

**CAN GOOD APPLES BE MIXED WITH BAD ECONOMICS?
A MENGERIAN CRITIQUE OF THE ALCHIAN AND ALLEN THEOREM**

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ABSTRACT

The Alchian and Allen Theorem has been a popular staple of many economics classes since Armen Alchian and William Allen first introduced it in their well-known text *University Economics*. The theorem says that the addition of the same fixed cost to two similar goods will result in an increase of demand for the higher-priced, “higher quality” good relative to the lower-quality item. We review some of the literature, and use Carl Menger’s economic analysis to challenge the theorem’s validity. Based on Menger’s analysis, we conclude that the theorem is highly questionable. Further, we find evidence that Alchian and Allen themselves unwittingly contradict their own theorem elsewhere in one of their texts.

1. Introduction

The Alchian and Allen Theorem has been a popular staple of many economics classes since Armen Alchian and William Allen first introduced it in their well-known text *University Economics*. The theorem says that the addition of the same fixed cost to two similar goods will result in an increase of demand for the higher-priced, “higher quality” good relative to the lower-quality item.

In section 2, we review the basics of the theorem, including the relationship between the value of a consumer good and the value of its factors of production. Not surprisingly, the A&A Theorem has spawned a number of other papers that also attempt to examine the theorem’s claims empirically. We review some of those papers in Section 3.

The fourth section explores Carl Menger’s explanation of the relationship between the value of a consumer good and the value of its factors of production. Menger’s path-breaking method of analysis, contained in his 1871 *Principles of Economics*, noted that the value of the final product determines the value of the factors of production. He thereby overturned the classical theory of valuation of the final good being a function of the cost of production. The application of Menger’s thesis is appropriate because the A&A Theorem seems to indicate that changes in the prices of the factors of production will lead to changes in the value consumers place on the final product, a reversal of what Menger held to be true.

Therefore, in the fifth section, we offer our own criticisms of the Alchian & Allen Theorem by interpreting the phenomenon described by the theorem’s adherents from a Mengerian point of view.

The final section summarizes the paper’s conclusions, highlighting reasons for rejecting the theorem’s validity as a law of demand. First, we claim that Menger’s thesis of goods of

higher and lower order provides a more *believable* set of explanations as to why we might observe some of the things that Bertonazzi and others have said happen as a result of the imposition of certain fixed costs. Second, we believe that the A&A Theorem appeals to the errors of the old Classical System that were undone by the marginalists of the late 19th Century.

2. The Alchian and Allen Theorem

The Alchian and Allen Theorem (1967, 63-64) first appeared in *University Economics*, and it has been a staple of some economics classes since then. Bertonazzi, McCormick, and Maloney (1993, 393) enthusiastically call it the “Third Law of Demand.” It is based upon a simple but seemingly powerful analysis that emphasizes the effect of placing a fixed cost upon goods, thereby supposedly causing a relative demand shift from lower-quality to higher-quality goods.

The following example demonstrates the theorem. Assume that orange growers in Florida produce both high-quality and low-quality oranges. Further assume that in the Florida market, the low-quality oranges fetch \$5 per dozen and the high-quality oranges are sold for \$10 a dozen, and that demand for oranges is the same in New York as it is in Florida.

Further assume that to ship the oranges to New York costs \$5 per dozen. If one directly adds the shipping charges to the oranges, the low-quality oranges would sell for \$10 a dozen and high-quality oranges \$15 a dozen in the New York market. As one can see, in Florida, the high-quality oranges are twice as expensive as low-quality ones, while in New York, the new price “ratio” of high-quality oranges to low-quality oranges is no longer 2:1, but rather 3:2.

The addition of the fixed cost of shipping, while making both sets of oranges *absolutely* more expensive in the New York market, makes the higher-quality oranges *relatively cheaper*

compared to the lower-quality oranges in New York. Thus, demanders will shift demand away from the relatively more expensive low-quality oranges and toward the relatively less expensive high-quality oranges, according to the theorem. Given that fact, growers will have an incentive to ship the “good” oranges to New York and leave the “bad” oranges for the Florida market.

On the pedagogical side, the A&A Theorem makes for interesting class sessions, along with challenging (but ultimately easy to decipher) test questions. Instructors who adhere to this theorem find that there is no end to the types of A&A problems to introduce to students.

For example, as noted by Bertonazzi, et. al, one can theorize that couples that must hire a baby sitter before they go out are more likely to engage in higher cost and higher quality entertainment and dining than are couples that do not have to bear the “fixed cost” of child care. The addition of the fixed cost of paying the baby sitter makes higher-quality entertainment “relatively cheaper” to lower-cost, lower-quality dining and entertainment than it is *sans* baby sitting.

The prime example that Bertonazzi et al. use involves the distance that individuals travel in order to attend football games at Clemson University. According to the authors, the distance between the attendee’s home and Clemson represents a fixed cost, with the result being that distance was a significant predictor in the purchasing of higher-quality, higher-cost tickets. They write:

We find that fans who travel the farthest, choose to buy the best tickets. This confirms the theorem as well as the conjecture of Borchering and Silberberg who say that “it does not matter if the goods are shipped to the consumers or the consumers are shipped to the goods.” This suggests that the wide variety of ad hoc versions of the theorem – that couples hiring babysitters will enjoy nicer restaurants; that tourists will choose more elegant rooms the farther they travel; that out-of-towners will select the best theater seats; that cigarettes tend to be made of better grades of tobacco as taxes increase; and that more motorists choose premium gasoline over regular as the tax per gallon increases – are all

sound pedagogical devices that would withstand systematic analysis were they so tested. (pp. 392-393)

3. Previous Criticisms of the Alchian and Allen Theorem

Despite the enthusiastic endorsement of Bertanozzi and others, some economists have expressed misgivings about the theorem. We include two recent criticisms from Razzolini, Shughart, and Tollison (2003) and Cowen and Tabarrock (1995).

While acknowledging what they say is the potential “richness” of the A&A Theorem, Razzolini, Shughart, and Tollison write that “its range of applications is narrower than has been acknowledged in the literature heretofore.” (p. 292) They write:

Our analysis demonstrates that a fixed charge unambiguously reduces the price of a higher-quality good, relative to a lower-quality good, only when that good is sold by a perfectly competitive, constant-cost industry. Under increasing-cost conditions or imperfectly competitive industry structures, by contrast, it is possible for relative prices either to be unaffected by the addition of a fixed charge or, indeed, for the *lower*-quality good to become relatively cheaper in distant markets, depending on the elasticity characteristics of relevant market demand and supply functions (pp. 292-93, italics theirs).

To put it another way, Razzolini et al. are saying that the conditions under which the A&A Theorem might hold are so specialized that it can only be considered applicable as a special case, and not as a “law” of demand. The scenario of a perfectly-competitive, constant cost industry simply does not square with much of economic reality, no matter how sophisticated the economic model might be.

Razzolini et al. gingerly approach this subject, saying that their “analysis is in no way intended as an attack on Alchian and Allen or their fine textbook, which has taught more than one generation of economists to be better price theorists.” They add that the purpose of this paper is simply “to identify some plausible scenarios under which the third law of demand may fail to hold” (p. 293).

As Razzolini et al. point out, the conditions needed for this theorem to hold are ones of strict *ceteris paribus* and a perfectly-competitive, constant-cost industry. Moreover, the theory assumes that the process of shipping the good from one market to another has no effect upon the resultant supply in either market. For example, if oranges are shipped from Florida to New York, the post-shipment available supply of oranges in Florida is less than it was before, affecting prices in that market, something the A&A Theorem does not seem to take into account.

Cowen and Tabarrock (1995) write that when a third good is “bundled” with two similar goods that differ in quality, the theorem cannot be supported. In their paper, they examine a different situation than the one Bertonazzi et al. created, which says that the A&A Theorem holds whether the good travels to the consumers or the consumers travel to the goods. Bertonazzi et al. give the example of a tourist traveling to Maine who, bearing the fixed cost of travel, supposedly is more likely to eat high-quality lobster dinners than are Maine residents, an example used by Borcharding and Silberberg (1978).

The problem here, write Cowen and Tabarrock, is that in order for the theorem to make sense, the *ceteris paribus* assumption *must* hold, including the assumption that the tourists traveling to Maine must not “have systematically different preferences and incomes” (253) than the Maine residents with whom they are compared. Yet, a dutiful son who journeys to Maine in order to visit Mom is likely to have different preferences from a tourist visiting Maine on vacation, and both are expected to differ from the preferences exhibited by locals.

Indeed, if one re-examines the Bertonazzi et al. paper from the Cowen and Tabarrock viewpoint, one of the requirements needed for their application of the A&A Theorem to make sense is that those who travel the longest to reach Clemson’s famed Death Valley for football games must have the same incomes and preferences as those who live in the South Carolina

upstate. While the authors of the Bertonazzi paper were able to gain addresses of those who purchased Clemson season tickets, they did not have access to their incomes, which would be necessary, according to Cowen and Tabarrock. They did receive census figures for average income in the areas where ticket purchases lived, but such aggregates are, at best only marginally useful in this kind of analysis. Intuitively, it would seem more likely that wealthy Clemson alumni who live a long way from campus might have both the means and desire to purchase high-price, high-quality football season tickets as opposed to the Clemson alums whose income mirrors those who live near Clemson and purchase the lower-priced, lower-quality game seats.

Razzolini et al. lay out the scenario in which the producer is a monopolist who sells both in the market nearby where the oranges are grown and in the market that is farther away. The requirement for the theorem to hold here, they write, is for the demand elasticities to be identical for both products, and for those elasticities to remain the same even after the shipping of the goods, which would be very unlikely (pp. 296-297).

Finally, Razzolini et al. cite the current phenomenon of outlet malls that are located in semi-remote areas and are well-known for selling brand-name “seconds” (or dated goods) at substantially lower prices than first-quality products. Customers are willing to drive long distances to shop at these malls, which in A&A parlance, means that the customers are willing to incur the “fixed cost” of travel in order to buy *lower-quality, lower-priced* items (297). This point, it would seem, turns the theorem on its head.

4. Menger and the Valuation of the Factors of Production

As one of the marginalist founders along with Jevons and Walras, Menger conclusively demonstrated that economic valuation by individuals takes place on the margin. A given

individual will engage in a task or purchase a product if he believes that the value of the task or the product—the marginal benefit—will outweigh the marginal cost of doing so.

Menger further explained that the value of the first-order good (the consumer good) comes from the utility derived by its consumers. To put that another way, value exists only in the mind of the consumer, and is not any sort of objective or semi-objective characteristic of a good. The good only has such value as the consumer imparts on it; the good has no value of its own.

The value of higher-order goods (factors of production used to make consumer goods) is *imputed* from the value of the first-order good. If consumers demand more of a particular first-order good, they necessarily demand more of its higher-order factors, thereby increasing the value—and the market price—of those factors. If consumers demand less of that good, they thereby demand fewer of its higher-order factors, thereby decreasing the value and the price of such factors.

Menger first develops this concept using the example of tobacco. He writes:

Suppose that the need for direct human consumption of tobacco should disappear as the result of a change in tastes, and that at the same time all other needs that the tobacco already prepared for human consumption might serve to satisfy should also disappear. In this event, it is certain that all tobacco products already on hand, in the final form suited to human consumption, would immediately lose their goods-character. But what would happen to the corresponding goods of higher order? What would be the situation with respect to raw tobacco leaves, the tools and appliances used for used for the production of the various kinds of tobacco, the specialized labor services employed in the industry, and in short, with respect to all the goods of second order used for the production of tobacco destined for human consumption? What, furthermore, would be the situation with respect to tobacco seeds, tobacco farms, the labor services and the tools and appliances employed in the production of raw tobacco, and all the other goods that may be regarded as goods of third order in relation to the need for tobacco? What, finally, would be the situation with respect to the corresponding goods of fourth, fifth, and highest orders? (p. 64)

He answers those questions in the following way:

The first consequence would be that all stocks of finished tobacco products on hand would be deprived of their goods-character. A further consequence would be that the raw tobacco leaves, the machines, tools, and implements applicable exclusively to the processing of tobacco, the specialized labor services employed in the production of tobacco products, the available stocks of tobacco seeds, etc., would lose their goods-character. The services, presently so well paid, of all the agents who have so much skill in the grading and merchandising of tobaccos in such places as Cuba, Manila, Puerto Rico, and Havana, as well as the specialized labor services of the many people, both in Europe and in those distant countries, who are employed in the manufacture of cigars, would cease to be goods. Even tobacco boxes, humidors, all kinds of tobacco pipes, pipe stems, etc., would lose their goods-character. This apparently very complex phenomenon is explained by the fact that all the goods enumerated above derive their goods-characteristics from their causal connection with the satisfaction of the human need for tobacco. With the disappearance of this need, one of the foundations underlying their goods-character is destroyed. (pp. 65-66)

Note that Menger does not hold that relative supply of a factor of production (or any good, for that matter) is irrelevant to its price. Rather, his point is that demanders of the final product *impute* value to that factor. Furthermore, the value of a particular factor *cannot be determined independently of what demanders are willing to pay for the good of first order*. To put it another way, the value for a factor of production cannot change apart from its relationship to goods of lower orders, with changes in relative supply of the higher-order good playing a secondary role.

Take crude oil, for example. On casual observation, people assume that gasoline prices are rising because crude prices are going up, which would fit neatly into the old Classical cost-of-production theory. However, we must remember that crude oil, being a higher-order good, has value because people value the products into which it can be refined. Before the discovery in the mid-1800s that kerosene could be distilled from crude oil, for the most part petroleum was seen as a nuisance. The development of fuels, first kerosene, and later gasoline, increased the demand for crude oil.

Thus, the demand for crude oil is determined by the demand for the various products that come out of the refining process, including gasoline, heating oil, jet fuel and diesel fuel, and the like. As demand increases for gasoline and other petroleum-based products from places like China, not to mention the growing western economies, it is no wonder that demand for crude oil goes up. Furthermore, the political and military turmoil in some of the oil-producing countries like Iraq and Venezuela not only has resulted in disruptions of crude oil supplies, but also raises uncertainty about their availability in the future. Since oil is in constant demand, it is not surprising that these supply shocks affect its price, since a fall in crude production also means that fewer lower-order products will be available, which means that prices go up both for fuels and for the factors of production that help create it. This is because changes in the relative scarcity of crude oil obviously will affect the relative scarcity of the final products, which have an effect upon their prices.

People who do not understand the imputation of value to the higher-order goods from the goods of lowest order often will make erroneous statements about the value of the factors of production. For example, in the late 1970s, there was a heated public debate as to whether or not domestic crude oil prices should be decontrolled, with some groups claiming that decontrol would result in sky-high oil and gasoline prices. (In reality, the real price of gasoline 10 years after decontrol was *lower* than gasoline and oil prices when they were controlled, according to *Statistical Abstracts of the United States, 2004-05*.)

Besides having inaccurately predicted future gasoline prices, the foes of decontrol reflected a lack of understanding about the characteristics of higher-order goods. Unless people were willing to place a much higher value upon things like gasoline, heating oil, and nylon – all derivatives of crude oil – the price of oil could not have risen to levels that were predicted. If the

owners of petroleum had demanded that people pay \$600 a barrel, given the market at the time for crude-derived products, it is doubtful they would have had any takers.

5. Mengerian Analysis and the A&A Theorem

The fact that goods of higher order depend upon goods of lower order permits us to examine the A&A Theorem in a way that differs from how other economists have viewed it. In this section, we explain how a Mengerian approach to the conditions described by adherents to the A&A Theorem permits us to interpret the actions of individuals from another perspective.

The application of Menger's theory of the valuation of the factors of production to an analysis of the A&A Theorem provides a number of important insights. For our example, we revisit the shipping of high-quality and low-quality oranges from Florida to New York. Using the same numbers, we assume that there is a market for high-quality and low-quality oranges in both locations. We further assume that the transportation costs (a Mengerian analysis holds that transportation *is* a factor of production) are the same for cases of high-quality and low-quality oranges.

In the original A&A example, the shipping cost is passed on in full, which makes the analysis easier. Furthermore, in a constant-cost world, it would not pay for sellers to ship oranges to New York if they could not get at least the same price for oranges *after* paying the shipping costs, compared to what they could receive in Florida. In fact, one could argue that the producers would have to receive a price *above* the Florida market price plus shipping costs in order to cover the opportunity cost of shipping out the oranges.

We emphasize that Mengerian analysis tells us that the price of oranges, good or bad, in New York is *not* determined by the additional shipping costs; instead, the price of oranges is determined by what consumers in New York are willing to pay.

Even Alchian and Allen (1983) seem to agree, at least when it comes to lumber. In a defense of basing-point pricing, they write:

The price at the basing point, the Northwest, is not arbitrarily set first and then a freight charge added to it. Instead, the demand in each city attracts a supply from the Northwest until the price in each city is that city's market-clearing price. Thus, the basing point price, or mill net price, is *derived* from the market-clearing price in each city. (p. 229, italics theirs)

Likewise, one can argue that the cost of freight has nothing to do with the price of oranges in New York. The previous quote from Alchian and Allen would seem to confirm that statement. However, we still need to deal with another point that they make, that being the markets in New York and Florida for lower-quality oranges.

The original idea from the A&A Theorem is that the added cost of freight will change the relative prices between high and low-quality oranges, making the high-quality oranges absolutely more expensive, but *relatively cheaper* to bad oranges when compared to the market in Florida. If we hold to the constant-cost assumption, using the example from the beginning of this paper, the minimum price that bad oranges can fetch in New York is \$10 per dozen, versus \$15 for the good oranges there. Since the prices for low and high-quality oranges in Florida are \$5 and \$10, respectively, Alchian and Allen contend that the relative demand for high-quality oranges will be higher in New York than in Florida (as previously stated).

Assuming that the relative demand for good oranges *is* higher in New York, we then ask why this situation might be so, or, if there is an alternative economic explanation to the A&A Theorem. We hold that, indeed, this is the case.

First the issue of the cost of a factor of production (transportation) is presented backward in the A&A version relative to how it is viewed in the Mengerian analysis. While Alchian and Allen hold that the cost of transport is *computed downward* from the higher-order good (transportation) to the first-order good (oranges), a Mengerian analysis holds that value is *imputed upward* from the first-order good to the higher-order good. Indeed, the cost of transportation is imputed not only from the value of oranges, but also from the value of everything else that is shipped. This point is hardly controversial, since Alchian and Allen make it themselves, as noted above. Thus, we *cannot* logically say that if the value of oranges ultimately determines the value of their shipping (along with anything else that can be shipped under similar circumstances), then the value of shipping simultaneously determines the value of oranges in New York City. Yet, if we are to accept the premises of the A&A Theorem, that is exactly what we are expected to believe.

The issue here is not whether the presence of transportation costs will drive consumers away from low-quality to high-quality oranges. Instead, the issue is whether consumers in New York are willing to pay the transportation costs necessary to bring low-quality oranges from Florida to their city. If the market for higher-quality oranges in New York City is stronger relative to the market for “inferior” oranges than in Florida, it is because New York consumers are more willing to pay transportation costs for the former, but less so for the latter.

This is not an exercise in semantics. In the A&A Theorem, we assume that the cost of transportation drives the final market for oranges in New York. Applying Mengerian analysis, we hold that the desires of consumers for high-quality oranges over those of low-quality will determine the methods of and costs for transportation.

Turning to the example of the people traveling to Clemson football games, Bertonazzi et al. say that the reason that certain fans buy the “best” tickets and stay in expensive lodgings is because of the “fixed cost” the long distance that living from the Clemson campus imposes upon them. Given this, perhaps we also could assume the following: if a fan living a long distance away were able to find a way to less expensive (but just as fast, such as a cut-rate airline) mode of travel to the games, then he or she then would be more likely to stay in a Motel 6 or a KOA campground instead of the usual luxury accommodations. Although this seems to be a ridiculous example, nevertheless, if the theory were to hold one way (adding a fixed cost drives consumers to the higher-quality good), then it also would have to hold in the other direction (subtracting a fixed cost drives consumers to the lower-quality good).

One problem that we have with using this example is that Bertonazzi et al. assume a *ceteris paribus* situation in which the only difference between the people who attend Clemson football games is the distance they travel to the campus. In other words, if the fan who lives in nearby Anderson were to move to New York City and the New York resident move to South Carolina, then the former Anderson resident suddenly would start staying in high-class digs, while the new South Carolina resident likely would start grilling hot dogs instead of steak at the tailgate parties. Even if we assume that to be true, we still are left with the prospect – should the A&A Theorem be applied – that the “fixed cost” of travel determines what one will spend on everything else. To use their example of consumer demand theories of Becker (1971) and Lancaster (1971), they are saying that when the price of one input in the football excursion increases (travel costs), it leads to an *increase* in what individuals are willing to spend on other inputs.

Applying Mengerian analysis here leads us to a different conclusion. First, we keep in mind that there are people who live far away (or even close by) who do not value the game enough to incur *any* costs of travel, and will not attend the game at all. Second, the fans have travel costs imposed upon them *only* if they decide to purchase a ticket and be present at the contest. The ones who decide to go then face the secondary decision of the mode of travel and the like.

Individuals who live far away – and who value the game highly – will then impute value to the factors necessary to see the game, and that includes transportation. One can argue that people who live far away and are wishing to spend the extra time and money to go are likely to be people with very intense preferences when it comes to Clemson football. While Bertonazzi, et. al., hold income constant in their statistical calculations, one also can surmise that individuals who are able to travel long distances to Clemson games are more likely to fall into upper income categories, or at least have preferences intense enough to be willing to travel long distances to see a football game in Death Valley and purchase high-priced tickets.

As pointed out earlier in this section, Bertonazzi et al. attempt to use the theories of Becker and Lancaster, saying that the high cost of one input (travel) *lowers* the relative cost of the higher-priced football tickets. There are some difficulties in employing these theories, however. Consumer theory should employ not only utility maximization but income constraints as well. Consumer theory involves *constrained* optimization, but there is no evidence in the Clemson football example that individuals who live a long way from Clemson and who travel to games there are under any kind of constraints at all.

For example, one could say just as easily that the high price of a Clemson football ticket would, thus, make a more costly mode of travel *relatively cheaper*. Instead of driving or flying

commercial airlines, the long-distance fan might rent a limousine or pay for a private jet ride. If things like modes of transportation or tickets simply are inputs into that “z” good known as a football weekend, then there is no way of telling the direction in which the A&A effect runs. (In Mengerian analysis, inputs are categorized into higher and lower orders, with the ticket being a lower-order good than the mode of transportation. However, the interpretation that Bertonazzi et al. give to the theories of Lancaster and Becker do not include such orders.)

This lack of the presence of income constraints and directional order of inputs lends incompleteness to their analysis. Yet there seems to be something intuitive in someone declaring, “I am not going to travel all the way to Clemson to sit in an inferior section in the stands.” There does exist a Mengerian explanation for such a statement, which is provided by an analogy of a trip to the butcher shop.

One of us lives about 10 miles from a butcher’s shop and about 1 mile from a grocery store. The butcher shop has higher-quality, higher-priced meat, and the grocery store has lower-quality, lower-priced meat. Once in a while, we drive to the butcher shop for the higher-quality product.

If one were to interpret our purchase as an A&A effect, one would say that the 10-mile drive – the addition of a fixed cost – is what compels us to purchase the high-quality meat. However, a Mengerian response to such a contention is to say it is incorrect. We *first* decide that the higher-cost, higher-quality meat from the butcher warrants our taking an hour out of our day and a 20-mile round-trip drive to purchase that meat, rather than buying the alternative meat at the local grocery store. Indeed, following the Mengerian logic, if gasoline prices were to continue to rise (as they are doing while this paper is being written), we would *not* be induced to drive to the shop at all unless the quality (and price of the meat, for that matter) were such that it

made economic sense as far as our family budget is concerned. To put it another way, increasing costs of transportation do not make the butcher's meat relatively cheaper than the local meat; instead, it increases the entire cost for obtaining meat at that shop more expensive overall.

Perhaps one might argue that as gasoline prices go up, the butcher's supply of high-quality relative to low-quality meat will increase. This is not due to any A&A effect, as some may argue, but rather involves common-sense economics. If one can purchase the same lower-quality meat closer to home, why make the long trip in the first place? Consumers who are in the market for the higher-quality cuts of meat are not going to be willing to impose extra time and driving costs upon themselves to purchase the inferior stuff. Again, using Mengerian analysis, the demand for high-quality meat ultimately will be the deciding factor as to whether a consumer makes the trip at all.

6. Conclusion

This paper employs the theories of Carl Menger to provide an analysis and critique of the Alchian and Allen Theorem. While some economists have accepted the A&A Theorem without reservations, others seem to accept it within some narrow bounds, and still others do not accept it at all. We fall into the third category.

Our criticisms are based partly on what others have done, and also on the simple fact that Menger's explanations of how consumers ultimately determine the value of the factors of production provide a much more powerful – and believable – set of tools for the explanation of certain economic phenomena. Moreover, we believe that Alchian and Allen themselves contradict their own theorem in their explanation of demand for factors, using their defense of the basing point pricing schemes.

We do not doubt the accuracy of the observations by Bertonazzi et al. that individuals who tend to live a long distance from Clemson University are more likely to purchase higher-priced, higher-quality football tickets than are individuals who live relatively close to the campus. However, that observation alone does not validate the A&A Theorem. Rather, it draws upon the cost-of-production theories of the Classical Economists that were overturned by the late-nineteenth-century marginalists.

We hold that our use of Mengerian analysis provides a more realistic – and satisfactory – explanation as to why the phenomena associated with the Alchian and Allen Theorem occur.

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