Transportation economics essay

Business, Industries

An economic model is either an explanatory, mathematical, or graphical representation of real world and theoretical events that captures a certain concept that belongs to one of the various disciplines of economics. An economic model is constructed using either a partial equilibrium analysis or a general equilibrium analysis, depending on the economic analysis that is being applied. Economic models adjust their assumptions according to the market, group, or industry that it is studying. However, among all these models, it is important to consider the assumptions (Hamilton, Suslow, Pindyck, & Rubinfeld, 2004).

Also, many economic models consider that the markets they are operating in are in perfect competition. Perfect competition means that the assumptions of many buyers and sellers, homogeneity of products, perfect information, and zero cost of transportation (McConnell, Brue, & R, 2004). Economics teches us that although perfectly competetiv models are verry far from the actual operations of society, we need to consider their use because of convenience, and the ability of these models to capture the effects of variables while holding all the other variables constant. In this paper, we would be considering issues of transportation economics. In reviewing the various transportation economics that we have taken into consideration, we see that the models being implemented are models that use partial equilibrium analysis. Such partial models also used the models and assumptions for perfect competition, as well as the monopoly and oligopoly model in some cases. More advanced transportation economics models have also made use of the theories of John Ford Nash on Game theory and information asymmetry models. Other references and journals that we have

seen made use of, although making use of other models, are generally derivatives of those that we have already mentioned.

Also, as an after note in the discussion of economic models, theories of Friedman on international trade are also relevant when considering transportation economics. In a model wherein the main consideration is the demand of shippers depending on the rate of transportation, then we would have a graph wherein the vertical axis would have the label of price, and the horizontal axis having the label of output. The next process would then be to draw the demand curve of the shiper's demand for transportation services. This demand curve would have a quality of downward sloping. Imagine it as a diagonal line that is like the left roof of a house. Also, in the language of mathematics, the slope is negative, and the derivative of the line is negative as well. This is the regular way that demand curves are shaped in economic models, all things held equal.

If we follow this graph, then it simply means that as the price of the service increases, the quantity demanded decreases. This is the basic causal relationship captured by the model. However, we are only looking at it from the point of view of the shippers, which are those that are availing of the service. On the other hand, any economic model also has to be able to capture the point of the other side. If we have captured the point of view of the demand curve, we must also be able to capture the point of view of the firm and the suppliers. The supplier is the upward sloping supply curve, which is the opposite of what we have described above.

As the prices of the service go up, more of the service is willing to be given by the suppliers. The overall effect of this economic model is an equilibrium point which is the intersection of the supply curve and the demand curve. This would also be the equilibrium quantity demanded and supplied from both sides. This model of transportation economics is a qualitative model of the demand curve because of the descriptive quality of the model. There is no data that is used by the derivation of the demand curve for it is only a theoretical model. Theoretical models of economics, although may look like quantitative data, are actually derived and shaped only from theory (Hamilton et al.

, 2004). Also, qualitative models, although built from mathematical foundations, are descriptive because the variables that these models use do not yet have values. Another discipline of economics is a specialized method in order to measure the actual shape – mathematically – the slope of the demand curve.

This method is called econometrics. Econometrics uses linear and regression, and the various tools that come with this method, in order to estimate the various economic curves that are formed by the theory. Econometrics can use data collected to estimate the demand curves and the various other curves in order to test if the theories that have been formed by economics could be applied to the real life (Seddighi, Lawler, & Katos, 2000). In order to transform the model into an econometric one, the basic method that is used is to collect data about the various quantities demanded by shipping agencies at different price level. After these data have been collected, a

linear regression analysis may be constructed using various statistical software in order to create the best fitting line of the demand curve. Although such estimated curves would never be perfected – we would be discussing this later – they at least give us an idea, together with the error of probability, on what the demand curve of the shippers are. This is how we would change the model from a qualitative one to a quantitative one. After such a regression line has been generated, it is in the best purpose and desire of the seasoned economists if these models indeed stand the test of accuracy and applicability (Hayashi, 2000).

Hypothesis testing is the method that is used in such an occasion. Hypothesis testing, although having different methods that fit the different data that has been made, basically measures if a theory is correct by comparing the null and alternative hypothesis in order to choose which is accurate through the tests. In this situation, we need also to look at the correlation coefficient of price and shipping demand. A large enough correlation rates would mean that there is indeed a significant effect of price and demand. References: Hamilton, J. H.

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