Chapter 8
China’s Techno–Nationalism in the Global Era

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ABSTRACT

This chapter introduces techno-nationalism, a growing trend in the rise of China that has global implications, particularly for the European Union (EU). Techno-nationalism finds expression in efforts to set new technological standards and in the desire for a Chinese scientist to win the Nobel Prize. The country distinguishes itself through the “Chinese characteristics” of its techno-nationalism. The gap between China and the developed world is narrowing. And that includes the field of high technology. Currently, the EU and China are waging a battle for innovation, and for this purpose, they mobilize vast resources. The author argues that Europe is beginning to have difficulty keeping pace. It will be increasingly difficult for the West to maintain technological leadership. The author hopes that this chapter will help decision-makers and academics to comprehend China’s techno-nationalism and the risks of protectionism in the EU-China relationship.

INTRODUCTION

China aspires to win the Nobel Prize in Science. It is a goal, though not openly assumed, outlined by the Chinese Government with the aim of transforming China into a country advanced in science and technology by the end of 2020.

It is known that the development model adopted by China, based on unregulated labor-intensive industrialization, is nearing the end of its life cycle. The plan for the coming years points to innovation and high technology, the only way China can follow the leading world powers in those areas and escape economic stagnation. The “Chinese dream”, based on rejuvenation of a glorious past, now entails the conquest of new frontiers in science and technology.

But there are more profound reasons leading China into the league of the major technological powers of the 21st Century. Two hundred and fifty years ago the Middle Kingdom underwent successive humiliations at the hands of the colo-
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nial powers, which, by making use of modern, mainly military technologies, submitted China to the “century of humiliation”.

It was, in fact, a double humiliation, since so many of the technologies exhibited by Western powers and Japan had their historical origin in China, for centuries the cradle of innovation and major scientific discoveries.

The Chinese civilization at that time enjoyed huge technological advancement compared to the rest of the world. Ancient and medieval China controlled the technology of the era. As late as the seventeenth century, the Western elite were unaware that gunpowder, printing and the magnetic compass were Chinese inventions. In that century the magnetic compass, used by Western researchers and astronomers, still pointed South, in the same way compasses in China had always done.

For a number of cultural reasons, China did not exploit many of its scientific contributions to the world, staying out of the scientific revolution that gave birth to modern science in the seventeenth century. It also missed the industrial revolutions.

However, thanks to the work of scientists such as Joseph Needham, it is known that possibly more than half the inventions and discoveries of the modern world originated in China.

With China’s opening up to the world everything changed. China became the world’s factory and had access to valuable foreign technologies. The country comes to the first quarter of the twenty-first century with assertiveness and self-confidence, both at the geopolitical level and also in the field of scientific and technological innovation. It is undergoing a kind of rebirth, which aims to make technological progress one of its main successes. This change is already occurring at great speed. China, a political and military power, also intends to be a scientific power. Socialism with “Chinese characteristics” has begun to incorporate science and technology as a way of affirming Chinese nationalism—both at home and abroad.

Aware of the urgency to modernize the country technologically, China’s ruling elite—its own first the largest technocracy in the world,—opted to pursue “the most ambitious programme of research investment since J. F. Kennedy embarked on the moon race” (Wilsdon and Keely, 2007).

The description may be exaggerated, but it gives us the scale of the importance attached by the Chinese Government, and by foreign observers, to the emancipation of science and technology in China, which aims to move from imitation to innovation. Even the Chinese Academy of Sciences (CAS) recognizes that “hardly any landmark science problem and theory have been initiated or discovered by the Chinese” (Lu, 2010).

An embarrassing handicap for the nation that, in just over three decades, has become the world’s largest exporter, second largest world economy (third if you count the EU) and, more recently, the third largest foreign investor. China has failed to win the Nobel Prize in Science—and that says it all. The Chinese government wants to reverse this status quo. In effect, the gap between China and the developed world is narrowing. And that includes the field of high technology. For the World Bank (WB), China will be a technological powerhouse in 2030.

However, although it has enormous human and financial resources, China will have difficulty in escaping the technology trap, i.e., the dependence on foreign technology that has been fueling its productive machine.

The Battle for Innovation

In recent decades China has undertaken an ambitious development program based on three pillars:
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