Preface

This book was written out of my own discomfort about what is going on in developing countries. The 1990s were the period of the Washington consensus. All that developing countries had to do was to open their economies, adopt free trade, reduce the size of the state, and let the markets take care of their problems. We know now that this consensus was built on false premises. Latin America, Russia and other developing countries are heading leftward. Nationalizations are again on the rise in several countries, such as Argentina, Bolivia, Ecuador, Russia and Venezuela. But the key issues, how to promote science, technology and innovation for development and catching up are not discussed, or if they are discussed they are not taken seriously. This is particularly worrisome because most resource-rich developing countries have experienced an affluent decade due to the high prices of oil, minerals and foodstuffs. It is also probable that the resource bonanza will come back in the near future. The question is: is it possible to draw most developing countries out of the vicious circle of poverty and inequality on the basis of industrial and technology policies? I am not advocating planned economies, but just the type of innovation policies and other institutions that Canada, Japan, the European Union, and the United States have implemented for decades, and South Korea, Singapore or Taiwan (province of China), and now mainland China, are so successfully applying. These policies, that include building human capital and related institutions for science, technology and innovation in order to absorb foreign science and technology, and later to grow their own, have also the advantage of promoting equity and reducing social unrest. These policies include applying incentives for industrial research and development (R&D). They represent the only way towards economic growth.

Even if a country decides to skip economic planning, its R&D environment (Industrial and Science, technology and innovation (STI) policy, domestic companies and academic research) may attract foreign direct investment (FDI), particularly high-quality one. The adoption of a whole set of STI policies (or the building of a national system of innovation) is required for economic development to occur. Those policies have at the same time to promote the supply of human capital, and the demand for it, particularly in the private sector. Keynes has rejected Say's law (that supply creates its own demand) in its explanation of economic slumps.

Say's law is equally useless to explain the production and absorption of human capital during the process of economic development. The creation of skilled labour and its introduction in the economy is nothing spontaneous, but instead the result of deliberated efforts by the national authorities. Information asymmetries and bounded rational agents will play havoc with any self-organized process of market building for human capital in less developed countries. In sum, building the absorptive capacity of nations, in both technology and institutions, requires active policy making from national and often regional governments. I believe thus that only an evolutionary framework, and the abandonment of most of what is called neoclassical economics, with its rational expectations, complete market hypothesis, instantaneous adjustments, and similar currents, can allow us to understand economic development. Also, evolutionary concepts bring a plethora of new methodologies and model tools to the social sciences, such as system dynamics, Markov chains and game theory.

This book is based on the work of many previous social scientists; most of them may conveniently be regrouped under the label of evolutionary and institutional economics. Among the deceased social scientists, I am particularly indebted towards Moises Abramovitz, Alfred Chandler, John M. Keynes, Sanjaya Lall, Gunnar Myrdal, Raul Prebisch, Joseph Schumpeter, Herbert Simon, Thorstein Veblen and Raymond Vernon. Among the modern ones, I must acknowledge W. Brian Arthur, Paul A. David, Christopher Freeman, Paul Krugman, Bengt-A. Lundvall, Franco Malerba, Richard R. Nelson, Erik Reinert, Nathan Rosenberg and Joe Stiglitz. In management, I am indebted to the ideas of Wesley M. Cohen, David A. Levinthal, David C. Mowery, and John Sterman.