

Signaling

(adapted from Wikipedia)

Signalling took root in the idea of [asymmetric information](#) (a deviation from [perfect information](#)), which says that in some economic transactions, inequalities in access to information upset the normal market for the exchange of goods and services. In his seminal 1973 article, [Michael Spence](#) proposed that two parties could get around the problem of asymmetric information by having one party send a **signal** that would reveal some piece of relevant information to the other party. That party would then interpret the signal and adjust her purchasing behaviour accordingly — usually by offering a higher price than if she had not received the signal.

Spence began his 1973 model with a hypothetical example. Suppose that there are two types of employees — good and bad — and that employers are willing to pay a higher wage to the good type than the bad type. Spence assumes that for employers, there's no real way to tell in advance which employees will be of the good or bad type. Bad employees aren't upset about this, because they get a [free ride](#) from the hard work of the good employees. But good employees know that they deserve to be paid more for their higher productivity, so they desire to invest in the signal — in this case, some amount of [education](#). Spence assumes that education does not increase the productivity of an individual. But he does make one key assumption: *good-type employees pay less for one unit of education than bad-type employees*. The cost he refers to is not necessarily the cost of tuition and living expenses, sometimes called out of pocket expenses, as one could make the argument that higher ability persons tend to enroll in "better" (i.e. more expensive) institutions. Rather, the cost Spence is referring to is the [opportunity cost](#). This is a combination of 'costs', monetary and otherwise, including psychological, time, effort and so on. Of key importance to the value of the signal is the differing cost structure between "good" and "bad" workers. The cost of obtaining identical credentials is strictly lower for the "good" employee than it is for the "bad" employee.

The differing cost structure need not preclude "bad" workers from obtaining the credential. All that is necessary for the signal to have value (informational or otherwise) is that the group with the signal is positively correlated with the previously unobservable group of "good" workers. In general, the degree to which a signal is thought to be correlated to unknown or unobservable attributes is directly related to its value.

Spence discovered that even if education did not contribute anything to an employee's productivity, it could still have value to both the employer and employee. If the appropriate cost/benefit structure exists (or is created), "good" employees will buy more education in order to signal their higher productivity.

