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The Changing Geography of Innovation and Economic Growth and the Impact of the Crisis

**January 19-20, 2012
OECD Conference Centre, Paris, France**

Overview: The Growth Dialogue in collaboration with the OECD and the World Bank Institute will convene a symposium to be held at the OECD HQ in Paris on January 19-20 2012. The day and a half symposium will host approximately 30 participants including academics, experts, policymakers and staff from the GD, the OECD, the WBI and the World Bank. The objective is to bring together experienced practitioners from countries that have managed the innovation process well along with those officials who will face future challenges in harnessing innovation in order to enhance growth. The deliberations will be aided by academics and experts from the OECD, and facilitators from the Growth Dialogue and the WBI.

Background: Over the longer term, growth in middle- income countries is likely to be sustained by gains in productivity arising from technological catching-up, structural changes, improvements in efficiency and innovation. As countries move close to the technology frontier, an increasing share of the increases in productivity will need to be sourced from innovations of all kinds - product, process, design, organizational and others. Most of these will be incremental innovations interspersed with the occasional radical breakthrough. However, sustaining a stream of incremental innovations and the capitalizing on newer ones depends to a significant extent on the quality of the innovation system. Some countries, such as Korea and Finland, have managed the interface between government, universities and business well and there are lessons to be gained from their experience.

Innovation in the future is likely to be substantially buoyed by the globalization of R&D. This process is being driven by the expanding pools of scientific, engineering and math skills especially in China, India and other emerging economies that have enlarged their S&T programs in tertiary institutions and ramped up the spending on R&D. In addition, multinational corporations (MNCs) are diversifying their R&D operations and transferring more of their research activities to some emerging economies in order to capitalize on local skills and market opportunities. This activity is being complemented by intensifying efforts of the BRICs, and other middle income countries to enlarge their global market shares with the help of innovation. Huawei of China for example was the leading applicant for patents from the WIPO in 2008, and many other Chinese, Indian, and Brazilian firms are joining in the race to establish their innovation credentials by redoubling their efforts to patent.



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The upshot of these trends is an apparently significant geographic shift in the locus of innovation associated most strongly with the rise of China and of other East Asian countries. This changing landscape of innovation raises a number of policy questions relevant to many middle-income countries and to future global growth prospects more generally. Middle-income countries in particular may be worried about the “middle-income trap” and therefore may look to innovation as a future source of economic growth and/or may be concerned that precious fiscal resources should not be expended on failed R&D efforts. Countries’ ability to make better allocation and policy choices depends in good measure on their understanding of recent trends and the future outlook for innovation.

The current financial and economic crisis seems to have accelerated the previous trend towards an increasing importance of emerging countries in innovation activities world-wide. Growth has slowed down markedly in developed countries, affecting investment in venture capital, R&D and innovation, notably in small and new firms, whereas until now it has proven more resilient in emerging countries. If such trends are to last, emerging countries might contemplate in the coming years an accelerated catching up towards a slowing down frontier. They might also benefit from the relocation of R&D facilities of multinational firms establishing their capacities closer to their newly important customers. At the same time, developed countries will face increasing competition on the more sophisticated industrial segments.

Symposium Themes: The event will focus on three major themes including (i) a review of the changing nature and landscape of innovation and its implications for specific regions and for global growth, with a focus on the possible impact on the economic crisis; (ii) specific country experiences from the recent past and conversations about specific country policies and programs to spur and harness innovation; and (iii) future challenges and modes of cooperation among countries, firms, and organizations to foster innovation and its dissemination for economic growth.

We expect to discuss concrete ways to make innovation efforts more effective, including the role of government policy to further stimulate interaction between universities and the private sector in order to spur the transfer of usable knowledge and its commercialization. This may require increased attention to the availability of risk capital, higher-skilled graduates, linkages between firms across borders, and ways to reap greater benefits from R&D expenditures. These conversations will be based on the emerging pattern of R&D that enlarges the role of emerging market economies rather than traditional innovators, a phenomenon that may well characterize global innovation for the future. That will also require special attention to the restricted budgetary margin for maneuver of many governments in the coming years, which might limit their ability to spend on innovation.



This changing geography of innovation has implications for advanced and middle-income countries alike. A number of issues emerge, such as the following, some subset of which may be addressed by the symposium:

- Do reduced growth prospects presage a reduction in R&D spending and innovation by MNCs in the advanced countries which have traditionally led the field, and if so, would this affect the quality of innovation, given the long standing comparative advantage of the 'west' in discovering and exploiting general purpose technologies? Alternatively, might a globally networked system with most developed countries maintaining their R&D efforts while at the same time increasing the emphasis on S&T training, reinforce the efforts of industrializing countries, and lead to a new technological renaissance?
- The changing geography of innovation could also influence the flows of students going overseas to pursue higher studies and the cross-border movement of knowledge workers. Could this result in the rise of competing knowledge hubs which trigger a shift of university based knowledge assets from western universities to Asia and elsewhere on a more permanent basis than is now the case (see the budgetary restriction applying to universities in many developed countries)? What should governments do if anything, under this scenario?
- Assuming that innovative activity increases and is sustained by industrializing middle income economies, what are the likely effects on total factor productivity and how much additional support might they give to growth?
- If advanced countries continue to deindustrialize - and they may not (notably as blue collar wages are now increasing fast in a number of emerging countries) - will their innovations be increasingly in the area of services and could this result in fewer innovations, smaller productivity gains and increases in unemployment? If developed countries grow more slowly (i.e., below trend rates by up to 1 percent per annum for a decade with a concomitant weakening of R&D spending), how might this affect global growth through investment spending that embodies technological progress and productivity gains that capitalize on innovation?
- Thinking in terms of future technologies with widespread spillover effects, are emerging green technologies pointing to the prospects of sustained growth fed by a widening fund of innovations many of which are at the experimental stage and could be scaled up within the next 15 years and would be a source of net investment, net job creation and net productivity increase?
- Lastly how might all this geographical reconfiguration of R&D and innovation, and possibly a change in its dynamics, influence the role of government policies - encouraging dirigisme or protectionism perhaps - and governments' interaction with other elements of the "quadruple helix" which determine the health and the workings of the innovation system - the business community, universities and the financial sector? What would "new industrial policies" look like and how effective could they be? How acceptable would they be to other countries in a closely interconnected world?