

## One-Armed Economists and The Invisible Hand: An Introduction to Economics

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"Common sense is what tells you that a ten pound weight falls ten times as fast as a one pound weight".  
Anon

"Common sense is the collection of prejudices acquired by age eighteen." , Albert Einstein

### Abstract

The need for leaders and managers to have a basic understanding of elementary economics is demonstrated. The limited retrospective view of the accountant must be supplemented by the broader, prospective view of the economist. The limits and scope of economics are defined. The First and Second Fundamental Theorems of Welfare Economics are introduced. The mythology behind the mechanism of action of Adam Smith's Invisible Hand is dissected; and the mechanism of the free market is explained in terms of the effect of marginal cost on net market efficiency. The apparently simple case of the effect of legislating a minimum wage upon a free market is discussed. This provides an example of the real-world complexity of economics and of applying economic concepts to the business world.

### The Dismal Science

A sound knowledge of basic accounting principles is the sine qua non of running any business. Without these essential tools it is impossible to effectively and efficiently manage money, the liquid resource required to oil the machinery of enterprise. Most managers have acquired basic accounting skills or at least understand the language of accounting, and can ask intelligent questions of their accountants. However, as anyone involved in management soon realises, managers need to think beyond the narrow world of accounts and accounting. An accounting focus is by and large retrospective, i.e., it looks backward at expenditures already incurred. It does not focus on the future or on the vast range of costs, concepts and potential pitfalls that lay beyond its narrow compass.

### Ceteris Paribus

The best kind of economist has only one arm. This prevents him from qualifying every prediction he makes with the caveat "But then, of course, on the other hand..". Even one-armed economists tend to mumble under their breath the Latin incantation ... *ceteris paribus*; which roughly translated means "Other Things Being Equal", which of course, they never are! This is in effect an economist's "Get Out of Jail Free card" allowing him or her to pontificate, make predictions and advise politicians with no risk to themselves or to the remains of their reputations. Cynicism aside, Economics has been called 'the dismal science' which is probably unfair and certainly bad for its image and that of economists. In fact, a basic understanding of economics can elevate the average manager to the status of a star achiever. Economics is the science (or would-be science!) of rationing scarce resources. For example, a person's income is finite and he or she must make choices on how to spend or save the money earned. Usually, the goods and services which they desire, exceed their ability to pay for them. Similarly businesses must constantly make decisions about which product to develop, which project to invest R & D money into, which people to hire or promote. This series of articles will look at some of the myths and legends of economics, that all too often confuse and mislead leaders and managers into incorrect solutions, misguided policies and counter-productive actions.

### Adam Smith's Invisible Hand

Most people have a vague notion of Adam Smith's Invisible Hand: a spectre that haunts the capitalist world and somehow magically drives capitalist societies to ever greater heights of success, wealth and productivity. Many people even try to explain it in terms analogous to Darwin's theory of evolution, i.e., that those enterprises best fitted to survive will prosper and those less efficient will not. This is an unfortunate and misleading analogy, for there is no biological equivalent of the Invisible Hand. There is no evolutionary equivalent of the exquisite efficiency of the invisible hand of the competitive market place. For example, peacocks have immensely long and spectacular tails which they use for display in order to show females how healthy and therefore, how suitable they are as mates. These tails are useless for flight and may actually be a hindrance to escape and/or to evading predators. In addition, maintaining such exuberant iridescent appendages consumes a substantial amount of resources. If evolution were really analogous to the invisible hand of market forces then there would be no

exorbitant tails. In economics, the tails are said to be 'inefficient', i.e., they represent a lost opportunity to make a more efficient system. To extend the argument, if evolution were really akin to market forces, then market forces would in effect enforce the consensus that all peacocks would benefit by having their tails cut off. This would put all male birds on an equal footing without having to expend scarce resources on growing beautiful but unnecessary tails. Adam Smith described each participant in an economy as an actor who intends only his own gain but who, nevertheless, is guided as it were by an invisible hand to promote an end which was no part of his intention, i.e., the welfare of society, which economists call "efficiency".

In modern economics, Adam Smith's invisible hand theory is known as the First Fundamental Theorem of Welfare Economics and may be stated thus :

- Competitive markets allocate resources efficiently.

There is also a Second Fundamental Theorem which follows from the First,

- No matter which of the many efficient allocations you want to achieve, you can always achieve it by first distributing income in an appropriate way, and then letting competitive markets function freely.

The key feature of the free market is the existence of market prices, without which there would be no efficiency.

Consider the following example: You have been appointed head of a new US Department of Laboratory Services by the new administration. You have been given extraordinary powers to dictate how lab services will be provided in the US. Your job is to ensure that 1 billion lab tests are carried out in the US this year at the lowest possible total cost. In order to achieve this goal you need to utilize the concept of marginal cost. Marginal cost is a critical concept for managers to grasp. It is the cost of performing one more test or producing one more widget. Economists, leaders and managers should be obsessed about their marginal costs. Marginal cost is not the same as the average cost per test, because marginal cost tends to vary from one test or widget to the next one produced. For example, the marginal cost of a given test performed on an autoanalyzer may fall at first but eventually begins to rise. This is due to the law of diminishing returns which is based on two clichés: (a) All good things must come to an end and; (b) Too many cooks spoil the broth. You cannot perform an infinite number of tests in a finite amount of time or space. There is an optimal number of tests beyond which it becomes increasingly inefficient to go. The secret of controlling costs is to operate at the point where the marginal cost curve is at a minimum. For example, let us say that it costs Acme Labs \$1 to produce a test result for sodium rhubarb at the minimum point on their marginal cost curve. In order to produce the next test result of sodium rhubarb costs \$3; and producing yet another test result will cost \$7. Thus Acme lab's marginal cost increases from \$2 ( $\$3-\$1$ ) to \$4 ( $\$7-\$3$ ). Another lab, Dumbo Labs Inc, is not quite as well managed as is Acme Labs and its marginal cost for sodium rhubarb is \$9 compared with Acme Labs marginal cost of only \$4. As Head of the new US Department of Laboratory Services,

you have the power to order Dumbo Labs to produce one less sodium rhubarb test (reducing their costs by about \$9) and order Acme Labs to produce one more test (increasing their costs by about \$4). The net effect is that the same number of sodium rhubarb tests are produced but at the significantly reduced (and more efficient) cost of about \$5.

Dumbo Labs Inc are now producing less tests and so their marginal cost will no longer be \$9 and will have fallen, perhaps to \$7 or less. On the other hand (as a two-armed economist would say!) Acme Labs are now producing more tests, so their marginal cost has increased, perhaps to \$5. However, using your absolute authority as Head of the US Department of Laboratory Services you could order Dumbo Labs to cut back production even further and for Acme Labs to increase their production by a corresponding amount. Clearly, you can continue to do this until Dumbo Labs Inc has the same marginal cost as does Acme Labs Inc. You can then expand this 'game' to include more and more labs, each time decreasing or increasing production until all labs have the same marginal cost. This is the lowest, most efficient marginal cost for the US consumer as a whole. To achieve this efficiency, all labs must face the same marginal cost. The remarkable consequence is that each lab acts only in its own self interest, i.e. it seeks to maximize its own profits by producing only sufficient tests such that their marginal cost is equal to the market price; and yet the net effect to society is the production of the required number of lab tests at the lowest possible price. This is the essence of Adam Smith's 'invisible hand'. Let us now apply this concept to a real life problem: the question of whether or not there should be a legislated minimum wage.

### Should there be a minimum wage?

Should governments legislate a minimum wage? Liberal minded people might say "Yes". That it is reasonable to expect that every person who is willing to work should be paid at the very least a minimum amount, which has been determined to be sufficient to live on and to make working for a living worthwhile. They may also offer social conscience arguments to the effect that a minimum wage is a 'good thing' from an ethical/moral point of view.

However, others (which may perhaps be labelled as 'conservatives', 'capitalists' or 'selfish') may say 'No' to the proposal that there should be a minimum wage, legislated by law. They argue that the market place - the balance between the supply of labour and the demand for labour ought to set the minimum price of labour, and not some centrally planned legislature or executive (or perhaps judicial!) entity. Who is right? The 'liberals' or the 'conservatives'?

The answer to this perplexing socio-economic question was until recently considered to be to be fairly straightforward. Despite the apparent obvious social justice of guaranteeing every person willing to work a minimum wage for their labour, economists argued that in reality, the imposition of a minimum wage actually causes more harm than good. Their argument has nothing to do with moral or ethical questions of social justice but is based entirely on the objective, uncaring behaviour of the market place

and Adam Smith's invisible hand. Why is this so? In a perfect free market the curve for demand for labour will intersect the curve for the supply of labour, i.e., the market will set the price for labour. If government interferes in this market efficiency (paralyzing Adam Smith's invisibly hand) by legislating a minimum wage much above the unregulated price of labour, then we would assume that young and/or unskilled workers will no longer be able to find employment. In effect the government has amputated the lower part of the demand curve. The higher the minimum wage is set, the greater the degree of job loss .

Unfortunately, economics, just as in real life, is seldom this simple, or straightforward. According to a study performed by David Card and Alan Krueger into the effect of a major increase in the minimum wage within the New Jersey fast food industry, employment actually increased! This led to a counter-claim by David Neumark and William Wascher who used different data to come to the exact opposite conclusion! You can see why politicians hate economists. However, Thomas Michl suggests that perhaps both studies were correct. How can this be? Michl proposes that the minimum wage increase did not effect the net number of workers employed but did reduce their average number of hours worked. This is quite possible given the preponderance of part-time workers in the fast food industry. Thus the apparent paradox is solved: the demand for total hours of labour did decline (as predicted by the classical model of supply and demand) but that the incomes of those workers employed actually increased as a result of fewer hours at their part time job and an increase in the hourly rate of pay.

Peter Tulip has taken this discussion even further. He contends that a high minimum wage may have wider indirect effects on the so-called economy-wide equilibrium wage. A high minimum wage results in a decrease in pay differentials, which in turn leads to a demand for their restoration thereby increasing wage demands and fuelling inflation. This will lead to higher unemployment but not necessarily among the workers to whom the minimum wage increase was originally applied.

It is apparent from this example, that the effects of Adam Smith's invisible hand to the real world of complex economies, is not always straightforward or obvious. Nevertheless, through an understanding of the basic mechanism of the free market we have prepared the way for discussing some more introductory concepts in the next article in this series: the causes and effects of business cycles, recessions, depressions, booms and busts.

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