Chapter III

Risk and Investment in the Global Telecommunications Industry

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Abstract

In this chapter, quantitative modeling and simulation techniques are used to estimate various risk measures and the associated cost of equity for the global telecommunications industry. Our approach is to calculate several different cost-of-equity values and then use simulation techniques to build up a probability distribution for each company’s cost of equity. In this way, a clearer picture of where a company’s cost of equity lies is developed. Closing the Digital Divide could bring many benefits to developing countries but international investors and development planners must be able to make their own cost-of-equity calculations so that they can see first hand how their investment projects compare with other investment projects around the globe.
Introduction

The new economy can be characterized in a number of different ways but one way to look at the new economy is to identify industries that are undergoing the greatest amount of structural change and have the greatest opportunity for growth. Three industries stand out as having particularly promising futures: biotechnology, energy and information technology (IT). Collectively these three industries may be called the BET economy. Of these three industries, the IT industry (broadly comprised of the technology, media and telecommunications (TMT) sub-industries) is the one industry that can contribute the most to productivity improvements in countries. Technological progress can lead to process innovation (lower cost ways of producing existing products) or product innovation. Furthermore, from neoclassical growth theory, technological improvements are the only way to increase the living standards in countries that have reached the golden rule. An increase in technology raises the production function and increases the steady state amounts of capital stock and output. In terms of economic performance, maximizing productivity growth is the single most important objective for a country to have since increases in productivity growth lead to higher living standards.

Productivity growth can be influenced by a number of different factors or drivers. Broadly speaking, these factors include macroeconomic policy, regulatory environment, innovation, industrial structure, human capital, management strategies and policies, trade, and investment. For large industrialized countries like those in the G7 or G10, economic performance depends in large part on coordinating the actions between these various drivers to enhance productivity. The shortage of the necessary resources to accomplish this objective is not that large of a problem. For developing countries, the situation is often much more difficult because, in addition to successfully coordinating the actions of the various drivers, developing countries also face a shortage of financial capital. As a result, foreign investment is becoming an increasingly important driver behind productivity growth in developing countries.

Business growth and the overall wealth generation process are hindered in developing economies by the lack of affordable credit. This is particularly true in the IT industry. New firms starting out in IT are often very small and face high start-up costs. These firms usually have no source of financial capital to draw from, which means that they need to seek external funding. In developing economies, the selection of financial instruments available to start up companies is very limited (Chong and Micco, 2003). The source of financial capital -where it exists- tends to be scarce and commands a very high price. This problem is particularly acute in South America and Africa where domestic savings rates are much lower than in other developing parts of the world. As a result, foreign investment into developing countries can provide a much-needed source of financial capital.

Financial capital is probably the scarcest commodity in the world. More people demand financial capital at any one time than are able to supply it. Financial capital is scarce, mobile and very sensitive to economic and political conditions. Consequently, those who have financial capital to invest are very selective about where they invest. Domestic and global investors typically prefer investments with high returns and low risks. Risk management is, therefore, an important component of global investing. Savings is the only source of financial capital and the relationship between savings, investment and
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