

**Pennies from Heaven:
A look at subsidies and international trade**

Subsidies have always been an important issue when it comes to domestic economic policy. However as more and more countries join the global market place subsidies are coming under ever increasing scrutiny. One issue with subsidies is that they have a noticeable effect on international trade. Some feel that subsidies offer some industries an unfair advantage and view them as a NTB (non tariff barrier) to free trade. Others feel that subsidies merely level the play field when an industry has a noticeable disadvantage. There are also some that feel more or less indifferent on the issue of subsidies, claiming that subsidies given to an import competing industry only lower the price of said industry for the country they are exported to. Subsidies have become something of a hot button issue in recent years. To better understand the effects subsidies have on international trade it is import to have knowledge some general knowledge of subsidies and specific knowledge of what their effects are.

A subsidy is a transfer of funds from the government to an industry. These subsidies represent an outflow of cash for the government granting them and a source of income to the company receiving them. Subsidies are paid for with revenues collected in the form of taxes, which represents a cost to consumers of the nation which is granting the subsidy. Subsidies have the effect of a direct investment with out any specific cost to the company or expected nominal return to the investor. The actual cost of a subsidy is usually thought of as the cost to the consumer minus the benefits provided by the industry. Further analysis of subsidies shows that this cost becomes very difficult to quantify as the benefits provided by the industry may not be tangible. There are several factors which motivate a government to offer subsidies.

A government may often subsidize an industry when they feel that the industry offers positive externalities. Some such positive externalities are increased research and development (R+D), environmental benefits, social benefits (decreased crime rates), or other side effects that benefit the nation as a whole. While most agree that industries that produce these positive externalities are desirable, the issue of how involved a government should get in encouraging these industries is not so clear. The subsidies given to Airbus by the nations of the European Union is a common example of a country subsidizing an industry that provides positive externalities. Though Airbus does provide positive externalities in the form of motivating the participating companies to work together and showing that the interest of the countries as a whole is dependant on the individual well being of each participating country, it also shows some of the downfalls associated with subsidizing an industry. The commercial success of Airbus is very much debatable. While some feel that the benefits it has provided justify the cost of subsidizing it many disagree. As the concept of "building markets" gains wider acceptance, more and more countries may begin to realize the potential of subsidies to be an "industry incubator".

The practice of subsidizing an industry in order to grow markets seeks to give that industry a kick start or boost, and is very similar to the concepts presented by the "infant industry argument for protection". By injections of direct investment from the government into the company it is better able to weather the harsh storm of start-up that all industries face. This period of starting up is often made even more traumatic when there are other firms which have a distinct advantage over the new firm. By the government offering the new firm support, in the form of a subsidy, the company is able to grow its market and develop its inputs. The initial cost of developing these inputs can be overwhelming; however once they are developed a company

often sees vast cost savings and exponential profit growth. It is assumed that once these cost savings are realized a company can begin to compete on a level playing field. This assumption of future independence leaves the practice of subsidizing an industry to develop markets open to the question of when. Many argue that while the concept seems sound from a theoretical standpoint in practice there are precious few success stories. This seeming contradiction between policy and practice stems mostly from the lack of motivation to grow offered by subsidies. Subsidies in this sense seem to reward a company for underachieving. Another motivation for governments to offer subsidies comes from a concept known as strategic bargaining.

The practice of strategic bargaining relies heavily on pseudo economical principles developed near the end of the 20th century. These economic principles are based on theories cobbled together from a variety of disciplines. One theory in particular which speaks directly to the idea of strategic bargaining is game theory. The basic concept of these economic principles is that a government can use subsidies and the threat of subsidies to compete for industries. An abstract example of this can be seen by proposing a hypothetical struggle between two nations competing in the same industry. By applying the principles of strategic bargaining one country would subsidize or propose to subsidize a firm in the competing industry. By granting the subsidy the government gives the firm motivation to match the production of the firm in the opposing country because it receives revenues above and beyond those experienced by the competing country's firm which faces normal (non-subsidized) market conditions. The weakness of this argument comes into glaring focus when the model is expanded by supposing that both countries subsidize firms in the competing industry. This extension leads to a never ending game of "one-upmanship" that eventually results in both firms benefiting at the cost of the consumers. Economic data offers a clear picture of some of the effects of government subsidies.

Data gathered from <http://0-devdata.worldbank.org.wizard.umd.umich.edu/dataonline> illustrates the effects of subsidies on import competing industry in various countries, over time. The data collected included information on the specific subsidies of particular industries in various countries. This data was ported to an Excel spread sheet, which could easily translate it into charts. While the data illustrates some of the more visible concrete effects of subsidies it fails to capture many of the more abstract (yet equally important) effects.

There are three primary motivations for a country to grant subsidies. All three arguments are based on sound principles and theories. Under further examination economists have found support both for and against all three arguments. While it is clear that subsidies offer potentially grand benefits it is equally clear that there are multiple ways to achieve these benefits. By graphing economic data the effects of subsidies can be simplified. However while the graphs simplify the effects of subsidies, individual interpretations of these graphs can often be contradictory.