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# From export processing to knowledge processing: upgrading the FDI promotion toolkit

by
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Since the 1980s, with the transition from an import-substitution to an export-oriented industrialization strategy, many developing countries created *export processing zones* to attract large-scale, export-oriented manufacturing activities of multinational enterprises (MNEs), by offering grants and exemptions from customs duties and corporate taxes. During the past decade, however, emerging markets have been trying to take part in a new transition—from an industrial-based to a knowledge-based economy—and this requires a different approach to foreign direct investment (FDI) promotion policies. Rather than relying on export processing zones, the aim is to develop *knowledge processing zones* or science hubs. However, the shift from low cost, export-platform FDI toward higher value, knowledge-seeking FDI is a challenging one that cannot be achieved by relying exclusively on the dynamics of MNE affiliates. Success in the development of FDI-driven science hubs will be marked by the capacity of local researchers, universities and firms to integrate with foreign enterprises within local networks, such that the host country national innovation system is enhanced by foreign presence rather than crowded-out.

The cases of Singapore and Chile are useful to illustrate how the FDI promotion toolkit needs to upgrade to contribute to this policy agenda. Singapore is one of the world's most obvious examples of successful FDI-driven economic development. Since the 1980s, the focus of FDI promotion policies gradually moved away from lower-end manufacturing to knowledge-intensive activities. In addition to targeting innovative MNEs, in recent years the government has launched new programs to attract foreign universities into the country, building a competitive science hub. The Global Schoolhouse initiative, launched in 2002 to attract campuses of foreign universities, aims at improving the national education system and attracting international scholars and students. Complementing these efforts, the Campus for Research Excellence and Technological Enterprise (CREATE) program was set up in 2008 to attract foreign universities' research-and-development (R&D) centers. As a result, nine universities in total (including MIT and Cambridge University),

from six countries, have established new research centers in Singapore, and are now collaborating closely with local universities and firms. However, Singapore's experience is a unique success story, with a confluence of historical, geopolitical and institutional circumstances (not easily replicable by other countries), enabling the development of a world-class international science hub.

In Chile, too, a shift in FDI promotion policies has occurred since the early 2000s, with a stronger focus on using FDI as a lever for building national technological capabilities. In 2000, the InvestChile program was launched as an attempt to emulate Ireland's success in attracting high-technology FDI, offering grants of up to US$2 million. In 2009, a new scheme was initiated to create International Centers of Excellence in R&D, offering foreign universities and research institutes grants of up to US$19.5 million over a 10-year period to establish new R&D centers in Chile. A total of 13 R&D centers from seven countries have been established so far under this program. Following an open call for proposals, these centers were selected based on their alignment with local industrial needs and their capacity to build partnerships with Chilean universities. This helps to illustrate how public policies can modulate the local embeddedness of foreign-owned research centers to maximize domestic linkages and spillovers. Moreover, in 2010, the government launched the Startup Chile program to attract innovative entrepreneurs from abroad by offering them a residence visa and a small non-reimbursable grant to develop startups in Chile. While over 1,000 startups from over 70 countries have participated in the program, the impact on the local economy has been modest so far, because (among other reasons) most of these entrepreneurs left the country after obtaining the grant and complying with the minimum six-month residency requirement.

Although the initiatives discussed in this *Perspective* have achieved some promising early results, it is too early to know what their final impact will be. These are expensive programs that divert taxpayers' money toward foreign institutions, and it is questionable whether the local embeddedness of foreign investors will continue after the financial support from governments expires. Purely policy-driven or top-down science hubs risk becoming a short-term fix, an unsustainable solution to a country's technological shortcomings. Thus, a simultaneous effort to develop domestic technological capabilities and empower local actors is the *sine qua non* condition for success.

The kinds of policies needed to attract R&D-related FDI are quite different from those aimed at attracting large-scale manufacturing operations, involving a shift from the *low-cost* approach prevalent under export-processing-zone schemes, toward a *high-quality* approach that focuses on enhancing research infrastructure and human capital. Under the latter approach, FDI promotion policies should emphasize projects that demonstrate strong potential for building knowledge-intensive linkages with local actors. This calls for a much closer coordination between FDI policies and science, technology and innovation policies, two areas that operate rather separately in many emerging markets. Furthermore, experiences in Singapore and Chile suggest that, besides targeting MNEs, the development of science hubs in emerging markets requires a broader scope in FDI promotion, including the attraction of foreign universities, research institutes and startups.

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