

AN AUSTRIAN FOUNDATION FOR MICROECONOMIC PRINCIPLES

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## I. INTRODUCTION

Everyone who teaches Microeconomic Principles faces a welter of judgments. Some are about pedagogy: group projects, requiring homework, student presentations, in-class games, use of the Internet, frequency and nature of quizzes and examinations, depth and breadth of coverage of topics, legitimate expectations of verbal and mathematical skill. Most of these are subsumed under the general questions of the proper balance between individual and group work, and the appropriate level of intellectual engagement to be expected of the Principles student. Inevitably intruding on the professor's decisions is administrators' reliance upon student evaluations as a precise and dependable measure of ability as a teacher, and the probable impact of his pedagogic choices on those evaluations. For the professor who genuinely wants to do a good job at Microeconomic Principles, and also wants to be *thought* to be doing a good job at it, this range of choices makes teaching a daunting process. The professor's obligation is to teach Microeconomic Principles as well as he or she can, and that requires wrestling with these pedagogic judgments — about which there can be plenty of legitimate disagreement.

If the professor is an Austrian economist, though, the judgments extend beyond pedagogy. Unlike neoclassical colleagues who believe their graduate school experience as Teaching Assistants has equipped them with certain knowledge of the nature and method of microeconomics, the Austrian economist knows an alternative view of the subject. The teacher with a strong intellectual commitment to the Austrian School and the dominating professional obligation to offer his Principles students the best course possible must reconcile these two

powerful forces.

The thesis of this paper is, simply, that there is no conflict between them. Incorporating properly chosen attributes of Austrian theory makes one's Microeconomic Principles course *better*. It is neither a substitution of one equally good technique for another, nor a compromise in which the professor indulges his own preferences at the expense of his students. An Austrian-grounded course has significant advantages over conventional courses based on neoclassical microeconomic theory.

Many judgments underlie this conclusion. Some of them involve pedagogy, on which — despite more than two decades of teaching — I cannot claim to be an expert. My views seem increasingly out of tune with the times, and I don't play the student-evaluation-maximization game as some others feel they must. But even those who do not share my philosophy of teaching may find useful suggestions here.

The paper is not directed to those who teach at the few schools who teach Microeconomic Principles as pure Austrian economics, and it will have little practical relevance to those who must labor under tight departmental controls that permit little discretion: a departmentally selected common textbook, committee-selected topics, maybe even departmentally written exams common across sections. This paper is addressed to Austrian economists who teach “ordinary” Microeconomic Principles and enjoy some freedom to shape their own courses.

The role of Austrian economics in a good Microeconomic Principles course depends on what one thinks of each of them. The paper's next section will outline some of the attributes of each that support integrating Austrian economics into Microeconomic Principles.

## II. DOES AUSTRIAN ECONOMICS BELONG IN THIS COURSE AT ALL?

### A. What *is* Austrian Economics?

This is not the place for a thorough analysis of the nature of Austrian economics, I am not the scholar to do it, and none will be forthcoming. Certain of its attributes that are particularly relevant to modern Microeconomic Principles will be identified and briefly examined here, but a wider issue should be addressed first.

Two general interpretations of Austrian economics deny its relevance to our course. Obviously I think these views of the Austrian School are incorrect, and if I'm right they will fade away in time, but each has had prominent adherents in the recent past. Each, in my judgment, is an expression of what Austrian Economics is *not*.

The first interprets Austrian economics as a set of subtle, complex, and sophisticated addenda to neoclassical equilibrium theory, contributing valuably to the advanced scholar's understanding of markets and the mechanisms by which equilibria tend to be attained. At the Principles level, though, this view holds that a grasp of market phenomena is available at much lower cost from neoclassical concepts, and that the sophisticated and dynamic Austrian ideas are more likely to confuse than to inform the beginning student. Austrian and neoclassical microeconomic theory have much in common, from this perspective; the topics of a course in Microeconomic Principles lie in that intersection, and the relative simplicity of neoclassical theory makes it the preferred pedagogic technique. I have been told that one prominent economist, who does not identify himself with the School but who knows a great deal about it, has recommended that students of economics be introduced to the Austrian School only in

graduate school, and perhaps only after they have Ph.D.'s.

This position draws support from some of Hayek's work. In "Economics and Knowledge" and "The Use of Knowledge in Society," he writes that a description of equilibria is best attained with the mathematical tools of neoclassical microeconomic theory; each article emphasizes, though, that much more is needed for an understanding of markets.<sup>1</sup> One might infer that Austrian is to neoclassical economics as relativistic is to Newtonian physics: an extremely complex and subtle collection of insights about knowledge and process that is required for full understanding, but that would be confusing and truly detrimental to anyone simply seeking a little practical acquaintance with the subject. Such a practical introduction, this view concludes, is best achieved with the simple comparative statics of neoclassical microeconomic theory.

The second perspective of Austrian economics pulls it even farther from the Principles course. The concept of partial equilibrium is vital to undergraduate economics, especially Microeconomic Principles. The viewpoint expressed above considers equilibrium to be a subset of Austrian economics which overlaps neoclassical theory, and because only that intersection belongs in Microeconomic Principles there is no substantive difference between a neoclassical and an Austrian approach to the course. In this second view, though, Austrian economics is inconsistent with equilibrium, so any teaching of equilibrium concepts requires a suppression of Austrian ideas. Since introductory Microeconomics is inconceivable without partial equilibrium, *this* Austrian economist must reconcile himself to teaching equilibrium economics for its

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1 Suggestive passages are scattered about the provocative "Economics and Knowledge," but here's one: "My criticism of the recent tendencies to make economic theory more and more formal is not that they have gone too far but that they have not yet been carried far enough to complete the isolation of this branch of logic and to restore to its rightful place the investigation of causal processes, using formal economic theory as a tool in the same way as mathematics." (Hayek 1948: 35). In the less rich but more clear "The Use of Knowledge in Society," Hayek writes: "The conditions which the solution of this optimum problem must satisfy have been fully worked out and can be stated best in mathematical form: put at its briefest, they are that the marginal rates of substitution between any two commodities or factors must be the same in all their different uses." (Hayek 1948: 77).

instrumental value: It gives the student a sense of understanding, superficial though he believes this sense is, and it often leads to correct policy. Interpreted in this way, an Austrian foundation for Microeconomic Principles requires a wholesale revolution, a casting out of nearly everything currently taught in Principles and, indeed, in undergraduate economics. No wonder this gives pause to one who is concerned about the practical consequences, particularly for a democratic society's economic policy, of education in economics. And it would be no wonder if responsible professors who hold this view of Austrian economics share the judgment of the first group, that the teachings of the School are appropriately introduced only after the student has a nearly unshakable grip on neoclassical equilibrium theorizing with its generally-correct comparative statics and implications for policy. This professor can be an excellent Principles teacher, and a thoughtful Austrian scholar, but these two aspects of his professional life have nothing in common.

One could not responsibly promote the use of Austrian ideas in Microeconomic Principles if one identified them either as subtle and complex addenda to neoclassical equilibrium theorizing or as a radical paradigm requiring the complete rejection of equilibrium concepts. But it is not correct to confine Austrian economics to either of these perspectives.

This is not a treatise on the Austrian School, but it is appropriate to identify a few attributes that are relevant to Microeconomic Principles. The order in which they are discussed implies nothing about their relative importance. Explanations of how these principles can be embodied in Microeconomic Principles course follow in the next section of this paper.

Methodological individualism: My definition is “the method of understanding an observable social outcome by tracing its cause to the earlier actions of individuals,” and a “social outcome” is simply a pattern or event that obviously resulted somehow from people's

actions. A boulder rolling down a mountain is not one, but the crowd camped outside a ticket office is.

Subjectivism: Besides the commonly acknowledged — though not consistently respected — subjectivity of value, the Austrian also emphasizes that expectations are subjective. You like the beach, but I like the mountains; from today's stock-market movement I infer that it will be up tomorrow and you that it will be down. I prefer not to use the phrase “subjectivity of *knowledge*” because it suggests the popular lackadaisical “whatever” attitude that verges on a rejection of objective reality, but emphasizing that individuals act on their own *beliefs* about objective reality is completely appropriate.

Utility: However the professor chooses to analyze individual choice, an underlying ordinal concept of utility is a must. (Again, while non-Austrians commonly acknowledge the principle, they do not consistently respect it.) There are many temptations, even for those who wish to maintain Austrian principles, but utility as a *ranking* is not only proper theory but makes sense to students. The impossibility of comparing one person's utility with another person's, an implication of the nature of utility itself, has important consequences for the ability of economics to endorse policy prescriptions and to evaluate outcomes. Because it questions conventional neoclassical policy judgments that are based on crude utilitarian reasoning, an emphatic presentation of the impossibility of interpersonal utility comparison is critical for a proper Austrian-informed Microeconomic Principles course.

Cost: The “opportunity cost” perspective, thankfully, finds a home in both perspectives. But even neoclassical economists who insist on the subjective nature of value often stick to the “classical” part of “neoclassical” by treating cost as objective.<sup>2</sup> Mankiw's popular textbook, for

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<sup>2</sup> I once surveyed my department on the issue of whether “cost” was a value or a thing. About half answered (I good-naturedly accused the rest either of not knowing, or of being afraid to respond), and of those a slight majority favored “value.”

example, identifies *cost* as “all those things that must be forgone...” (2007: 268) A consistently Austrian perspective interprets cost as a value, not a thing, forgone, so it has the same nature as value.

Mathematics: Any approach to Microeconomic Principles that minimizes the use of mathematics might, for that reason alone, find favor with those attempting to teach today’s mathematically ill-prepared students. But the Austrian’s perspective is based on method, not pedagogy. It is perhaps best expressed as a reluctance to make concessions, in one’s quest for an understanding of human action, for the sake of mathematical tractability. Teaching a modern course without some algebra, curves with slopes and intercepts, and so forth, is impossible, but when they require concessions that conflict with human action (infinitely divisible goods, for example) the Austrian makes them reluctantly and with occasionally expressed *caveats*.

Knowledge: Individuals act on the basis of their own goals, expectations, and knowledge, and a number of important propositions follow from that. It’s especially important to acknowledge what it implies about our method; I like to remind students — probably too often — that we can’t read other people’s minds. Our goal is to understand others’ behavior; to the extent that it depends on specific goals and knowledge about which we have no direct information, we are limited to reasonable inferences from their observable actions. Every teacher must pretend to know things that he cannot really know — every time he draws a demand curve, for instance — but reminding students, fairly often, of the knowledge that can actually be possessed by market participants is a professional obligation of the teacher of Microeconomic Principles.

Entrepreneurship: Whatever role the explicit discussion of traditional entrepreneurial topics — particularly, the creation of new businesses — plays in one’s course, it is always

appropriate to identify the simple insight that a price is “too low” and that one would benefit by increasing it, as *entrepreneurship*.<sup>3</sup> Again, the point is consistent with methodological individualism: Markets have no minds of their own, and do what they do only as a consequence of deliberate choices made by individuals who are somehow involved in them.

Future orientation: This attribute focuses on the matter of *time*, which has — since the origin of the School with Menger’s *Principles* — always been emphasized by the Austrian School.<sup>4</sup> Because value is future-oriented and cost is a value, cost is also future-oriented. This aspect of economics is an appropriate venue in which to emphasize the subjective nature of expectations, and the distinction between accounting and economic concepts of cost (and, perhaps later, profit).

Competition: The interpretation of competition as a rivalrous process, as old as the hills but called “the new learning” back in my graduate school days, has characterized the Austrian School since its founding. Consistent with the businessman’s everyday perspective, it resonates much better with students than does the state or structural concept of “perfect competition.” Particularly to be avoided is terminology (like Mankiw’s) that identifies “competitive” with “perfectly competitive,” and everything else as a form of “monopoly.”<sup>5</sup>

These are some of the attributes of the Austrian School that are not only consistent with the goal of a Microeconomic Principles course but that make it better. That judgment, though, depends somewhat on one’s view of the nature of the course.

## B. THE MICROECONOMIC PRINCIPLES COURSE

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3 Entrepreneurship as an equilibrating force is a theme of Kirzner 1973.

4 See, for example, “Time and Error” in Menger 1981 [1871]: 67-71.

5 Mankiw 2007: 290, 316.

This course is the most important in the economics curriculum. It not only sets the tone and provides the background for those further studying our subject but will be the only economics course taken by a much larger number of students. Contrary to an opinion that is unfortunately quite common, it is not a course that “anyone” can teach well: Not only must one appreciate the nature of one’s students — as is true of any course — but an understanding of the nature of economics is critical. The “anyone can teach Principles” position reflects the view that Microeconomic Principles is simply a watered-down version of graduate-level microeconomic theory in the techniques of which every Ph.D. is immersed, and the watering-down process mostly involves turning off one’s mind at certain points. This attitude is reinforced when young professors whose training is precisely of this nature receive high student evaluations, in part due to pleasing personalities but also because their own youth makes for natural interaction with students only a few years younger. What I have heard described as a British or European approach sounds much more sensible: Technically facile and brilliant but inexperienced professors are assigned technically advanced upper-level or graduate courses, and it is held that only the more experienced and widely read senior professors can properly teach Principles.

Microeconomic Principles has many attributes whose details are not appropriately examined here, but a few will convey something of my perspective. It should be the student’s first course in economics, preceding Macroeconomic Principles.<sup>6</sup> It should not follow an omnibus survey course in current controversies that is designed to draw freshmen into economics. These courses convey the anti-intellectual impression that theory and disciplined reasoning are superfluous to an understanding of complex real-world problems, and inevitably — though perhaps unintentionally — involve indoctrination, since the professor shapes both the

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<sup>6</sup> My University, sad to say, is one. Following a change in the University’s General Education Requirements a few years ago, it became possible for Microeconomic Principles to satisfy one such requirement, and Macroeconomic Principles another... but only if the former were not a prerequisite for the latter.

topics and the small subset of analytical tools offered to the student.<sup>7</sup>

The Microeconomic Principles course should focus on *theory* that contributes to an understanding of important aspects of reality.<sup>8</sup> No topic should be covered solely because the student might later encounter it in an upper-level course, so this rationale for favoring certain neoclassical over Austrian tools evaporates.

Because many students will take only one economics course, some professors think it must combine microeconomics and macroeconomics. But the most significant concepts typically subsumed in macroeconomics are easily introduced in microeconomics: Say's Law, unemployment, rational expectations, even the nature, subjective valuation, and purchasing power of money. The important concepts of macroeconomics have microeconomic foundations, and concepts truly exclusive to macroeconomics — such as national income accounting and Keynesian demand-management theory — are simply not worth a one-course-only student's time.

These are my views of the general nature, and role in the curriculum, of Microeconomic Principles. They provide background and context to an examination of its positive content.

The proper goal of Microeconomic Principles is to explain the relatively smooth functioning of the catallaxy, the process by which the self-interested actions of individuals — in a legal environment enforcing property rights — produce patterns of prices, outputs, and employment that best conform to these individuals' values. This goal is not uncommon among Principles books; it is sometimes expressed as explaining how “Paris (or New York City) gets fed.” My simplified version is simply to explain how “freedom works.”

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7 This is my adjustment, for the educational inflation of the past three decades, of Mises's observation that “Teaching [economics] at the elementary level necessarily turns into indoctrination.” (1966, p. 876)

8 “Unless it is our aim to impress students with the esoteric quality of economists' knowledge, we should teach no theory in the introductory course that cannot be put to work immediately.” Heyne (1991, p. x).

The concept of order without conscious design, an order consistent with and arising from individuals' exercise of their free choice, is new to our students. Our core principle must, unapologetically, be the functioning of the "free market," or "laissez-faire capitalism," or "the unhampered market." This focus is intellectually proper for Microeconomic Principles; as long as we behave ourselves and keep our eye on our course's purpose, we need not be concerned about libertarian proselytizing. Some explanation is required of what "freedom" and "the free market" are, though, and this — in turn — calls for some discussion of property rights. This is always a little touchy in the Principles course. One must convey enough to indicate that some current legislation, including some that students like, is inconsistent with property rights and would not exist under a free market, while not permitting the course to become sidetracked into debates over libertarian philosophy and politics.

A strong focus on the unhampered market does not preclude reference to matters typically labelled "market failures": externalities and public goods. But to *highlight* the popular remedies, consciously designed taxation and subsidization, would weaken the principal theme of the course. An explanation of the logic behind these remedies is appropriate, but their theoretical shortcomings and the concept of "government failure" must be introduced. Any creative new solutions consistent with market incentives of which the professor is aware should briefly be described. Properly handled, these issues can even reinforce the significance to the market of properly conceived individual rights to property.

The extent to which rights-violating government action like antitrust and restrictions on prices and trade belong in this course is limited. Classic interventions like rent controls, crop price supports, and minimum-wage laws nicely illustrate shortages and surpluses, and by counterexample reinforce what an unhampered market achieves. Antitrust naturally arises,

probably briefly, in the distinction between process and state views of competition and market structure. Besides, it is important for the teacher to acknowledge occasionally what the students already know: Sometimes market outcomes consistent with free choice conflict with widely held views of fairness. (Although I think popular conceptions of equity are at fault in this so-called equity-efficiency tradeoff, the extent to which this should be pursued in Microeconomic Principles is minimal.) The popular temptation to resort to the political process offers the professor, if he wishes, the opportunity to introduce a little public choice.<sup>9</sup> But the point is to keep the focus on the functioning of the free-market catallaxy. The more exceptions and interventions one introduces, the less the student will grasp and remember about the coordinating mechanisms of the unhampered market.<sup>10</sup>

### III. THE AUSTRIAN FOUNDATION

It's finally time to illustrate the incorporation of the Austrian precepts catalogued above, into the Microeconomic Principles course described above. This integration is primarily a partial description of the course I have had the freedom to teach for the past twenty years. For the past fifteen of them, I have used my own textbook, *Elements of Economics*.<sup>11</sup> Written in 1992, its motivation was that greater Austrian content could improve the otherwise praiseworthy textbooks I had used earlier in my teaching career. This section of the paper is not an outline of

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9 My own philosophical position (which in this respect I believe is also Murray Rothbard's) implies that, while politicians' behavior can be analyzed using perceived benefits and costs, their treating of other individuals' lives and property as subject to tradeoff and exchange makes their choices qualitatively different from those of rights-respecting businesses and individuals. Public choice gets only the briefest mention in my course.

10 Years ago, in a brief period of participation in a feminist economics discussion list, I saw one contributor assert that the primary goal of a first course in economics is to emphasize market failure. That, in my judgment, constitutes educational malpractice.

11 The following exposition follows this book. Continual page references to this book would become tiresome, and will not be offered here.

the book and course, but a demonstration of how the Austrian principles listed above are incorporated into the exposition of the topics that form the core of any Microeconomic Principles course: demand, supply, and market.

The dedicated Microeconomic Principles teacher will make many judgments in the shaping of his or her course, and will not include Austrian attributes simply for their own sake or, even worse, if he or she believes they detract from the course's primary goal. This level of professional integrity is taken for granted. There are plenty of ways — many of them pedagogic — in which a professor's vision of, and judgment about, Microeconomic Principles can differ from mine, and they may preclude following some, or perhaps any, of these suggestions. This kind of disagreement is expected, and I suppose I'm obligated to admit that it is healthy.

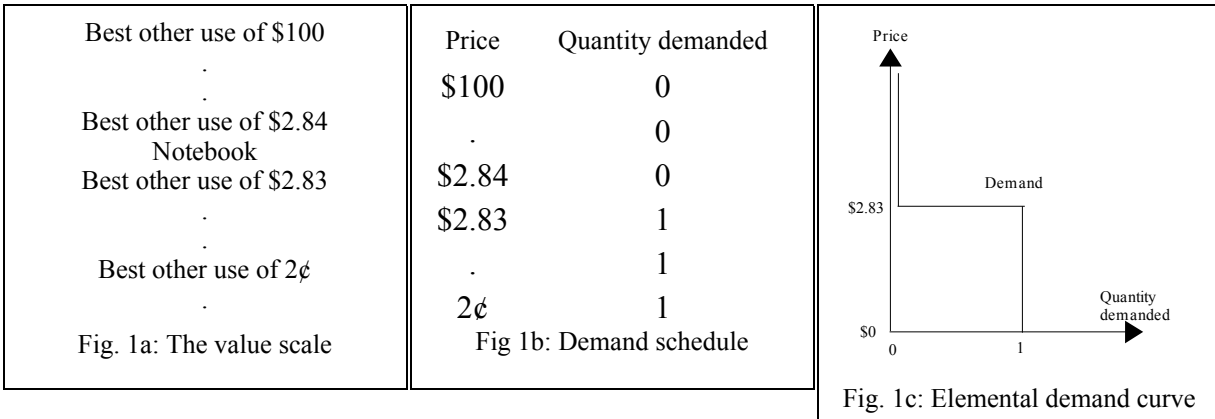
#### A. Demand

Although Mises completed *Human Action* without demand curves, that wouldn't be appropriate for a standard Microeconomic Principles course. Here is an approach with an Austrian foundation.

Demand, which describes one's willingness to buy, is based on utility. (Supply is, also, but that's a later story.) Since students are more familiar with "value," I normally use it instead, treating value and utility as synonyms. Value is the magnitude of the feeling of future well-being one expects from taking a particular action; it is clearly established as future-oriented, subjective, and not cardinally measurable. In each choice that one confronts, one must conceive of the value of each alternative, rank them by value, and then chooses the highest-valued of the available alternatives.<sup>12</sup> No notion of "total utility" is introduced, and while some constancy over

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<sup>12</sup> "Actors can be interpreted as *ranking* their ends along a scale of values..." Rothbard 1970, p. 14.

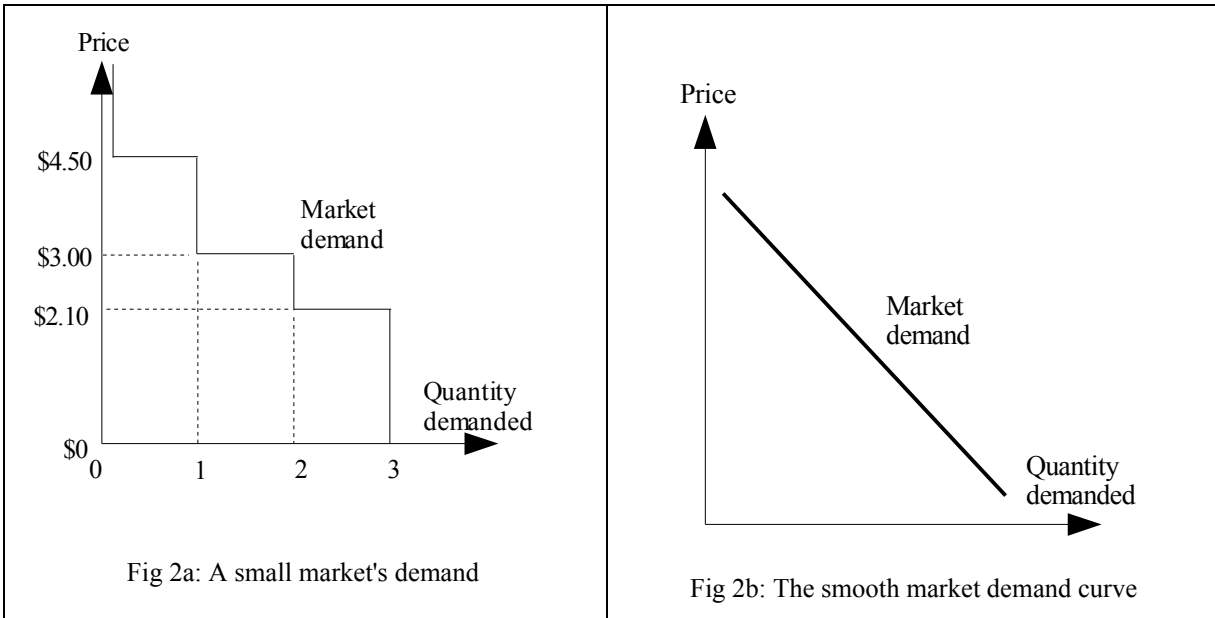


time might be expected (if I preferred classic jazz over hip-hop yesterday, I probably will today)

there is no implication of its necessity.

Consistent with my goal of building from “elements,” demand begins with a decision every student confronts at the start of the semester: one person’s willingness to buy one notebook at the University Bookstore. (Multiple notebooks are precluded until after a later discussion of diminishing marginal utility.) If they are priced at \$2.69, the student compares the value of the notebook (future and subjective, of course) to the value of the “best other use” of \$2.69. If the former ranks higher on the value scale, she buys. Imagining different prices the bookstore might charge (and emphasizing *ceteris paribus* to assure that’s the only change) produces the value scale, demand schedule, and demand curve shown in Figure 1a, 1b, and 1c. Such a curve also respects the typically Austrian use of discrete quantities of goods, avoiding any suggestion of infinite divisibility. The “demand price,” conventionally “the highest price one would pay,” is also identified as the largest amount of money whose best other use is less valuable than the notebook. Here, of course, it is \$2.83.

The transition from this one-unit individual demand curves to a market demand curve is first illustrated with three market participants, each with a different demand price; adding their



quantities demanded at each hypothetical price produces a market demand curve with three steps, one at each one person's demand price. Identifying each with a person's name (Sally has the demand price of \$3.00, for example) helps the student see the individualistic foundation, and a quick sketch of her value scale reinforces it. The jump can then be made to hundreds of individuals, explaining that accuracy would probably feature a multi-unit step at every penny's price change but that since the detail is usually less significant than the downward slope it is approximated by a smooth line. Figures 2a and 2b illustrate the process.

Although we have finally attained the common smooth (usually linear) market demand curve found everywhere, the method by which it has been developed emphasizes its foundation in the value scales of the individuals who comprise the market, consistent with methodological individualism and the subjective, future-oriented nature of value.

Diminishing marginal utility be introduced before or after aggregation to the market. With small, discrete numbers of units, the Austrian meaning of the term ("utility of the marginal unit," or "utility of the change") comes naturally; with no notion of total utility ever appearing,

there is no need to address its meaning as “change of the (total) utility.” To meet the condition that the units’ uses be independent, I ask the student to imagine a University regulation that one notebook can be used for only one course, and the logic that the first would be applied to the course in which organized notes were most important, the second to that in which they were second-most-important, and so forth, seems to be clear. The resulting individual’s demand curve will look much like the “small market’s demand” of Figure 2a.

Pedagogically, one may compare this demand curve, with its three discrete steps, with an introduction like that of Mankiw (2007: 66), in which an individual’s demand for up to twelve ice cream cones is presented with a smooth downward sloping curve. Whether the additional insight and realism offered by my discrete steps — the cones are not infinitely divisible, as the smooth curve suggests, for example — is worth its cost, is a matter of pedagogic judgment. I think it is, not just for its realism but because it provides a foundation for an understanding of markets more consistent with methodological individualism.

With two types of demand curve in play, there is a bit more to analyze and consider. Changes in demand, for example, are handled at the market level simply as right or left shifts of that smooth curve. Methodological individualism, though, requires that these moves be traced back to the individuals’ value scales. An increase in the value one attributes to the notebook, for example, may move it up to a position between the “best other use of \$5.00” and the “best other use of \$5.01,” with the higher demand price easily illustrated by a change in the individual’s one-step demand curve. (Figures 3a and 3b illustrate these changes.) The foundation of the course’s many conventional smooth market demand curves in the value judgments of individuals is repeatedly emphasized. I often draw a smooth downward-sloping demand curve, identify a couple of points on it with persons’ names, and ask the class to tell us a little bit about, say, Julie

and Frank; one may add to the story by supposing that the good’s market price is somewhere between their demand prices.

The interpretation of a unit’s demand price, the height of the demand curve at any particular unit, as the *value* of that unit is certainly awkward terminology for an Austrian. I must admit to using this language when discussing the significance of market equilibrium, but occasionally remind myself, and anyone else who might be listening, that what it really means is: To the person willing to pay the most for that widget, it is barely more valuable than the best other use of its demand price, but less valuable than the best other use of that price plus a penny. This is awkward but is grasped by some students, and it certainly makes me feel better than simply leaving it at “the height of the demand curve shows the value of that unit.”

This brief explanation of demand illustrates how the individual’s value scale provides the foundation for his discrete demand curve, and thus for the smooth market demand curve that characterizes every Microeconomic Principles course. (Some of my neoclassical-bound colleagues cannot imagine how this can be

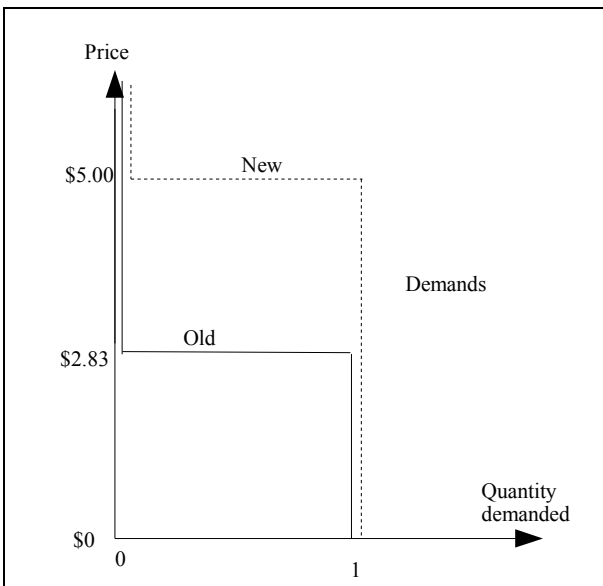


Fig 3a: Increase in individual's demand

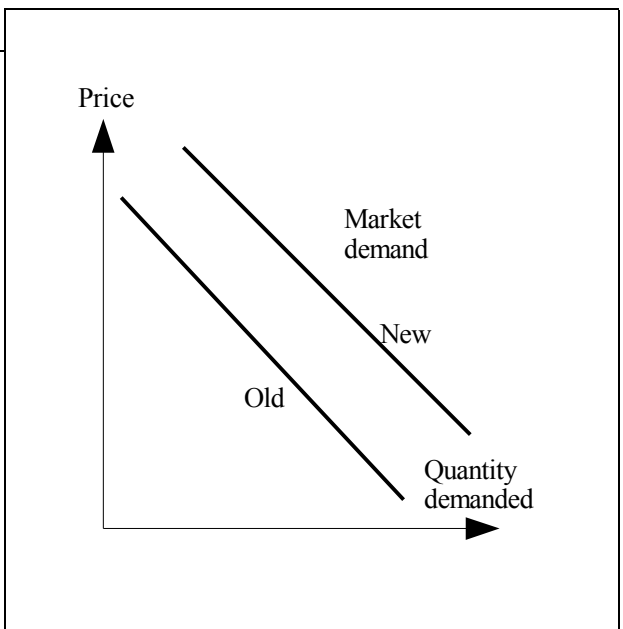


Fig 3b: Increase in market demand

done with neither utility functions nor indifference curves.) This foundation is not only theoretically more sound than that of the typical course, but — in part because of its reluctance to embrace unrealistic assumptions for the sake of mathematical tractability — seems to beginning students more like the real world. In my judgment it is an improvement in both theoretical and pedagogic terms.

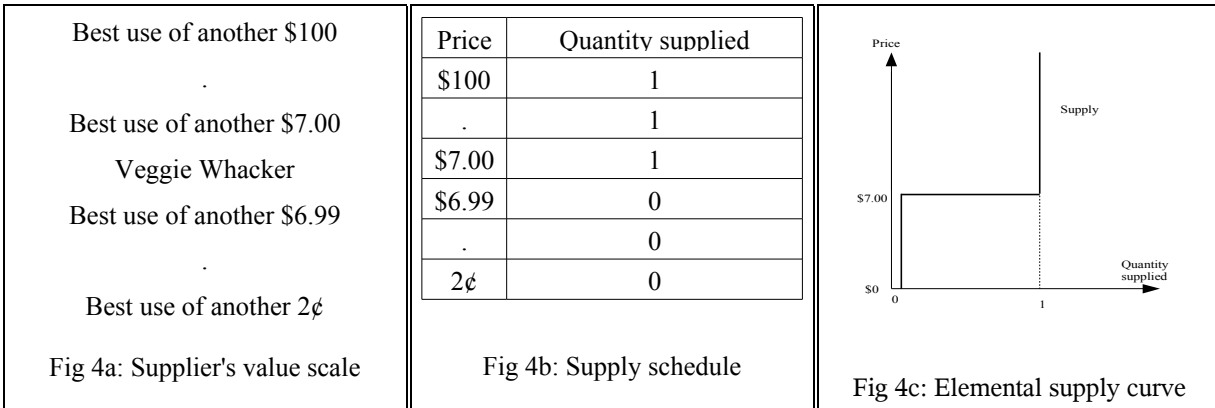
## B. Supply

Those steeped in the Austrian tradition will not be surprised that its approach to supply differs more with that of neoclassical microeconomics than does its view of demand. One occasionally encounters the attitude that the Austrian focus on utility leads the School to overemphasize demand and pay too little attention to supply's equal role in the market.<sup>13</sup> This implication that demand depends on utility while supply does not, is an error that must be nipped in the bud. The bud, in our context, is the Microeconomic Principles course.

In *Elements of Economics* I introduce supply and its related concepts using terminology as close to that of demand-related concepts as possible. Supply, like demand, is an offer to exchange, but it describes willingness to sell, and the wording of formal definitions of quantity supplied, supply, and supply price are as much like those of similar demand concepts as possible (“sell” replaces “buy,” etc.). To promote a little comfort with this seemingly new concept, the Say's Law insight that we demand one good by supplying another is introduced, with the notebook purchase at the University Bookstore illustrating that in every exchange each party demands one good and supplies another. This introduction is intended to counter the common

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<sup>13</sup> Ekelund and Hébert's generally excellent history of economic thought occasionally succumbs to this error: p. 329, for example.



attitude, actually promoted in many neoclassically based microeconomics courses, that individuals demand, while businesses supply.

The *elemental* supply decision, with which I introduce the concept, involves an individual considering the sale of a relatively unused vegetable chopper — I call it a Veggie Whacker — at a neighborhood yard sale. Offered \$5 for it, he must compare the values of mutually exclusive alternatives: continued ownership of the Veggie Whacker, and the “best use of another” \$5. Perhaps he declines the offer. Again we imagine a *ceteris paribus* experiment with higher and higher offers; hypothesizing the value scale of Figure 4a, we derive from it the supply schedule and supply curve of Figures 4b and 4c.

The essential identity of this process to that which underlies demand seems clear to students: the comparison of value between a non-monetary good, and various amounts of money (especially if one suppresses the “best other use” and “best use of another” prefixes, without which one could not tell whether the person was thinking of buying or of selling). Offered a brief definition of *cost* (the value of the best forgone alternative), students see immediately that it is the “value of keeping,” and — in this example — that it is between the value of the best use of another \$6.99 and the best use of another \$7.00. The person’s *supply price*, therefore, is the lowest price that “covers his cost” of selling: \$7.00 in this example.

Admittedly certain aspects of supply are more difficult for the beginner to accept. The “demand” assumption that each buyer is a price taker (at a price simply set by the seller) has an everyday familiarity, but the “supply” assumption that places the seller in the role of price taker (at a price set by the buyer) is harder to grasp. The move to a market supply curve, with the buyer shouting out “\$10!” to everyone rather than dealing with each seller individually is another conceptual stretch, but that’s how it must be done, and the move from individual step-type supplies to the smooth market supply curve, illustrated in Figures 5a and 5b, proceeds as did demand.

Changes that affect the value the individual attributes to *keeping* the Veggie Whacker are also changes in his cost of *selling* it, and affect his supply price accordingly. (My seller, for example, suddenly becomes a vegetarian.) Again, the alert student quickly sees this reduces his “willingness to sell,” and therefore his *supply*. The confusing fact that a vertically higher supply curve is a *reduction* in supply must be addressed by the Austrian and the neoclassical alike.

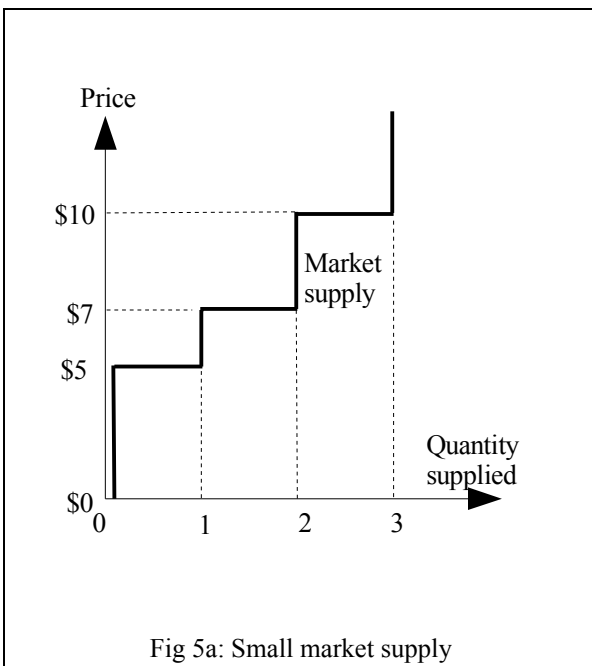


Fig 5a: Small market supply

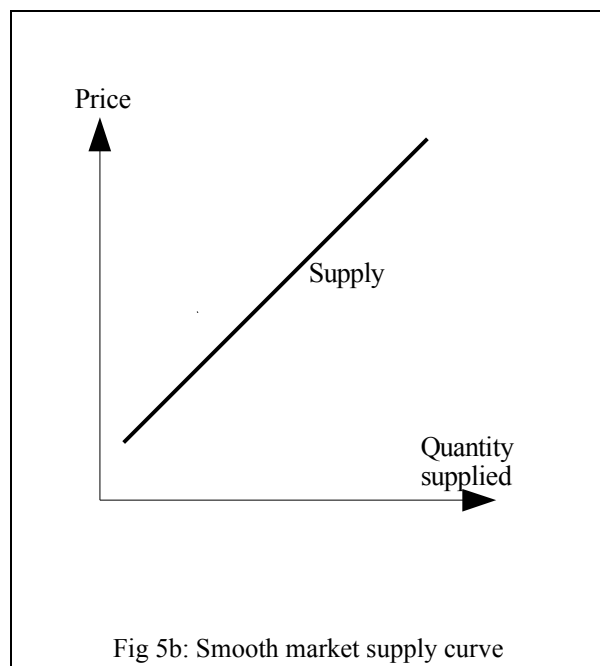
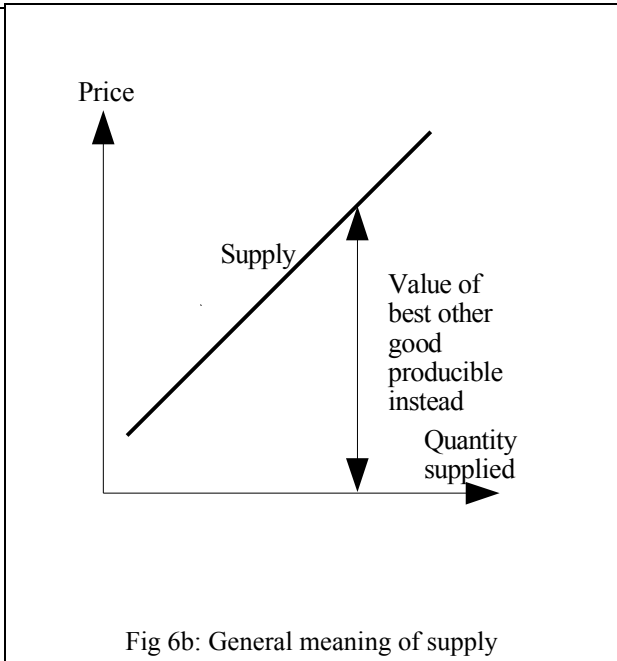
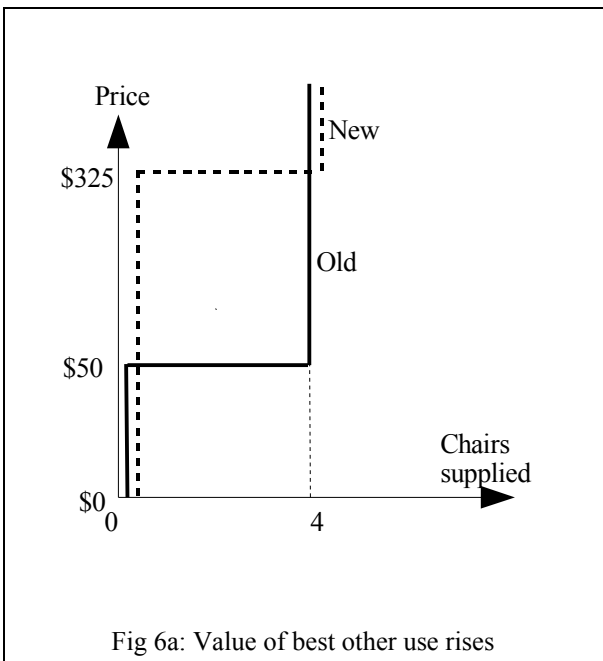


Fig 5b: Smooth market supply curve

The utility basis for this simple kind of supply is clear enough, but the next step is to introduce production. Again attempting to follow my simplest-possible “elemental” approach, I hypothesize a carpenter who likes to watch soap operas. He owns wood and hardware but knows of no valued use of them, so his only cost of producing four lawn chairs for us is the value he attributes to the day’s soaps: just a little less than the value of the best use of another \$50. That makes his supply price of the four chairs \$50, determined by his cost of supplying them. When a neighbor who values a small new deck at \$325 suddenly offers him \$324.99 to build it instead, the carpenter’s cost of supplying the chairs rises to this sum and his supply price jumps to \$325, a sharp reduction in the supply of chairs. Figures 6a and 6b provide illustrations.

The principle of this example, which again seems clear to those students who are awake, is that the supply of one good is determined by the demand for the best (highest-valued) other good that could be produced instead. Consistent with Say’s Law and a utility foundation of supply, this ties the supply of one good to the demand for other goods, emphasizing that it is really the consumer who determines a



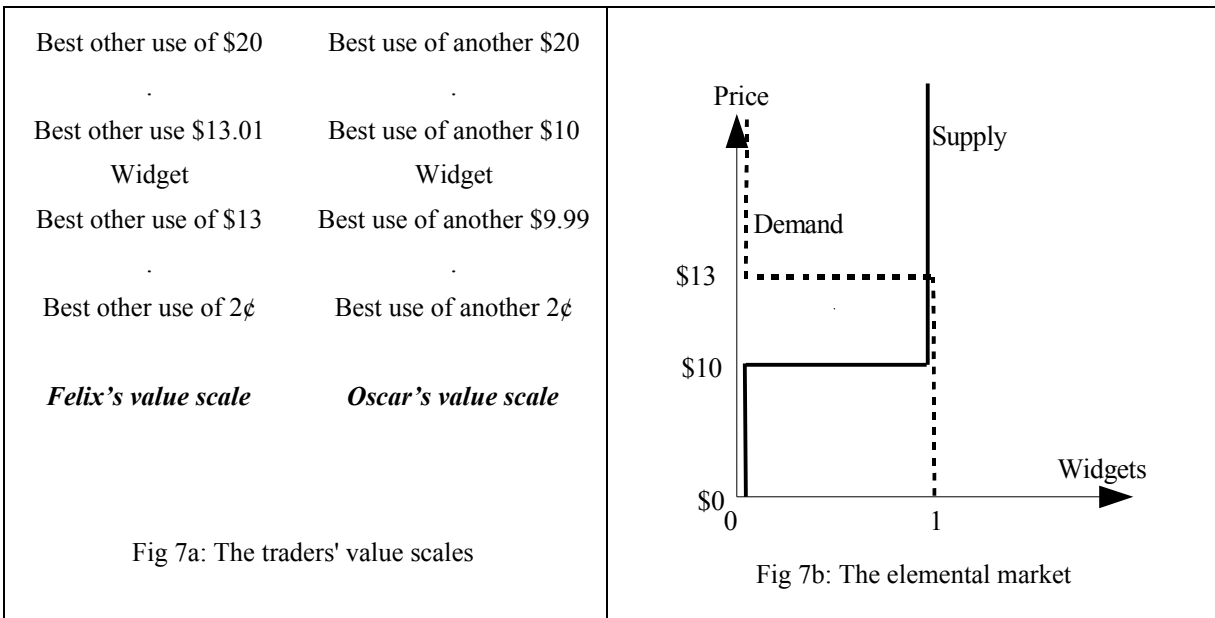
business's costs. The effect of the recent surge in the demand for ethanol on the price of corn, and therefore on the supply of tortillas, beef, and even game-bird hunting opportunities that fallow corn land had provided, offers a dramatic real-world example.

Again, while an Austrian-grounded introduction to supply is, in some respects, more complex than a simple neoclassical introduction like that of Mankiw or others, it brings supply closer to the students' lives and provides a superior background for understanding how markets function. The individual professor's judgment on pedagogy again will determine his approach.

### C: DEMAND AND SUPPLY TOGETHER

Only after this background in demand and supply do I feel comfortable putting them together, and it happens in the fourth week of my course. Again the analysis begins with the simplest conceivable market, an "elemental" market, and its development is like the famous horse-trading example used by Böhm-Bawerk.

The value scales of a potential widget buyer (Felix, whose demand price is \$13) and seller (Oscar, whose supply price is \$10) are presented to remind the student of the subjective-value foundation (Figure 7a), and their implied demand and supply curves placed on the same axes (Figure 7b). Of course the students can see the overlap between \$10 and \$13, but methodological individualism is invoked to remind them that there is nothing automatic about equilibrium and that neither can know the other's valuations. A poker buddy starts the market process by suggesting \$15, and we examine what's wrong with that, introducing the concepts of surplus, "disappointed seller," and discoördination of Felix's and Oscar's plans at that price, and examining why each has entrepreneurial incentive to try something lower. A similar exercise is



offered when the friend suggests \$7: shortage, disappointed buyer, and — again — discoördinated plans. A great deal can be illustrated with this elemental market, and we aren't done yet.

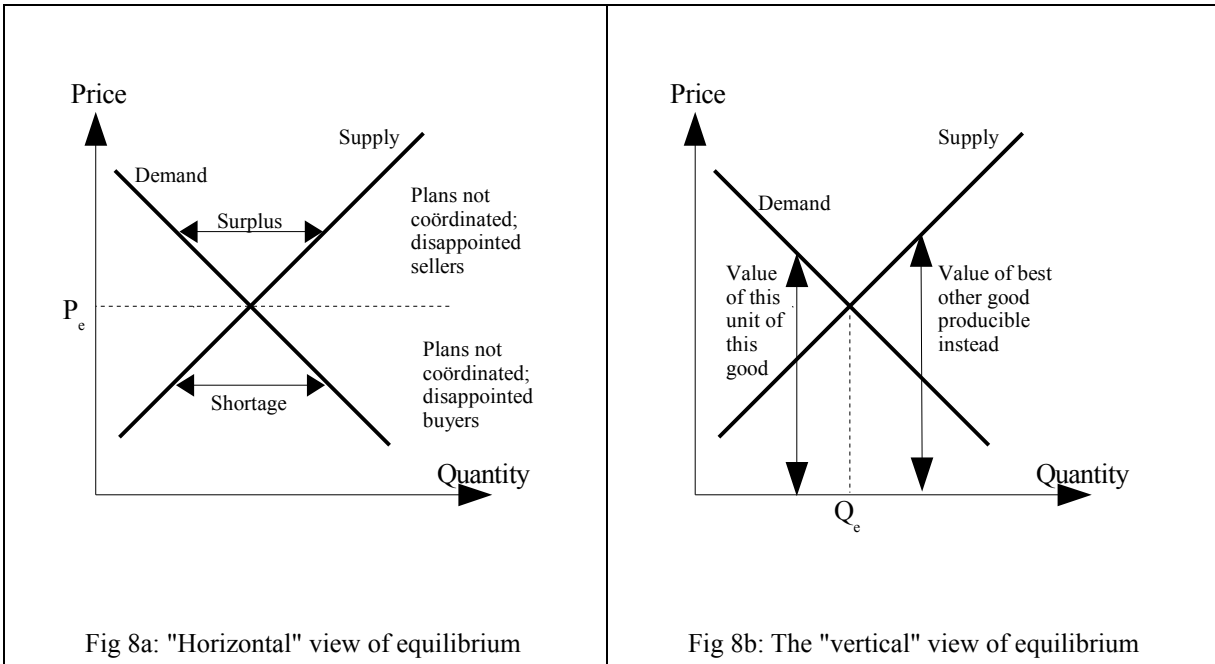
When the traders finally reach an equilibrium price (which must be defined, in these discrete examples, as *a* price (not *the* price) at which quantity demanded equals quantity supplied), their value scales illustrate how each benefits. \$12, for example, is valued less than the widget by Felix but more than the widget by Oscar, so trade at that price moves both individuals upward on their value scales. One can highlight this as the principle of “opposite relative valuations,” and a nice classroom exercise is to discover why prices like \$15 and \$7 do not satisfy it. This mutual benefit must be emphasized time and time again, for beginning students often seem convinced that many people deliberately engage in trades that make them worse off.

Following Böhm-Bawerk's masterful lead, the professor can then permit the entry into this elemental market of another potential buyer, and — separately, at first — another potential seller, demonstrating the effect on price of competition on each side of the market. Issues of

property rights may be explored along the way, if one wishes, highlighting the assumptions about property rights and freedom that underlie even such a simple market. I have never yet decided that two-sided competition (multiple traders on each side) with discrete goods was an efficient use of Microeconomic Principles class time, but the opportunity is there. Reminding the class of how smooth market demand and supply curves emerged from the simple step-type individual curves, we make that step to draw the famous X-shaped market curves with their unique equilibrium.

Those trained in Austrian economics are familiar with the contradiction between the price-taker assumptions on which the demand and supply curves, individually, are constructed and movement of a market price to equilibrium: Buyers imagine they have no effect on price, which is set on the supply side, and suppliers assume that it is unalterably set by the demanders. I do not bring this up in class, and no one yet has objected. My resolution is to free demand and supply from their price-taker assumptions, but that's too intricate a notion for Principles.

The background provided by a week of work on demand, and a week on supply, make both of the equilibrium diagrams of Figures 8a and 8b possible. The shortage-surplus graph is accompanied by an explanation that entrepreneurial individuals on *both* sides of the market are likely to perceive self-interested benefit from offering or charging a price somewhat closer to equilibrium, and that nothing happens in a market unless individual participants *cause* it; textbooks that gloss quickly over the need for individual incentive convey the unfortunate impression that shortages and surpluses somehow automatically resolve themselves. The graph contrasting marginal units' demand and supply prices must, of course, be interpreted cautiously, for it uses monetary sums as "values"; some reminder of its more accurate meaning is called for occasionally. Its conclusion is powerful: every unit that is valued more than alternatives is



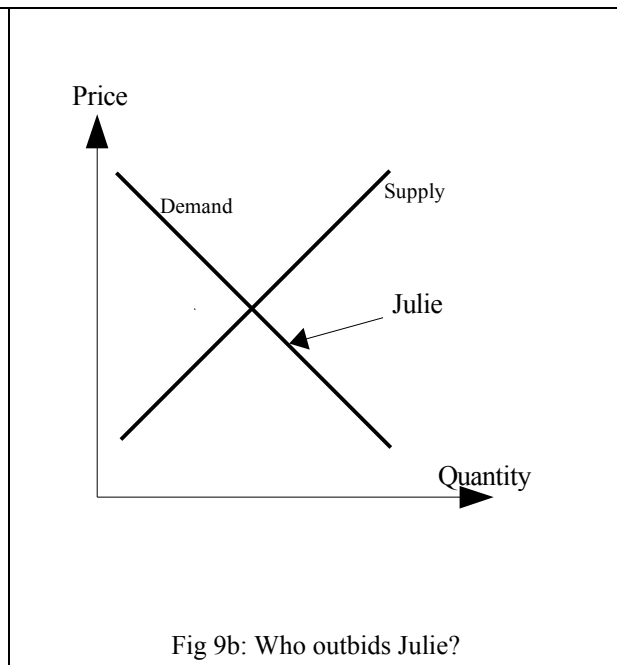
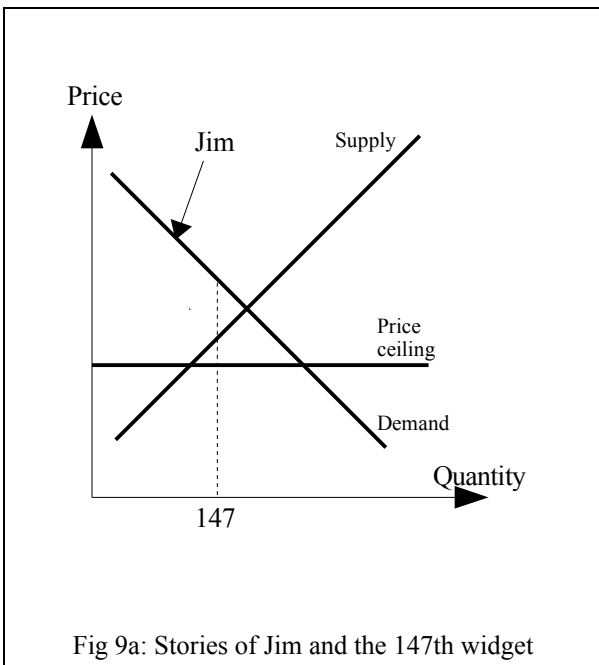
produced, and if a unit is valued less than alternatives, it is *they* that are produced. The graph can lead to the “benevolent dictator” illustration — he will dictate that exactly the equilibrium quantity be produced, not every unit with some value — that seems now to be common in Principles textbooks.

The methodological individualism and subjectivism of the subject’s Austrian foundation emerges further in an analysis of “the three functions of price”: information, incentive, and rationing. They were probably inspired by Hayek’s “The Use of Knowledge in Society,” and I use them to illustrate that a non-equilibrium price conveys false information about relative scarcities, produces incentives to use resources to produce less value than they could, and fails to ration this good and the resources that produce it among competing individuals and uses. The effects of effective legal price controls are an obvious application.

To guard against the temptation to treat these smooth market curves as entities with wills and motives of their own, one must reassert methodological individualism continually by

focusing on individual points on the curves and asking the class for little stories. Figure 9a illustrates the disruptive effects of a price ceiling on rationing (Jim, despite his above-equilibrium demand price, may not obtain the good) and incentive (unit 147, though valued more than alternatives, will not be produced). Figure 9b offers another illustration of the method, this time in an unhampered market. Since an earlier diagram had identified legs of the X-shaped diagram as “successful buyers,” “unsuccessful sellers,” etc., students quickly identify Julie as an “unsuccessful buyer,” and often are able to identify the two groups of people who are responsible for that: other widget buyers whose demand prices are higher than Julie’s (they set the demand curve’s position), and the hidden individuals who are willing to pay more to have resources used elsewhere than Julie is to have them used here (they set the position of the supply curve).

Having done my best to convince students that prices are unintended consequences of uncountably many individuals’ personal value judgments (occasionally even invoking the “best other use” and “best use of another” value scales from much earlier in the semester), and that



prices simultaneously perform these three important functions, I usually wrap up the discussion with one of Professor William H. Hutt's favorite quotes: Benjamin M. Anderson's "Prices have work to do... prices must be free to tell the truth."

#### IV. CONCLUSIONS

The systematic development of demand and supply, and then their interaction as a market, form the core of any good course in Microeconomic Principles. The stage at which this paper's examination concludes is reached, in my course, at about five weeks, or roughly one-third of the semester. The rest of my semester is occupied with monopoly and competition, comparative advantage, labor markets, interest, and profit and entrepreneurship; while most teachers will consider the first three essential, these post- "supply and demand" topics are at the professor's discretion.

Contrary to the two interpretations of Austrian economics described at the beginning of this paper, the Austrian theory underlying market equilibria — concepts of value and cost, and the implications of their ordinal, subjective, future-oriented nature — is substantively different from the neoclassical theory dominating modern textbooks. Austrian method is different: its focus on human action explains its reluctance to compromise understanding for tractable mathematics, and its consistent respect for the nature of value explains its unwillingness to support crude utilitarian judgments like the interpretation of a monopoly's "deadweight loss" as a loss of *welfare*.

The thesis of this paper is that an Austrian foundation produces a Microeconomic Principles course that is "standard" in its use of familiar tools like smooth demand and supply

curves but *superior* to one adhering to modern neoclassical theory as its foundation. In some respects the use of correct utility theory, respect for methodological individualism, and the eschewing of certain simplifying assumptions increases the complexity of the course, but these attributes need not make it more difficult than is appropriate for a legitimate university course.

Although my staunch belief is that reliance upon the richer, more realistic, more accurate, Austrian School approach to the understanding of human action as a theoretical foundation produces a *better* “standard” course in Microeconomic Principles, this conclusion depends on both on the accuracy of my understanding of Austrian and neoclassical theory and on certain convictions about the pedagogy of the introductory course in economics. On a matter as important as our students’ education, each of us must and will rely on his own best professional judgment.

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