

Final Conference on the OECD Review of the Chinese National Innovation System and Policy

Beijing, 27-28 August 2007

Business appreciates the opportunity to participate in the OECD Conference on the “Innovation System in China” and commends OECD’s comprehensive and well-articulated analysis of the Chinese Innovation System and Policy. BIAC is pleased to submit its views on this important issue.

China: Driving Towards an Innovative Economy

China’s rise in today’s global knowledge-based economy has been prominent over the last decade, with an economic growth rate of 10.2%¹. “Innovation” is the catch-word in today’s economy, with the public science and technology base seen as an important engine for innovation. Towards this end, the National Innovation System in China is being shaped and strengthened at an impressive pace over the past two decades. Nonetheless, China requires enormous changes to become fully innovation-oriented by 2020 and a leading innovation centre in the world in the longer term.

This paper sets out recommendations and some concerns from the business community regarding China’s Innovation Strategy, reflecting the community’s experiences of ways to achieve sustained growth and development.

Coherent Policy Strategies

Productive innovation depends on a wide range of qualities and framework conditions throughout the economy, including education and public research systems, regulation and market demand. Understanding of Innovation Governance (defined in terms of the institutional structures and processes enacted to enhance the efficacy of the innovation system)² has developed significantly in recent years, reflecting the increasingly dynamic, complex and interconnected nature of the economic environment.

In such environments, coherent political and policy strategies at structural and institutional levels and coherent processes for decision making and implementation are of fundamental importance. Policy coherence is particularly significant today, and requires good co-ordination between ministries at regional, national and local levels. Greater innovation also mandates a transparent regulatory environment with minimum arbitrariness and “red-tapism”. As is highlighted in the OECD’s report, the Chinese government understands these points and is legislating accordingly. The international business community active in China has also witnessed these developments. However, it is vital to ensure effective implementation and enforcement of this legislation, which

¹ OECD Factbook 2007 for Economic, Environmental and Social Statistics

² OECD Review of China’s Innovation System and Policy- Annex 1 (DSTI/STP(2007)3/ANN1

requires continued education leading to better awareness of the issues at stake, and differentiated responsibilities for policy development and policy implementation. Today, China lacks such clear-cut institutional differentiation. Such issues need to be ironed out to ensure that progress is not slowed down due to these reasons.

Reaping Benefits from an Open Innovation Strategy

Currently, Chinese innovation policies place emphasis on the national plan for developing indigenous capabilities for innovation, with a view to leapfrogging into leading industrial positions. This is an ambitious and important objective, but also contains points of possible concern. The plan seems to imply reduced dependence on foreign sources of technology, yet is being implemented during a period when innovation processes are becoming more open and interconnected.

With success depending more and more on the effective movement of knowledge among people, firms and public institutes, the distinction between an indigenous and a foreign innovative company becomes less and less meaningful. The trend towards global, open forms of innovation is strong and here to stay, and there is common interest in identifying and implementing those policy approaches that will benefit local economies. The emergence of China as a major player on the world stage has implications for innovation policy everywhere. The aim should be to establish approaches that create these local benefits by delivering sustainable economic development on a global scale.

Open markets for cross-border trade and investment increase competition in product and services markets and thereby have positive effects on innovation. Moreover, cross-border investment generates technology spill-over effects including through the transfer of proprietary technologies, know-how and management techniques. OECD studies confirm that foreign owned firms can bring with them higher labour productivity, skill and R&D activity than domestic firms in host economies.³ China can shape its innovation policies in order to maximise these benefits from globalisation.

Financing Innovation

Continued innovation requires sufficient capital and financial resources to support innovative practices and the translation of ideas into useful products and service. This includes foreign investment (FDI) as well as domestic investments for indigenous innovation. While FDI as well as government and local investment in R&D in China has been on the rise, as the OECD points out, market-based mechanisms for financing innovation in China are still relatively limited, including in respect of venture capital. This is said to be mainly due to the lack of expertise and necessary legal and regulatory conditions required for the functioning of an adequate venture capital system.⁴

The Chinese Government has already undertaken some initiatives in response to the lack of funding, such as setting up funds and providing loan interest subsidies. Efforts to enhance market-based mechanisms such as venture capital, private equity and corporate bond markets should also continue. More importantly, the Chinese government should ensure that sufficient exit alternatives (e.g. domestic or foreign IPO in M&As) are available for investors to fully realize the return from innovation. Removing restrictions on foreign securities firms will also result in new and innovative products, services and financing for business and entrepreneurs.

³ OECD: Economic and Other Impacts of Foreign Corporate Takeovers in OECD Countries, DAF/INV/WD(2006)15REV1, p.10

⁴ *Supra* note 3.

Open and efficient capital markets enable entrepreneurs to take greater risks. With greater access to debt and equity as a means of exit from their investments or as a source of continuing finance, entrepreneurs can be more willing to take the risks inherent in founding new and, innovative ventures, expanding operations, entering new markets and developing new product and service offerings. Addressing this issue through regulatory and other changes will enable more businesses to engage in the innovation process.

The banking sector also plays a key role in making finance available for innovation. In China, the financial system is dominated by large state-owned banks that have suffered as a result of bad loans given out to large state-owned enterprises, estimated to be as high as 900 billion US dollars⁵. Although the trend has been slowly improving, further reform is still necessary to avoid the next generation of bad debt.

While financial support from the government should and will increase, the focus on indigenous innovation should not prejudice foreign companies' vis-à-vis domestic companies in any way. The Chinese authorities should recognise that increased funding, which targets one specific sector, is likely to create trade and competition distortions which should be avoided whenever possible.

Intellectual Property Rights

Forward-looking approaches to the protection of Intellectual Property Rights provide the incentives for firms and individuals to invest in generating new technologies and new products. A high-quality and properly-enforced IPR system is a fundamental requirement for innovation and investment everywhere. In order to maintain momentum of innovation, IPR laws in China must be effective and must also be well enforced. Many IPR laws are now in place in China; however their enforcement and implementation remain inadequate. Proper national and cross-border IPR enforcement is a major issue requiring urgent attention. This encompasses patents, copyrights and trademark infringements, and requires greater public awareness of the importance of respecting IP rights, and the implications of infringement – not just for the owner but also for governments, consumers and society at large (see report of the OECD counterfeiting and piracy study, phase 1).

The infrastructure used to manage the IP system in China also needs improving, for example by training a sufficient number of professionals. Businesses witness delays in processing their patent and trademark applications, because of understaffed patent offices, and there is a shortage of IP specialists working within government and in local company management. We also call upon Chinese authorities to ensure that the planned 3rd amendment of the Chinese patent law will not increase the hurdles for foreign patent applicants and patent owners, e.g. by complicating the regulations concerning compulsory licenses and foreign filing systems. Effective and properly enforced patent rights and confidence in IP laws encourage innovative companies to seek patent protection and thus to publish their innovations instead of keeping them secret.

Compulsory Technology Transfer

Many foreign companies operating in China have faced the forced or compulsory transfer of their proprietary technology. Although some issues associated with technology transfer are a natural consequence of the rising flow of FDI and foreign collaborations in R&D, it is important to strictly curb the compulsory and enforced technology transfers endemic in China in recent years. One example lies in the non-payment of royalties.

Finding they must take steps to counter forced technology transfers and deficiencies in the Intellectual Property Rights regime, companies inevitably become less forthcoming in sharing their core and cutting-edge technologies, which is surely detrimental to China's development.

⁵ *Supra* note 4.

Competition Policy

A proper balance is needed between competition, market development and regulatory objectives in order to stimulate innovation. This emphasises the importance of establishing effective product and services market regulations that reduce regulatory barriers to competition. The current, anti-competitive regulatory system in China requires urgent attention if the government wishes to spur innovation. Competition laws serve various purposes including protection of consumers, economic development and industrial policy. It is important that antimonopoly concerns are not used as a pretext for ignoring legitimate IP rights, particularly where foreign IP has become incorporated into international standards important to local markets.

China is currently in the middle of discussions on its anti-monopoly law (AML). This law should be written and applied in ways that prohibit anti-competitive practices but do not create obstacles to competition. Care should be taken to ensure that foreign competitors, notwithstanding market shares or their IP, are not treated unfairly under this law. Further, the AML should seek to consolidate competition law in China at legislative, institutional and enforcement level and to meet international standards.

Standard Setting

The importance of standards in the international trading system cannot be under-estimated. As has been pointed out by the OECD, technological standards play an important role in the field of science and technology development. Such standards have often been used, or applied, to support an infant industry policy or otherwise to protect domestic industries from foreign competition. But standards have also been shown to play a critical role in enhancing competition, improving economies of scale, and promoting interchangeability, compatibility and co-ordination. To better capture economic value from its technological progress, there is need for China to improve its standards regime. This regime should subscribe to international standards, in particular to WTO obligations, and can then be used to support the Chinese innovation system.

To promote indigenous innovation, Chinese officials often suggest the use of self-owned standards. For instance the recently promulgated Shanghai Municipal Government IP Strategy calls on the government to “actively promote the formulation and implementation of technical standards with self-owned intellectual property rights and translate that technological advantage into a marketplace advantage to maximize the benefits of Intellectual Property Rights”.⁶ Such practices of imposing own domestic standards can adversely affect innovation. The development of domestic standards that are not accepted elsewhere makes it more difficult for exporters to enter the market. It also limits future opportunities for Chinese companies themselves to export goods and services. Therefore, it would be prudent for China to formulate standards that are in alignment with international standards. More importantly, China should be encouraged to actively participate in the promulgation of international standards.

Human Resources

Human capital, especially in science and technology, is of growing importance for innovation and technology-led economic growth. In the new economy where knowledge is the source of wealth creation, human capital becomes as important as financial capital. Measures to enhance the quality of the supply of human capital are essential. A primary source of productivity growth is technological readiness and innovation, which in turn requires a well-educated and skilled workforce.

⁶ Mr. Alan WM Wolff, “China’s Drive Toward Innovation”, Issues in Science and Technology

China faces one of the most complex human resource challenges today, with a workforce growing at 11% per year, substantial regional disparities, widening income gaps, increasing differences in skills and qualifications, and changing demographics.⁷ Significant steps to reform and harmonize China's HR situation have been taken in recent years by Chinese officials, but more stringent measures need to be adopted to curb unemployment and achieve a more harmonious development.

Chinese and foreign companies that have global operations and ambitions in the fields of engineering, finance, accounting, quantitative analysis, life science research and medicine still encounter difficulties in employing staff with the appropriate skills in China. Problems include English language skills, communication and cultural fit. If China is to maintain its current rate of economic development, authorities need to ensure that enough graduates possess the skills required to undertake employment in companies with global operations. Preparing the labour pool for the transformation from an economy dominated by agriculture and manufacturing to a high value added economy is a pre-requisite to achieving that transformation.

Increased focus on vocational education and training can bring major benefits. Enhanced co-operation between the private sector and universities, schools, academic institutions and vocational training institutes, helps to strengthen and diversify the education system. Additional focus on developing a more comprehensive apprenticeship system that provides high school graduates the opportunity to work and learn in an integrated manner, and combine theoretical and practical training, will prepare them for highly satisfying, and still economically important, careers in jobs "below" college level positions.

Differences between social security policies in eastern, central and western China have the potential to block the geographical mobility of Chinese employees. A harmonisation of regulations regarding the social insurances would be helpful for foreign companies, by helping them to offer to Chinese employees a career path including geographical mobility (especially for management positions) and by easing a centralized payroll.

More generally, reducing the gaps between the regions, between rural and urban areas and between the rich and the poor is the key for China to realize a "harmonious society". Emphasising and directing more resources towards the implementation of current labour laws uniformly across China is a key to achieving improvements in labour condition.

Mobility among S&T personnel is an important channel for the diffusion of knowledge. From a labour market perspective, mobility is important for an efficient allocation of labour across sectors, enhancing the economic flexibility of a country. In order to facilitate the flow of appropriately qualified workers into different labour markets, mutual recognition of skills qualifications and competency standards is needed. This could be achieved through cooperation among networks of vocational training institutions.

Public-Private Partnerships

Universities and public research organisations perform important functions in securing the stability and vitality of the local environment for education, research and innovation. There is also rapid evolution taking place in the nature of interactions between the public and the international private sector in China. Some of these public sector institutions are seeking to take advantage of globalisation and achieve international pre-eminence.

The Chinese public research system should seek further improvements in the quality and effectiveness of its collaborations and partnerships, as part of raising standards and becoming internationally well connected. Today, there seems great willingness on part of Chinese institutes to establish projects that have a strong 'contract research' flavour, delivering results in a timely

⁷ European Business in China, Position Paper 2006/2007, Human Resources Working Group, p. 49.

and cost-effective manner. International experience suggests that, as the Chinese innovation system matures, these institutes will benefit from also seeking more strategic types of research cooperation. At that stage, some well-known and well-documented problems will start to appear, for example in respect of conflicting interests and attitudes towards intellectual property. It is advisable to prepare for when that situation will arise.

The current willingness of Chinese public research institutions to enter into partnerships with the private sector is worth applauding. There is now a need to understand those legal and regulatory frameworks and managerial practices, skills and resources required so that this aspect of innovation develops at a rate commensurate with the overall Chinese innovation system.

Regulation

Many of the points mentioned above intersect under the heading “regulation,” which is often a decisive factor in determining whether new scientific knowledge is transformed into useful applications that can be marketed world-wide. A regulatory environment that effectively supports innovation is one that is transparent and predictable in order to support entrepreneurial initiative and competition, yet is at the same time flexible enough to permit entrepreneurs to make rapid adjustments to changing market conditions and short product cycles. It includes many of the elements mentioned above such as support of open markets, non-discrimination, use of international standards, policy coherence, strong intellectual property protections, and some that are not, such as regulations that are performance based and technology neutral and health and safety regulations based on sound science (as provided in the WTO Agreement on Application of Sanitary and Phytosanitary Measures). BIAC has offered more details in its statement: “BIAC Priorities for Regulatory Reform in China,” Feb. 7, 2007.

Global Challenges

The world faces some stark challenges which can only be addressed through coherent action around the world. Concern about climate change is one example. Industry plays a central role in developing the infrastructures that drive modern societies. It is important to ensure that these infrastructures make use of the best available technologies and that public procurement stimulates the types of improvement that the country deems necessary to prepare for the future. This is particularly relevant today in China.

Conclusion

BIAC commends the OECD on its comprehensive and well-articulated overview of the Chinese Innovation System and Policy and the constructive dialogue it has developed with the Chinese authorities. The OECD review presents a major step forward in analysing China’s national innovation system and reflecting the enormous changes required for China to become fully innovation-oriented by 2020 and a leading innovation centre in the world in the longer term. We hope that the review will present the beginning of in-depth cooperation with China on how to shape its innovation system in a way that it can reap the benefits of globalisation and increasingly open innovation, while at the same time addressing the challenges that foreign and domestic companies present in China are facing.