中国经济发展对英国的影响
英国议会中国专题高级研讨会

The China Impact

The Westminster Hearings on China's Economic Development and the UK

Edited by

HUGO DE BURGH

This is the report of five Hearings held in Parliament on the likely impact of China's rise on the UK. It summarises the main points of each session and records the key comments made by participants.

The observations and action points arising from the hearings reflect the perspectives of the individual participants, and do not necessarily represent the views of the organisers and sponsors.

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THE CHINA IMPACT

The Westminster Hearings on China's Economic Development and the UK
Patron: The Rt. Hon. the Lord Howe of Aberavon CH, QC; Executive Committee: Dr Kerry Brown, (Director, Strategic China & Associate Fellow, Chatham House), Dominic Casserley (Senior Partner, McKinsey & Company), Ben Chapman MP (Chairman, All Party Parliamentary China Group), Prof Hugo de Burgh (Director, China Media Centre), Ms Katie Lee (Director, Great Britain China Centre), Peter Luff MP (Chair, Trade & Industry Select Committee), Prof Paul Reynolds (Political Economist, University of Westminster), Stephen Whaley (Director of WestmArc, University of Westminster)

All Party Parliamentary China Group
Trade & Industry Select Committee

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This Report of the Hearings that took place in Parliament from March to July 2007 will be welcomed by the large number of distinguished and expert participants. Concisely, it summarises points which will prove valuable to policy-maker and business planner alike.

The APPCG has a grave responsibility to bring Chinese and British legislators together; in doing so, it is also determined to ensure that our country is fully apprised of the significance to all of us of what is happening in China today. The Hearings which these pages Report are further evidence of our aims. I would like to thank The China Media Centre of the University of Westminster for successfully realizing them.

Ben Chapman

Ben Chapman, MP, *Chairman, All Party Parliamentary China Group*

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The impact of China's rise upon our nation's trade and industry is already great, and will only become greater still. As one who accompanied former Prime Minister Edward Heath to China twenty-five years ago I am only too aware of the amazing strides that China has been making since then.

The Hearings recorded here have been an important milestone in developing understanding of the potential impact of China on the United Kingdom, and I join Ben Chapman MP in congratulating The China Media Centre of the University of Westminster on their success.

Peter Luff, MP, *Chairman, House of Commons Trade and Industry Select Committee*

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INTRODUCTION

Earlier generations thought that the economic advance of Japan would be disruptive, yet the rest of the world survived Japan's turning itself into the second economic power. What has given rise to fears in this case is not only that China is doing the same, but that the effect on us of the modernisation of the most populous nation is likely to be much greater. If present trends continue, China in time will be the most mighty economy, because of the numbers still waiting to add their enterprise to the Chinese miracle. One quarter of humankind is Chinese.

The impact of these changes upon us is potentially magnified by simultaneous developments elsewhere. The populations of East and South Asia are advancing; more and more are attaining the standard of living expected in the wealthy countries. This is now realisable for 3.3 billion people, three times the numbers in today's wealthy countries.

China competes against established manufacturers in ever more sophisticated fields, pushing us to our limits. China's need for fuel and the raw materials for its industrialisation is so huge that countries and companies are having to try to understand what influence this will have upon their own development plans. Chinese organisations are investing abroad; they are doing this both to use the enormous surpluses available, and to learn new methods and technologies.

There are kinds of impact other than the immediately economic. The world environment is affected by the scale of industrialisation and progress towards providing the same material conditions as are enjoyed in the USA.

Taken together, all this amounts to an upheaval. Whether other countries are able to adjust depends on whether their economies are complementary to, or competitive with, China.

From March to June 2007 the All Party Parliamentary China Group and the Select Committee for Trade and Industry hosted a series of meetings, *The China Impact: The Westminster Hearings on China's Economic Development and the UK*. The purpose was to examine the issues raised by China's advance and give knowledgeable people from the worlds of business and policy making the opportunity to explore the complementarities of China and the UK. McKinsey & Company acted as Knowledge Partner for these hearings.

Books and essays about China abound; some are recommended at the end of each section. This Report does not compete with them. It is intended to provide a clear, simple list of useful points made and ideas offered. The material is uneven, because we had mercilessly to edit out repetition and give space only to what seemed, in retrospect, the most immediately applicable material.

The full text of many of the main contributions may be found on the website of the China Media Centre (http://chinamediacentre.org/hearing.html) and copies of the full summaries of the Workshop discussions may be obtained on request from The China Media Centre, University of Westminster HA1 3TP, cmc@westminster.ac.uk

1. CHINA GOES GLOBAL

THE ISSUES

China is going global in several senses: not only do its policies affect the world, as do its needs, but China is changing itself to work within the global system and, now, China is investing abroad.

In 2006 China hosted a meeting of 48 African nations, a symbol of the new relationships it is building with many African states and of a development which some other governments believe both disturb their own relationships and are of mixed international benefit. China's search for resources to fuel its boom has already influenced both existing understandings between Latin American, Middle Eastern and Central Asian countries and third parties, and affected commodity prices. It is widely believed that Chinese manufacturing success has effects both malign and benign on importing countries. What are the implications of China's geopolitical initiatives upon our trading future? How do Chinese initiatives such as the Asia Free Trade Zone affect British business and international position? Do the attitudes and interests of the UK, USA and EU coincide or are there major differences between their appreciations of the implications of China's initiatives?

With substantial trade surplus and impressive domestic savings, as well as a perceived need both to own foreign originated brands and to sell its own brands abroad, Chinese investment is beginning to matter in Europe as it already does in many other parts of the world. What will be the effects of what is termed 'the third Asian wave of investment abroad'?

Several large Chinese companies have already decided where to locate overseas, decisions which may have great impact on the host economies. What are the factors under consideration? How is this business to be won? These are questions for policy makers.

Since the reforms in the 1980s China's growth model has been investment led. But as Chinese incomes rise and the middle class develops, domestic consumption will become an ever more important part of the Chinese economy. Here the questions are: how will this shift towards consumption create opportunities for businesses and what will it mean for China's trade relationships with the EU and the world?

The final matters covered in this first hearing in March 2007 are the implications of protectionism, which is already called for in the USA and may increasingly be the stuff of European debate, although Britain has yet to see this become a central issue. Can we in Europe innovate, adapt and work collaboratively to render protectionism unnecessary? Can we create adequate opportunities to render fears about the future unjustified? This is the key question for policy makers in the years ahead, as important for China as for Europe, since the consequences of protectionism would be equally disturbing for either party.

THE KEYNOTE SPEAKERS

The Rt Hon Ian McCartney MP, Minister of State, Foreign and Commonwealth Office and Department for Trade and Industry

China's re-emergence on the world stage is changing the dynamics of international economic and political relations. China could become the world's largest economy by 2050.

Close relationship between our two countries is evidenced through annual Prime Ministerial summits, high-level dialogue on sustainable development and annual education summits, bilateral Working Groups on Climate Change and Energy as well as issues relating to migration and organised crime.

Trade with China benefits ordinary people by lifting them out of poverty. UK exports to China by end 2006 had increased 16% over the previous year to £4 billion of goods.

UK Trade & Investment launched 'Prosperity in a Changing World' with a strategy for the next five years backed up with more UKTI staff in China to encourage R&D intensive Chinese companies to choose the UK.

A programme of support for mid-corporate companies trading in high-growth markets such as China is under development.

We should resist enforcing higher import barriers and encourage China to continue to open up its markets to foreign competition.

The UK has cutting-edge expertise in environmental technologies such as environmental management and waste water treatment. China is particularly interested in British expertise in low carbon master planning and near zero emissions technology.

Ms Ma Xiuhong, Vice Minister, Ministry of Commerce

Since 1978 China has experienced unprecedented social changes which have injected new vitality into the global economy.

The UK is China's third largest trade partner and the top investor from the EU. By the end of 2006 the UK's invested projects had reached an accumulated total of 5,359 projects with an investment value of US$14billion. Nevertheless, the UK's investment in China is still less than 1% of its total outward investment and less than 2% of FDI (Foreign Direct Investment) inflow into China.

China's bilateral trade with the UK amounts to only 2% of all its foreign trade and less than 3% of the UK's.

UK lags behind France and Germany in terms of technology exports to China.

The 11th Five Year Plan (2006-2010) includes measures to expand the commodities and services markets and to greatly increase consumption and imports.

China and UK have complementary economies and trade and economic cooperation is mutually beneficial. The UK parliament and business communities need to work together for the good of the two countries.

Martin Wolf, Associate Editor and Chief Economics Commentator, Financial Times

What might China's rise do?

- Trade: it will make the UK economy relatively smaller requiring greater specialisation
- Industry: it will transform our industrial structure vertically and force specialisation of tasks
- Labour: it will eliminate UK production of tradable goods intensive in the use of unskilled labour
- Investment: it will provide difficult but important opportunities for inward direct investment and China will look to invest here in the UK
- Finance: it will create opportunities for London but ultimately financial power may shift to the Asian time-zone
- Resources: enormous pressure on global resources will result
- Climate Change: it will cause a fundamental problem
- International Institutions: China will demand a bigger voice
- Development: China will become increasingly active and influential in developing countries
- Universities: China will send students to the UK whilst improving its own universities
- Science: China will become a significant source of fundamental scientific research.

The Rt Hon Ian McCartney MP, Minister of State, Foreign and Commonwealth Office and Department for Trade and Industry

Ms Ma Xiuhong, Vice Minister, Ministry of Commerce

Martin Wolf, Associate Editor and Chief Economics Commentator, Financial Times

WORKSHOP 1: China's geopolitical initiatives: What are the implications?

What are China's foreign policy objectives? How do Chinese initiatives such as the Asia Free Trade Zone affect UK business and its international position? Do the attitudes and interests of UK, USA and EU coincide?

Professor Shi Yinhong, Professor of Politics at Peoples' University and Sino-US specialist

China aspires to be a world power for two reasons:
1. national interest and
2. self-respect

but is patient in the timing to attain this status.

Mark Leonard, Director, Centre for European Reform

In order to make any impact on China's strategies Britain needs to:

1. Change nature of the relationship with China
2. Understand what China is up to
3. Assess possible sources of tension
4. Look at European and Transatlantic prospects
5. Look at common western approaches to China and its interests.

British policy towards China has centred round IPR, driving the opening up of the economy, human rights and legal issues but China is focusing on global politics.

What can the UK do? Work with other EU countries and produce coordinated approaches on issues harnessing China's obsession with wanting to be seen as a responsible player and reassuring the world that its rise will be peaceful. This will require the EU to have a more unified approach as it often competes at country level to be Beijing's best friend and trading partner.

Should the UK work with the US?

- No real tradition of talking about Asia
- Difference of approach to China:
  - Europe sees China as a place of opportunity
  - US sees China as a threat.

The US adopts a 'con-gagement' (containment and engagement) strategy towards China where containment involves building up relations with neighbours, building up sea lanes and military strategy and engagement to transform its domestic policies. The EU, on the other hand, likes to engage with China and is more sympathetic to regional integration.

China is not a passive recipient of globalisation but will shape its own peaceful rise. We must be aware that we may not have much influence over how it achieves its rise although the window of opportunity is now.

Yao Shenhong, Deputy Director General of MOFCOM

China is participating in foreign trade arrangement negotiations with 11 partners and about 28 country economies. Iceland and China have already concluded negotiations and Switzerland and Norway are considering similar negotiations.

WORKSHOP 2: Why and how is China investing abroad?

What will be the effects of the third Asian wave of investment abroad? In the next four years many Chinese companies will make location decisions, which will have great impact on the host economies.

Nigel Griffiths MP, Deputy Leader of the House of Commons

- China is one of the largest inward investors in the UK
- 250,000 Chinese citizens live in Britain playing a major part in our economy and community.

Minister Shi Jianxin, Counsellor, Economic & Commercial, Embassy of China

- China's huge growth has stimulated fierce competition within the domestic market forcing enterprises to go global for their survival
- There is a shift in acceptance, with countries welcoming Chinese investment
- China will invest where it can get natural resources to fuel its growing demand for energy in order to support its modernisation and large manufacturing industry (largely fuelled by foreign companies). Much is at stake for those foreign partners in China if these energy resources cannot be found
- China will not attach political agendas to its economic investment decisions.

Dr Gerard Lyons, Chief Economist, Standard Chartered Bank

How is China investing abroad?

Foreign direct investment from China is split as follows:

- 19.9% to East Asia
- 19.5% to South / South East Asia
- 18.3% to Africa
- 14.3% to North America
- ONLY 11.6% to Western Europe.

Are there barriers to trade with the EU?

- EU seen as confusing; national government interests are represented often at the same time as communal interests from EU delegations
- EU is not viewed as a homogenous market as is the US.

Where will China spend?

- Where it can finance the strategic petroleum reserve
- Where it can build up more resources overseas
- By opening up its capital account – at the same time as easing regulations (a process started in March 2006)
- The cap on investment overseas for Chinese individuals has been raised from US$20,000 to US$50,000 so outward flow is set to increase
- Insurance companies, pension funds and Qualified Domestic Institution Investor Schemes (QDII) granted to 15 banks and 15 insurance companies in 2006 could result in the outflow of a staggering $319 billion to be placed overseas.

What do Chinese companies want to do?

Research shows that:

- 49% of private sector firms had overseas aspirations versus 33% of state-owned enterprises
- 85% of those seeking to go overseas said they were 'market-seeking' as opposed to 39% 'resource-seeking'.

How can the UK get ready?

- Ensure that the financial sector remains ahead of the game and attractive for investors. The City is already well-placed
- Prepare for Chinese tourists. This will involve a shift in research and education
- Push the government to make sure that all countries adhere to a level playing field and to law enforcement.

It is estimated that the profile of the world's top 100 multi-national companies will change over the coming years with 44 expected to be owned by China and 21 by India.

WORKSHOP 3: The Shift to a consumer driven economy

Since the reforms in the 1980s China's growth model has been investment led. But as Chinese incomes rise and the middle class develops, domestic consumption will become an ever more important part of the Chinese economy. How will this shift towards consumption create opportunities for UK businesses and what will it mean for China's trade relationships with the UK and the world?

Dr. Nicholas R. Lardy, Board Director, National Committee on US-China relations

The level of China's net exports means that China has the largest current account surplus in the world. However, consumption makes up only one quarter of economic expansion.

Consumption has declined as a share of output and has not contributed much to the growth of the economy whereas China believes that over the last five years investment has accounted for half the amount of growth output.

Private consumption as a share of GDP is less than 40% which is the lowest in the world. (Compare with 60% rate in UK, 57% in Japan and 70% in the US).

What is the impact on trade? Capital goods imported have risen rapidly and China imports a huge number of raw materials and energy.

The negatives

- Inefficient resource allocation
- Pattern of growth has led to a rise in income gap and inequality between coastal regions and inland areas
- Environmental consequences over last five years due to the emphasis on heavy industry and chemicals have resulted in the energy coefficient of GDP expansion almost doubling from 0.6 to over 1.

Substantial potential for a rise in private consumption will come about if the following occur:

- an improvement in efficiency of investment and reforms of the financial system
- Moderation of the need for energy and raw materials
- Different pattern of imports

The key is timing to eliminate risks of both protectionism from the West and the financial sector as the expansion so far has been through credit.

Gordon Orr, Director, McKinsey & Company, Shanghai

Who is spending, where and why?

- Mobile phones: 100 million handsets sold in 2006 costing £60 per phone. A growth of 30% a year
- Cars: Seven million sold in China last year
- Broadband: 70 million users
- Online games: 110 million users (mainly urban middle class)
- Housing: from being a huge saver the consumer becomes a huge spender on both house and contents. Housing employs tens of millions of workers and consumes 40% of the 360 million tons of steel used a year. B&Q and the DIY market doing very well
- Healthcare: essentially privatised and expensive for both treatment and drugs, therefore people save to self-insure
- Education, transport and food account for less than 5% of annual incomes. There is a massive rise in spending on out of school tutors.

Household income

80 million Chinese households have an income of US$5,000-8,000 per annum. Predictions suggest that this number will remain about even over the next ten years. Ten million households have an income of US$8,000-20,000 per annum but this number is predicted to rise to 100 million over the same period.

The changing face of the market

- International companies will need to establish a foothold both within and outside of the top ten business market areas in China to succeed
- Local distribution to retail has been weakened so overseas companies can deliver direct and be in control
- 70% of televisions and 75% of washing machines are sold in shopping malls
- Consumers are well informed and like to know the detail of products
- 'Buy Chinese' is an important motivation.
- Internet chat-rooms play a large role in driving consumer demand for products
- Designer outlets have huge potential and sell at western prices.

How to succeed in China

- Be big or your business will be swallowed up
- Tailor your products with clear differentiation
- Attract talent for your business by recruiting Chinese students when they come to the UK
- Acquisitions will be harder in many sectors but still possible in consumer products
- Maintain good government relations, show respect and adhere to regulations or suffer damage and withdrawal from the market.

WORKSHOP 4: Protection: What is there to protect against?

What are the implications of protectionism? How will the UK innovate, adapt and work collaboratively to render protectionism unnecessary?

Prof Jean-Pierre Lehmann, IMD and founder The Evian Group

Opportunities

- Remember: development is not all about developing countries. To stay ahead, developed countries are required to continue development in certain areas, eg education
- China's peaceful rise: we must all play our part in helping China to develop as a key world player whilst avoiding conflict. Trade is a critical vehicle in helping this but only if a robust multilateral trading system is in place
- British economy will decrease inevitably but not necessarily on a GDP per capita basis and this doesn't necessarily mean less wealth.

Threats

- Collapse of the multilateral trading system just at the time we really need it
- Lack of a universal realisation that there is a good correlation between trade and security and the need for a rules-based system
- That China continues to push for bilateral deals (eg in Africa) in quasi proxy wars with the US
- Protectionism.

Prof Peter Nolan, Director of the Chinese Big Business Programme (CBBP), University of Cambridge

Key question on China is 'who are we protecting against?'

- Half of China's exports come from foreign invested companies and
- 60% of China's high-tech 'exports' come from foreign invested companies.

Therefore, are we protecting against China or from Japanese, US, French etc firms operating in China?

- We need to talk about trade in the context of foreign direct investment as they are so inter-linked
- Key question is not just to consider the UK's position in China but where we all fit into globalisation
- In the 1990s we exerted great pressure on China to learn about the benefits of free markets and to join World Trade Organisation (WTO). We cannot now complain that we have got what we wanted
- Technical progress and machinery advances result in profits for everyone. Mutual benefit comes from industrial concentration in globalisation.

Challenges we face together

1. Pollution: in the past, countries have only cleaned up once they have grown rich. We cannot afford to let this happen in China.

2. Global business revolution. China does not have any truly global companies and does not know how to cope with them.

3. Massive inequality through technology and integrated labour market which affects the nature of work for our young people and leads to inequality of wealth. After 30 years of globalisation 23% of the world's population (China) has 3% of the world's wealth. By contrast, OECD countries comprise 27% of the world's population and have 85% of the world's wealth. From China's point of view this is bad!

4. The precariousness of the financial system by virtue of it being the biggest ever. The bubble is waiting to burst and will affect us all.

What should the UK's role be? Mediate, understand and contribute towards Chinese, US and Moslem world understanding through international, political resolution.

OBSERVATIONS AND ACTION POINTS

Selected from the final summaries of the Workshops provided by

Nigel Griffiths, MP and Deputy Leader of the House of Commons; Dr. Nicholas R. Lardy, Board Director, National Committee on US-China relations; Graeme Leach, Chief Economist, Institute of Directors; Professor Paul Reynolds, Political Economist, University of Westminster.

And interpolations from

Professor Peter J. Buckley, University of Leeds; Hugh Davies, Orient Asian Partners; Sam Gurney, TUC; Alex Findlay, Artemis Solutions Ltd; Doug Henderson, MP for Newcastle East; Lord Inglewood, House of Lords; Andrew K.P.Leung, SBS, FRSA, Andrew Leung International Consultants Ltd; Professor Fong Mei Man, Mei Group plc; Mike Mielniczek, Strategic China Ltd.; Iain Orr, BioDiplomacy.

Strategic
Development is not all about developing countries. To stay ahead, developed countries are required to change, for example in education.

The UK and the West should not be hypocritical about China's Africa strategy, but remember their own past history. China and India need to be brought into discussions on how to ameliorate the plight of Africa.

Supply chains across Asia are becoming more interlinked, so any future investment into the UK becomes part of a much larger picture. The UK should therefore specialise, for example in financial services, tourism and science.

Be prepared for Chinese mass tourism. This will require a shift in research and education.

Remember the role of Chinese migration and the international role of Chinese nationals around the globe.

Chinese objectives are pursued deliberately and slowly but for the long term. British policy towards China is too centered around IP (Intellectual Property), the opening up of the economy, human rights and legal issues. China, however, focuses on global politics: we should change tack.

The UK should not rush into an argument over quotas, such as on exports of garments, unless confident of winning.

Compensation could be considered for those who are displaced by Chinese trade.

Tactical
How can international companies really entrench themselves in the Chinese market over the next 5-10 years?

- Understand shifts in government policy
- Be at the forefront of environmental and social responsibility
- Develop local talent
- Communicate well and be transparent
- Adopt a Chinese version of yourself that is designed for China.

Opportunities
There is an enormous increase in the numbers of Chinese travelling abroad.

China's middle class is set to become the largest in the world in 15 years, and this will have a tremendous impact on consumption of goods and services. At the same time the US baby boomers will start to retire and spend less.

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2. CHINA POWER

China's rapid economic development is increasing energy demand above the rate of GDP growth. Given that energy in China is still a state-dominated sector, foreign and domestic investors look to government for answers to questions of energy risk. As with any rapidly growing economy, there is risk both because demand may outstrip supply, but also because government structures and the regulatory regime may not be able to cope with the problems thrown up.

Such risks have special features in China. The huge size of the energy sector means that changes in demand raise questions about the ability of international investors globally to respond to demand, let alone domestic investors, and indeed about the impact of China's energy needs on world energy markets. Government policy on investment and regulation – and the relevant institutional adjustments necessary – faces particular challenges given the size of the market and the complex structure of national, provincial and local government. The political impact of hydrocarbon sectors, electricity generation and related sectors such as water, coal extraction and the downstream plastics industry, is well known internationally.

Energy sectors in China contribute to its investment-led growth as well as respond to it. Over the last three years China has suffered from periodical energy shortages, especially in the hot summers. However, the supply side response has been dramatic, and shortages are predicted by the Chinese government to ease in 2007. New investment in the energy sector alone – including electricity generation – made a major contribution to overall economic growth in 2006.

Whilst the general picture may be one of improvement, there are still several areas where shortages will persist. In China, raw materials must be moved by rail over great distances, and the rail and road networks cannot fulfil requirements fast enough. Much electricity generation is undertaken with coal, and alongside electricity and oil sector reforms, the government is grappling with the reform of inefficient (and sometimes unsafe) coal extraction.

The government's role and institutions are, on the other hand, changing rapidly. A new energy law is being drafted and, unusually, government officials have been seeking international input on some features. There are many policy and regulatory institutions involved in the energy sector in China, and the big issues are being addressed by a State Energy Task Force[1], headed by Premier Wen Jiabao. However, consideration is being given to re-establishing the Energy Ministry – dissolved in 1993 – in order to have a unitary body responsible for the implementation of regulation and sector strategies, and help China meet its commitments on environmental protection.

The Chinese government, during the recent National People's Congress (legislature), made it clear that energy sectors will continue to be regarded as nationally strategic, and remain in state ownership. Notwithstanding, there has been a wave of energy and water sector 'privatisations' over the last 18 months, and the involvement of foreign investors has been increasing.

This second hearing on China Power in March 2007 is an attempt to help investors and Chinese officials alike understand their contrasting analyses of the future. There are many opportunities for UK firms to support the development of energy markets in China and invest where needs arise. There are also opportunities for Chinese firms and government authorities to further their interests and seek further channels of cooperation in London – one of the world's centres of decision making in global markets.

The second theme is the environmental impact of China and the opportunities this offers for cooperation and investment.

The longstanding problems China faces in its environment are being compounded by its rapid and successful economic development. What are likely to be the effects of these upon its relations with other countries? Does the UK have relevant expertise and experience in tackling environmental problems? Can UK companies work in waste management and water systems to help service China's growing water challenge? Or in pollution

[1] Task Force here translates *lingdao xiaozu*.

control? What are the most innovative business solutions to global geopolitical and energy challenges.

The 11th five year plan emphasises energy efficiency, giving impetus to businesses to work in China to develop and implement clean technologies and energy efficient projects. How can UK companies and investors take part in China's clean energy and water revolutions? What are the opportunities for UK SMEs to partner with big business in innovating in clean technologies in China?

THE KEYNOTE SPEAKERS

Ian Pearson MP, Minister of State for Climate Change & the Environment

China's energy challenge: implications for climate change

Energy and climate change are intricately linked. China has a key role to play in avoiding dangerous climate change. It is the world's second largest consumer of energy and consumption has risen over 60% over the last five years.

Two energy sources:

1. Coal – accounts for 70% of China's energy mix. China has the third largest recoverable coal reserve in the world. In 2006 over 105GW of power generation were installed through coal-fired plant[2].

2. Oil – rapid growth in consumption to 2020 is predicted. The security of overseas oil supply is of major concern for China and the West and will likely lead to intense competition in the future.

China's efficiency targets in the current 11th Five Year Plan include halving its energy intensity by 2020, an ambitious target. Its renewable energy target is to reach 10% by 2010 (ambitious compared to the UK!) Nuclear energy will also expand over the next 20 years.

The emergence of a global carbon market will help the UK to use clean development mechanisms post-Kyoto to help China and other countries to deploy low carbon technologies. It is estimated that the annual CDM market could be US$100 billion per year which could provide investment in low carbon technologies.

Clean coal and carbon capture storage (CCCS) is a key technology for the future. The EU, particularly the UK, is helping China with a 'near-zero emissions coal project'. The UK must lead the way in utilising this technology if we are to continue using fossil fuels.

China understands the science of climate change well, is committed to clean development mechanisms and needs to play a key part in any international climate change framework from now on. Europe has jump-started the process in March 2007 with a declaration of a unilateral 20% reduction by 2020. Australia and the US must also make formal commitments.

Zhou Dadi, Energy Commissioner, National Development & Reform Commission

China has a high growth rate of energy consumption but it is low per capita, perhaps one third or one quarter of the developed world. Chinese industry uses 70% of total consumption.

It is possible that, owing to ongoing industrialisation, energy demand will double by 2010 and then triple by 2030. China's intense growth in one year can be seen across the board, including

- production of 100GW of power
- building of 93,000 kilometers of modern road
- construction of hundreds of buildings.

Most exports are produced by foreign investment companies processing and importing raw materials.

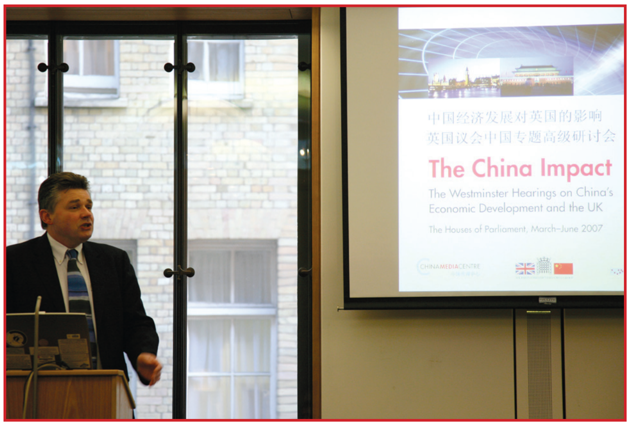
China recognizes that with such a large population it cannot copy development that has happened elsewhere but needs to realise the highest energy efficiency, as with Japan but with much lower per capita energy consumption.

However, the pace of change is so rapid that China did not realise targets in 2006. If it meets current targets by 2010 then 600 million tons of energy will be saved. China is adopting measures in various areas to help attain these targets such as

- Modifying regulations, pricing and budgeting
- Making changes in investment, financial and industrial policies
- Educating and guiding consumer behaviour.

Alternative energy supplies: clean coal technology, natural gas, coal biomass, hydrogen and nuclear

[2] 1GW of plant releases 7 million tons of carbon dioxide every year for the forty year lifetime. Important investment decisions need to be made now in order to stabilize CO2 emissions.



Ian Pearson MP, Minister of State for Climate Change & the Environment

Zhou Dadi, Energy Commissioner, National Development & Reform Commission

The Rt Hon John Gummer MP, Chairman, OECD Environment Committee

energy will be important alternatives in order to maintain the same pace of development in the future.

An ambitious target has been set for 2020 to create 30GW through wind power. (2006 only produced 1GW).

International cooperation is required to find new energy supplies. BP and Shell are helping upstream for gas.

Ultimately lower cost of technologies will be key and China will need to develop these technologies itself and to innovate.

The Rt Hon John Gummer MP, Chairman, OECD Environment Committee, lately Secretary of State for the Environment; Chairman, Conservative Party Quality of Life Policy Group; Chairman, Veolia Water UK

We tend to look at the effects of China's policy on us rather than looking at the effect of China's policies on itself. A rich and successful China is important to all of us.

We find it hard to handle China for various reasons:
- its size – which means that any changes made will impact on our future, e.g. a move to bio-fuels by China would impact upon the rest of the world
- its speed – it has to develop fast in order to stay in the same place. There is a sense that any delay would be disastrous for China
- its rise in emissions is largely due to our move to export much of our manufacturing capability to China. It is our responsibility to diminish any increase in emissions
- by contrast to the US and Europe China has achieved remarkable decreases in emissions per unit of production. So why does our consumption continue to rise?
- China now competes for key resources because it needs them to fuel our demand.

We need to overcome three fundamental problems to solve this global environmental issue:
1. China is so big and successful that we forget the size of the problem of poverty in China and the demand for growth.
2. The US does not understand that although China is different it need not be feared. We MUST share and cooperate on clean technologies to enable China to grow clean, for example, share the sterling engine technology so that China does not use CFCs in its future demand for refrigeration.
3. The US must accept the reality of climate change and by doing so understand that this means dropping its imperialist approach to power.

WORKSHOP 1: Geopolitics of Resources

In 1980s oil was China's biggest single export. Now it is dependent on Africa and the Middle East to meet demand. China today searches for oil and gas and in so doing affects the rest of the world.

Jonathan Fenby, Editor in Chief of Trusted Sources. Formerly editor of The Observer, and The South China Morning Post

The importance of energy to China for its emergence on the global scale brings huge problems for the planet

Pollution is flowing out over China, Japan and even the west coast of the US

Statistics state that 55% of precipitation in Guangdong province contains acid rain and this will only increase.

Stephanie T. Kleine-Ahlbrandt, International Affairs Fellow, U.S. Council on Foreign Relations

China's electricity demand last year equalled that of the whole of UK and Thailand combined.

China is making Africa integral to its economic development for decades to come as Africa has resources in abundance but no capacity to process them.

China is now the 13th largest contributor of UN peace-keeping troops in Africa with 1,666 stationed there and is looking to play an increasing role in areas in which the UK and US are focused such as Afghanistan.

Dr Cho Khong, Chief Political Analyst SXE, Shell International

Dependency on oil imports stands at just under 50% of oil consumption. Oil imports comprise 3 million barrels per day and this is expected to rise to 6 million barrels by 2020. Domestic oil production is limited and expected to reduce so future foreign supply is critical for the future.

Oil sources: 50% of oil imports today come from Middle East and the Persian Gulf and 25% from West Africa. Russia included in the mix.

Major problem is distance from supply sources to consumption areas, thus importance of Central Asian, Russian, Indonesian and Australian supplies. Japan is a rival in Russian energy supplies and Russia plays Beijing and Tokyo off against each other.

The 'Malacca Dilemma' is a concern for China as the Straits of Malacca are a bottleneck and all imports come though there. An extra US$2 per barrel can send them overland.

China has 2 options:
1. Seek market solutions that will have highest economic efficiency recognizing that oil is a tangible commodity and has a standard global price OR
2. Seek to secure control of assets abroad through bilateral long-term contracts, point to point communications and government to government deals to secure imports.

China tends to favour the latter course but it will still have to buy three quarters of import needs commercially.

China's national oil companies (NOCs) are not required to make a profit. China backs them on big projects and links oil investment to aid and general infrastructure projects which is beneficial to developing countries.

Chinese oil companies seek alternative markets and have entered the market in Myanmar and Sudan, areas where other companies are not prepared to operate. This move, whilst unpalatable for other players, does broaden the resource base for the rest of the world.

Energy security and environmental concerns: the alternative to oil would be coal but this is the dirtiest hydrocarbon around. China must aim to reduce overall demand but is this possible?

Energy security is ultimately a global issue that requires multilateral cooperation. Can China's part in global energy be as successful as its part in global trade since its accession to WTO?

WORKSHOP 2: Innovative investment opportunities

How can UK companies and investors take part in China's clean energy and water revolutions? What are the opportunities for UK SMEs to partner with big business in innovating in clean technologies in China?

Wang Tao, Head of Asia Economics, BP Group

Local air pollution is of key concern

- 4% of Chinese rivers are affected by acid rain
- Only 1% of the Chinese population live in areas where pollution meets US standards.

Key areas to tackle the problem include:

1. Conservation
2. Diversification (away from coal) and
3. Innovation – improving energy efficiency and developing commercially viable alternatives, e.g. carbon capture and storage.

Peter Head, Director, Arup

The Chinese see the world moving from an industrial phase of human development to an ecological one. This will require a monumental revolution of technology, thinking and innovation.

Five eco cities are in the planning stages in China, including Dongtan.

Six out of seven regional governments have been set target indicators, and promotions and rewards will be given on the basis of sustainable development and social well-being. This is the first trial of its kind in the world and unique in land development.

Land legislation is vital in order to maintain a balance between urban and arable land to feed the population.

Solar energy and recycled water will play a big part in development. Bio-fuels will need to be developed in a sophisticated way which avoids the need for large amounts of land.

Chinese cook on gas. Need therefore to siphon it off from somewhere else and on a city-wide scale.

The ultimate aim is to have cities acting as carbon absorbers rather than carbon emitters.

Transport-related emissions are a problem as car ownership and use are on the increase as well as an increase in air traffic. Challenge is to develop public transportation powered by renewables and bio-fuels that do not require too much land to produce.

Battery power and hydrogen fuel vehicles for taxis and buses would be best solution and Shanghai is using waste hydrogen in buses.

Bill Dunster, Principal 'the ZEDfactory', BedZED

Gardens, cool new aesthetic, reasonable property prices, workspace with integral housing; these are all areas where there can be a step-change in carbon footprint.

Building physics, utilising direction of wind and local micro-climates, will be key for sustainable development.

There are very few renewable energy manufacturers in China although a 'solar valley' exists.

Passive heat recovery does not rely on electricity and reduces megawatts, so with south facing balconies solar energy could power air conditioning.

Need to get the Chinese back into bicycling and to make sure that bicycling has high social status.

WORKSHOP 3: China's Environment: Challenges and Opportunities

Under Mao appalling environmental blight took place; this is being compounded by today's rapid economic development. What will be the effects upon relations with other countries? Does the UK have relevant expertise and experience in tackling environmental problems? Can UK companies work in waste management and water systems to help service China's growing water challenge? Or in pollution control? What are the most innovative business solutions to global geopolitical and energy challenges?

Dr Wang Aijun, Head of China Business, Mott MacDonald Group

Opportunities are available for consultancy companies to support the upgrading of power stations, carbon capture and due diligence.

However, challenges to market entry for consultants include:

- Intellectual property
- Market access: some segments are still not open to foreign investment
- Transparency: lack of data
- Language and culture
- Consultancy not seen as a commodity.

Mark Lane, Head of Water Sector Group, Partner Pinsent Masons

China's water shortage problem

- 400-600 cities are facing water shortages with 110 of those rated "severe" in terms of water shortages (source: Ministry of Water)
- Water consumption projections suggest that there will be a rise from current 570 billion cubic metres to between 700-800 billion cubic metres in 2030
- The 44% of the population living north of the Yangtze possess only 15% of the water resources
- Water shortage problem in cities leads to an estimated loss of US$11.2 billion in industrial output.

China's polluted water problem

- Chinese water is highly polluted, particularly in the North due to lower river flows and industrial discharge
- In 2000-2001 China discharged 43-50 billion cubic meters of waste water including 20 billion cubic metres of industrial waste water
- In 1998 63% of rivers tested were rated at Class 4 or below, which is "bad" or "very bad"
- In 1997 China spent 1% of national budget on environmental protection
- The impact on human health is estimated at US$3.9 billion.

Opportunities are available for water companies but who is operating there and what are the issues? There are three categories of stakeholders operating:

1. International companies who operate Joint Ventures through specialist funds including Suez and BerlinWasser (but UK has pulled out of this sort of project)

2. Expatriate Chinese market players including Ramhill and Salcott from Malaysia and HiFlux from Singapore.

3. Nationally based Chinese companies such as Shanghai Industrial Holdings, Beijing Sound Environment Industry Group and China Water.

Major UK stakeholders have pulled out of China with the exception of ByWater which recently bought 87% of China Water.

Funders: as the risk profile of some concession projects is such that the international financial markets are not interested in investing, the Chinese will simply finance it themselves.

Contractors: No UK company can hope to do this kind of work due to the high operating costs.

Consultants: legal and technical software is an area for growth but IP is an issue.

Product suppliers: these companies have a chance if the product is exceptional.

Other barriers to entry

- IPR
- Lack of transparency
- Long-term gain not short-term
- Taxation issues
- Speed of change
- Foreign exchange and repatriation of profits
- Land law
- Not all foreign investors are welcome in China. Company sectors are rated in categories including 'prohibited', 'restricted', 'encouraged' and 'permitted'.

David Fortune, Director of Product Management, Wallingford Software

A city's most valuable asset is its underground waterworks. An understanding of how they work, what condition they are in and where they are is imperative.

Managing waste water and removing it are critical to prevent pollution of local water sources.

How to be successful with software products in China

- Ensure you have a top quality product
- Establish local representation in China
- Tailor your product to the market including Chinese language interface.

How can UK government help water industry companies?

- Be flexible with Chinese visitors – give them more time on visits
- Find people who understand business in UK, US and China.

OBSERVATIONS AND ACTION POINTS

Selected from the final summaries of the Workshops provided by

Jonathan Fenby, Editor in Chief of Trusted Sources. Formerly editor of The Observer, and The South China Morning Post; Zhou Dadi, Energy Commissioner, National Development & Reform Commission; Dr Aijun Wang, Head of China Business, Mott MacDonald Group; Tao Wang, Head of Asia Economics, BP Group.

And interpolations from

Jennifer Broughton, CBBC; Lord Clement-Jones, House of Lords; Andrew K.P.Leung, SBS, FRSA, Andrew Leung International Consultants Ltd; Nicolas Maclean, MWM; Professor Paul Reynolds, University of Westminster; Dr Jennifer Song, University of Westminster; Dr. Celia Szusterman, University of Westminster; Haibin Xue, ZLWD-Solicitors and Chinese Lawyers; Elizabeth Wright, University of Nottingham.

Strategic

The UK should lead by example and encourage China in energy and mining sectors to opt into the 'publish what you pay' transparency initiative. This requires extractive industry companies and host governments to disclose publicly transactions in order to curb corruption.

The UK should be ready to share and cooperate on clean technologies to enable China to grow clean, for example, share the sterling engine technology so that China does not use CFCs in its future demand for refrigeration.

The UK should invest in and donate green projects. An example was given of the Italian government setting up a green office building in a Beijing university campus.

Opportunities

Dongtan and five other eco-city projects are finding innovative ways of generating bio-fuels and incorporating complete waste management systems that could be rolled out on larger scale if successful.

UK businesses should find local partners and local governments to work with in order to transfer clean technologies.

Demand for water will increase. Already 110 Chinese cities have a water shortage.

The opportunities for UK companies in water industry are (so far) limited to product suppliers and consultants (IPR, taxation).

Global warming in China is driven by coal and not oil. Clean-coal technology is critical.

Only 4% of new buildings are energy efficient in China.

Water is crucial for washing coal. However, there is no water in the north of China and yet this is where the coalmines are. This creates a logistical nightmare.

Water used to be seen as the poor relation to power but no longer. Key areas for development include:

- Industrial waste water re-use
- Desalination
- Drinking water
- Waste water.

Most China power developers are state-owned but entrepreneurs are appearing, such as private wind developers and bio-mass producers. There are opportunities for due diligence assessments here.

300 Chinese carbon consultants operate now in China.

Only 40% of Beijing waste water is recycled. Projected migration of another 300 million people to the cities will put huge pressure on water resources.

China's water problem will affect Bangladesh, Myanmar and Vietnam.

In seeking solutions to environmental problems, the Chinese government is trying to engage foreign companies by encouraging partnerships in order to fuel the speed of growth and need for technology.

Electrical cars are needed in China. The opportunity is there now as ownership of cars is still relatively low.

Clean water and its availability are a serious problem in China. There is a new understanding that waste water should not simply be thrown away but recycled and captured. There is potential here for public private partnerships.

World Bank funding is currently available for projects to 'greenify' the growing desert of the Loess Plateau (already the size of Belgium). This project has proved that it is possible to reverse the effects of desertification by bringing in fertile soil and butterflies.

FURTHER READING

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www.chinadialogue.net (a website devoted to China's environmental issues)

3. URBANISATION, CONSUMPTION, HARMONY

This third hearing in April 2007 explores the social issues of China's extraordinary rapid economic growth – and considers their implications for UK businesses and for UK government policy.

Annual growth rates in excess of 10% in a country whose population represents a quarter of mankind, are a remarkable phenomenon. Growth has been concentrated in China's Eastern and South Eastern seaboard, and this has precipitated the migration in recent years of over 200 million persons. This is the largest peacetime migration in human history. What's more, this is not only from the poor West to the rich East, it is also a migration from the largely rural to the largely urban.

An understanding of the nature of growth-led social changes in China is therefore important for UK business and government alike.

Who has driven this mass migration, for example – Chinese state or private corporations, provincial governments or central government? Given that the socialist residence control system is still largely in place, how much control over the migration has the government had? Is the reported 'temporary' status of Chinese migrant workers in urban areas, and consequent inequalities in rights, a way of 'denying' service provision?

The marketisation of state and provincial enterprises has reduced welfare services to employees, as company-based social services such as health, education and retirement income are halted or service provision is purchased by officials and others. Insurance-based schemes, however, have been taken up slowly – especially for those on low incomes and/or working without permanent status.

The lack of such alternatives is rooted in structural economic developments. Chinese workers famously save a great deal, but owing to mixed state/private ownership in the new industrial sectors, equity markets are underdeveloped, as is the plethora of financial intermediary services like pension funds familiar to those in the OECD. The result is that savers have limited places to invest, and can be left with no choice other than to place deposits with low interest majority-state-owned banks – who in turn see low returns on their investments and who suffer from many non-performing loans.

An understanding of the dynamics of social change and the problems facing the Chinese leadership cannot be complete without an understanding of the rural background whence the migration originates. Contrary to experience in the rest of the developing world, taxes in rural areas are higher than on equivalent economic activities in urban areas, and in recent years they have been rising. Rural land grabs by Chinese entrepreneurs and provincial officials have received widespread international publicity. However, a more difficult phenomenon has been the decline of rural farming institutions and the relative absence of modern replacements for the old range of collective bodies. It has been widely reported that the migration to urban areas is not just a result of the attractiveness of urban jobs, it is also the decline of rural areas as acceptable places to live and work in security.

These issues result from rapid growth and structural change, and UK companies and experts have much to contribute in addressing these challenges.

THE KEYNOTE SPEAKERS

Xin Chunying, Vice President of the National Peoples Congress

Recent changes in the socio-legal framework

- March 2007: poverty law adopted (after 14 years of deliberation). Now citizens' property rights are protected
- Anti-trust law – is in secondary reading and will take effect at end 2007. This will target administration, local protectionism and aim for nationwide authority to enforce it
- Revised Energy Saving Law will come into force in June or August 2007
- Third Economy Law for environmental and natural resources under review
- Social welfare building through law-making: a social net for the vulnerable
- Labour contract and employment promotion/ protection law currently under first reading and this will greatly help the floating population.

Lu Mai, Secretary General China Development Research Foundation

To spread the benefits of growth to all Chinese regardless of their age, whereabouts, profession, gender and ethnic background – to achieve social progress in addition to economic growth – is a major challenge confronting the Chinese Government.

According to World Bank estimates the Gini coefficient in China has already reached 0.45, up 60 per cent from the pre-reform level of 0.28. The yawning income gap not only reflects historical factors and resource constraints but also reveals deficiencies in the social system. Compounded by the rapid spread of information and large-scale migration, it could lead to instability.

Thirty million people have lost their jobs through reform of state owned enterprises. The former iron rice bowl of welfare has gone.

Even in urban areas, the social safety net is quite limited. For example, endowment insurance only covers those employed in the formal sector and medical insurance, only 34% of the urban population.

Underdeveloped social services will, in the short term at least, dampen retail consumption and discourage domestic market expansion and in the longer term stifle the growth of human capital and dim the prospects of sustainable economic growth in China.

One of the hearings in progress

Left to Right: Peter Luff MP, Ben Chapman MP, the two chairs of the hearings, with Professor Hugo de Burgh, Director, China Media Centre

Theodore Zeldin, philosopher, President, *Oxford Muse*, University of Oxford

The old model of public life has passed away; now no longer about social status and job titles but about private life. With private lives come friendships and trust and these serve to transform politics. Can you legislate for that?

- Urbanisation increases isolation. Welfare state destroys old relationships in villages and fraternities of artisans
- Cities are impersonal.

Summary
We need new forms of communities or affiliations.

WORKSHOP 1: Culture Industries, Social Innovation and the New Cities

The Chinese government is aware that conventional sources of employment and investment may not be enough. It is learning from advanced cities everywhere about the potential of the culture industries and social enterprise to promote urban economic success.

Philip Dodd, Chairman, Made in China

Currently culture accounts for 9% of the British economy.

The Chinese government is spending Rmb500 million on culture start-up businesses and will spend another Rmb500 million, whilst at the same time reducing foreign investment in the area. The target growth for this sector is 15% per year. The implication of this is that China will cease to be a purely manufacturing centre. Global brands are already starting to emerge including Lenovo.

Creative industries will grow and develop. Two examples:

1. Shanghai: there is a digital festival to be held there later in 2007 which will aim to position Shanghai as the digital world centre. Events will take place all over the city and will work with global partners.

2. Beihai in southwest China is a beautiful place with 8kms of white sand. The hotels are starting to develop but the indigenous population are to be used for their craft skills and to link these into tourism.

Three examples of new media companies:

1. One large Chinese company does 40% of its business online (China is already the second largest online market in the world).

2. Another is an animation company in Beijing likely to play a key role in mobile phone entertainment, the outsource agency for Time Warner and other Hollywood companies. Their long-term strategy is to train up the animators in China.

3. User generated content is another major growth area. A social networking site in China has 8 million users. They upload their own creativity and anyone can download material for a very small fee.

There are currently 100 million students in China speaking English but only 500 graduates in Mandarin in the UK every year.

Opportunities for Britain will lie in a sort of 'marriage brokering service' bringing together the public sector in China and the private sector in Britain revolving around the creative industry.

British firms would do well to axe the strategic terminology "to penetrate" the Chinese market but rather to adopt a more collaborative approach. Professionalism of management practice will be a growth area as the Chinese have not had any recent history to enable them to gain skills in this area.

Jeanne-Marie Gescher, OBE, Founder Director CGA

In recent years the Chinese government has set population targets for the growth of cities and their overall population. These percentage targets have been reduced, however, as the realisation has set in that a careful balance is required. The target population levels reduced from an original 65% of the population by 2020 to 55% and now there are no numbers attached.

It is essential to attain an affordable and sustainable relationship between city and countryside that produces the food. China recognises that this is an issue and it knows that its cities are profligate with resources.

China is looking all over the world for best practice and models. It looks at the congestion charge as a means of reducing traffic congestion and pollution as many residents switch from the bicycle to the motor car.

- We are looking now at the world's first urban century. China is pushing the limits of the size of a city.

- There are 183 cities in China that have the potential to be global cities.

- Now is the chance to build 'regional' cities by linking cities together, creating opportunities and pooling different parts of the value chain. The government needs to take a lead on this.

- A city the size of New York is built in China every year. This results in the best architects and planners congregating in China. These experts should play a key participative role in creating measures that ensure
  - Safety for residents
  - Access to healthcare
  - Affordable housing
  - Mobility and access to transport.

WORKSHOP 2: Adding Value

Moving production to China is not just a geographical project, or simply an issue of outsourcing. It usually involves changes which transform a UK business. How can it add maximum value?

Professor Mike Gregory, CBE, Head of the Manufacturing and Management Division of the University of Cambridge Engineering Department and of the Institute for Manufacturing (IfM)

Some Chinese companies are going global and adding value by pursuing an internationalising strategy:

- Haier, whose products are on the shelves in France
- Huawei (which bought parts of Marconi) and is now a big supplier to BT
- Honghai, the biggest electronics company in the world, now has a global production capability and is moving up the design and service chain
- B&Q in China offers courses to teach people not only how to "Do It Yourself" but also "Choose It Yourself".

Dr Alan Knight, Sustainable Development Commissioner on Sustainable Consumption

Retailers need to take the lead in developing product ranges that are environmentally sound as the issues are too complex even for green consumers.

Consumers also need to drive change. Our environmental footprint is China's as China makes so much of what we consume.

Need to drive energy efficient labelling and standards into Chinese market, for example, paint profile labels (relating to solvent air pollution) and energy efficiency stickers on fridges.

Engineering and innovation are key areas to drive economic growth balanced with climate change solutions.

WORKSHOP 3: Consumption & Security

With the Harmonious Society policy, economic strategy and development are now being driven by Social Policy. Financial services are required for hundreds of millions of uninsured savers. How will business be providing the solutions?

Francesco Garzarelli, Managing Director, Macro & Markets Research, Goldman Sachs International

China's bond market has expanded twelve-fold since 1997, reaching around US$ 700 billion (~30% of GDP).

The Chinese Debt Capital Market (DCM) capitalisation is largely immature for two reasons:

1. The banks have played a social role in fixing social issues and have concentrated credit risk within the banks themselves.
2. the ongoing reliance on quantity and price controls in the conduct of monetary policy.

The pace of capital market reform has accelerated. Goldman Sachs estimates that DCM capitalization could double, attaining about 60% of GDP in ten years' time.

By 2016, China's DCM could represent 4-10% of G7 debt capitalization, in today's prices – a similar order of magnitude as the French and German markets combined today.

Over next ten years China will reach full capital account convertibility.

Three factors behind China's development:
1. Ageing population: these people want investment vehicles to postpone consumption into the future.
2. Growth itself driven by people wanting to save as they get rich. Also corporates want to find cheaper ways to fund.
3. Liberalisation.

China is a small market at the moment but the only one in the region that demands respect due to its huge potential.

70-80% of tradable investments are firmly in the banks' portfolios.

- Government bonds account for half the market, state-owned policy banks for roughly an additional 40%
- Non-financial corporate bonds are just 9% of the market
- Fastest growing segment is the commercial paper market, which has soared to around US$40 billion in just 18 months. (Commercial rate can be as low as half the cost of a banking loan). This has created a credit culture
- Turnover is light, with banks holding most securities to maturity
- Inter-bank market has a 95% share of secondary trading
- Growth has been small but driven by public debt
- There is a comparatively small non-public debt market (whether measured by GDP or by market share).

Institutional Investors

- Insurance is the biggest player at US$200 billion. 50+% is held in domestic bond market, <40% with banks
- Low insurance penetration rates and preference for precautionary savings suggest significant growth ahead
- Mutual funds – most money is in equities with a base US$60 billion and growing rapidly
- 40% in equities, <1% in corporate bonds
- Strong growth in just two years
- State pensions are under-funded
- By law, 50% must be in bank deposits and treasuries
- Pension funds are getting a fixed 2%
- 40% invested in equities, <15% in banks and treasuries
- International insurance market has home bias fixed income security.

The goal is to channel savings into investments.

- National household savings rate is 24%, more than three times the OECD average. Most savings are 'precautionary,' owing to weak social security programs and low penetration of pensions and insurance
- Bank deposits are 141% of GDP, despite low returns
- Institutional investor community is nascent, but holds high potential for growth.

Three overarching guidelines for moving from quantity to prices:

1. Market size should not be the main priority. The focus should be on price disclosure and transfer of risk.
2. Extensive and deep changes to both policy and the regulatory framework are required.
3. Incremental approach has its benefits, but reforms should be pursued simultaneously, to avoid creating further distortions.

(Detailed macropolicy suggestions are available from the full presentation).

Pace of reform is accelerating

Important steps over the past 18 months

- Bankruptcy law, commercial paper market, non-guaranteed debt, talk of abolishing quotas.

And more already in early 2007:

- People's Bank of China (PBoC) announces intention to liberalize interest rates
- Asset-backed securities based on non-performing loans (NPLs) to be issued
- Overseas managers hired to invest part of state pension fund
- Foreign banks can now operate across the domestic banking market.

Sir David Brewer, Alderman, City of London

The rise of the individual and the individual private life has resulted in people becoming detached from their community as they move away from the rural areas. This has far-reaching implications for families due to the one-child policy as the traditional mutual support network of grandparents/parents/grandchildren care and provision is lost.

WORKSHOP 4: Poverty, Pandemics & Pharmaceuticals

How can the health and care industries help meet China's growing health challenges?

Anjali Radcliffe, Director, UK Advocacy Support, GlaxoSmithKline

Significant threats include the infectious diseases HIV and Hepatitis.

By 2030 predictions suggest that 40 million people will suffer from lung disease through tobacco. (China already has the highest mortality rate attributable to tobacco).

Diabetes is a chronic illness that will cause huge costs in the future.

Government policy for a "harmonious society" requires healthcare to be spread to rural areas. Key issue is balancing healthcare with rising costs.

Foreign companies wanting to sell pharmaceutical products in China need to conduct clinical trials on Chinese people even if trials have been conducted elsewhere. The same is required of a vaccine and involves repeating up to eight years of development. This can lead to delays in the availability of drugs. For example, a new cervical cancer vaccine will be available in the UK in 2007 but it will not appear in China before 2012 at the earliest.

Short-term cost containment has been traditional government policy rather than a systematic and sustainable view. This problem has been compounded by unpredictable decisions and lack of transparency. Tendering system in hospitals causes rounds and rounds of price cuts.

IPR is fundamental to pharmaceutical companies and their R&D. Regulatory authorities should be linked into the IPR authorities.

Prevention and self-medication should be emphasised (e.g. in case of avian flu).

Stuart Smalley, Head of International Developments, Department of Health

Department of Health (DH) plays part in China Task Force as one of key sectors in which to collaborate.

DH/UKT&I China Delivery Group aims to promote the partnership between China and the UK generally and specifically in the field of healthcare products and services.

Aims

- to develop a country healthcare strategy supported by operational plants to secure delivery
- Within framework of two Memoranda of Understanding (Ministry of Health and Shanghai Peoples Government) to ensure proposals are submitted to enhance commercial opportunities in PPP, Education, Finance and GP training
- Medical Education, including management
- Development of primary care
- e-Health and Telemedicine developments
- To develop a model of partnership working on a bilateral basis with Chinese partners to secure ownership and commitment within specialist areas.

New trade UK-China Working Group with members from UKTI/DH, industry including medical devices and pharmaceuticals, trade associations, CBBC and universities to address:

- IPR
- Regulatory approval
- Product registration
- Clinical trials.

DH and UKT&I recommend China as a priority market. 40 inward missions to visit NHS already and DH Ministerial visit to China in June 2004.

Memoranda of Understanding cover GP training programmes, continued professional development, traditional Chinese medicine, infectious diseases, health inequalities, nutrition, primary care development and healthcare financing.

Priorities initially to focus on

- Community-based healthcare including primary care management, GP training and smoking cessation projects
- Healthcare emergency response systems
- Combating infectious diseases, especially pandemic threats.

There is keen Chinese interest in the UK and the outlook is positive.

OBSERVATIONS AND ACTION POINTS

Selected from the final summaries of the Workshops provided by

Dr Kerry Brown, Director, Strategic China & Associate Fellow, Chatham House; Malini Mehra, Founder and Director, Centre for Social Markets; David Willetts, MP, specialist on welfare and pensions; Theodore Zeldin, philosopher, President, Oxford Muse, University of Oxford.

And interpolations from

Philip Dodd, Made in China; Clare Hammond, HSBC; Mark Harrison, University of Westminster; Andrew K.P.Leung, SBS, FRSA, Andrew Leung International Consultants Ltd; Nicolas Maclean, MWM; Professor Justin O'Connor, University of Leeds; Iain Orr, BioDiplomacy; Robin Rowland, Global Links Initiatives; Dhupa Venu, South Bank Centre; Edward Vickers, University of London.

Strategic

Generic Chinese manufacturers are moving into branding themselves and taking over the whole process of production from the design stage. UK needs to build on its knowledge and capability in order to stay ahead. Once production is lost, so are production skills, and critical mass in skills then disappears. The UK must continue to make things because that is how innovation occurs. The act of production is key. Japan is once again manufacturing at home for these reasons.

It is important to consider what the world will look like in 20 years time when it is confronting finite levels of resources. Companies need to think about products and offerings in the context of world resources.

Tactical

UK enterprises, according to evaluation by Glory Medical Group (China), are

- Too conservative entering the Chinese market and not aggressive enough
- Providing inadequate support in the registration of medical equipment
- Lacking local representative offices in China
- Not active in exhibitions or sponsorship activities
- Not engaged enough in understanding more about Chinese standards for medical equipment.

Opportunities

The social framework is changing as enterprises no longer provide housing, healthcare, education or pensions. Family support is beginning to break down with the second generation moving into their own homes. This results in difficulties for childcare provision as well as lack of support and care for the elderly.

There is a great void in provision of healthcare. Private health insurance – where the UK can offer support based on experience– is going to become a priority in China.

Changes in lifestyle have led to a radical increase in cases of diabetes - already 1% of the population - and this is set to increase to 4 or 4.5% over the next 30 years.

Heart, tuberculosis, bloods and diabetes monitoring could be conducted remotely through medical devices and mobile telephony so rural communities and individuals could be reached.

Screening is a very effective way of achieving early intervention in healthcare which ultimately reduces costs and resources in the long term. This is a huge opportunity for consultancy.

While there is some collaboration in the area of transfer of animal disease to humans, so far there is nothing about dentistry.

Particular points mentioned by Stuart Smalley of Department of Health International were noted:

- Medical treatment in China valued at US$100 billion rising 20% per annum
- Medical equipment / devices valued at US$50 billion rising 15% per annum
- Updating current equipment through technology breakthroughs valued at US$1 billion rising 25% per annum
- China's need for management consultancy, clinical training and telemedicine.

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4. CORPORATE GOVERNANCE, CORPORATE CONTEXT

THE ISSUES

Is the rapid growth of China's economy an example of the effects of market liberalisation and the rise of transparency and private ownership? Or is it the first example of a successful state-run economy with government-ownership and opaque regulations? Should China learn from OECD countries in the development of its economic system, or should OECD countries learn from and copy China's extraordinary success?

These are not academic questions if you are a foreign investor or senior OECD government policymaker. Many large foreign firms have come unstuck with joint ventures aimed at the domestic market, where decision-making among Chinese partners has been affected by political factors, and regulations have not been applied in a neutral fashion.

State ownership and government interference in commercial decisions, especially via opaque corporate governance processes, have often been blamed for such problems. However, is this a conscious Chinese strategy or a symptom of teething problems in the implementation of China's 'international economic integration' strategy?

Such fundamental commercial questions for investors have focused the spotlight even more in recent years on the question of what is state and what is private. Some 'private' Chinese companies appear to behave as if still under state control, either informally - or formally, with Party Committees publicly overriding boards established under new OECD-like corporate governance regulations. Establishing the nature and finances of one's business partner and the extent of state involvement is often made more difficult by complex cross-shareholdings and by huge off-balance sheet loans or equity injections.

There are four factors, which if better understood, can make a major difference in pursuing business smoothly in China, and in reducing structural risk. First, it is useful to be able to assess how 'private' a company is, and the factors which impact on this. Second, it is helpful to be able to understand the progress being made in establishing internationally accepted corporate governance and IAS norms, and the problems being encountered. Third, the pace of reform in the banking sector can be understood, not only the progress with banking regulation but also the significance of the major non-performing loan problem – and indeed the more recent use of banking regulatory changes rather than exchange rate and interest rate changes to manage 'excessive' lending growth. Fourth, it is important to understand the nature of 'national versus provincial versus local' decision-making and ownership.

These four factors are explored in this hearing held in May 2007. The aim is to help business representatives and policymakers in China and in the UK consider these issues and think through their perceptions of problems and policy solutions.

THE KEYNOTE SPEAKERS

The Rt Hon Stephen Timms, Chief Secretary to the Treasury

China's transformation is underway and will lead to competition and a need for long-term policy responses from us.

UK-based financial companies are enjoying success in China, e.g. HSBC, Standard Chartered, RBS, Prudential, Standard Life and Aviva.

Challenges to the UK now include maintaining right levels of skills in pace with globalisation.

Areas of cooperation in climate change include development of bio-fuels, clean coal and Dongtan eco-city.

Mr Gao Xiqing, Vice Chairman, National Council for Social Security Funding

Challenges

- Public governance: CEOs need professional and mathematical management

- Change ownership structure so that shareholders are more responsible
- Improve market system to open and fair competition
- Improve regulation by establishment of regulatory bodies.

Mr Wang Zhaoxing, Assistant Chairman of the Banking Regulatory Commission

China's banking system is one of the world's largest and most complex including
- Five state owned banks holding 56% of total assets
- 12 national shareholding banks holding 12% of total assets
- 19,426 urban and rural credit cooperatives
- more than 185 foreign banking operations.

The Asian financial crisis highlighted the devastating impact of a fragile banking system and this led to a more diversified ownership structure.

Three of the four state-owned banks (Bank of China, Industrial & Commercial Bank of China and China Construction Bank) reformed and have better corporate governance.

By 2006 foreign investment in banking sector reached US$35.12 billion in and included 29 foreign investors (up from five in 2000).

Eleven Chinese banks listed by April 2007 with US$2793.1 billion assets.

Three Chinese banks are now ranked amongst world top 10 banks in terms of market capitalisation.

Challenges
- Enforcing rules to millions of employees across thousands of banking outlets
- Introducing the essence of corporate governance and not just structure and framework
- Establishing corporate ethics and risk control culture in each bank.

Outlook
- Launch shareholding reform of the Agricultural Bank of China
- Reform China Development Bank
- Form closer partnership with UK
- Encourage Chinese and UK bankers to work closer together.

Professor Peter Nolan, Director of the Chinese Big Business Programme (CBBP), University of Cambridge

DTI has produced a scoreboard of Global 1250 companies in terms of R&D. 94% of the firms listed that produce the knowledge that drives the world economy come from high income countries.

BRIC countries (Brazil, Russia, India and China) have 2.7 billion people but only 12 global companies between them. The world looks different from that perspective.

In 2006 only three banks from developing countries featured in the FT500.

WORKSHOP 1: Is there a private sector in China? What are the restrictions on market access for UK companies?

It is often argued that there really is no private sector in China and that all decisions are political. Is this true? If it is, does it matter, and in what ways?

Stephen Perry, Chairman, 48 Group

Professor Paul Reynolds, Political Economist, University of Westminster

Gao Xiqing, Vice Chairman, National Council for Social Security Fund

Political strategy revolves around achieving social stability at a time when 200 million people are on the move.

So-called 'private' companies are not necessarily fully motivated by maximizing returns for shareholders.

Private sector has achieved better returns than state sector but rates are still relatively low (e.g. versus Brazil).

Owing to ownership structures there is more motivation to show lower level of profit rather than higher dividends which would require giving more to the state.

Chinese government has taken many steps to dampen down growth including regulatory and administrative measures which have dealt with potential excesses of growth.

Many investments are made at provincial level taking into account broader, social issues to limit unemployment and elite dominance in some parts of China.

There is a difference between companies that are private from the outside and those that were formerly state-owned enterprises. Investors need to be clear about which category they are looking at.

'Propping' is used so that an entity can be shown to be profitable and listed. This is achieved through complex cross share holdings within Chinese companies.

'Tunnelling' methods used whereby cash from the JV is extracted and repatriated from Hong Kong.

Some companies may look to make short-term profits rather than focus on long-term survival.

Attendees at one of the workshops

Eric Beinhocker of the McKinsey Global Institute, who reported back the findings of one of the workshops

Professor Paul Reynolds of University of Westminster delivers the action points from one of the hearings

WORKSHOP 2: Corporate Governance and International Regulations

How do we do business if we don't play by the same rules? Which rules need to change on both sides and how? Will the opening of our foreign banks in China make a difference? Will the West change China or will China change the West? How will international regulations and institutions adapt? How do UK companies work in Chinese corporate contexts? What reforms are needed?

Frank Post, Group Communications Director & Head of Strategic Marketing, British Standards Institution

Standardisation is new in China though it has now adopted 46.4% of the international standards portfolio and is encouraging enterprises to use and participate in standards to help it become a more international player. (UK by contrast has adopted 98%).

Standards focus on 10 key areas including agriculture, food safety, energy saving, service industries.

Vincent H.S. Lo, Chairman and Chief Executive, Shui On Group

In traditional Hong Kong and Chinese family-run businesses, corporate governance is a nuisance as it runs counter to tradition.

There is growing realization that companies will have to play by the rules but it will take a long time to adapt.

There is a real shortage of independent directors and appropriate training.

Stoyan Tenev, lead economist for the East Asia and Pacific Region of The World Bank Group's International Finance Corporation (IFC)

Chinese local governments may have split loyalties to central government, benefiting from being shareholders in local companies. Regulatory competence is needed at local as well as central level.

New civil mechanisms are available enabling criminal action to be taken by shareholders. Fiduciary duty is emphasized and enables shareholders to pursue law suits and class action suits.

The Communist Party still bypasses corporate governance by appointing personnel without consulting the board.

Mike Ashley, Partner, KPMG and Member of the Accounting Standards Board

More than 1400 companies are listed in China on the Shanghai and Shenzhen stock exchanges amounting to Rmb 9 trillion (or US$1 trillion).

Corporate governance covers four main mechanisms

1. Ownership itself.
2. Relations with shareholders and the board.
3. Management incentives.
4. Financial transparency.

Only about one third of shares are tradable such that a speculative short-term trading environment exists.

In November 2005 China announced adoption of international accounting standards and by 2006 more than 30 standards had been introduced.

The ISB needs to change its standards in order to work in a planned economy like China's.

48 new accounting standards and auditing standards, closely modelled on international ones, were promulgated in 2006.

Need for bigger supply of lawyers, accountants.

WORKSHOP 3: Future of China's Financial System

What do China's bad loans mean for the global economy? What is the direction of China's banking reform? How will China's property rights ambiguity affect global financial stability? To what extent will China open the financial sector to foreign banks? Does China see foreign banks as predators in their market? Would they be right to think so?

Yi Wang, Partner, McKinsey & Company, Shanghai

Since 2003 there have been dramatic and successful changes in the banking sector due to banking reform.

- Rate of growth of net profit of listed banks has shown 25% growth per annum over last three years
- Over US$20 billion of investment has come into the banks over the same period
- Five state banks between them have some 56% of assets
- Foreigners can have up to 20% equity
- By April 2007, 11 banks had launched IPOs (initial public offerings).

On corporate governance, however, there is still a long way to go in terms of responsibilities, board composition, role and operating mode.

- The supervisory board is still an anomaly, and boards of directors are not fully empowered
- While some boards are reasonably sized with committees in place, there is an insufficient number of independent directors and not enough participation by them in board committees
- In reality the boards do not actively and effectively participate in major strategic issues
- Boards lack real ability to nominate and select senior managers and consequently to manage and develop talent and succession.

Different foreign investors are pursuing diverse strategies in China, but their ultimate impact is still unclear. On the plus side, there is some progress in the area of risk management.

- Some board risk management committees are being set up and the risk function is becoming independent from branches and vertically managed
- Basel I requirements are being met though the process to move to Basel II remains to be done
- Training is conducted by world-class experts, although internationally experienced risk staff are still to be hired
- Internal procedures are being tightened to identify fraud – but the mapping of key risks and building operational risk quantification and measurement capabilities are not yet in place.

Overall, it is the mindsets that need to change. Boards of banks in China have to become more aware of their fiduciary duties, management more disciplined, and both need to become more accountable to the public and to investors.

WORKSHOP 4: Chinese local power politics and business

As economic decision-making is decentralized, opportunities and problems occur in equal profusion for foreign companies.

James Kynge, Head of Pearson in China, author of China Shakes the World

Chinese government is like a pyramid that is very resilient and flexible. There are functional reporting lines to the centre and local reporting lines that give a level of autonomy locally - similar to country heads reporting into international headquarters of a multi-national.

The system is like a monolith of polystyrene with local governments

- collecting taxes
- adhering to budgets
- making infrastructure decisions
- deciding on which foreign government approvals to give
- responsible for local oil, gas and water resources and
- payment of local courts and police.

Stringent rules from the centre require local governments to bend them in order to achieve targets. This sometimes results in disobedience and sometimes corruption.

Lack of IPR enforcement is due to local decision makers.

The UK cannot influence this situation. China is made up of more than 2000 counties, many the size of the UK.

Tim Clissold, Banker, author of Mr China

Chinese history runs in 200-300 year cycles of stability followed by collapse. China now is in the early stages of the current cycle and there is tension between the centre and the localities.

China has very little legal framework within which to operate. Local politicians are very important.

OBSERVATIONS AND ACTION POINTS

Selected from the final summaries of the Workshops provided by

John Adams, Director, China Financial Services; Professor Peter Nolan, Director of the Chinese Big Business Programme (CBBP), University of Cambridge; Stephen Perry, Chairman, 48 Group; Frank Post, Group Communications Director & Head of Strategic Marketing, British Standards Institution; Stephen Whaley, lately Leader of Lambeth Borough Council, London, and now Director of Knowledge Transfer, University of Westminster.

And interpolations from

Hugh Davies, Orient Asian Partners; Dr. Michael Keane, Queensland University of Technology; Andrew K.P.Leung, SBS, FRSA, Andrew Leung International Consultants Ltd; Nicolas Maclean, MWM; Dr Joseph Mariathasan, Vermilion Partners Limited;Dr Geoffrey Sheppard, Roundcraft Ltd; Edward Vickers, University of London; James Wang, ELI International Holdings; Elizabeth Wright, University of Nottingham; Clare Hammond, HSBC.

Strategic

China will become pivotal in shaping international standards in the future. For now, the international community can encourage and support enforcement and implementation.

The UK should become more involved in offering high level advice on financial system globally. UK is central and with huge experience. It can play a mediatory and mitigating role between the US and China. This could be achieved by bringing top officials from CBC and CSRC (China Securities Regulatory Commission) to London.

Follow up the China Financial Dialogue set up at the Department of Trade & Industry. UK has experience of a stock market crash in 1987 and this is relevant in light of the potential for a future financial catastrophe.

UK could provide a talent pool for the demographic shortage facing China of a shrinking workforce from 2012. Assistance could be provided in promoting key skills in areas such as consumer marketing, lending, and pension and wealth management.

To create cooperation we need to train our own people to know how to deal at local level.

Promote further the senior level exchange of regulators through sessions with leading bankers and make use of the Treasury and China Task Force to communicate the City's body of knowledge to China.

Push China - gently – to open up more in areas of securities, capital markets, fund management, asset management and private banking where UK can offer plenty of experience. If used wisely, the 50% GDP currently held in savings could fund China's future growth. The benefits to China would outweigh the loss of control.

Innovative ways of becoming conversant with the language and culture are important. Why is there not a 'Learn from China' office?

Tactical

Foreign investors need to understand where the power lies and where the controlling forces are when looking to partner with Chinese companies.

New public policy requires companies to address social imbalances. An investor therefore needs to understand Communist Party policy.

Wholly-owned status gives a company control and is preferable but a joint venture (JV) enables it to get established quickly and offers access to local personalities and important relationships. Ideally a western company should ensure that it has complete control of the company even if the board and legal representative are nominated by a local partner.

Opportunities identified

Housing finance in China could become one of the world's biggest capital markets.

China is very keen to develop its own IT standards.

The issues to focus on are not non-performing loans (NPLs) - as the problem has been largely resolved in three of the four commercial banks. The issue is how to transform the country from the position of a mass producer of cheap goods to one of high tech and services, given demographic changes due by 2015.

How can the banking sector transform itself to enable development of high tech and innovation? The funding mix must be adapted. The banks will need to start investing more in the private sector (at present 80% of loans go to state owned enterprises) where the innovation is.

Equally growth of consumer funding will be important to accelerate consumption and pension funding and wealth management over the next 20 years when many will retire and will need to have money to spend or China's economy will face difficulties.

The rural sector – where 50-55% of the population still lives – will require development and support.

The UK can provide internationally recognised and portable qualifications in banking.

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5. INNOVATION, EDUCATION, RESEARCH & DEVELOPMENT

THE ISSUES

Today's world is dominated by ideas and innovations that have largely sprung from Anglophone cultures. Yet soon Anglophones will be vastly outnumbered by the professional classes alone of other countries, notably China, India, Brazil and Russia, where society is developing very fast. Of these, China's is probably the most challenging, on account both of its cultural cohesion and of its cultural confidence. Yet to provide an alternative to Anglophone influence, China would need to be a source of ideas, of scholarship, of imagination. In this final hearing in June 2007 we deal with aspects of this issue: innovation, education, R&D and creativity.

Is China innovating? What does the answer to that question mean for the UK? Can foreign companies successfully undertake R&D in China? Does Chinese education pose challenges to the UK, and if so what are they?

The subject of education and research looms large in UK–China relations, in various ways.

First, the number of Chinese students studying at UK universities and colleges has multiplied. In 1998/9 there were about 3,000 Chinese students in UK tertiary education. According to the Higher Education Statistics Agency of Britain, 47,740 students from the Chinese mainland studied in more than 100 British universities in 2003/4, accounting for nearly one sixth of the overseas students in Britain. Chinese mainland students spend more than $3 billion on UK tertiary education every year.

Will the UK continue to be an important educational location for Chinese students? What adaptations will be necessary to maintain the UK's attractiveness?

Second, UK universities, research institutions and R&D-orientated research businesses are increasingly setting up shop in China. Is this a long-term trend or a short-term dash?

Third, and underpinning these other two factors, there is the connection between technical advance in China and the so-called 'hollowing out' of UK manufacturing industries and technologies. UK government policy expressly welcomes the industrial and commercial opportunities offered by economic relations with China on the grounds that we benefit too.

However, one key but controversial question is whether UK education and research policy is commensurate with the UK government's assumptions. Is it true that UK technology and research will advance fast enough? What will happen to the millions in the UK who work in lower-tech sectors, or have lower-tech skills? Are education outcomes for these sections of society compatible with the UK's specific approach towards economic relations with China?

Finally, the UK is affected by the rapid development of China's universities, which are ambitious both to have world class research and to compete in the global market for students. The UK must make sure it does not fall behind, yet many experts consider that UK education is severely hampered by first the way in which the state controls university finances, and second by the failure of local state schooling to provide adequately qualified entrants. In these matters, and possibly in others, the UK needs to learn from China[3].

THE KEYNOTE SPEAKERS

The Rt Hon Alan Johnson MP, Secretary of State for Education

Context

- Average GDP per head of the G5 is set to double by 2050. By contrast, China's is set to increase 30-fold.
- One third of the world's growth since 2000 has been in China. Half the world's cement and one third of the world's steel is produced in China.

[3] See De Burgh, Hugo; Fazackereley, Anne; Black, Jeremy: (2007) *Can the Prizes still Glitter? The Future of British universities in a changing world* UBP ISBN-10 0-9554642-0-X

The Rt Hon Alan Johnson MP, Secretary of State for Education

Mr Liu Mingkang, Chairman, Chinese Banking Regulatory Commission

Ms Hu Shuli, Editor, *Caijing* Magazine

Sir William Ehrman, HM Ambassador to China

Education

- 250,000 engineering students graduate every year in China
- Education plays a key role in the Britain–China relationship; there are already 160 partnerships between universities in our two countries
- Since 2005 60 PhD students have benefited from a jointly funded scholarship scheme and 200 students are going to China for a language and culture trip
- Third Education Summit will take place in autumn 2007 and will focus on industry so that academic research can be more closely aligned to the market.

Mr Liu Mingkang, Chairman, Chinese Banking Regulatory Commission. *The Icebreaker Lecture*

Summary of the Chinese economy

- Growth of GDP up to June 2007 has been between 10—11%

- Investment levels are growing at 29.5% up to May 2007 and consumption at 15.2%. Inflation pressure remains mild. Growth rates of energy prices are constant

- China is now the second largest trading nation and fourth largest economy. Quality of living standards is increasing. Annual disposable income keeps rising

- Urbanization: 43.9% of population in 2006 lives in cities (up from c.20% in 1980). This change has happened rapidly when compared with France, Germany and the US which took 100, 80 and 40 years respectively.

Challenges

- Structure imbalance of payments and services according to liquidity.

Two major issues

- Imbalance between investment and consumption: consumption share is lower than that of most Asian economies and recent fall in 2006 to 50% of GDP, as opposed to 62% in 1990
- Trade Surplus: liberalisation and opening up have led to many multinational companies entering the China market. Chinese companies themselves are getting more skilful and diverse and increasing in productivity as well as

moving up the value chain. But trade surplus has overheated. Stock and housing markets are affected. Limited number of financial products are available. Banking loans are the main vehicle for enterprise finance.

Need to rebalance growth. Recent actions taken

- Lowering the export tax rebates substantially on large number of exports and to tax extra on pollution and energy intensive products from 1 June 2007. Similar taxes will apply to glass, cement and building materials from 1 July. Major target is to reduce energy requirements by 20% in five years
- Creating space to step up social spending including pensions, education and housing
- QDII programme (institutional investor scheme to help people invest overseas and diversify assets)
- Starting to develop remote areas.

Key points for successful innovation

1. Anticipate and create new demand.
2. Embed new ideas and technology.
3. Risk control and its supervision.
4. Customer cultivation and education.
5. International cooperation – enhanced by integrating key components in areas of :
    - Science
    - Economics
    - Policy
    - Technology or expertise
    - Validated End-user Programme (VEP).

Ms Hu Shuli, Editor, *Caijing* Magazine

Context

- Only 10% of Chinese exports involve Chinese IP. 'This situation must change'
- Research & Development investment is an area that needs the most change as only four out of 1,000 worldwide listed R&D companies are from China.

New government goal

- "Independent innovation" and to achieve this by 2010 through
    - an increase in research and development spending from 1.3% to 2.5% of GDP and
    - a reduction in the rate of dependency on foreign technology from 50% to 30%
    - Tax preferences, financing and IPR protection
    - Discouraging high polluting, energy consuming companies.

Reforms necessary to provide environment for innovation

- Quality of human capital
    - Lack of technically adept workers
    - Microsoft and Google have set up centres in China but education system does not promote innovation and creativity
- Organising research and development : but innovation is lacking in business culture
- Education (including preparing Chinese graduates for foreign company engagement)
- IPR
- Factory price liberalisation
- Relaxing information control
- Political reform.

How can foreign companies help?

1. Recruit local talent.
2. Adapt business to the China market.

Effect on the UK?

1. Build cooperative framework for R&D in China.
2. Help China improve on IPR.
3. Strengthen cooperation with China in education.

Sir William Ehrman, HM Ambassador to China

Education

Context

- Higher education population has increased from 3.4 million in 1998 to 18 million[4] in 2006 with projections of increase to 20 million over next 15 years
- China's education priorities over next nine years include:
    - Achievement of nine years compulsory education covering 100% of the relevant age groups
    - Increasing the enrolment rates in secondary education (especially senior school) to nearly 80%
    - Developing secondary vocational education
    - Developing top-end educational achievement from among the best of the higher education graduates

[4] 18 million full-time, with a further five million part-time.

- 60,000 mainland Chinese students now pursue full-time education in the UK (up from 3,000 in 1998). UK has 60% of the Chinese students based in the EU
- The UK should remain an attractive study destination because of the following:
  - New UK policy (which took effect on 1 May 2007) enables international students to stay on in the UK for one year to work after completion of studies
  - Quality of the British education system and
  - World-recognised qualifications
- In 2006 140,000 Chinese students took the British Council IELTS exam for proficiency in English compared to 90,000 taking the US TOEFL qualification
- 82 British Higher Education institutions (about half the total) are helping to deliver education in China
- The UK also has the only two examples of a joint venture campus and a joint venture university in Nottingham/Ningbo and Liverpool/ Xian Jiatong University respectively.

Developments in the UK

- Over 500 British schools now teach Chinese
- There are now 10 Confucius Institutes and classrooms teaching Chinese language and culture in the UK
- 60 mainland Chinese teachers in British schools (set to increase to 80 by end 2007)
- 1,500 British students studying in China, a sizeable increase in 2006 of British students studying Chinese at university.

Science and Innovation including Research & Development

Problems

- Only one fifth of China's top 500 companies invest more than 2% of sales on R&D
- 90% of China's high-tech exports are produced by foreign-invested companies or Chinese enterprises licensing or assembling foreign technologies
- China may be the ICT export king, but its R&D value-added in electronics and telecoms is barely one sixth of that of the US and in pharmaceuticals more than one twentieth of that of the UK. 2006 OECD report found that in 2006 China accounted for 177 patents awarded in the US, EU and Japan compared to more than 19,000 for the US and 2,000 for the UK.

Context

'Made in China' no longer means cheap jeans and plastic toys: 35% of China's total manufacturing exports in 2005 were high tech goods (up from 16% in 1995).

The following come from China:

- 80% of world's photocopiers
- 60-70% of mobile phones
- 60% of digital cameras
- 50% of computers
- 45% of microwaves (from one factory in Guangdong).

Since 1990s China's national spend on R&D has grown by c. 20% per annum (or twice overall economic growth rate).

The OECD estimates that in 2006 Chinese government and industry together spent $136 billion on R&D adjusted for purchasing power parity. (Japan spent $130 billion and US $330 billion).

The future

- China is now the fifth most prolific science thesis producer
- Huawei has opened R&D centres in UK, Sweden, US and Russia and is spending 10% on R&D
- China has an increasing number of innovative start-ups
- Government target to increase amount spent on R&D from 1.4% to 2% of GDP by 2010 and 2.5% by 2020
- The government intends to put business at the centre of innovation including:
  - Clean and renewable energy
  - Infectious diseases
  - Bio-medicine
  - Space technology
- Almost 5% of engineering papers emanating from the UK had Chinese authors
- A joint fund, called Innovation China-UK will be launched in 2007 for R&D projects with strong commercial potential.

WORKSHOP 1: Education: The China Challenge

How will European education continue to attract Chinese students? What jobs will people in the EU be doing in 20 years time? How will our education adapt?

Prof Hu Zhengrong, Pro Vice Chancellor, China University of Communications and Leverhulme Scholar at the China Media Centre, University of Westminster

Changing Chinese education and collaboration between Chinese and UK educational institutions

Changes in Higher Education

- In 1990s Premier Zhu Rongji's top priority in education was to build up specialist universities (either merged or expanded). The result is that the number of universities and colleges has increased from 1100 in 1998 to 1909 in 2007
- Number of undergraduates on four or two year programme has increased from 3.4 million in 1998 to c. 18 million[5] in 2007 with a forecast of >20 million by 2010 under the 11th Five Year Plan
- Rate of enrolment has increased from 8% in 1998 to 21% by 2005 (forecast 25% by 2010)
- Universities of Excellence receive priority funding from the government
- Two "pivotal" state programmes designed to modernize education since the 1990s include:
  1. Project 211 aims to build 100s of top universities and key areas of study for the 21st century. It is a project that deliberately concentrates larger sums of money to provide high-level institutions.
  2. Project 985 aims to develop world class and world famous research universities. It was created in 1998 to concentrate high-level funding on a much smaller number of top universities. This project currently involves 38 institutions. (Some specialist universities will be listed into Project 985 such as geology, mining, petroleum and communication).

New Emphases

- Innovative state/Innovative HE is the new watchword, aiming at developing originality and creativity to shape economic growth over the next 20 years.

The current dominating labour-intensive development model will change into a technology and capital-intensive one, and that requires more management personnel, and specialists who are competent in the related economic sectors.

HE policy changes

Government now holds that China is in need of state-of-the-art technology and talents and that innovative higher education provides creative human resources.

"Project Quality" launched in 2007 involves

- Broadening of university programmes on offer
- Reform of modules
- Flexibility to meet student personality.

"Project of University Students Innovative Practice" launched in 2007 involves

- internship enhancement
- practice improvement.

International Collaboration

- Huge demand for HE as 10 million high school pupils need a place at tertiary level universities in China (2007-2010)
- 100,000 students have applied for overseas universities since 2002
- Ideal partners will be top class comprehensive universities around the world and universities with top class disciplines and majors and specialist universities.

Sino-UK Collaboration

- UK is one of the favoured destinations for Chinese students
- Those who have studied for masters degrees and return to China are mostly from UK and Japan.

Problems for the UK

- Since 2005, the number of students going to study abroad is dropping
  - number of Chinese students to UK for bachelor degree dropped 35% (2006).

- Chinese students studying abroad for doctoral degrees who return to China after graduation are mostly from Japan, the USA and Germany

- There is a wider choice of destination for Chinese students with lower tuition fees and expenses including:
  - West and North Europe
  - Australia, New Zealand
  - Canada.

- Little opportunity of internship or jobs for Chinese students.

[5] As footnote 4 on page 36.

Professor Drummond Bone, Chairman, Universities UK and Vice-Chancellor, University of Liverpool

One-way nature of education trade between UK and China:

- 11,000 Chinese education courses run in China by UK institutions but ONLY 1,500 British students in China contrasted to 60,000 Chinese students in the UK

- Chinese students receive educational products in the UK that are on offer to other overseas and domestic students. No courses are tailored for Chinese students.

How does UK education fit the China market?

Capacity problems cited as reason for drop in Chinese student numbers and cost of living is high in UK.

There is now an opportunity to tailor education in China. Liverpool established university in Suzhou offering recognizable Chinese and UK degrees in China.

The educational future

- UK needs to have more UK students go to China – this could include placements with businesses in China and mentored by Liverpool
- UK Research Council is opening an office in Beijing but will have to work closely with Chinese business
- Interchange of staff is crucial between UK and Chinese institutions
- Uncertainty over investment in China
- There are real differences in culture so be prepared to invest time to establish relationships and joint ventures.

Professor Geoffrey Petts, Vice-Chancellor, University of Westminster, and Professor Hu Zhengrong, Pro Vice Chancellor, China University of Communications and Leverhulme Scholar at the China Media Centre, University of Westminster

WORKSHOP 2: Capturing Creativity

Will Chinese manufacturers soon design the products they are making, leaving European companies as traders and retailers? Many businesses that have moved production overseas have found themselves adapting their entire business environment. What will European jobs and businesses look like in the future?

David Kester, Chief Executive, Design Council

Context

- Creativity and design are central to reaping economic and social benefits of industrialisation. China cannot wait 150 years to catch up so already the "leapfrog factor" is being put into effect over whole cycles and technologies
- China recognises its need to acquire design and is investing heavily in it
  - 400 specialist design schools have been established in 20 years
  - 30,000 graduates per year have design skills
- Indigenous design is very important
  - Design UK is a trading asset worth £11.6 billion per year and employs 185,000 people.

The UK in China

- There is a huge capability growing in China but there is a time-lag so the opportunities are now
- Seek strong trade agreements
- Be more "Chinese" and train our designers in Chinese. Design always follows manufacture so the opportunities are naturally in China
- Use design to commercialise our own domestic science base and to complement our Knowledge Economy
- Build up confident networks of trust (Guanxi).

Will Hutton, Chief Executive, The Work Foundation

Recent achievements

- a growing private sector now representing 15% of GDP
- a dynamic FDI sector
- innovation and design in R&D
- China does invest in mega research projects:
  - Deep sea underwater robotics – where China is world leader
  - Missile technology.

Problems

Only 0.5% of GDP is spent on creative industries. China wants to go up the value chain but keeps failing to meet targets.

Two thirds of all products impounded by the US customs for IP infringement are Chinese. This is a huge problem.

US$137 billion of foreign exchange is a colossal amount of money and China needs to cap this or there will be huge inflation, one of the reasons for the Tiananmen unrest in 1989.

Highly intelligent ICT-enabled and networked people in China but many work for state-owned enterprises that house a Communist party group and have to support housing, education and health etc of their employees. These all inhibit creativity and the development of a meritocracy.

John Frieslaar, Chief Technology Officer, Huawei Europe

India is more about software and China about hardware.

In the West 'softer' subjects have replaced the hard core of science, maths and technology. In China, however, students are hungry for these harder subjects.

When dealing with China

- Be flexible
- Understand that the Chinese will work very hard and even 24 hours a day
- The Chinese develop solutions very quickly.

WORKSHOP 3: R&D

Multinational companies are beginning to move R&D to China. What are the conditions in which this can succeed and why does it sometimes fail?

Lord Powell of Bayswater, Chairman, China-Britain Business Council

There is an appetite for a cooperative framework between Britain and China for R&D and for IP, particularly in

- Bio-sciences
- Space
- Nano-technology and
- Bio-technology.

The big question will be how to commercialise R&D and particularly how to involve venture capitalists.

Dr Chris Cullen, Director, Needham Research Institute, University of Cambridge

China from a historical perspective

Historically China has been very successful: imperial examination system meant that the brightest people governed and there was social stability.

China invented gunpowder, the magnetic compass and printing and in agriculture, metal production and ceramics they set the highest standards and made money.

However, it is social, political and cultural structures that facilitate R&D and innovation. What went wrong with China in the nineteenth century? Europe flourished because there were independent states but borders were permeable for cross-fertilisation of ideas and successes. China has not been like that since the Warring States Period 2,500 years ago.

In Europe professional scientists take their standards of right and wrong work from fellow scientists and not from any ministry of science. 'Social software' is needed to enable independent intellectuals to develop ideas without having to submit to the state.

Problems for R&D in China

- Strong central control in China makes research inefficient
- Large funds are frittered away as they are given out for political reasons
- *Guanxi* rather than good science can result in funding success
- 80% of foreign-trained Chinese scientists elect to stay abroad. (The motivation for some, obviously, is remuneration but the system also plays a crucial part in their decision).

Dr Stephen Minger, Director, Stem Cell Biology Laboratory, King's College London

Current situation

In stem cell work China has a large number of quality graduates and research is aggressive.

Since 2004 Britain has seen China as a major opportunity. As a result the Medical Research Council has established a base there and the Royal Society is now involved.

There is a current drive for UK/Chinese research centre with DTI funding with bio-medicine as the focal point.

Future

More exchange programmes and fellowships are needed. Chinese scientists want to be taken seriously.

Jennifer Schooling, Research Manager, Arup

Context

- The world is moving from the Industrial Age to the Ecological Age. Our environmental and social impact MUST change the model of development over the next 30 years. The planet cannot cope with the 'Keeling Curve' that shows that as GDP per capita rises energy use increases inexorably
- Sustainability is a huge opportunity area for business, particularly with an integrated systems approach.

What can the UK offer?

- Multi-disciplinary development versus China's silo thinking
- High reputation of our academic institutions
- Legal leaders for proposals in climate change legislation.

What can we gain?

- Opportunity to run case studies in China
- Chance to adopt and address the issues
- A chance to collaborate on new technologies.

How can we make this happen?

- Engagement at all levels including academia
- Building of science and innovation parks to attract high-level academic endeavour
- Funding of knowledge networks
- Collaborative research centres
- Look at brown-field versus green-field sites.

WORKSHOP 4: Science, Innovation and Collaboration

The 11th 5 year plan stressed China's ambitions for innovation. China has been quick to apply science to business and spread scientific knowledge and understanding of applications. International scientific collaboration.

Sir David King, Chief Scientific Adviser, HM Government

Context

- Enormous progress has been made in collaborative projects between Britain and China in scientific development in China, e.g. technology transfer in flood control and feeding into China the impact of the environment, carbon capture and storage
- 3.2% of the world's scientific publications are from China. As China's science develops we can expect these to grow in number too
- UK Research Council has established an office in Beijing which will enable better collaboration.

Current collaborative projects

- Energy – low carbon, hydrogen fuel cells and biomass and carbon capture
- Space technology
- Bio-medicine
- Joint commission on science & technology
- Climate change
- Infectious diseases
- Innovation China UK (financing for 'proof of concept' R&D projects).

UK strategy

- Create strong research interactions to strengthen our own innovation base
- Aid in international development (e.g. Africa and to see how our interaction there can improve development)
- To raise our influence and open up channels of communication.

Professor Caroline Quest, Chinese-British Scientific Collaboration Project, Queen Mary University

Innovation China UK was created to collaborate with Chinese academics working in universities here and to enable business development support and technology transfer to their counterparts in China.

The project is worth £5 million over two years and is funded by HEFCE and DTI. China's Ministry of Science and Technology is providing match funding. The project launches in September 2007.

Partners in the project include

- Five UK Higher Education Institutions in London
- 20 Chinese institutions
- plus involvement from lawyers, business angels, venture capitalists etc.

All projects require "proof of concept" (a new idea in China) and a purpose and will give joint rights for IP and exploitation.

Projects include those relating to

- Infectious diseases
- Nano-technology and
- Energy.

Project deliverables include

- Joint papers
- Joint patents
- Licensing option agreements with business.

Chen Xiaodong, Director of Graduate Studies, Queen Mary University, London

An effective model for scientific collaboration with China in joint venture research and long-term investment with clear demarcations of responsibility from the outset should have clarity on the following:

- Leading and support roles
- Commitment from both parties
- Effective management
- Appreciation of different cultures, administrative styles and language
- Both parties should be prepared to put in effort.

OBSERVATIONS AND ACTION POINTS

Selected from the final summaries of the Workshops provided by

Professor Geoffrey Copland, Vice-Chancellor, University of Westminster; Professor Hugo de Burgh, Director, China Media Centre, University of Westminster; Ms Sally Feldman, Dean of Media Arts and Design, University of Westminster; Sir David King, Chief Scientific Adviser HM Government & Head of the office of Science and Innovation; Professor Geoffrey Petts, Pro-Vice-Chancellor, University of Birmingham (subsequently, from August 2007, Vice-Chancellor, University of Westminster); Lord Charles Powell, President, China-Britain Business Council.

And interpolations from

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Strategic

- More work experience opportunities are needed in both countries
- Business should be involved in the funding for scientific collaboration projects
- Venture capital companies should be encouraged to fund research in China
- The UK needs urgently to address two educational issues that place it at a disadvantage vis-à-vis China:
  - poor basic language and numeracy skills generally and the gap between the elite of education and a majority inadequately educated
  - failure to study and respect other cultures and languages
- The UK government should relax visa rules and encourage opportunities for work experience within industry and commerce. More Chinese tourists go to France and Germany than the UK because of visa restrictions. This should be addressed
- The UK's cost of living is a barrier to any further increase in the numbers of overseas students and scholars, as it is to tourism
- Foreign languages should be re-introduced in the UK educational system as a priority
- In the UK we need to find opportunities for work placements during the long holidays. Chinese MBA students need to experience international working practices
- UK Plc must invest more in UK qualifications that can be promoted in China
- Extended visas should be given for two years (as in Scotland) rather than one for students on completion of studies
- We need an agency that studies developments in China and diffuses knowledge of them in the UK.

Tactical

- UK Universities need to internationalise their curricula if they are to continue to appeal to international students
- The exchange is too one-way. We need to take students from Britain to China
- A condition of the UK using its competence in the culture industries to develop business in China is greater knowledge about China and Chinese culture
- The Research Council UK's new Beijing office should be used as a means for assessing the quality of partnerships
- Universities wanting to have more Chinese students should attend to their integration and well-being. Chinese students despair at their inability to interact with English students and to integrate into English life
- Universities should provide help with gaining work experience: UK job application process is very different from Chinese methods, so it is hard to find work after graduation.

Opportunities

Particular areas of opportunity for UK companies identified by Mr Liu Mingkang:

1. Energy efficiency and policies
2. Environment protection means and policies
3. Linkages between energy and environment policy
4. Exploration and extraction of natural resources
5. Health and medical care
6. Education
7. Pension and housing policies
8. Productivity and standards research
9. Data collection and sharing
10. Transparency, reliability and predictability
11. Financial innovation: markets and products
12. Co-operation of supervision and regulation.

FURTHER READING

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THE EDITOR

Hugo de Burgh, who directed the Westminster Hearings, is Director of the China Media Centre, Professor of Journalism at the University of Westminster and Visiting Professor of Tsinghua University (PRC 985 International Leading Scholar Programme Second Round/Specialist Plan for the Introduction of Key Knowledge and Talents).

He is also Chairman of AGORA, the higher education think-tank. His most recent books are (2006) *China: Friend or Foe?* (Icon) and (2007) (co-editor) *Can the Prizes still Glitter? The future of British universities in a changing world* (UBP).