.

9 May 2012

## Selected Journal and Book Publications

Fu, X. (ed) (2011) *China's Role in Global Economic Recovery*, Abingdon: Routledge. Translated into Chinese and published by Yilin Press, 2012.

Fu, X. (2012) 'Managerial knowledge spillovers from FDI through the diffusion of management practices', *Journal of Management Studies*, 49 (5): 970-999

Fu, X., Kaplinsky, R. and Zhang, J. (2012) 'The impact of China on low and middle income countries' export prices in industrial-country markets', *World Development*, 40 (8): 1483-1496

Fu, X. (2012) 'How does openness affect the importance of incentives for innovation?', *Research Policy*, 41 (3): 512-523

Fu, X. Helmers C. and Zhang, J. (2012) 'The two faces of foreign management capabilities: spillovers and competition from FDI in UK retail sector', *International Business Review*, 21 (1): 71-88

Fu, X. (2011) 'Processing-trade, FDI and Exports of Indigenous Firms: Firm-level Evidence from High-technology Industries in China' *Oxford Bulletin of Economics and Statistics*, 73 (6): 792-817

Fu, X. and Gong, Y. (2011) 'Indigenous and foreign innovation efforts and drivers of technological upgrading', *World Development*, 39 (7): 1213-1225

Cosh, A. Fu, X. and Hughes, A. (2012) 'Organisation structure and innovation performance in different environments' *Small Business Economics*, 39 (2): 301-317

Fu, X. Pietrobelli, C. and Soete, L. (2011) 'The role of foreign technology and indigenous innovation in emerging economies: technological change and catch-up', *World Development*, 39 (7): 1203-1212

Heffernan, S., Fu, X. and Fu, M. (2013) 'Determinants of financial innovation in the UK', *Applied Economics*, 45 (24): 3399-3410

Zanello, G. (2012) 'Mobile phones and radios: Effects on transactions costs and market participation for households in northern Ghana', *Journal of Agricultural Economics*, 63(3): 694-714

## Working Papers

The Dual Role of Universities in Industrial Innovation in Emerging Economies: A Comparative Study of China and the UK (Xiaolan Fu and Jizhen Li), [SLPTMD-WP-45](#)

The Impact of ICT on Agricultural Extension Services Delivery: Evidence from the Rural e-services Project in India (Xiaolan Fu and Shaheen Akter), [SLPTMD-WP-46](#)

FDI, Size, and Innovation: Influences on Firm-Level Exports in East Asia (Ganeshan Wignaraja), [SLPTMD-WP-47](#)

Extending Sanjaya Lall's Explanatory Framework: Variability in Micro-level Innovation Performance, Changing Institutional Frameworks and the Mediating Role of Strategy Embeddedness in an Emerging Economy Context (Paulo N Figueiredo), [SLPTMD-WP-48](#)

Global Challenges from the Rapid Rise of China (Carl J Dahlman), [SLPTMD-WP-41](#)

An Exploration of How Chinese Companies Use Tax Havens and Offshore Financial Centres: 'Round-Tripping' or 'Capital-Augmenting' OFDI? (Dylan Sutherland, Ben Matthews and Ahmad El-Gohari), [SLPTMD-WP-42](#)

Uncanny Partnership in Global Imbalances: China's Continual Accumulation of US Treasuries (Zhichao Zhang, Frankie Chau and Nan Shi), [SLPTMD-WP-43](#)

China and the World: Assessment and Prospect of the 'Post-Crisis' Era (Angang Hu), [SLPTMD-WP-40](#)

Innovation Performance and Local Embeddedness of MNE-subidiaries: Evidence from Brazil (Paulo N Figueiredo), [SLPTMD-WP-36](#)

Africa: The Competitive Impact of China on Industrial Upgrading in Sub-Saharan Supplier Linkage Development Potentials of Resident Asian Entrepreneurs (Abdelrasaq Nal and Mammo Muchie), [SLPTMD-WP-34](#)

## Forthcoming Events

### TMD Centre and Saïd Business School Joint Workshops

In Hilary Term 2013 the TMD Centre and the Saïd Business School host two [Joint Graduate Studies Workshops](#) on 30 January and 7 March. The purpose of these workshops is to share information about the most recent research made by the TMD Centre and the Saïd Business School investigators. The workshops promote debate on innovation policy and management, and discuss how technology and innovation can serve economic growth and sustainable and inclusive development.

### Oxford Department of International Development and TMD Centre Distinguished Guest Lecture

Victor Zhang, CEO Huawei UK, will deliver the Queen Elizabeth House and Technology and Management for Development Centre [Distinguished Guest Lecture](#) at **5pm on 7 February in Seminar Room 2**, Oxford Department of International Development

## Past Events

### ODID & TMD Centre Distinguished Guest Lecture

On 8 November 2012, Prof Rajneesh Narula, Director of the John Dunning Centre of International Business, Reading University, was the invited speaker for a lecture on 'Developing country multinational firms in perspective'.



Photo: Prof Rajneesh Narula

## ODID, TMD Centre & Cairncross Foundation (Beijing) Distinguished Lecture

On 5 December 2012, Prof Wu Jinglian (Development Research Centre, PRC), debated ['The Challenges in China's Economic Policy and System Reform'](#). Prof Adrian Wood was the invited panellist and Prof Valpy Fitzgerald chaired the lecture. As an advisor to senior Chinese policymakers and a leading proponent of the Overall Reform School that promotes market reforms, the rule of law and democracy in China, Prof Wu has had an important influence on China's reforms and economic transition.



Photo: Prof Wu Jinglian

## Funding Awards

**ESRC/DFID Grant**, RES-000-22-2791, "The Diffusion of Innovation in Low Income Countries", 2012-15.

**Cairncross Foundation**, Scale-up Fund, "Inclusive Innovation for the Bottom of Pyramid in China", 2012-14.

**Cairncross Foundation**, Seed Fund, "Integration of the Emerging Economies into the Global Innovation System", 2012-13.

**Skoll Centre Competitive Grant**, "Improving Urban Water Governance through Mobile Finance Innovations", 2012.

## Annual Conference for the Academy of Innovation and Entrepreneurship (AIE 2013)



The 6th Annual Conference for the Academy of Innovation and Entrepreneurship (AIE 2013) will be held in Oxford, United Kingdom, on 29-30 August 2013. The TMD Centre will host the event in Oxford in collaboration with Tsinghua University. The AIE Conference provides a broad platform to convene scholars from around the world to present research and to stimulate discussions on critical research issues and new developments in Innovation and Entrepreneurship. The main theme for this year's conference is 'Innovation and Entrepreneurship for Inclusive and Sustainable Development'. [The Call for Papers is now open.](#)

Distinguished Keynote Speakers include:

- Anne Miroux (United Nations Conference on Trade and Development - UNCTAD)
- Calestous Juma (Harvard University)
- Luc Soete (Maastricht University and United Nations University)
- Martin Bell (University of Sussex, Science and Technology Policy Research)
- Xin Fang (Chinese Academy of Sciences)



Photo: Prof Wu Jinglian visit to the TMD Centre

## Introduction to New TMD Centre Staff & Visitors

New staff members join the TMD Centre

**Dr Giacomo Zanello** is a Research Officer at the TMD Centre working on the Diffusion of Innovation in Low Income Countries (DILIC) Project. Before joining the ODID in October 2012, his doctoral studies focused on the impact of information and information technology in improving participation in agricultural markets in Ghana.

**Mafalda Picarra** is the Coordinator of the Diffusion of Innovation in Low Income Countries (DILIC) Project. In 2012 Mafalda completed an MPhil in Politics at the University of Bristol where she analysed donor-led (World Bank, IMF, G19) development programmes in Mozambique and examined China's growing investment in Mozambique's agriculture, forestry and energy sectors.

### TMD Centre Visiting Scholars

**Dr Bin Hao** is the Cairncross Foundation Visiting Research Fellow at the Oxford Department of International Development, University of Oxford. He also serves as an Associate Professor at the East China University of Science and Technology in Shanghai. His research on strategy and innovation examines how collaboration, in both developing and developed institutional settings, drives incremental and radical innovation.

**Dr Xianzhong Yi** is a Visiting Fellow of the University of Oxford from Hunan University of Commerce in China, where he is a Senior Research Fellow and Vice Director of the Research Center of Large Country Economy. He is also project leader on several national and Education Ministry funded projects. His research interests are mainly on issues related to technology innovation and foreign trade development of large countries.

### Vacancy

The TMD Centre is recruiting a Research Officer for the DILIC Project. For more information visit our [website](#).