

The Taussig & Pigou Controversy Reconsidered

Over a century ago, economists began what became pointed scientific exchange on the topic of joint versus common costs and, by implication, price differentials versus discrimination.

Taussig applied the model of joint products to railway rates in which he claimed competitive price differentials based on demand elasticities exist.

Pigou countered that railroads supply services that have common not joint costs, and the price differentials are the result of monopolization.

The differing views of these two scholars were never fully reconciled.

The Taussig & Pigou exchange is timeless.

Joint v. common costs were the root of contention in rate regulation of rail, truck, and airline transportation service until rate regulation expired. Now they are the basis of debate over price differentials observed in these industries as they operate in an apparently competitive environment. Peak-load pricing of electricity confronts this cost structure issue. Production, distribution, and pricing of video products, telecommunications services, literary works, etc., bear a family resemblance to the railway rate issues debated nearly a century ago.

The answers are evasive. As we stand on the threshold of ribbon cutting for the information superhighway, everyone wants to know what the toll will be, what it should be, and what it might be under different regulatory scenarios.

“Railway Rates and Joint Costs Once More”

Taussig noted two fundamental points: 1) the bulk of costs in railway service are fixed; and 2) the services provided to different shippers are heterogeneous not homogeneous across all shippers because these users are shipping different things and have different demands for shipping them.

To Taussig, the fixed costs used to service different consumers implied joint supply, and as in the joint supply model the different consumers pay different prices.

Taussig was loath to call the differentials discrimination because the price differentials would exist and would be based on demand intensities of the different buyers even when there is competition so abundant and fierce that profits are driven to zero. “ ‘Charging what the traffic would bear’ ” is a necessary condition of supply not an evil of monopolization.

Pigou took a different view. The analogy of railway services to the joint production of goods (cotton and cotton seed) seemed off. Cotton was a different good from cotton seed. On the other hand, shipping copper or coal from point A to point B was the same good.

Pigou argued that by mistakenly calling the transport of copper and coal the production of heterogeneous services, Taussig was errantly led to conclude that they were produced as joint products. Pigou called the costs "common" and concluded that the firm only charges price differentials because of 3rd degree monopoly price discrimination.

Pigou gave the example of short haul charges exceeding long haul charges as the ultimate example of monopoly price discrimination. He claimed that if the market was competitive, the price differentials would be driven to zero.

Taussig went directly after the short haul-long haul example. One good that is transported between points A and C going through B could quite reasonable be priced at a rate low enough to make the total charge less than the charges on another good going only between A and B. This would occur if the capacity utilization between A and C was very low and the demand for a particular product shipped between A and C was very low also.

Taussig said that if an entire railway plant could be worked to the full by a single kind of traffic, there would be no application of the theory of joint costs. While such is the case in some coal and logging situations, it is not generally the case in standard railway service.

Taussig also drew analogy to the peak load problem of electricity production (which Pigou had discussed in his book and admitted was a case of jointness).

In the last exchange of 1913, Pigou made three points:

1. Large fixed expenses are everywhere and we do not claim jointness everywhere.
2. The production of coal and copper freight transport is not the same as cotton and cotton seed production. If cotton is increased, cotton seed increases as well. The same is not true for coal and copper transport. In fact, there may be a tradeoff.
3. If price differentials existed in competition, then it would be in the interest of each seller to transfer production from the low priced to the high priced good thus driving the price differential to zero.

Taussig countered with the example of the New Haven railway system that was primarily a passenger line but moved freight when the plant was not fully utilized by passenger service. The rates charged for freight were necessarily lower to induce the freight shippers to be forthcoming.

Taussig went back to Pigou's own example of excess, peak-load capacity in electricity and asked why rail service is different.

Taussig fired the last shot in 1933. Always the empiricist, he asked the reader to consider the American experience. If his capacity argument only applied to industries struggling to survive it should have passed out of the picture in American railroads. Such was not the case. Taussig's conclusion was that growth and competition created more excess capacity and put forth greater pressure for price differentials, not less.

The Controversy Resurfaces

The Taussig & Pigou debate was replayed starting in the late 1960s. It was initiated by Demsetz's proposition concerning the efficient private supply of public goods. Much like Taussig, Demsetz made the simple, almost trivial application of the theory of joint costs to the case of public goods with the conclusion that the private production of public goods then depends on the ability of firms to collect differential prices from heterogeneous consumers.

Earl Thompson objected. The T&P debate was mentioned in the fight. The Demsetz-Thompson debate is interesting because it revolved around the question of competitive equilibrium which is where the Taussig & Pigou debate was headed but never reached.

Ramsey pricing as a solution to the natural monopoly problem was highlighted at this same time. On the assumption that a natural monopoly must stand on its own without subsidy, Baumol and Bradford (1970) showed that consumer surplus is maximized if prices are set among heterogeneous demanders according to their demand elasticities. Ramsey pricing was ultimately adopted by the Interstate Commerce Commission in the 1980s as the ideal policy for railway rates but eschewed because it is not practicable in a regulatory framework.

On one level, the Ramsey pricing theorem vindicates Taussig and damns Pigou: Optimal prices (under the assumption of self sufficiency) require price differentials among heterogeneous demanders.

Because of this, it is odd that Baumol and Bradford do not cite Taussig or the Taussig and Pigou debate on this point. The kicker is that they reference Pigou's (1928) discussion of the Ramsey theorem, where he uses the analysis approvingly in the context of public finance, without remarking on the fact that Pigou had explicitly eschewed the same idea when applied to railroads.

Most likely, Baumol and Bradford just wanted to dodge the Taussig and Pigou debate because it was (and is) too confusing. The reason that the Taussig and Pigou debate went on so long is not so much due to the difficulty of defining optimal prices as the practice of rate setting in either a free market or a regulatory setting. Market equilibrium is the kernel of the Taussig and Pigou debate.

Most recently, the same questions have been posed in different clothes.

Airline deregulation has brought with it an amazing array of prices. Why do airlines allow passengers to fly at low fares with no advanced purchase if they have proof they are going to a funeral? Is there a cost explanation? Is it Pigovian price discrimination? If it is price discrimination, why does competition not expunge it?

Consider the case of scheduled prices at hotels—not just rate differentials in resort hotels across the seasons. Old people pay less; government employees pay less; people traveling from long distances pay more.

Some researchers try to resolve the paradox of ubiquitous price differentials by searching for hidden costs. No doubt, many costs are hidden from the view of the casual observer. However, as Taussig pointed out, the bulk of the costs are not. The bulk of the cost of a hotel room is obvious. It is the cost of the hotel itself.