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innovation and imitation: how entrepreneurs impact economic growth

Most governments are in hot pursuit of growth or soft landing policies to lessen the effects of recession and financial crisis. Spending in research and development (R&D) and the innovation it brings is often a target for growth. But what can be learned from China's economic miracle, with scant R&D spending? SMU Cox Professor Maria Minniti and co-author Moren Lévesque shatter some myths about entrepreneurs, innovation and the growth of an economy – with lessons for policymakers.

What or rather who contributed to China's economic miracle? A good deal of research on economic growth focuses on spending in research and development (R&D) with its ability to produce technological change. However, this approach fails to account for the exceptional growth shown by China with scant spending on R&D, and for the lack of growth in countries such as Japan with significant R&D expenditure.

In their research, Minniti and Lévesque distinguish entrepreneurs as research-based (spending on R&D) or imitators (without R&D

spending). Minniti says, "There are two types of entrepreneurs: those that commercialize invention and new markets and those that commercialize products or services that already exist, or imitators. In the past, we have mainly focused on the research based entrepreneurs. My claim is that the imitators are important too. They are even more important in countries that are the poorest. In wealthier countries, the contribution to growth by imitators relative to innovators tends to be low." When returns to R&D spending are low, as in many emerging economies,

a high number of imitative entrepreneurs who increase competition and product supply are sufficient to generate economic growth.

Higher economic growth is found when the number of research-based or imitative entrepreneurs, or both, is increased. A relatively high number of imitative entrepreneurs is sufficient for growth. Additionally, economic growth tends to be higher when the entrepreneurial cost and/or the cost of technological change are reduced. Importantly, they show that an increase in an economy's imitation

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rate has a positive effect on economic growth when the labor of innovation (research-based labor) and labor not employed in developing original technological discoveries (imitative labor) have different levels of productivity.

competitive advantage

This research reflects standard trade arguments, wherein countries' leverage their relative comparative advantages. The authors explain the economic growth in China partly by referring to the presence of a large number of imitative entrepreneurs. In a study looking back from 1990-2002, China has also gained from a more conducive business environment for entrepreneurs. On the flip side, countries such as Japan and Sweden have exhibited limited growth in recent years, in spite of significant R&D investments. The lack of growth in Japan or Sweden is partially explained by the small percentage of R&D expenditure being translated into marketable technological change.

The authors write that entrepreneurs are the

"lubricant at the core of the growth process." Their willingness to risk their own resources in exchange for an expected profit makes growth possible, say the authors. "Rather than high numbers of innovation-type entrepreneurs, you need a critical number of entrepreneurs," Minniti says. "It is country-specific. There may not be high numbers in a country, but the intensity of one company that develops into a Microsoft, or a Nokia has an impact."

"This is why I'm not concerned about globalization and free trade," Minniti concludes. "First, you don't start wars with the people you trade with. On the contrary, trade creates the strongest contribution to world peace. The economy is a dynamic, changing system so you have to keep moving. That's why protectionism fails."

innovation and competition

Innovation can take very simple forms—often simply filling an unexploited market niche. Minniti says that innovation is location-specific. "A new invention has no bearing on economic growth unless

it is commercialized," she mentions. "The entrepreneur is the middleman between invention and commercialization." She describes how a new market is created: the innovation fills the needs of the market or creates new needs we didn't realize we had, for example, the cell phone. This innovation creates new markets, which contributes to growth.

Innovative contributions vary by country. In the US, the tailwinds for growth come from technological innovation, Minniti says. "In countries such as Somalia, it's not going to necessarily come from technological innovation; growth may come from agricultural innovation, so they can increase their crops and have clean water."

Certain groups of entrepreneurs tend to be more competitive, and the US has a great many of them. China has more imitators. India is a different case. "They have a high level of education; so they produce a relatively high level of human capital at lower costs," Minniti comments. "I haven't really seen much innovation there; it seems to be more reproduction." She notes that Ireland was one of the poorest countries in Europe,

financial market **TURMOIL** *will dampen*
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but in the last decade it has been able to leverage high education levels and attract foreign direct investment to become a higher income country of Europe.

So what will grow the US' competitive position? Minniti projects, "For sure the innovative entrepreneurs will aid in growth and in services as well. Traditionally the US is a good environment for creative people, that is, for American ingenuity." She continues, "In the US there are a lot of good ideas, and unlike many other countries, there are a lot of 'crazy' ideas. But in the US, those crazy ideas get financed." Minniti is concerned that the financial market turmoil will dampen the future financing of the really novel ideas. She notes that there is also a strong connection between university research and the market that is uniquely American. In Europe, this dynamic is more limited. "These are strengths that have historical differences," she adds.

in conclusion

Governments worldwide are sinking large amounts of capital in the pursuit of

growth policies. Without a proper understanding about the role of entrepreneurs, these funds may have little, if any, effect on the macroeconomic conditions of a country, the authors say.

Minniti discusses the case of Africa, "This has been the mistake made in African countries since 1950. The World Bank has sunk billions into economies there. We know now that it just doesn't work. You cannot recreate Research Triangle Park of North Carolina in Botswana. Silicon Valley is not going to happen in Afghanistan. It doesn't mean that different productive industries or technological

You cannot RECREATE **North Carolina's**
Research Triangle Park in **BOTSWANA**

advances are not going to evolve. But it's difficult to pick winners because it requires such an intricacy of relations, networks, knowledge and commitment by entrepreneurs."

While a Marshall Plan worked well in Europe, there was already a foundation laid for business in Europe, which had to be rebuilt because of World War II. In

numerous African countries, the lack of an institutional environment has been the greatest impediment to success. The institutional environment directs entrepreneurial activity toward those activities with the highest payoff; and these activities can be productive, unproductive or destructive.

There is good news however. The authors replace the common wisdom that R&D expenditure is a necessary condition for economic growth with the idea that different countries may exploit a variety of entrepreneurial comparative advantages. Having entrepreneurs is a necessary foundation for economic growth. But that entrepreneurship may take a variety of forms

depending on the competitive characteristics of each country. This research offers a new way to understand the inner workings of an economy and its growth through the lense of the entrepreneur's contributions. ■

* "Entrepreneurial Types and Economic Growth" by Maria Minniti from SMU Cox and Moren Lévesque from the University of Waterloo will soon appear in the *Journal of Business Venturing*.