

The Value of Information in Growth and Development

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Summary

Modern growth theory views the discovery of new knowledge as the key driving force underlying economic growth. In this paper, I suggest that something closely related -- information -- plays an important role in the economic growth of advanced countries and in explaining the 50-fold differences between rich and poor countries that we observe in the data.

To see why, consider an example. Suppose you'd like to pick up a book to read on your next business trip. According to Amazon.com, there are in excess of 2 million possible books available for purchase. The overwhelming majority of these books would be a poor match for any given person. Moreover, exactly how good the match quality is between a particular book and a particular person is information that is known only imperfectly, if at all, by a given person. The five books from among these millions that would produce the most utility may be entirely unknown to an individual. The names of these books and the utility levels they would produce are information.

Matching buyers and sellers is one of the fundamental purposes of markets. When markets work well, everyone whose marginal benefit for a good exceeds the marginal cost of production is matched with an additional unit of the good. One of the crucial conditions for this matching to work smoothly is that consumers must know about the existence of the good and they must know their own marginal benefit. These are examples of what I meant by "information" above.

This paper explores what happens when this kind of information is scarce. In the first half of the paper, I show that a substantial fraction of economic growth may occur because better technologies give us the information to make better choices. Better matches between consumers and goods result, and this can have a substantial effect on welfare.

In the second half of the paper, I apply this idea to economic development. Consider a potential entrepreneur in Kenya who starts a textile factory to make shirts. There is a large amount of complementary information that the entrepreneur needs in order for the business to succeed. First, the entrepreneur needs to know how to manufacture shirts. Second, the entrepreneur needs to find a source for buying the materials and the textile equipment and needs to know how to hire and train a workforce. Third, the entrepreneur needs to know how to sell the shirts. This is the same matching problem considered in the first part of the paper, but this time from the producer side. Finally, the entrepreneur also needs to know how to manage the bureaucratic hurdles that may be encountered along the way. If information is highly complementary and associated with increasing returns, then failure along any one of these dimensions can reduce productivity sharply. Such a theory can potentially explain the 50-fold differences we see across countries.