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TRUTH IN LABELING, AS/AD ANALYSIS, AND PEDAGOGY

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If you reduce a multi-dimensional relationship to a two dimensional graph, you are going to cause some confusion. If you do so without being explicitly clear about the definitions and assumptions you are making in the reduction, you will likely cause significant confusion. Hence the confusion about AS/AD analysis.

Much of that confusion is semantic—different people have in mind different reductions and definitions. I am even willing to offer a proposition—call it the "benefit of the doubts" proposition: Each of the articles written about AS/AD, and there are many, is logical, given their (sometimes unstated) definitions and assumptions. The debate reflects the fact that many different definitions and assumptions are being used.

What has made the debate about AS/AD especially contentious is economists' use of the framework to discuss high-level theoretical differences—the differences most economists really care about. That is not my interest in AS/AD; my interest in AS/AD analysis has been in the pedagogical use of the framework to introduce students, specifically principles students, into discussion of, and debates about, the aggregate economy.

It is primarily in the principles texts that the serious problems with AS/AD analysis arise. In many principles texts, AS/AD analysis has been used to lull students into thinking that the analysis of the aggregate economy is essentially the equivalent to partial equilibrium analysis. The AS/AD terminology created a surface connection between micro and macro as long as students interpreted the curves as essentially the macro equivalent to micro supply and demand curves. To varying degrees the textbooks pointed out that this was not the case, but made the labeling of the curves, most students were understandably misled. When I have criticized the inconsistences and confusions in AS/AD analysis, my concern has been with the logically inconsistent and confused presentations found in many principles texts, not with the esoteric differences among different views that are too complicated to include in principles texts.

Many defenders of AS/AD analysis have not focused on its pedagogical use; instead they have focused on showing that there is at least one, and possibly many, reinterpretations of the AS/AD framework that are internally consistent. I agree, and as stated above, I am willing to go further than that, and say that, given their reinterpretations and definitions, all economists who have been part of this debate, including Clower and Barro, have logically consistent positions.

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Unlike most texts, most articles about AS/AD analysis fully recognize that that surface connection does not hold, which is why I find myself agreeing with much of what the articles say, but disagreeing with their conclusions that they have defended the AS/AD framework. To me, articles such as Davis/Skott [1996] are not defending AS/AD analysis; they are defending two-dimensional two-curve reductionism in price level/real output space. At least for me, there was never any question that such reductionism is possible. My objection is to their calling that reduction AS/AD analysis. In journal articles written for professional economists, the nature of that reduction can be made clear, given the terminology. In principles textbooks, at least ones that sell, written for introductory students who have not been taught the economic way of approaching problems, the nature of the reduction cannot be made fully clear within the AS/AD terminology.

To understand why the full development of AS/AD analysis cannot be made clear in principles books, one must understand the textbook business. Logical consistency is only one of the consistencies with which textbook authors are concerned. Successful authors are also concerned with selling books. In textbook writing there is a higher-level consistency than logical consistency that one must be concerned about. This alternative consistency can be called presentability consistency. By presentability consistency I mean that the connections that are involved in the explanation the author can present must give students a sense of understanding. An analysis can be presentably consistent even when that analysis is logically inconsistent. (In some cases, being presentably consistent requires the analysis to be logically inconsistent at a deeper level.)

It is precisely because it was presentably consistent that AS/AD analysis was introduced. It made students think that macro was "big micro" at the same time that it seemed to incorporate a flexible price level with the Keynesian model. AS/AD analysis entered the texts because it could be misinterpreted as something that it wasn't. Even though the texts did not explicitly come out and say so, they implied it. There is no other explanation I can give to the labeling of the curves as AS and AD curves. The standard textbook AD curve is in no way an AD curve, as most economists know, and even if it were, it is an equilibrium curve. Why was it called an AD curve? The only answer I can come up with is to mislead students.

Once that "surface presentability" was shown to sell in one book, the other textbook writers had no choice but to go along, trying to keep as much logical consistency as possible in their presentations. Initially, textbook writers didn't do too well in that endeavor. Their failure was the subject of my earlier article (Collander 1986). In that article I pointed out that the texts conflated different definitions of the AD curve into the same text, switching from one to another at different places in the book.

In the period since that article was initially written in 1999 and now, 1997, the textbook discussion of aggregate demand has improved. Almost all principles textbooks now choose one definition of AD, and stay consistent. Polley's discussion of the distinction between the AD curve and the AD schedule is a good summary of this issue. While there is still no justification for calling the goods market equilibrium curve an AD curve, at least the texts are not incorrectly using the two interchangeably, and they are carefully distinguishing the AD curve as a different curve from its micro counterpart.

There are however, still serious problems with the standard principles textbook presentation of the aggregate supply curve. Here, the issue of truth in labeling is less apparent since there is an interpretation of the AS curve that makes it an aggregate supply curve. This is the labor market (or more generally the factor market) equilibrium curve interpretation. But there is also another interpretation of an AS curve — as a curve reflecting institutionally sticky prices — that is often used interchangeably with the labor market equilibrium interpretation. Many principles texts sometimes refer to one interpretation, sometimes to another, leaving it quite unclear what the underlying model is. Thus, the AS/AD model continues to be a source of confusion.

The reason why principles texts use the two interpretations interchangeably is that the labor market equilibrium foundation of the AS curve does not provide a presentably consistent story since these books have not presented a separate analysis of factor markets. Thus, even though the labor market equilibrium interpretation may be what the textbook author has in mind as the underlying unsalted model, when he or she is pushed by reviewers to give some intuitive explanation for what is occurring, the institutional sticky price, non-perfect competition story is fallen back upon, since that story provides a presentably consistent story.

To avoid this incorrect interchangeable use of the two foundations of the AS curve, I suggest the following: Only the labor market equilibrium foundation should be called an AS curve. The reason is as follows. If there are institutionally sticky prices, technically there is no aggregate supply curve, in the same way that if there is imperfect competition, or monopoly, there is no microeconomic supply curve. Price and output are determined by price setters in reference to both supply and demand.

In most real-world perfectly competitive markets, sellers set prices. In doing so they are fulfilling the role of both the market maker and the supplier. Making the market has a cost, generally a lumpy cost, which must be accounted for in the price. Thus, in seller-set price markets, marginal costs of producing are insufficient to base prices on; there must also be a component of price that compensates sellers for making the market. Seller-set price markets with lumpy market-making costs must have a temporary monopolistic element and return to compensate the seller for making the market.

In seller-set price markets, the setting of price is done in relation to demand. This means that supply decisions cannot be specified independently of expected demand. Such seller-set price markets involve inventories, strategic pricing considerations, and a multitude of additional complications that make their formal analysis complicated. But the fact that they are complicated does not make them any less relevant. If such markets are indeed the relevant markets, which I believe they are, then the honest presentation of the foundations of the supply side of the market would be to tell principles students that these markets are complicated, and that no generally accepted formal analysis of the pricing in such markets exists. Thus, the price level/output space curve reflecting their strategic pricing (the curve called by principles books the AS curve) cannot be a logically deduced curve; it is an empirically estimated curve. This inductive approach is precisely the one that macro economic
models use to model price setting. Why should textbook models be any different? Why pretend an acceptable formal foundation for an empirical phenomenon exists, when it doesn't?

In their strategic pricing decisions firms are taking into account expected demand, limitations on entry of other suppliers, and likely interactions with other suppliers. Thus the path that prices and the price level will follow need not reflect marginal costs. The institutionally determined AS curve is not an AS curve in the same sense that the labor market equilibrium curve is an AS curve. Instead, it is a fully determined conjunctural equilibrium curve that incorporates both supply and demand considerations into its specifications. It is a curve that specifies, given costs and given the supplier's perception of demand, what price and quantity will be. Such a conjunctural equilibrium curve is fundamentally different from a labor market equilibrium curve, and failure to point out that distinction can only confuse students. Thus, if one is going to use institutionally based foundations for the AS curve, one should not call it an AS curve for precisely the same reason that one should not call the goods market equilibrium curve an AD curve.7

Not just students can be misled by calling both curves by the same name; economists can be, too. The Dutch-Kent-Palley exchange brings out some of that confusion. Dutt labels both curves AS curves, and thus does not make clear the fundamental distinction between the Kaleckian model and the neoclassical model. It misled Palley in an earlier version of his paper into arguing that Kalecki's model is simply a special case of the generalised neo-Kynesian model—the case in which the production function is linear and constant marginal returns, making the demand for labor curve perfectly elastic, and the labor market equilibrium curve perfectly elastic.8

I believe that the above argument is wrong. The Kalecki model is not a neo-Kynesian model, assuming different marginal propensities to consume among groups with constant marginal returns. It is a model based on a fundamentally different specification of market structure than is used in the neo-Kynesian model. It is a model that requires a different specification of the way aggregate equilibrium is achieved than is used in the neo-Kynesian model. Specifically, dynamics within Kalecki's model must be analyzed assuming an institutional structure that allows for inventories and strategic decisions based on expected demand. Within such a model the marginal productivity of labor does not need to be assumed constant to have a fixed price level.

If, "aggregate supply curve," one means a curve describing the quantity that will be supplied at a given price level, other things equal, then in the Kalecki model, an aggregate supply curve does not exist. This follows since, given the assumed market structure, price level alone is insufficient to determine how many suppliers choose to supply. In the Kalecki model, one also needs to know the supplier's perception of the level of expected aggregate demand. More generally, in any institutionally based model of supply, demand considerations come into the specification of the supply decision.

The introduction of demand considerations into the supply decision changes the discussion of dynamics enormously; specifically, for Kaleckian-type market structures, any discussion of dynamics that does not include that simultaneous determination of price and output based on supplier's perceptions of demand is inappropriate. Thus, while there is nothing wrong with Palley's discussion of dynamics, it is not a relevant discussion for market structures that I believe characterize our economy.

CONCLUSION

It should be clear that my interests are not with high theory, but with pedagogy. I want to present an analysis of the macro economy to students in a way that does not mislead them. My objection is with the AS/AD labeling terminology, not with the use of a carefully specified two-dimensional price-equilibrium framework. I am not calling for a fundamental change in what we teach in macro—just for a bit more careful specification of the terminology used in the model to describe it. Once one has given the curves a slightly different name—aggregate equilibrium demand rather than aggregate demand, and aggregate supply path rather than aggregate supply curve—and thereby alerted the student and the professor to the difference between the aggregate curves and their micro counterparts, and to the differences in the specification underlying the curves, roughly similar stories to these currently being told can be told. But the telling of those stories can be done a bit more honestly.

NOTES

1. Its pedagogical use is the only use I can see for AS/AD analysis. To discuss higher-level theoretical issues, a full algebraic formulation of the underlying multi-dimensional relationships is far cleaner.

2. There are differences in interpretation as to whether it is a conjunctural equilibrium curve, or a determinate equilibrium curve, and hence whether it has a supply specification embedded in it, but there is no debate about it being an equilibrium curve.

3. At a cost of whether the looks meant to mislead, it is helpful to check to see how many discuss quotative shifts of the AD curve, and point out that the AD curve would shift by more than an autonomous shift if that AD curve were derived from the Keynesian model. When I initially wrote my article in 1982 (Colander, 1983) that was fine. Moreover, at that time, books had definitions of the AD curve that were inconsistent with the derivations from the Keynesian model, even though the books derived the AD curve from that model. Since the article has been written, in response to criticisms such as mine textbooks have changed; they are now much more circumspect about definitions of AD and its relationship to the Keynesian model.

4. In my third edition (Colander, 1988) I have resolved the misleading terminology by calling what most books call the AD curve the ASE (Aggregate Equilibrium Demand) curve.

5. In monopolistic, oligopolistic, and other imperfect competitive models, sellers set price in relation to their perception of demand; they are not price takers. Since they are not price takers, the price is not set by supply and demand curves. The price is set by the seller in relation to its costs and its perception of demand. The definition of supply curve as the quantity that would be supplied at a given price is not met.

6. These market making costs can be considerable; they cause market prices to deviate significantly from marginal costs even when all other conditions for marginal cost pricing are met.

7. To avoid doing so, but to keep my presentation close to that in other principles textbooks, in my third edition (Colander, 1988) 1 call it an institutionally determined curve or aggregate supply path, not an aggregate supply curve. Calling it a "path" alerts students to the difference between its institutional (monopsonist competition) foundation and the labor market equilibrium curve, and avoids the suggestion that it has some perfectly competitive micro foundations.

8. Palley slightly modified his paper after the symposium in which these papers were first presented, and in his current version he is slightly less forceful in arguing that the Kalecki model is a special case of the neo-Kynesian model.
REFERENCES


OTHER THINGS EQUAL

Polanyi Was Right, and Wrong

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The only appearance of economic historians in literature are the hero in Amin’s *Lucky Jim* and the anti-hero Teasman in Toon’s “Hedda Gabler”.

Hedda: Teasman is a specialist, my dear Judge.
Brack: Undeniably.
Hedda: And specialists are not amusing traveling companions—not for long, at any rate... Just you try it! Nothing but the history of civilization morning, noon, and night.
Brack: Everlasting.
Hedda: And then all this business about the domestic industries of Brabant during the Middle Ages. That’s the most maddening part of it all.

Karl Polanyi, whose book, *The Great Transformation* (1944), has continued to have influence inside and especially outside economics, was no specialist. Károly Polanyi (1886-1964) was an economic journalist-turned-historian in England from 1933 to 1940 and in Canada and the United States from then until his death. In the chaotic style of Mittelaeuropa between the wars Karl was twice a migrant, first from his native Budapest and then his adoptive Vienna. His mother Cecile Polanyi was hostess of a salon of revolutionary intellectuals in Budapest during and after World War I. His brother Milday, Michael, was a distinguished physical chemist in Britain, short of the Nobel prize (Michael’s son John received it), and a conservative social philosopher.

The chemist Michael, not Karl, has an entry in Bullock and Woodings’ *Twentieth-Century Culture: A Biographical Comparison*, but the judgment of cultural influence is mistaken. *The Great Transformation* is a thrilling book, an economic-historical detective story full of purpose and suspense. It inspired the anthropologist Marshall Sablana, the sociologist Immanuel Wallerstein, the historian E. F. Thompson, the political scientist James Scott, and the economist Douglass North, and gave numerous other intellectuals at least the conviction they knew What Happened in History. It has never been out of print.

The book argues that market economy is an historical novelty, a late comer. In pre-modern societies, Polanyi claimed, transactions were embedded in community relations. Exchange followed the principles of redistribution, reciprocity, and householding rather than Smith’s propensity to truck, barter, and exchange itself.