

Global talent fosters innovation and collaborative patents



Innovation thrives when a diverse set of ideas come together, and globalisation plays an important role in facilitating this process. This recombination often happens through skilled people moving to top talent clusters or labs. Over 40 per cent of the researchers at America's top seven cancer research centres are foreign-born, and one researcher [described](#) how the interaction of these nationalities and their educational differences helped to foster breakthrough research. A recent book by W. Kerr, *The Gift of Global Talent*, further connects this global talent to important transformations (many good, some bad) in the businesses and economies of countries like the United States and United Kingdom.

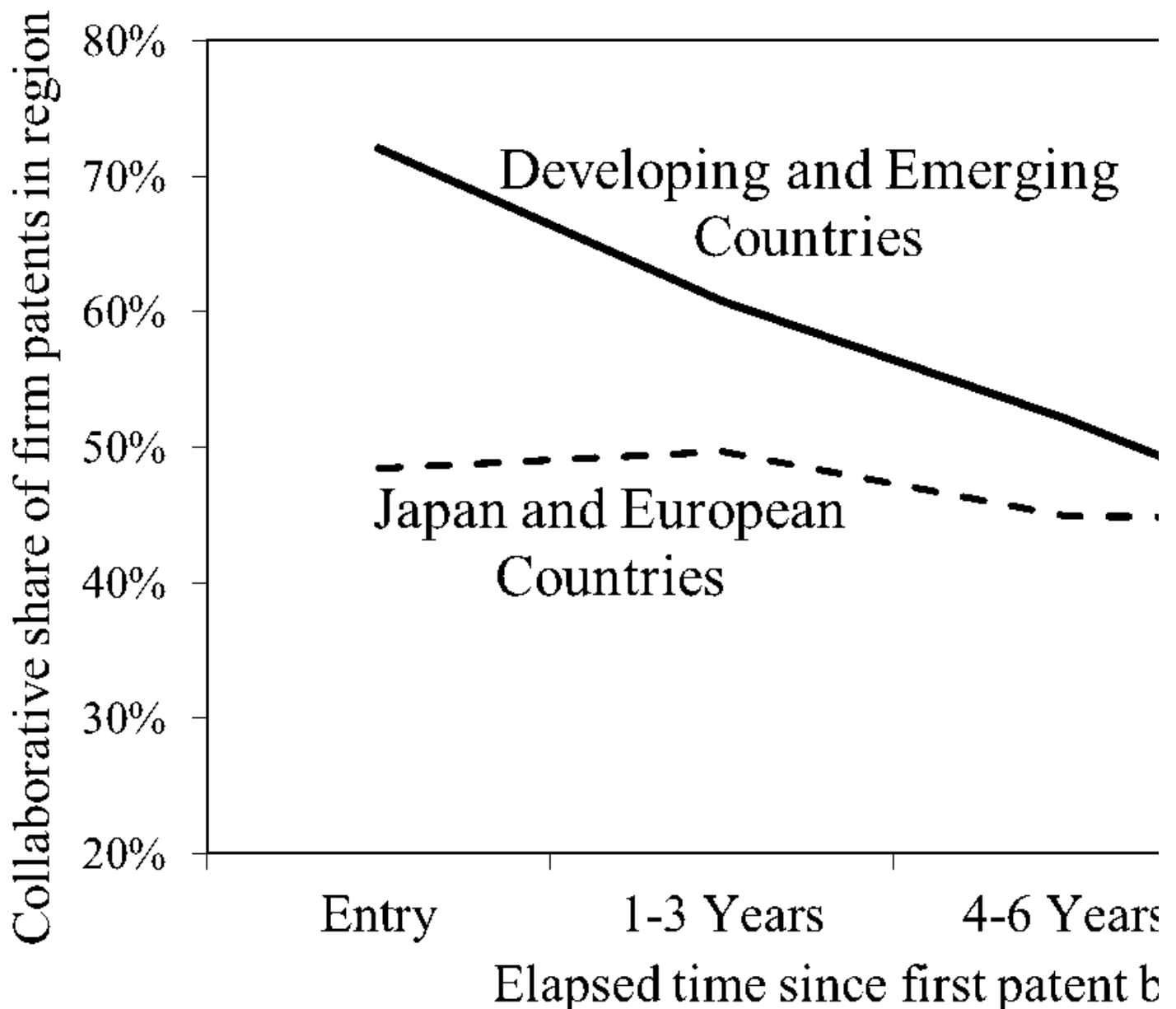
Not surprisingly, multinational companies now place themselves in multiple talent clusters, and they are rapidly developing playbooks to [observe](#) and communicate what is happening across hotspots. But this raises an important challenge for them: they must be able to bridge these clusters and ensure that information flows effectively throughout the organisation. For many organisations, this global design is essential for long-term growth. Hiroshi Mikitani, the CEO of Japanese e-commerce giant Rakuten, noted: "As we consider the future potential growth of the Japanese market and our company, global implementation is not a nice-to-have but a must do."

In our recent paper ([published](#), [working paper](#)), we study one increasingly important mechanism for supporting this larger corporate span. We quantify for U.S. public companies the presence and impact of collaborative patenting — defined to be when the inventor team includes members located both within and outside of the United States. Analysing millions of micro-records from the U.S. Patent and Trademark Office, we further compare the effectiveness of global collaborative patents with those where the team is located exclusively abroad or exclusively in the United States.

The growth in global collaborative patents is simply staggering: they accounted for about 1 per cent of the patents made by U.S. public companies in the late 1970s, but reached a whopping 13 per cent by 2017. If we exclude patents with just a single inventor, one out of five inventor teams now includes a multi-country distributed team structure. This trend connects with the significant globalisation of R&D activities, ranging from its importance for [product differentiation](#) to its link to a firm's [foreign direct investment](#) footprint to [cross-country co-inventorships by skilled diasporas](#).

These team structures are useful well beyond linking talent clusters. In fact, they are especially prevalent when a multinational enters into a foreign region for the first time for inventive work, as shown in the figure below. We identify situations where a firm, after previously patenting in the United States, decides to take research efforts abroad. To be conservative, we construct regions, such as a company entering into Latin America. The graph organises patents by how long the U.S. public company has been conducting innovation in the ethnic region, from the year it first enters up to ten or more years after entry. Over 70 per cent of the initial patents made by U.S. companies in developing and emerging economies are collaborative, meaning they involve someone present in the United States, compared to about half when entering into Europe or Japan for innovative work. These differences across countries diminish over time after entry.

Figure 1. Elapsed time since foreign entry by firm



Notes: Trend depicts the share of patents that are collaborative in nature made by U.S. public companies in regions identifiable with the ethnic-name matching algorithms. The horizontal axis depicts the elapsed time since the firm first filed a patent with an

inventor residing in the ethnic region.

Thus, collaborative patenting provides a way for a U.S. firm to learn about a new location and match its needs to the R&D abilities in the region. Collaborative teams can also help minimise the entry costs into a region and facilitate foreign activities. Oftentimes, migrating talent within the firm is connected to these entry teams. For additional reasons, the collaborative structure can persist for the long term. It is becoming more common for firms to divide work based on a location's abilities and employee skill sets. Other location-specific features, such as weak intellectual property rights, may prompt firms to keep key information and technology in different geographic locations.

In addition to being prevalent, these collaborative teams are effective. Using a large battery of metrics developed to assess invention quality, our study finds cross-border patents to be strong innovations, equal to and sometimes exceeding the strength of the innovative work done by the same firm using inventor teams exclusively based in the United States. Even more striking is the extent to which both of these groups outperform the patents developed by the firm abroad with exclusively foreign inventor teams. While requiring more resources, global collaboration and inventor teams appear to reduce underperformance associated with foreign innovation by U.S. public companies.

Looking forward, collaborative patents receive more citations both within and outside of the firm. The primary exception is that exclusively foreign inventor teams are better integrated into the future foreign-based innovations of the firm. Thus, some trade-off exists in where and how internal knowledge is developed and subsequently used. Perhaps the biggest message that comes out of these forward-use analyses is the clear evidence of pockets of knowledge in multinationals. The geographic span of the inventor team strongly influences the future locations where we observe evidence of the company building upon the work. This fact may help explain why some firms are disappointed with the returns from overseas inventive work despite potential cost savings—if they have not fostered the global team to support, it tends to be isolated innovation.

**Notes:**

- This blog post is based on the authors' paper [Global Collaborative Patents](#), *The Economic Journal*, July 2018.
- The post gives the views of its author, not the position of the institutions they represent, the LSE Business Review or the London School of Economics.
- Featured image credit: [Photo](#) by [Official U.S. Navy Page](#), under a [U.S. Government Works](#) licence
- When you leave a comment, you're agreeing to our [Comment Policy](#).



Sari Pekkala Kerr is a senior research scientist at Wellesley Centers for Women (WCW) at Wellesley College. She is an economist with research focus on labour markets, education and families.



William Kerr is the D'Arbelloff professor of business administration at Harvard Business School. Bill is the co-director of Harvard's [Managing the Future of Work](#) initiative and the faculty chair of the [Launching New Ventures](#) program for executive education. He is a recipient of the Ewing Marion Kauffman Foundation's Prize Medal for Distinguished Research in Entrepreneurship and Harvard's Distinction in Teaching award. Bill's recent book is [The Gift of Global Talent: How Migration Shapes Business, Economy & Society](#) (2018).