
CASE STUDIES

“Case Studies” presents a case pertinent to contemporary issues and events in investment management. Insightful and provocative questions are posed at the end of each case to challenge the reader. Each case is an invitation to the critical thinking and pragmatic problem solving that are so fundamental to the practice of investment management.

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WHY SOCIAL SCIENTISTS ARE DIFFERENT FROM PHYSICAL SCIENTISTS

The social sciences and the physical sciences have different research philosophies. The social sciences value erudition; the physical sciences value discovery. The academic is willing to accept old ideas if it makes him more erudite; the problem solver is willing to reject old ideas if it helps him solve problems.

Type 1 errors reject as false ideas that are true; Type 2 errors accept as true ideas that are false. Because they value erudition, the social sciences minimize Type 1 errors; because they value discovery, the physical sciences minimize Type 2 errors. If you want to avoid Type 1 errors, commit Type 2 errors; if you want to avoid Type 2 errors, commit Type 1 errors. And that’s why social scientists and physical scientists have mutually exclusive research philosophies. The more seriously they take their professions, the harder it is to empathize with each other.

One of the most valuable kinds of discovery is a causal relation between something that

matters to society and something we can control. But demonstrating causation requires asymmetry: clouds without rain but no rain without clouds. Because they are too symmetrical to demonstrate asymmetry, regressions aren’t popular with physical scientists. But social scientists like to perform regressions because of the erudition they afford.

Every month there are new discoveries in the physical sciences. Next month there may be a life saving discovery in molecular biology that will change the practice of medicine. Next month there may be another exciting discovery about earth-like planets. But next month there will be no exciting discoveries in the social sciences. (Needless to say, the stunning discovery of gravity waves—radiation predicted by Einstein—won’t occur every month.)

The philosophy of the physical sciences changed at the beginning of the 18th century. The discoveries that followed made the Industrial Revolution possible. The physical sciences have never forgotten the lesson of the Industrial Revolution; the social sciences are too young to remember it.

Questions

Don't these two different research philosophies result in two different cultures?

If you have grown up in one culture, isn't it hard to change?

Are people whose work brings them face-to-face with real-world problems going to be more aware of their assumptions?

Wouldn't it be useful to have a test of how people react to Type 1 and Type 2 errors?

Couldn't a test demonstrate objectively which choice they will make in their work?

If social sciences decide to change, will they become less political?

Wouldn't a problem-solving culture be useful for professional investors?