THE NATURE OF MARKETS

being Chapter Eight of
A GENERAL THEORY OF VALUE

> The "cry" of the market is certainly physical; so how many ergs of energy result in a dollar bid for wheat? Or if, as has been assumed since Bentham, the impulse is merely psychological, how many "utils" of satisfaction, depending on how severe a course of toilet training, result in a dollar bid? All that is nonsense. Every one knows it is nonsense. There is no way of starting with ergs or utils or the Oedipus complex and getting to dollars.
>
> George P. Brockway, 1995

> One: There is a low limit of weight [of about] 50 pounds beyond which it is impossible for an animal to fly. Two: The animal machine is far more effective than any we can hope to make. Three: The weight of any machine constructed for flying, including fuel and engineer, cannot be less than three or four hundred pounds. [Therefore,] is it not demonstrated that a true flying machine, self-raising, self-sustaining, self-propelling, is physically impossible?'
>
> Professor Joseph Le Conte, 1888

I. Defining a Market

Central to the project of economics is the concept of a *market*. So it is strange that, when it comes to defining what a market is, the literature of economics is cursory or silent.[1] But James Tobin gives our analysis a head start:

> [M]arkets take a variety of forms. Some are highly organized auction markets, the leading real-world approximations to the abstract perfect markets of economic theory, where all transactions occurring at any moment in a commodity or a security are made at a single price and every agent who wants to buy or sell at that price is accommodated. Such markets exist in shares, bonds, overnight loans of outside money, standard commodities, and foreign currency deposits, [as well as] in futures contracts and opinions for most of the same items.

> However, many financial and property transactions occur otherwise, in direct negotiations between the parties. Organized open markets require large tradable supplies of precisely defined homogenous commodities or instruments. Many financial obligations are one-of-a-kind: the promissory note of a local business proprietor, the mortgage on a specific farm or residence. The terms, conditions and collateral are specific to the case. The habit of referring to classes of heterogeneous negotiated transactions as 'markets' is metaphorical, like the use of the term 'labor market' to refer to the decentralized processes by which wages are set and jobs filled, or 'computer market' to describe the pricing and selling of a host of differentiated products. In these cases the economists' faith is that the outcomes are 'as if' the transaction occurred in perfectly organized auction markets.[2]

In Chapter Four I introduced the notion that alongside and intermixed with the economy of goods and services there exists a psychological economy—an economy whose primary goods-in-trade are *tokens.* Tokens have been the good we're most interested in ever since. A brief discussion now as to whether there is a *market* in tokens will allow us to get into Tobin's definitions, as well as help us understand the sense in which we can claim that there is an "economy of tokens" at all. For if there is, then several concepts from conventional economics, like costs and competition, demand and supply, might shed more light. This discussion will lead us into a deeper examination of markets in general—i.e., for material goods and services, as well as for tokens—and then, in Chapter Nine, to a deeper look at the token we call *money*.

Clearly, most tokens are not "precisely defined homogenous commodities or instruments." Rarely, also, are they in "large, tradable supply" from a given supplier or set of suppliers. Exceptions to this are such tokens as memberships, academic degrees, credit cards, tickets to sports or entertainment events, official permits, professional licenses, and so on. But, although they are standard in form and available in quantity to those who qualify (i.e., to those who pay in a certain way), and although they are frequently available from competing suppliers, these tokens are rarely traded again in the same market in which they were acquired. In other words, you can neither sell your college degree back to the university nor pass it along like property, even though you can use it to accredit yourself in myriad institutional settings, including educational ones where, in teaching, you might—at a stretch—be said to be passing your degree along.

There are no gigantic, centralized markets where tokens in general are to be had and traded—except securities exchanges themselves and inasmuch as "shares," "options," "futures," etc. are themselves confidence tokens of a type that, quite specifically, *can* be thus traded. And

yet there do exist public venues such as conferences, receptions, openings, conventions, club and neighborhood meets, graduations, weddings, parties, "mixers," and many other sorts of forums whose function is to compound the (potential) number of social exchanges between people—relative strangers at that—and this in an open, shopping-like, market-like way. We know that wherever information circulates at high levels of intensity within a gathering of people, more than just "technical" information circulates—more than just information, say, about prices, business plans, research results, etc., any of which may have been the *pretext* for gathering. Relationships between people, families, and/or firms are strengthened or weakened: friendships are made, assurances are offered; compliments are traded, statuses checked, affronts gauged, permissions negotiated, suggestions offered and maybe accepted…and all of these exchanges, which are essentially exchanges of tokens for tokens, go towards satisfying the needs of those who participate. As in markets proper, prices emerge that may or may or not be dollar prices but which are nonetheless "going rates"—prevailing norms—for what people will do for each other, for what return, and on what terms. Similarly, in the process of leaving a job, a town, or a relationship, it is perfectly reasonable for a person to sniff "I'm going where I'll be more appreciated" and for us to read into this that they are choosing to "ply their tokens" in another marketplace.

Token exchange, then, seems to admit of certain market processes but not others. But clean breaks between regular markets—for material goods, using money—and token markets do not seem possible. The analysis requires subtlety. Regular commodity and consumer-goods markets are useful precisely for being impersonal. One person's money is as good as any other's; one vendor's products as good as at least several others', and any one instance of the product is as good as the next, like cans of Coca-Cola. Prices are displayed for all to see, transactions are made as painless as possible, and payments are final (even if the payment accepted is a promise to pay later, which is a token). All this promotes great fluidity, rapidity, and freedom of choice in exchange. Marketplaces for token exchange (should we pre-judge that these exist per se) would seem not to be able to participate in these advantages, since tokens are generally quite specific arrangements between specific people and institutions in which important remainders—obligations—carry over, as we saw in Chapter Seven.

And yet, and yet...token markets can be more impersonal than we are willing to admit. For example, within broad limits, we do not care with whom we fall in love until after we have fallen in love with them. Young men and women shop for partners in marketplaces called campuses, dance clubs, personals columns, friends' houses, bars, and gymnasia. In these, an

interesting transition is made from the usual inclusive and agnostic market-mentality before the "purchase" to an exclusive non-market mentality afterwards.

Tokens can also have high monetary value. Marriage status and family structure affect tax liability. In the sixteenth century, the almost-bankrupt sovereigns of France, Spain, Portugal would sell offices and titles to wealthy commoners in order to save their treasuries. Peerages are occasionally sold in Britain to this day. And of course, sovereigns and governments the world over have for centuries sold exclusive licenses—monopolies—to manufacture, export, or import certain products in return for prearranged tax levies on the trade that ensues. The authority of these licenses, which are tokens of legitimacy, are backed by the state or sovereign's power to make war in general, to defend against piracy, and to protect the property of the licensees with demonstrative (i.e. "token") as well as effective acts of violence against encroachers. Do not *all* official taxes and fees have this quality, to this day? And look at how many business relationships, from those that allow young startup companies to find venture capital to those that initiate and sustain contracts between mature companies, depend on whom one went to school with...who was once a neighbor...the recommendation of a friend...someone's is relatedness by marriage, and so forth—in short, on an economy of legitimacy, approval, and confidence tokens seemingly not "an economy" at all. Compared to the ubiquity and density of social relationships, all of which are maintained by trade in tokens, the market for material goods and services in exchange for the privileged token that is *money*, might be the tip of an iceberg.

II. The Ideal Market

Consider the matchmaker or broker. This is a person in whose mind there exist two ever-updating lists: a list of *x*-offerers and a list of *x*-seekers. *x* might be anything: a particular material good, a service, or even a person ("a suitable spouse"). Who are these offerers and seekers? They are people who cannot easily find each other, whose paths would not normally cross, or whose vision of what would satisfy their needs—of what *x* is—is too narrow for their own good. The broker, having knowledge of all the potential matches, goes back and forth between the clients most likely to make an exchange, modifying slightly as he or she does so the contours and valences of their respective desires (even misrepresenting these, slightly) until a pairing is made. Finally brought together, offerer and seeker consummate the deal as an exchange

takes place. In an almost perfect analogy to a catalyst in a chemical reaction, the broker then withdraws, unmodified though perhaps wiser, to do it again with another pair.

The person of the broker constitutes a virtual marketplace. His or her brain and little black book (or computer) serve as an exchange-hall or street corner—a holding area that keeps all parties suspended in propinquity and communication. S/he is, in economic parlance, a "market maker." Conversely and equally, therefore, we might see marketplaces as solutions to the problem of effecting free exchange *without the need for brokers*. For in ordinary marketplaces, large numbers of buyers and sellers find each other through sheer spatial aggregation and compression, holding up signs and calling out, in entropic admixture and free motion among each other.[3]

The idea that marketplaces are deeply involved in promoting and managing social complexity is an idea that, not surprisingly, I will try to make more of later in this chapter. Indeed, I will propose that *prices* are determined in part by a sort of contest between the *degrees of organization* (*R*) of buyers and goods.

Now, an "abstractly perfect" market, to use Tobin's term, or an *ideal market,* as I should like to call it, has several characteristics aside from being brokerless. Here is a portmanteau list of these, drawn from a variety of textbook sources.

The ideal market has

1. many independent sellers, and
2. many independent buyers, of
3. large quantities of identical or closely-substitutable goods, gathered in
4. effectively one place, at
5. effectively the same time,
   with, for both buyers and sellers
6. minimal qualifications for entry/access,
7. minimal relevance of personal identity,
8. sufficient and reliable information that is
   (a) free, or of minimal cost relative to prices,
   (b) available on demand to all inquirers, and
   (c) assimilable in good time,
   about the historical and proposed
   (i) prices of all goods,
   (ii) qualities and durability of all goods,

(iii) number of other buyers and sellers in the market for any given good,
(iv) terms of trade (e.g. availability, delivery, warranty, method of payment),
(v) reputations of all buyers and sellers[4] (but see 6 and 7),

9. agreed-upon rules and protocols of giving/taking/keeping possession,[5] and
10. the freedom to 'exit' the market without penalty (debts being settled).

No real market is ideal. In any real market there is room to wiggle on every point listed above. Time is always limited. So is knowledge. So are physical and financial accessibilities. Goods are rarely perfectly substitutable for each other. Usually one doesn't know how many potential buyers there are. Moreover, there are always *ab initio* differences in wealth among the agents—here, buyers and sellers—and therefore differences in valuation too—not just of the goods and the money involved, but also, as we saw in the last chapter, differences in the valuation of fairness and in the consequences of default.

Nor do buyers or sellers act fully independently of each other, thinking only of their own needs and resources at the moment. Rather, they can imitate or innovate, follow or lead, depending on what others do. They can cooperate or defect, collude with or try to outwit each other. They can act on behalf of others, act to correct past wrongs. They can act to forestall bad and to encourage good "situations" in the future, this while taking losses in the present. And so on. In a word, people can behave *strategically* and with regard to different time horizons—and none of this is reflected in the abstraction that is the ideal market.

Nonetheless, as a real market comes *closer* to the ideal embodied in the ten points listed above, so do the prices of similar goods traded in similar amounts under similar terms, at the same time in the same place, among relative strangers and so on...so do the prices of these goods *converge* to a narrow range and even to a single, market-wide, equilibrium price for a given good. The main driving forces towards convergence are competition among sellers for more buyers and/or competition among buyers for more goods. And this is to the good. For by no other mechanism, save an all-knowing and fast-acting broker, can the exchange of goods for money and money for goods be carried out more efficiently for more people with as much choice and freedom.

Ideal markets stand as, well, an *ideal*. But we should make note of two social arrangements, external to even the ideal market, that we usually take for granted for all markets:

(1) The existence of a legitimating institution[6] that defends property rights and handles whatever marketplace crimes, injustices, and errors that cannot be remedied (or remedied fast enough) by the threat to buyers' or sellers' reputations. In modern times we assume that the internal organization of this institution, as well as the rules it promulgates and safeguards, are open to reform by democratic means: i.e. through hearings, votes, proportional representation, and so forth. (Historically, let us remember, kings, chiefs, bishops, and other marketplace owners would set and enforce market operation rules largely on whim.)

We also assume that this or some other institution is authorized to ensure that illegal or dangerous transactions—in stolen goods, addictive drugs, slaves, babies, human organs, contracts-to-kill, untested medicines, deeds to non-existent land, counterfeits and fakes, child pornography, etc.—do not appear in the marketplace at all. For example, in the closest-to-ideal market we have, the stock market, the Securities and Exchange Commission constantly monitors activity. It also has the legal authority to change the rules whereby brokers trade, whereby member companies are admitted, and whereby financial products are sanctioned and deals made. This is perhaps because stock prices are particularly vulnerable to collapse because of rumors of illegality, misrepresentation, or corruption. When the goods bought and sold *are* confidence tokens, as all "securities" are, to remove reasons for confidence in any part of the system is to undermine the value of what is traded. Add to this one more fact about stock markets—that most buyers do not make *independent* valuations of a price's reasonableness (see characteristic 1 and 2 above) but rather imitate and try to predict each other's buying behavior so that a thousand buyers behave effectively as one—and one can see why securities markets, as efficient as they are, are still not ideal.[7]

(2) A host of societal customs, laws, beliefs, and practices must exist that ensure that long-term outcomes of market activity—especially in terms of (re-)distribution of risk, health, wealth, skill, mobility, and so forth among market actors—are such that the *range of prices* that buyers are willing and able to pay for similar goods corresponds to the *range of prices* at which sellers are willing and able to sell those goods. Without this result, and even with all ten of the above criteria satisfied, the market will not *clear*, where by "clearing" economists mean that every buyer finds a seller of what he wants at a price he can afford, and conversely, that every seller finds enough buyers for what he offers at a price sufficient to keep him in business indefinitely. Only when markets can clear does the rate of desired production match the rate of

desired consumption. Only then can inventory sizes vary merely around some prudent minimum, and only then can shortages, hoarding, overconsumption, and waste be minimized.[8]

But note: this criterion of "clearing" is a two-edged sword. Markets rarely clear completely. More to the point perhaps, they rarely clear from the consumer-buyer's point of view since there are always wants left unsatisfied—if none other than the wants of the poor. After all, looking at his emptied shelves, it is the *seller* who can say with some satisfaction that the market has cleared, and it is the seller who can order more and wonder whether he should raise his prices.[9] But the people too poor to come into his store or too far away to be "*in* the market"—though they may desire the goods he sells, and even deserve them—are neither heard from nor accounted for. The market has not "cleared" for them.

Or rather, it has cleared without them.

I do not mean here to show special pity for the poor or to suggest that all goods should be affordable to all people. I mean only to point out the obvious: that whatever else a market is and does, it works as a rationing mechanism, discriminating between people (and, in 'factor' markets, between firms), ultimately, on the basis of their ability to pay.[10] From the producer-seller's viewpoint, it is also a rationing mechanism too, if less obviously: apportioning the total expenditure on a certain good to the different suppliers of it, and discriminating between them on the basis of their ability to offer those goods efficiently and cheaply.

Now, avid proponents of the market mechanism argue that an ideal market would require neither of these two "social arrangements," that is, neither a legal system to manage injustices (save out-and-out criminal injury), nor any special arrangements for ensuring that consumers can afford what producers produce and vice versa. All this, they say, is taken care of by the workings of the ideal market itself: competition between sellers provides fairness, driving prices down and quality and quantities up; dishonest businesses eventually go out of business and are replaced by the kind of businesses people prefer to deal with, namely, honest ones; and products that do not work as advertised soon do not sell at all. Through competition between buyers, buyers who do not pay promptly or are bad credit risks are soon refused credit, and buyers who behave themselves poorly are not served at all. In all, they say, the law of supply and demand ensures that prices reach levels that satisfy both buyers and sellers. When in real life much of this does *not* occur, the free-market proponent argues, it must be precisely because the market in question is not ideal enough. The market, they say, is being distorted in some way

by outside forces such as government regulation, or being hobbled from within by imperfections such as inefficient information flow, corruption, and so forth. At any rate, it follows that the remedy to all this must lie in bringing the market yet closer to an ideal one.[11]

If one granted this, one would still have to wonder: how does a less-than-ideal market *become* ideal without recourse to a higher institution that has both the ideology and the authority to make law? Market rules and processes are not self-correcting, "self-idealizing," at the meta-level. For with asymmetries in access to price- and quality-information already in place, with asymmetries in access to financial credit and legal fire-power, with variable barriers to entry, with exclusive contracts, with selectively applied levies and subsidies, inherited wealth, patents, licenses, long-term leaseholds on prime locations, labor contracts, and operating systems already in place, those with some initial advantage would tend to maintain it while those at some disadvantage would have less power to change things in their favor. To complicate matters further, history shows that changing a market from a less-than-ideal one to a more-ideal one by steps—i.e., incrementally—may or may not lead to better results (by any measure) than simply leaving the market in its less-than-ideal state. For example, deregulating the thrift industry in the U.S.A. in the 1970s led to the savings-and-loan debacle of the 1980's, costing the tax-payer billions of dollars, while deregulating the airline industry has generally lowered prices and in certain respects improved services. Russia's transition from a socialist to a free-market economy may simply not be doable by small steps (with dribbles of help from the IMF)—although it would seem that there are no politically viable alternatives.

Be all this as it may: since ideal *and* perfectly-self-regulating free markets do not exist anywhere in the world or in any quarter of the economy, the point is moot. And the theory that says that economically ideal markets would also be socially and morally ideal is unfalsifiable. The libertarian's all-encompassing faith in free—read 'ideal'—markets to manage society's affairs remains just a faith, and the symmetrically radical socialist's disdain for the free—read 'ideal'—market is given support.

Or is it?

I think not. For it seems just as clear that there exist rather few valued things in which a market of some sort does *not* exist. Competition, cooperation, scarcity, trust, work, exchange, costs, risks, and prices…are all deeply embedded in cultural evolutionary processes, as is some kind of venue where the choiceful exchange of material goods, services, tokens, or information-of-value is momentarily intensified.[12] And therein lies the rub. Therein lies the difficulty for

anyone wanting to claim that there is no market in tokens, or that interpersonal relations—which rely so much on token exchange—are, for better or worse, exempt from "market logic" and "market forces."

Nevertheless, the frequently heard cry in recent times that "market freedom erodes the best things in life" as one critic puts it,[13] is surely one to be taken seriously. The logic of money and mass markets, ascendant in late-20th century, seems to be invading spheres of human endeavor that previously, we think, ran on such high-minded "currency" as level of service to community, duty to sovereign, or love of beauty, sport, justice and truth rather than *money*—or if not on such romantic "currency" then at least on honest concern for family and community rather than for *making more money* trucking with strangers. With these ideals in mind, today's left-leaning "liberals" are apt to ask, entirely rhetorically: "What are markets *for*? For making *some* people money, or for making everyone happy?"

It is clear, for example, where this critic's sympathy lies:

> If the marketplace is a mechanism for producing and distributing the goods that meet people's material needs, then perhaps restraint of profit seeking is called for. If [on the other hand] the marketplace is a playing field for the pursuit of wealth, then perhaps what is fair is what you can get away with![14]

In his 1997 book *Everything For Sale*, Robert Kuttner offers perhaps the most articulate and up-to-date critique of the ascendancy of market logic.[15] Many of his arguments are supported in these pages. But, like most critics of the market, Kuttner makes too clean a break between mechanisms that organize the trade in commodities, services, real estate, etc.—i.e. markets—and the mechanisms that orchestrate so many other aspects of human social life and that one might not recognize as markets because the currency used in them is not money. I refer, of course, to the economy of tokens. For Kuttner, markets are only what the economics textbooks say they are: institutions run solely on the logic of short-term, self-interested exchange of commodities, capital, land, and labor for money, and back again. All markets, for Kuttner, are ideal in the sense we have been talking about; and when he "finds" that they are not ideal he throws up his hands, condemning all economic theories that use market idealizations. Once this move is made, activities that do not involve money-measured exchange—activities like voting, persuading, healing, creating—suddenly find themselves morally elevated, a-brim with altruism, loyalty, love, and trust, located beyond and above tawdry commerce. Relations premised on authority,

power, or violence also fall wholly out of the economist's domain. In short, for Kuttner, market failure is identical with economics' failure as a discipline to be a mode of thought adequate to the task of improving the human lot.

This book, of course, proposes that the laws of economics, such as they are, operate far beyond the boundaries of The Marketplace as delimited (and then demonized) by economics' critics. This is not a very original thought. Progressive economic theorists have long since left behind the idealized Econ 101 models with which Kuttner and others find fault. Over the last twenty or thirty years, its best practitioners have become deeply involved with modeling strategic interaction between actors in markets far more complex than those for farm products or widgets, as well as with the intricacies of one-on-one bargaining between people and between institutions. Asymmetries of knowledge and power are fully recognized, as is the prevalence of deception and of altruism, as are many political, sociological, and psychological factors once considered "exogenous to"—outside of—economic logic. The fact that daily newspapers use only economics' simplest, most business-relevant concepts (demand, supply, business cycles, inflation, employment, consumer confidence...) to report current events reflects upon the present capacities of their audiences and not upon the capacity of Economics to describe the real world. I think it is possible to read any day's *New York Times*, say, as a collection of stories about human valuation and value-optimizing exchange—i.e. as being about *economics* in action—and to find the *least* interesting section in this regard to be the "Money and Business" section.

For their part, anthropologists have long spoken of symbolic and gift economies as well as material ones (the goats, the chickens...). These economies, they often explain, mediate between the moral/spiritual realm and material realms; indeed they subsume and unite both realms with a common matrix of gestures, rituals, marks, meanings, and declarations. They are *token* economies, and some anthropologists will stop to observe that their counterparts are alive and well in modern societies.

Are the markets in these non-physical goods ideal? No. *No* market is ideal. For "markets" are themselves human institutions and bear with them the scars of history. The markets we see today—for groceries, car parts, office jobs, cash loans, company shares, long distance telephone service, or political favors—have each evolved within a dense social fabric and over many years, as institutionalist economists from John Hobson to Geoffrey Hodgson have pointed out. For their extension beyond local communities they have depended on the

establishment of standard currencies and transferable property rights—i.e., tokens of legitimacy standardized, recorded, made accessible to inspection, and underwritten by ever-larger jurisdictions of law. Markets therefore carry in their very make-up two sorts of reality: (1) something inevitable, almost mechanical or biological in nature, which has to do with the universe's deepest laws of space, time, energy, identity, entropy, and so forth, and (2) something contingent and circumstantial, passed down through generations of unique cultural/historical experience of trade in that type of good. Both of these realities contain ineradicable "imperfections," imperfections that may well make ideal markets a fundamental impossibility, a Newtonian dream.[16]

Take the law of supply and demand, which is the discipline of economics' deepest principle. Here money prices determine "supply" and "demand." That is to say, prices work like valves or hurdles, regulating, on the one hand, how many buyers (because they have different resources and strengths of desire) can come to own and enjoy a certain kind of good in some certain quantity, and regulating on the other, and at the same time, how many producer-sellers will be induced into making-and-bringing-to-market—to "supplying"—more or less of those goods. (More-profitable goods induce greater production of themselves, as well as new firms that compete to bring their price down. *Less* profitable goods induce less production of them and less competition.) At the "equilibrium price" for the good, the whole system balances out. The market "clears." Buyers and sellers, producers and consumers, employers and employees (in labor markets), entrepreneurs and investors (in capital markets)...everyone gets what they want, or if not *exactly* what they want or *all* that they want, then perhaps what they deserve by virtue of what-of-value they now bring or once brought to *other* markets.

The law of supply and demand is, of course, a view from afar. It is an extreme generalization, imagined averaged over countless instances of exchange of all-but-identical goods for money in an ideal market populated by rather unoriginal, if independent-minded, people. In the close-up view of a single market exchange, however, the picture is somewhat different. Here the goods are already "supplied," at least to the seller. They sit in rows or piles on the ground, upon shelves or in cases, in computer memories, on the lot, in the warehouse, wherever...ready to be sold. Having bought them from a wholesaler in some other marketplace, or having made or assembled them herself from materials also paid for in other, so-called factor markets, the seller has committed herself to owning these items. (Temporarily, she hopes.) Buyers desire and find these goods or vice versa (i.e. find and then desire them), and then come to some arrangement

with the sellers to *acquire* them by "paying" for them, i.e. by exchange.[17] This is a very choiceful affair, the outcomes of which depend upon buyers' not-so-independent valuations of the goods relative to their needs and their means, upon the sellers' corresponding perceptions of their own needs and means, as well as upon the effects on both of them of taboos, competition, law, envy, pity, reputation, long-range plans, and general uncertainty about the future.

It's a game, and a complex one at that. Take, for example, one aspect of the typical act of *payment*: Just as accepting a compliment implicitly confirms the complimenter's right to pass judgment, so does every buyer, at the moment of payment, implicitly give the seller not just money but a token of legitimacy too—a token, that is, which acknowledges the seller's legal right to have had possession of what he offers up for sale in the first place, and the authority to confer that right.

To see this, let us suppose the seller's goods were stolen or plundered or (in the modern day) made by slave or child labor. Once the first sale of such goods is accomplished (often on a "black" or "gray market"), they enter the stream of legitimate goods, and legitim*ate*, in turn, every successive buyer-become-seller. The value of the buyer's legitimacy token to the seller is reflected in the transaction price: "hot" or ill-gotten goods, suspected to be so, rarely fetch the same price they could were they legitimately obtained or produced, and not just because the ill-gotten goods were likely low in cost to the seller. Part of the difference between the lower price obtainable for the illicit and goods and the higher price obtainable for the licit version of them reflects the money-value to the seller of the legitimacy token(s) offered by the buyer who volunteers to look the other way, to override his qualms, to put at risk his own legitimacy (or approval) levels of satisfaction.[18] With each successive sale, information about the origin of the good is effaced, and the price of the good approaches the price of its legitimate brethren on the open market.[19] The price of such legitimacy tokens never quite disappears however; not just because illegitimate goods never become entirely legitimate, but because there is a small chance that all goods—any good—might be thus tainted.[20] This value shows up as part of the rents, fees, levies, and taxes collected by the marketplace *owner* and other local authorities, and is passed along to buyers hidden in the prices they must pay for all goods, and sometimes for admission to the marketplace itself. After all, marketplace owners and local authorities, like the producers of name-brand goods, take on certain responsibilities. Through their authority to offer or withhold licenses to sell, they implicitly vouch for the legitimacy of "their" vendors, just as their vendors in turn vouch for the legitimacy of their goods (by providing manufacturer's tags,

background information, receipts, warranties, return policies, etc. to customers) in order to minimize the loss of income they would otherwise suffer for having to "buy" legitimacy (and confidence) tokens, time after time, from their customers. Advertising and architecture likewise provide a continuous flow of signs of legitimacy and security: "*This* seller," they say, "is legally established and socially sanctioned. He can afford this message, and will be around for quite a while."[21]

Of course, not only implicit *legitimacy* tokens affect the prices of goods. Witness the *approval* tokens offered to (or expected-and-withheld from) "clients" by boutique owners and their sales staff, by restaurateurs and their waiters, by hairdressers, car salesmen, architects, and lawyers...where does this list stop? Second to money, flattery is the ruling force. The genius of F. W. Woolworth in 1878 was to allow customers of his five-and-dime store in Lancaster, Pennsylvania, free physical access to the stock of goods, trusting them not to damage the goods by touching them and trusting them to not steal by carrying them out of the store's always-open door. This continuous supply of freedom, confidence, approval, and even legitimacy tokens issued not just from Woolworth's person when he was there, nor only from his trained staff, but from the very configuration of his store and the protocols of sale he instituted. In the minds of shoppers of the time, accustomed to officious store owners who strictly controlled access to their goods (and who offered a great deal of misinformation about them as well) Woolworth's gesture added value to every good without adding to the money costs of providing it. Indeed, his flattery saved money all round. He had invented the modern self-service store.

In all, the flow of money against the counter-flow of goods through a marketplace is accompanied by flocks of tokens going both ways, some taking their own and quite circuitous routes through the social network. These tokens have the power to bend the "natural" price of a material good one way or another quite far. At a certain upscale garden and gift store in my town, customers who buy items that cost a hundred dollars or more are greeted by the following exclamation by the sales person with them: "I'm so *proud* of you!" When we pay for something, it is also for tokens like this that we pay.[22]

III. Market Exchange: a New Model

Given that goods cannot be free and that not everyone can have everything they want, what reasonably *should* determine the money prices of goods in a would-be ideal marketplace? Most *producer-sellers*—i.e. business owners, managers, and workers *qua* workers (rather than consumers)—would answer: "What determines the prices of goods should be the costs of manufacture, marketing, and distribution, plus a fair profit (or wage)." Most *financiers* and most *merchants* would say: "What determines the prices of goods should be the market forces of supply and demand at every point-of-exchange along the chain of manufacture and distribution." Most *consumer-buyers* would offer: "What determines the prices of goods should be the *value* of those goods to actual people in the light of what they can afford."

In truth, many more factors than these three have a hand in determining actual market prices, and although I will try to describe some of them in this and following chapters, no book could be long enough to spell out in detail all the events, perspectives, and relationships that obtain. From this modest observation, though, we can already address some contention as to what *prices* as such do and don't tell us. To wit:

Since a great number of factors go into the determination of a given market price, knowledge of these factors cannot readily be deduced, retrodicted, or unraveled from knowing the price alone. Prices cannot be reverse engineered. It follows that devotees of Friedrich von Hayek are not much justified in saying that prices alone contain or transmit all the information that rational market actors need to know. For one, there are simply not enough bits of information in a price (be it "$4.23" or "$4,239,150.52," or even in the change of a price over time) to tell the whole story of the price's formation—a story that a buyer may well need and want to know. How else is one to behave in one's own best interests, let alone in what one perceives as the best interests of a larger community? Money prices are not palimpsests—they do not keep a record of their formation and change. They are univocal outcomes (results, bottom lines, summations, averages...), single *numbers* that, once arrived at and presented to the marketplace, efface rather than expose their several causes. The market price of tuna, for example, may be inflated by the costs of using special fishing techniques that do not trap dolphins *or* by special arrangements with Canada about fishing rights and lumber export quotas. But tuna prices do not tell us this story, the one I have just outlined. This story must appear in the press, in advertising, in

brochures, on the World Wide Web, by word of mouth, and so on. Similarly, organic coffee sells at roughly a dollar a pound more than regular coffee. Indeed, organic foods in general are more expensive than "regular" foodstuffs. But price premiums do not *themselves* guarantee that careful, pesticide-free cultivation methods were used, or that non-exploitative wages were paid to farmers, and so forth.[23] Such premiums may be due to inefficiencies of many kinds, from large advertising budgets and high transportation costs to corruption or quasi-rent profit-taking. Price alone—a number with work of its own to do—cannot convey this information.

In sum: market prices tell us *something*, it is true, and something that is important to deciding whether to buy or sell, now or later. But *what* exactly they tell us about the good *qua* good remains always to be determined by other means, with other information, from other sources. It is because prices themselves represent such incomplete information about goods that we are properly chary of imputing too much "wisdom" to them in guiding our making/buying/selling decisions. More especially is this the case if we wish to make our buying and selling decisions with moral—or even self-interested—regard to the goods' origins, innards, and likely effects on our welfare. In general, too, as our circle of concern grows larger than our circle of influence, so more than just the price of an article in front of us will be considered.[24] One becomes more aware of all the accompanying non-money tokens and their reasons for being.

Nevertheless, it seems clear at the micro level of an ideal market exchange, where the relevant supplementary information *is* available and search costs for more are low, that the price (per unit) of a good depends heavily and simultaneously on the four factors named by our three earlier protagonists, producer-distributor, financier-merchant, and consumer-buyer. Namely:

(1) the *cost* of having produced the good and having brought it to market, including the cost to both seller and buyer of bringing themselves to the marketplace and finding each other,
(2) the conditions of *competition* obtaining at the time among potential buyers and sellers of that kind of good,
(3) the *value* of the good to the potential buyer, as expressed, ultimately, by
(4) the fraction of his wealth, *income*, or most abstractly, life plenitude, that the buyer is willing to give over to the seller in exchange for the good.

Put most succinctly: *price* depends on *costs*, *competition, value,* and *income.*

Now, it's no use championing one factor over the other, or claiming that this one is more legitimate than another. With varying time lags, they all work together. As production and/or distribution costs rise, so, eventually (and sometimes preemptively) do prices. As competition among potential buyers increases, so do prices. As the value of the good to potential buyers increases, so do prices. As all of these directions are reversed, so do prices fall; and as these variables play against each other, varying independently in direction over time, so do prices rise *or* fall. If income levels rise, so too will prices follow—this as sellers, tempered by the competition between them, try to capitalize on buyers' greater willingness and ability to pay higher prices. (But see Chapter Ten about inflation.) In all, sellers (and producers) will remain in the market so long as the average revenue they can earn (price times units sold) adequately covers their average costs. Buyers buy so long as their ability to pay the going price is neither exceeded nor compromised relative to their willingness to pay it, which depends on their valuation of the goods on offer. Over all, the relative numbers of individual buyers and sellers (and their goods) entering and leaving the market—disappointed or satisfied as the case may be—has its effect on the balance of competition for subsequent and remaining buyers and sellers...and the whole thing cycles.

This is a very rough description of how markets work, and not a very original one to boot. To move forward, we need to develop a more precise model. The idea is to see whether we can re-write some of the fundamental, canonical equations of microeconomics (for example, the law of supply and demand) not only so that they make sense in the terms of our theory of value—with its concepts of complexity, omega, lifefulness, value, tokens, moral force, exchange fairness, and so forth—but also so that some subtle economic behaviors that standard economic models have difficulty describing will become easier to understand. I will offer the simplest mathematical expressions I can that do the job, and these with a minimum number of parameters and constants. The goal is to reveal relationships between major variables that, in tendency and direction at least, could be tested against empirical data.

One more remark before proposing the model. For us, market price, *P*, will be the *explanandum*—i.e., that-which-is-to-be-explained. That is, *P* will be the "dependent" variable. Economic theory typically poses the problem the other way round. There, *P* is the *explanans*—the that-which-explains. Which is to say, there, *P* is the *in*dependent variable whose movement up

and down regulates the behavior of buyers and sellers, agents whose individual actions return to affect *P* only *en masse* and in ultimately mysteriously ways. For us, every market actor is both a "price maker" and a "price taker"; for neoclassical economics, everyone but the monopolist or monopsonist is a price *taker*.[25]

Now, of our major independent variables listed on page 18, only the first, *cost*, and the last, *income* (or wealth), need be expressed in units of an absolute numerical basis such as, typically, an amount of money. The other two variables—competition and value—can be treated as coefficients or multipliers to these numbers, as "appliers of pressure." Indeed, an economist might call the model I am about to present a *price-pressure model* of marketplace exchange. This pressure, I will argue, is really generated by imbalances in degrees of *organization, R*, in the marketplace between buyers and goods. Increasing total *R* while maintaining Ω-optimal actual complexity, *C*, is, as we saw in Chapter Two, the purpose of all evolutionary, life-promoting, value-producing processes. So that's what we'll look for.

We start by breaking the problem into two "perspectives," that of the seller, and that of buyer. The seller develops an *asking price*, P_s, the buyer an *offering price*, P_b, and the transaction or *market price*, *P*, is reached when, $P_s = P_b$. Different variables affect seller and buyer. We devote about ten pages to modeling the seller's perspective, another ten to modeling the buyer's perspective, and then discuss how their perspectives are reconciled in the marketplace. In the process, we will find the law of supply and demand re-cast into terms that tap into our general theory of value. The idea is to offer insight into, amplify, and complement the standard formulations, not to prove them wrong. (Once again, footnotes contain not only references but also more technical descriptions.)

The seller's perspective

Assume that every seller has one or more units of a category of good for sale and that no buyer wants more than one unit of that good over the time period in question.[26] (Definition: a *category* of goods is any group of goods whose members are significantly substitutable for each other—but not necessarily completely substitutable.)

Here is the core formula I propose for how the seller's asking price is determined by market forces. It takes the form of "duelling degrees of organization":

$$P_s \approx K_s \frac{R_{\text{buyers}}}{R_{\text{goods}}} \qquad \text{.....(8.1)}$$

where P_s is the seller's asking price for one unit of the good, K_s is the marginal dollar cost[27] to the seller of one unit of the good, R_{buyers} is the degree of organization of the buyers in the vicinity of the seller, and R_{goods} is the degree of organization of the stock of goods (in that category) that the seller holds for sale.[28] The more organized the buyers are relative to the goods, the higher is the per-unit price the seller can ask; the less organized the buyers are relative to the goods, the lower is the price the seller can ask. The seller makes a normal profit when $R_{\text{buyers}}/R_{\text{goods}} = 1$. The seller makes above-normal profit when $R_{\text{buyers}}/R_{\text{goods}}$ is greater than 1, and a loss when $R_{\text{buyers}}/R_{\text{goods}}$ is less than 1.[29]

Next step. The measure "organization," *R*, as defined in Chapter Two, can always be expressed by applying a coefficient to C_{pot}, potential complexity, as long as that coefficient has a range of from zero to unity, i.e. from 0 to 1. (This is because *R* is always less than or equal to C_{pot} by definition.) To achieve a more nuanced understanding of pricing from the seller's perspective, we can rewrite and develop our first formulation of the seller's perspective, Equation 8.1, thus:

$$\begin{aligned} P_s &\approx K_s \frac{\beta[C_{\text{pot}}(B_s)]}{\gamma[C_{\text{pot}}(G_{B_s})]} \\ &\approx K_s \frac{\beta \log(2^{N_K} B_s)}{\gamma \log(2^{N_J} G_{B_s})} \\ &\approx K_s \frac{\beta}{\gamma} \frac{(\log B_s + N_K)}{(\log G_{B_s} + N_J)} \qquad B_s, S, G_B, \text{ and } N \geq 1 \end{aligned}$$

where

β	("beta") represents the *substitutability* of buyers for each other,
γ	("gamma") represents the *substitutability* of the goods for each other (more about "substitutability" and why it is a proxy for *R* shortly),
B_s	is the number of potential *buyers* facing seller *s* (each wanting one

unit good),

G_{B_s} is the number of unit *goods* available to all B_s buyers, including all the goods (in that category) from sellers outside of the seller's own vicinity but inside the buyers',[30]

S is the total number of *sellers* that the B_S buyers could go to (S having one or more units on offer)

N_J is the total number of *attributes* the category of goods actually has, and

N_K is the total number of attributes of the category of goods that *buyers* are interested in..[31]

Two more adjustments and we're done. (1) I add μ, a parameter that represents the market's *sensitivity to competition* (for that category of good); and (2), for simplicity's sake, I let $N_K = N_J = N$. This gives us the (for us) complete expression for the seller's asking price:

$$P_s \approx K_s \left[\frac{\beta}{\gamma} \frac{(\log B_s + N)}{(\log G_{B_s} + N)} \right]^{\mu} \qquad 0 < \beta \le 1,\ 0 < \gamma \le 1,\ 0 < \mu \le 1 \qquad \text{.....(8.2)}$$

This expression is not as bad as it looks—really! Its two major variables, *B* and *G*, are giving us a simple message: all other things being equal, *the greater the number of buyers relative to the number of goods available, the higher will be the asking price sellers can ask.* Why only the approximately-equals sign, ≈, and not an equals sign? For two reasons: first, because, with an eye on the long term (or on immediate opportunity), sellers will sometimes undercharge (or overcharge), knowing quite well what the "proper" price for present market conditions should be; and second, because all of the terms on the right hand side are subject to error in measurement. They are all informed estimates made by the seller (and his or her marketing consultants).

Now let us look at the other variables and see how they modify the basic message.

The coefficient β ("beta") represents the *substitutability* of the potential buyers, one for another—which is to say, it represents how much buyer's in the vicinity do *not* differ from each other with regard to their interests in this category of goods' attributes.. When buyers are totally substitutable for each other (i.e. when β = 1), they are effectively of one mind.[32] When two potential buyers are totally *un*substitutable, each is unique in his or her preferences. Indeed, they are complementary, inasmuch as every attribute of the good that the one likes, the other is

indifferent to or dislikes, and vice versa. Here, $\beta = 0$. If there are more than two potential buyers, however, β must be greater than zero as a mathematical fact. Indeed, in markets where the number of potential buyers runs into the dozens, it is *highly* unlikely that β will be less than 0.5. (See Appendix Six for why.)

Who judges the magnitude of β ? Both parties do: sellers carry out market research in order to understand and to target certain audiences; potential buyers choose some need-state-dependent mixture of uniqueness- and conformity-of-taste that maximizes the value (to them) of the good. But ultimately it is the seller's prerogative to decide on the magnitude of β , since it is she who is setting an offering price, P_s, she who stands to lose time or money if she gets it wrong. It is the wise potential buyer who inquires as to the seller's estimate of β. He may want to challenge it.

The coefficient γ ("gamma") denotes the substitutability of the goods already for sale in the marketplace: how much they do *not* differ in their attributes within a certain category. When only two goods are available, it is unlikely, but possible, for γ to equal zero for the same reasons as given above in connection with sellers: everything the one good is, the other isn't. Larger collections of goods each of which is merely "unique" (like artworks among artworks, or objects of sentimental value among all things-you-own) have $\gamma \approx 0.5$. Most collections of goods in a market category, though, have a γ somewhere between 0.5 and 1.[33] This is what makes them "a category" to start with. When $\gamma = 1$, the member goods are functionally and effectively identical to each other; the goods in that category are a *commodity*, like grains of sugar or gallons of gasoline.

Who judges the γ of a category of goods? Once again, both parties do, but chiefly the seller who nonetheless, if she is wise, does so by observing a large number of buyers' abilities and penchants for discriminating among the goods she would like to sell.

The exponent μ ("mu") represents the *sensitivity to competition* of this category of good under prevailing market conditions. It too lies between 0 and 1 in magnitude, but where *exactly* it lies depends on four factors: (1) the average degree of *match* between the buyers' interests in and the goods' having of *N* attributes, (2) the average value of the good to the buyers, (3) the absolute magnitude of *G*, and (4) how promptly the seller wants payment. (This last factor is not modeled anywhere in Equation 8.2.) Back to (1): If what the buyers want and what the available goods offer are quite different...or the value of the goods is very low...or there are many units of the good available...or payment must be immediate...then μ tends to 0. If, on the other hand,

every buyer can find in the set of available goods at least one instance of exactly what he wants...or the value of the goods is high...or the absolute number of goods available (regardless of the number of buyers) is low...or the terms of payment are flexible...then μ tends to 1. My hypothesis is that the first-named factor, *match,* is the one that influences the magnitude of μ the most.[34] If match were the only factor, then, for statistical reasons, the chances that μ would be less than 0.5 are very small.

All together now: The lower are β , γ , and μ, the more likely is it that the market for the category of goods in question will need brokers and/or overt salesmanship in order to function. And the more sensitive too will asking prices be to variation in these three parameters. The real estate market, especially for older homes, is a perfect example of this sort of market. The higher are β, γ, and μ, the more likely is it that the market can be run without brokers or salesmanship, and the less sensitive will asking prices be to variation in the three of them. The markets for gasoline and common household items are good examples of this sort of market.[35]

Readers interested in a more formal analysis of β, γ, and μ are invited to study Appendix Six. There it is demonstrated that all three coefficients are sensitive to the magnitude of N, which is a measure of both the potential *complexity* of the good (inasmuch as it *consists* of its N_J attributes) and of the complexity of the buyers' corresponding perceptions of N_J, that is, N_K Indeed, barring considerable efforts at organization, β, γ, and μ are all statistically predisposed to correlate negatively with the complexity of the goods as a group and of the buyers as a group. We will return to this fact in Chapter Nine (when we consider Gresham's Law) and Chapter Ten (when we consider ideas about economic progress). There I will make clearer my argument for the superiority of *qualitative* economic growth over *quantitative* economic growth. Indeed, I will argue its necessity in the cause of economic progress. Quality is precisely what N begins to measure.

Just how useful are all these variables and equations describing the seller's perspective? We won't really know until they are empirically tested. Before that, however, we should want to see how many familiar market behaviors they describe. After all, if our equations get *these* wrong, then we ought to worry: either they are silly, or what people commonly *do* is.

To keep the exercise manageable, let us rewrite Equation 8.2 as this:

$$P_s \approx K_s r_s^{\mu} \quad \text{..... (8.3)}$$

$$\text{and let } r_s = \frac{\beta}{\gamma} \frac{(\log B_s + N)}{(\log G_{B_s} + N)}.$$

The new term, r_s, represents $R_{\text{buyers}}/R_{\text{goods}}$, which, as the reader will recall from page 23, is the "duelling degrees of organization" component of Equation 8.1. Let's give r_s a more market-meaningful name. Let us call it the *balance of market organization* surrounding seller *s*. We can then call r_s^{μ} seller *s*'s *market power*.[36]

Equation 8.3 models how each seller's asking price per-unit-of-G might change in light of the balance of market organization between himself and other sellers for a variable number of potential buyers. When $r_s = 1$, the balance of market organization is "level;" that is, supply and demand are equal, and the seller can, and likely must, sell her unit goods at $P = K_s$. When $r_s > 1$, we say that a "seller's market" prevails. Here $P > K_s$. When $r_s < 1$, a "buyer's market" prevails and $P < K_s$. The seller takes a loss. Because changing the size of market vicinities and their overlaps can have a radical effect on how the balance of competitive manifests itself to each seller, it is no wonder that so much of a seller's effort in the real world is directed at strategizing about her location relative to other sellers and thinking about how, demographically, to find and follow her customers.[37] Here, marketing through the Internet has distinct advantages, on the one hand because it almost erases geographic considerations, and on the other because customer customer contact and customer behavior become easier to study and maintain.

Standard economic theory asserts that the market power of independent sellers who have the same costs, who sell the same goods, and who compete for the same buyers, cannot be greater than 1, even if there are fewer goods available in total than there are buyers who want them. This is because competition among sellers for buyers of a given class of goods will—ideally, anyway—drive down asking prices until P is equal to the costs of production, K_s, of the most efficient producer-seller. Only monopolists, we learn, can exert market power greater than 1. We also know that if B_S, market-wide demand, is greater than G_S, market-wide supply, a bare minimum of tacit cooperation between producer-sellers can maintain prices higher than K_S, and such prices can stay in place until total production levels and overall availability increases. ("Supply" here is "elastic," economists say.) But what Equation 8.2 suggests is that prices can still be kept monopolistically high even when supply catches up. It can happen whenever β is

routinely larger than γ; and μ is greater than zero. It can happen, that is, *whenever potential buyers are more alike in their tastes than the available goods are similar in their attributes.* Buyers then compete for the subset of goods that match their tastes the most closely and leave the rest of the goods to find—or not find—the few and quirkier buyers who will like them. This situation can develop for any number of reasons. It happens most commonly when one of the valued attributes of the category of goods is newness, freshness, firstness, or the capacity to confer exclusivity.[38] More about remedies for and exploitations of this dynamic later.

We can visualize the relationships between the major variables in Equations 8.2 and 8.3 in a number of ways. In Figure 8.1, we show P_s and as a function of r and K_s. In Figure 8.2 we show P_s as a function of B_s and G_{B_s}, with μ, β / γ , and K_s equal to 1, and $N = 5$. Note the resemblance of Figure 8.2 to the standard "crossed blades" representation of the law of supply and demand.[39] This might offer us some solace: our theory seems to incorporate standard economic logic.

Figure 8.1 Seller's asking price, P_s, as a function of the balance of market organization, r, and the seller's average cost per unit, K_s, $\mu = 1$

Figure 8.2 Seller's asking price, P_s, as a function of the number of buyers, B_s, constituting "demand," and the number of goods for sale by all sellers, G_{B_S}, constituting "supply," with $\beta / \gamma = 1$, $K_s = 1$, $N = 5$ and $\mu = 1$

Chief among sellers' motivations is the desire to maximize profit.[40] All else being equal, total profit is equal to per-unit profit times the number of units sold. Since economics and business texts tend to concentrate almost exclusively on how to increase the number of units sold by lowering production costs, let us look at the ways that a seller can increase per-unit profit *without* lowering costs.

Since per-unit profit is easily expressed as $r_s^{\mu} K_s - K_s$, which is equal to $K_s(r_s^{\mu} - 1)$, we can see what must be done: it is to increase r_s^{μ}, the seller's *market power*. And because our model tells us what r_s^{μ} consists in, we can recommend the following. The seller must

(1) increase the number of potential buyers in his vicinity, B_s; or

(2) increase the potential buyers' substitutability for each other, β ; or

(3) decrease the total number of goods offered to potential buyers, G_S; or

(4) decrease the substitutability, γ, of the goods that she, and indeed everyone, has for sale by making them as unique as possible, and finally

(5) increase sensitivity to competition, μ, if and only if $r_s > 1$

The trick is doing (1) without also doing (3) (for this will cut into total profits), and doing (2) and (4) together so that $r_s > 1$ and (5) becomes a viable option.[41] Let us spend a few moments looking into the rewards and difficulties our ambitious seller faces as she tries to put one or more of these strategies into play.

• There are essentially two ways to increase B_s. The one is to lower the asking price, P_s, which increases the size of the pool of people who can afford to buy the seller's goods and steals customers from competitors. The idea is to make up for lost per-unit profit with increased sales volume, which itself might allow lower per-unit production costs through economies of scale. This is common wisdom. The success of this price-lowering strategy depends, however, on whether or not *price itself* is being used as an indicator of *value* to the buyer (for if it is, lowering the price only de-values the good and makes people wonder why it ever cost them more); and it depends also on whether the demand for lower-priced goods (in the category) is already being well served by other sellers. The other way to increase B_s is for the seller to increase the size of her vicinity and market demographic through more aggressive and more far-reaching advertising, through better distribution channels, and so on. This can put our seller into new and fiercer competition with sellers already serving these vicinities and market demographics with the same goods, and thus might or might not work.

• Moving β and γ in contrary directions can be done, but it's not easy. For as a rule, the more differentiated—i.e. the more unique, the less substitutable—are the potential buyers in terms of their preferences, the more differentiated too (the more unique, less substitutable) are the goods they want. And vice versa: the more unique the goods are within a category, the more unique (and therefore fewer in total number in a given vicinity) are the buyers that want those specific goods. β and γ naturally move together, and yet both parties—sellers and buyers—*would rather they did not.* Indeed, they have symmetrically opposed wishes in this regard, and can

often be found—especially in real-time bargaining situations such as at bazaars or in car dealerships—making their side of the argument quite explicit: Here the seller claims that potential buyers are plentiful and of indifferent identity to him ($\beta \rightarrow 1$), and that the goods he offers are few in number and/or unique in character ($\gamma \rightarrow 0.5$), and match people's needs well ($\mu \rightarrow 1$). (He will also argue that his costs are high, that the satisfaction his goods will deliver is huge, and that the wealth of the buyer is substantial.) The buyer, on the other hand, argues that other buyers are few, fussy, and far-between ($\beta \rightarrow 0.5$). He claims that the goods the seller offers are plentiful around town, as far as he is concerned identical in nature ($\gamma \rightarrow 1$), and not exactly what people want anyway ($\mu \rightarrow 0$). (He will also argue that the seller's real costs are low, that the satisfaction afforded to him—the buyer—by the good could easily be forgone, and, last but not least, that he is poor.)[42] Outside of a Moroccan souk, these arguments are made in a more genteel way, of course. But look carefully enough and you will find their traces in metaphor and gesture everywhere that prices are contested or are deemed to require justification: in advertising, on showroom floors, in board rooms, at the hairdresser. For their part, brokers must argue both sides by turns. No wonder we doubt their sincerity.

To give all this some form, consider Figure 8.3. Skirmishes between buyer and seller over price occur somewhere along the border between the two areas indicated in Figure 8.3: the sellers wanting to move perceptions into the seller's-market region; the buyers wanting to move perceptions into the buyer's-market region. At position A the seller wants to increase B_s and decrease G_{B_s}, while the buyer wants to move in the opposite direction. At position B, on the other hand, the seller wants to increase β and decrease γ, while the buyer wants to do the opposite.

Figure 8.3 P_s as a function of β/γ and $(\log B_s + N)/(\log G_{B_s} + N)$, for B_s and $G_{Bs} >> N$, $K_s = 1$, and $\mu = 0.7$

Let us not neglect to note that buyer and seller have different interests in establishing the true measure of *N*, the sheer number of discrete preferences and attributes properly involved with this category of goods. The party that thinks it can win on the basis of how many (or few) potential buyers there are relative to the number of goods available, will try to represent *N* as low, i.e., the good as simple and people's preferences as similarly simple. The party that thinks it can win the argument on the basis of how much potential buyers discriminate relative to the

uniqueness of the goods offered will represent N as high, i.e., the good as inherently complex and people as complex and different too.

The argument rages on. One is hardly surprised to find a serious paper in modern economics with the title "One Quarter of the GDP is Persuasion."[43]

• Finally, assume that all of the above-discussed strategies—(1) through (4) of our original list on page 27—has successfully been carried out so that r_s is greater than 1 by however small an amount. Question: how is the seller to raise μ, sensitivity to competition, so as to increase her market power further?

If $\beta \approx 1$ and $\gamma \approx 1$ and the goods are *not exactly* what buyers want but close, then it is a relatively simple matter to redesign the goods to match buyers' preferences more closely yet, or, if it is cheaper, to "redesign" the buyers' preferences through persuasion and education to match the goods. But if $\beta \approx 1$ and $\gamma \approx 1$ and the goods are hardly what buyers want *at all*—i.e., if $\mu < 0.5$—then the adjustments that need to be made are much greater. Indeed, either the seller is not in the right business, or the seller's business is not in the right vicinity of the marketplace as a whole.

If $\beta \approx 0.5$ and $\gamma \approx 0.5$ (meaning that both the buyers and goods are highly variegated), the task of raising μ is difficult but not impossible. If G_{B_s} and B_s are much larger than 2^N, then many perfect matches can theoretically be made and μ brought close to 1. Turning theory into practice here depends on just how efficiently a large number of finicky and "different" potential buyers can *find* the particular unit-good that was "made for them." Achieving this efficiency is the task of all marketers and all store designers. Indeed, raising μ cheaply is a large part of the promise of Internet-based market-making. The only danger lies in the fact that the value-to-the-buyer of certain goods increases with the difficulty of finding the *right one*. This is true of all goods to a small degree, but becomes a major factor with such prestige goods as high-quality clothes, exotic travel destinations, and other complex (i.e. high-N) products.

Over the last few pages I seem to have painted a picture of the kind of active bargaining found only on securities trading floors, in auction houses, fish markets, car dealerships, souks, and the like. But these same pressures and arguments act themselves out—if in slow, sometimes glacial, motion—in the set-price markets of everyday goods and services, i.e. those between retailers and the buying public, between firms and their suppliers, and so on, where prices are

given relative longevity and stability through the use of contracts that lock in or guarantee certain figures for a period of time.

These forces also act themselves out in exchanges where where money is not the chief currency or presumed measure of value. Consider pure token exchange as it occurs within a family or a firm, in an executive boardroom or a congressional hallway. When the situation is routine or bounded by custom, token exchange can resemble set-price markets. Tokens trade for long-established and stable counter-tokens—one dinner invitation deserving another, one fruitful introduction deserving another, one baseball game ticket deserving a promise to call the provider first with certain information, and so forth—all in a delicate ritual of fairness lost, restored, and lost again. These set prices or fixed exchange rates appear as social norms, as the "done thing," and vary slightly from social circle to social circle, era to era. On the other hand, when the social situation is new, intense, or volatile—as, say, at a Washington D.C. cocktail party—token exchange can resemble the hurly-burly of a stock market where, if it does not matter to the "buyer" who exactly the "seller" is (and vice versa), prices can be set largely by pressure of competition alone. When, however, buyers are unique *and* sellers and their goods are unique—i.e. when β *and* γ are far less than 1, as is often the case with tokens such as favors, introductions, recognitions, compliments, and the like—then asking prices depend totally on "costs." Token sellers seeking to profit are thereby reduced to (mis)representing K_s only, no matter how many parties are actively trading.

We have examined the producer-seller's perspective for a few pages now. But the producer-seller's perspective cannot by itself provide a full account of how prices are formed in the marketplaces for material goods, services, labor, and most tokens. Required also is the (potential) *consumer-buyer's* point of view. Under the aegis of "consumer sovereignty" this perspective is often the one that dominates the bargaining process and thus sets market prices, leaving producer-sellers to scramble about trying to meet buyers' needs with goods they value and can afford. Indeed, the reader will have noticed that the consumer-buyer's perspective has already crept into the producer-seller's account at several junctures; especially those at which the seller asks herself "what do potential buyers *want*?" or "what can they *afford*?" (The consumer-buyer can adopt the producers seller's perspective too, if vicariously. This can have some effect on the price they're willing to pay. Home-buyers, for example, often talk themselves into accepting

high realtor's fees because "so few of the realtor's leads actually turn into sales," which might not be true at all.)

We now turn to examining the consumer-buyer's perspective directly.

The consumer-buyer's perspective

How are *offering* prices arrived at? Well, much depends on whether the buyer himself intends to enjoy, consume, or use the good, or whether he intends to *re-sell* the good in some other marketplace or at some later time. If the intention is re-sale, then she need not value the good at all except in prospect of becoming a seller: she adopts the seller's perspective, if with another market in mind. We will explore the economics and psychology of re-selling in the next chapter. Here we will consider the case when the potential buyer is also the one who will consume the good (or, almost equivalently, when the good will be passed along to the buyer's family for their consumption).[44]

The formula I propose for the price offered by the buyer, P_b, is simple. It combines the effects of the *value* of the good to the buyer (V_b) with his or her wealth or *income* (W_b) and *costs* other than paying for the good, principally search and transaction costs, K_b.

$$P_b \approx \mathrm{f}(V_b) W_b - K_b \qquad \text{.....(8.4)}$$
$$\approx \tfrac{1}{2} V_b W_b - K_b \qquad \text{if } V_b \text{ lies between } -1 \text{ and } +1$$

where

P_b is potential buyer *b*'s *offering price* for one unit of the good, expressed monetarily.[45]

$\mathrm{f}(V_b)$ is the potential buyer's *value function*[46] of the good's perceived value, V_b. $\mathrm{f}(V_b)$ varies in magnitude between –1 and +1 as V_b varies between –6 and +6.[47]

W_b is the potential buyer's *income* over the time period in which one unit of the good will be purchased,[48] and

K_b is the potential buyer's *cost* of finding out about the good, coming to market, finding a seller, concluding a transaction, getting back home with the good in hand (if it is a material good), and even cleaning up after

consuming it.

For most goods, K_b is smaller than P_b and *much* smaller than W_b. Indeed, "marketplaces" are places that specialize at keeping K_b as low as possible. K_b correlates positively, however, with V_b (you'll search harder for things you value more), and this is something Equation 8.4 does not incorporate.[49]

Now, transpose K_b to the left hand side of Equation 8.4, and we can call the sum on the left hand side—(P_b + K_b)—*b*'s *outlay*, Y_b. Y_b is what that the buyer thinks the good is worth to him, taking his own time, trouble, and shopping expenses into account. Figure 8.4 shows how perceived value of a good will justify different outlays depending on the buyer's income. As V_b approaches 6, the buyer will outlay all of his income. Note that when f(V_b) is negative, the buyer must *be* paid to accept the "good."

Figure 8.4 Buyer's *b*'s outlay, Y_b, as a function of his income, W_b, and of his valuation of the good, V_b.

It is often quipped that an economist is a person who knows the price of everything and the value of nothing. (Oscar Wilde said it first.) But we find, now, that the slur is no great one if, at the outset, we limit the sphere of the validity of the economist's claim to understand *value* (a) to market transactions that involve money, (b) to when the economist is taking the consumer-buyer's point of view, (c) to markets where all potential buyers of the good(s) in question are similar in wealth or income, and (d) to those goods, services, and tokens whose positive or negative value is small, that is, whose V_b lies between between + 1 and –1 and whose associated costs (K_s) are small too, compared to the price. Within these limits, valuations and offering prices are directly proportional.

Equation 8.4 also works both ways: that is, the *value* of a good to potential buyer *b*, V_b, can be expressed as proportional to the fraction of *b*'s income or resources that *b* is willing to give up for it.[50] This is what economists mean by "revealed preference": what people *actually* spend time and money on tells us a great deal about *what* they value, and how *much* they value it relative to other things they spend time and money on. The fact that value and price move so

closely together for low-value items also allows economists quite reasonably to make price and value equivalent, which they are often derided for doing.[51]

Which is not to say there is no room for improvement.

Price and Value Ranges: Very few people are able to say precisely what a given good is worth to them. Not only are they uncertain of how much they value things at any given time, their valuation of the same good is also likely to vary with time, circumstance, and the kind of good it intrinsically is—climactic or addictive, unique or just-one-more. We value umbrellas more when it is raining than when it is not; we value aspirin more when we have a headache than when we do not. At auctions, the very sight of strong competition makes us re-think our valuations and raise our bids. The time and trouble it takes to find the good and bring it home (K_b) also influences how much we want it—negatively in some cases, but positively in others, which is quite contrary to the simple rationale which says that, in order to keep outlay (Y_b) a constant, the more you pay in search and transaction costs (K_b) the *less* you should be willing to pay for the thing itself (P_b).[52] Smart producer-sellers, of course, try to exploit all these sources of variability in buyer valuation, over and above simple representations of how many needs the good will satisfy and how well.

But even if each individual buyer's valuation of a given good were rock-steady over time and precisely known by them—and not needing, therefore, to be expressed as a "range"—still, aggregating the valuations of hundreds or thousands of *different* buyers (i.e. $\beta < 1$) of the *same* good ($\gamma \approx 1$) as most sellers must, would quickly blur whatever stability and precision of valuation any *one* buyer might in fact exhibit. Certainly, at the scale of the marketplace with its many buyers and many sellers, we must use the idea of a value *range* rather of a single value for a good.

This range in turn creates two further ranges, namely, a *price range* for any good and given income level, W_b, and an *income range* for any good and prevailing market price, P. Figure 8.5 illustrates how these three ranges interact. If buyers value the good between $V_b = 0.8$ and $V_b = 1.4$ (and here we can suppose a Gaussian distribution between them, with most buyers valuing the good at 1.1), then *P1* is the least that buyers with income *W1* will offer, and *P4* is the most that buyers with income *W2* will offer. *P1* to *P4* is the price range of the goods that are apt to be offered in that category. Intermediate are *P2*, the most buyers at *W1* would offer, and *P3* , the least that buyers at *W2* would offer.[53]

Figure 8.5 Potential buyers' offering price range versus income range, for a good whose value ranges between 0.8 and 1.4 (K_b/P_b = a constant < 1)

The increasing width of the price range of a given good (or class of goods) with income level, which is an inherent feature of our model, is consistent with the research of Werner Hildenbrand who shows that there is a strong positive correlation between the "dispersion" (our "range") of expenditure and household income level for all classes of goods.[54] This in turn lends support to the hypothesis already forwarded (and explored further in Chapter Nine) that *money is a token of freedom*—in this case the freedom to acquire a greater or smaller quantity of a given class of goods, and of better *or* worse quality.

Superior, normal, and inferior goods. Because some goods—and even whole categories of goods—do not have the same value to rich and poor buyers, Figure 8.5 must be enhanced. Goods that increase in value with W_b might be called *superior goods*; goods that decrease in value with W_b might be called *inferior goods*, and goods that hold or keep their value with changes in W_b might be called *normal goods.* Figure 8.6 makes this clear.

Figure 8.6 Buyer's offering price, P_b, vs. Income, W_b for different values, V_b and kinds of good—"inferior," "normal," and "superior" (K_b/P_b = a constant < 1)

But note, ours is not quite the same categorization as is found in economics, where the judgment of "normal," "inferior," or "luxury" (the term "superior" is not often used) is made by looking at the total *quantity* of the good purchased as a function of disposable income, this mapped over a whole population of households.[55] Ours reflects the fact that the quality and functionality of a single unit of the good is essential to its value. Rich people don't often buy *more* stuff, they mainly buy *better* stuff, and that, anyway, is the kind of good we are talking about.[56]

Any particular good whose price is fixed market-wide is, by our definition, an inferior good. This is because any particular good sold to all comers at a fixed price (as most are) is necessarily "cheaper" to its richer buyers, i.e., valued less. Our definition refers therefore to *categories* of goods, categories in which particular alternative goods of different qualities and

prices are situated—for example, the category of *passenger cars*, from Hyundais to BMWs, or of *passive entertainments* from TV (which is "free") through movies to operas, *fountain pens* from Sheaffer to Mont Blanc, or *ground coffees* from Maxwell House to Jamaica Blue Mountain, *houses* from shack to mansion, and so on.[57]

In the best of all worlds, not only fixed-price goods but *all* categories of goods would be inferior. "Inferiority" in this context is no insult. If anything, it is a compliment, a sign that the needs that that category of goods satisfies are *indeed being satisfied* by the spending made possible by greater income, but using up a smaller *portion* of that income. In an economy where everyone is becoming wealthier in real terms, a given good's "normality" is thus a temporary affair. Intermittently-enjoyed luxuries become regularly-consumed "necessities." We might see in this the workings of the stratigraphy, and how higher needs, like confidence and freedom, replace lower ones like survival and security. Occurring on broad enough a front, it generates a good deal of economic growth and development, and even economic progress, as we discuss in Chapter Ten.

In order to continue to know happiness or feel pleasure as one becomes wealthier, *some* category of goods must remain normal or superior.[58] What category is this? It would be a good whose production as well as consumption enriched *all* lives, and which was also, by nature, a GKG—a gift that keeps giving. Candidates are few. In the Coda of this book I will make the case for fine architecture.

Combining the producer-seller's and consumer-buyer's perspectives

The *set* of all prices, $\{P\}$, that a buyer and seller *could agree on* for one unit-good can be described by equating the right-hand sides of Equations 8.3 and 8.4 via the transaction price, P. Thus:

$$K_s r_s^{\mu} = P = f(V_b)W_b - K_b \qquad \text{.....(8.5)}^{59}$$

All the "values" of P for which this equation holds, taken together, frame the limits of market fairness—which, as we will see in the next section, means nothing more or less than agreement as to money price. This is not to say that the seller does not continue to wish that P

had been higher, or that the buyer does not continue to wish that P had been lower, but just that P exists somewhere in the *overlap* of the ranges of the asking and offering prices, P_s and P_b.

To see how Equation 8.5 works, examine Figure 8.7. Here the buyer's value function, $f(V_b)$, and the buyer's monthly income, W_b, are plotted on the y-axis and x-axis respectively. The seller's balance of market organization, r_s, and the seller's cost, K_s, are shown superimposed. The contours show all the values of P for which $K_s\ r_s^{\mu} = f(V_b)W_b$. For clarity of exposition, K_b is ignored.[60]

Figure 8.7 Plotting the field of transaction prices, $\{P\}$, combining the buyer's and seller's perspective ($K_b = 0$). Sellers make an extra-normal profit above the $r^{\mu} = 1$ line.

The shaded zone, sloping down to the right in Figure 8.7, illustrates the value range of inferior goods such as rented houses or apartments. These are goods whose value to the consumer-buyer decreases with increase in income. In the U.S., people with more money prefer to own their own homes and pay mortgages rather than pay rent. The U.S. tax code institutionalizes this preference. Now, let's say that the landlord's cost of providing and maintaining an apartment in the early 1990s, with normal profit, was $400 per month. According to Figure 8.7, he could appeal to buyers in the income range from $800 p.m. to $1800 p.m. The former would be "stretching it," expressing (and paying for) the high value they placed on living in a nice apartment; the latter could manage it more easily and would likely have had other priorities. Nevertheless, the landlord *could* have charged some members at the higher end of this income group (i.e. those earning $1800) up to $770 for the same-cost-to-him apartment if he could somehow have identified who they were and/or discriminate among apartments, say corner apartments and higher-floor apartments (i.e. make β lower but make γ lower yet to get $r_s \geq 1$).

Notice that at an asking price of $K_s = P = \$600$, and presumably with nicer apartments to rent out, the breadth of the income group that the landlord could have appealed to increases dramatically, to those earning between $1200 and $3300 per month. If, however, the ratio B/G in the vicinity was constant throughout the $800-to-$3300 income- and $400-to-$800 rental range (and $G = cS$, $c \geq 1$), our developer-landlord would have gained little or nothing by shifting his production "up-market"—unless he could have more creatively tinkered with β and γ there. He sought total profit (rather than profit per unit) and this depended to a great degree on the population's income distribution as well as the prevalence of other sellers serving some or all of

the income groups of the whole market. There may have been *fewer people* in (and/or more apartments for people in) the income range $1200–to–$3300 p.m. than there were in and for the income range $800-to-$1800. If so, the greater breadth of buyer's-income he could have addressed with better apartments may have been illusory in its attractiveness. We cannot see this directly from Figure 8.7 because Figure 8.7 does not show the income density distribution, which, since it is historically and everywhere tilted in the direction of there being a far greater number of relatively poor people than relatively rich people, is the major reason for aggregate quantity-demand increase with falling prices.[61]

At K_s = $1200, the landlord has priced himself out of the market entirely. Those wealthy enough to afford that sort of rent *do not rent* (at least not in his operating vicinity). This is because rental apartments and houses are, in this culture, inferior goods.[62]

With normal and superior goods the picture would be quite different. The shaded area of Figure 8.7 would stay horizontal (for normal) or slope upward to the right (for superior) goods. Again, depending on income distribution and on how well-served each income group already is in the market for a given good, so does the ambitious producer-seller seek out that combination of product, production costs, market competition, income group to address, and valuation of the good that offers him the best chances for total profit. (Notice that, all other things being equal, the lower the (median of) the value (range) of a good is, the broader is the income group that that good might appeal to. This is complement to the fact that the higher the income group, the broader is the choice of goods and good-prices.)

By way of summarizing this section and tying it back to some of the concerns of previous chapters, let us consider what kinds of business producer-sellers would most *like* to find themselves engaged in. The answer, I think, is one, two, or all three of the following:

(1) Making and selling goods that are valued by buyers more highly than they actually cost to produce (or acquire) and that no competing producer-seller will undercut the price of *because buyers would not pay less even if they could.* These tend to be superior goods with valuations that place them above the r_s = 1 line. In fact, though, any producer-seller who can operate with normal profits at the lower bounds of buyers' valuation range can find himself in the same, enviable situation, this no matter how wealthy or poor is the income group addressed. At K-Mart stores, for example, tires, appliances, and jewelry that are perceived as "too cheap" will not sell at all. Whenever price itself is taken as a sign of product quality and/or a guarantee of

social acceptability (i.e. a legitimacy token), then K_s is free to be anything at all lower than the "proper price," *P*.

(2) Owning and auctioning goods that are in endemically short supply (such as land with good views or houses in "good" old neighborhoods) or that are in structurally short supply (such as the *best* or *only* of anything of value). These are sometimes called "positional goods" since their value is wrapped up in owning/experiencing/being the first/best/only/top *whatever*... relative to others. In this category of business having a monopoly is nice too, as when one owns patents for critical products, parts, or processes, or is the contracted sole supplier to other producers. The power one has to manipulate supply, and thus to cause competition between buyers for scarce goods, is a strategy that does not work well, however, when buyer-valuation and buyer-wealth rules.

(3) Being in the business of supplying goods that are *climactic* in how they yield value and/or *addictive*. Climactic goods are often positional goods too, for example, whenever the winner of a competition takes all (or most) of the reward, as at an auction. Other climactic goods have to do with the meeting of deadlines, targets, and other sorts of quality or intensity thresholds. With eyes on the prize and in dread of failure, any equipment, information, training, or service that increases the chances of winning (or of meeting targets and thresholds) comes to be highly valued without much curiosity from the buyer as to the real costs of its production. Addictive goods, as the name implies, will keep customers coming back for more, satisfaction turning to dissatisfaction that can only be addressed by further consumption of the good. This works especially well (for the seller) if the good he offers is unsubstitutable by any other (i.e. $\gamma \approx 0.5$). We discussed climactic and addictive goods at some length in Chapter Four.

By contrast, the most difficult goods for any producer-seller to be in the business of providing are the two other classes of goods described in Chapter Four as defeating the law of diminishing marginal utility. These are GKGs, "gifts that keep giving" (like architecture and education), and goods involve "goals that keep receding" (like art, music, *haute cuisine*). With the first, consumer-buyers have to be persuaded as to the long-term, repeating value of the good in order to accept any high price to be paid for it now. With the second, consumer-buyers must be persuaded to become connoisseurs, "addicted" if possible, but educated at least, to appreciating ever-finer points about the product and its experience. Both of these tasks *can* be successfully tackled, of course,[63] but the first three situations are, from the producer-seller's point of view, the cushier businesses to be in.

In this chapter we have allowed money (in the guise of prices) to play its conventional role as the public metric of value. How does the token "money" come to be so important? We will pursue this question in Chapter Nine. We will also try to understand how the operations of markets and the properties of money together tend to undermine the production of many goods that we say we value highly and that we say we miss. There, I will be siding with the critics of "market mentality" instead of criticizing them as I occasionally have in this chapter.

In preparation, we need to consider in some depth the peculiar kind of *fairness* that markets produce. To do so, we must integrate what we have explored in this chapter with our analysis of the "logic of exchange," presented in Chapter Seven.

Two-party exchange and fairness: a reprise

For this discussion, the index "*g*," which has been omitted for a while now for notational simplicity, must be reinstated. For improved clarity, I will also use "$P_b(g)$" to denote buyer *b*'s offering price for good *g* in money (or other asset of value to the seller), and "$P_s(g)$" to denote seller *s*'s asking price for *g* in money (or other asset of value to the seller).

Recall that the value to buyer *b* of the exchange of good *g* (owned by *s*) for a price $P_b(g)$, paid by *b* to *s*, denoted $V_b[g, P_b(g)]$, is given by the expression

value of the exchange to the buyer		value to buyer of getting the good from the seller		the value to the buyer of giving over the price of the good to the seller		the value to the buyer of any remaining obligation
$V_b[g, P_b(g)]$	=	$V_b(g \leftarrow s)$	+	$V_b[P_b(g) \rightarrow s]$	+	$V_b(\varepsilon)$

The second term on the right hand side, $V_b[P_b(g) \rightarrow s]$, is usually a negative number because, being a "payment," it will (usually) represents a loss of whatever asset constitutes the "price." Once again, ε is some felt or formally noted obligation towards the buyer from the seller, positive, negative, zero in value as the case may be.

Similarly, the value of the exchange to the seller *s* is given by

$$V_s[g, P_s(g)] = V_s(g \rightarrow b) + V_s[P_s(g) \leftarrow b] + V_s(\varepsilon)$$

where the first term on the right hand side, the value to seller *s* of the good *g*, is conventionally negative because, as a giving-over of (the rights to) the good itself, it generally represents a loss which is greater than the pleasure felt in giving it over. Again $V_s(\varepsilon)$ is the value, positive or negative or zero, of any obligation that remains towards the buyer and may or may not be exactly equal to $V_b(\varepsilon)$.

In the marketplace, an exchange is realized when $P_b(g) = P_s(g)$, that is, when the seller's asking price for *g* is the same as the buyer's offering price for *g*. This agreed-upon transaction price is denoted $P(g)$. When generalized across a marketplace, $P(g)$ also becomes the "going" or market price of *g*.

The last few paragraphs rehearsed what we have already covered, and there is little in them, I think, that ought to be controversial. But now, perhaps, we are ready to look a little further into the perennial question of how markets do and do not promote social justice along with their (often only putative) efficiency.

The very fact that agreement has legally and voluntarily been reached as to the transaction- or market price of a given good is often taken by free-market apologists and enthusiasts to betoken the intrinsic *fairness* of market exchange (value of the exchange to the seller / value to seller of giving the good to the buyer / the value to the seller of getting the price of the good from the buyer / the value to the seller of any remaining obligation), and point out that fairness is actually rare in markets. The best that can be said for uncoerced market exchange, they claim, is that *both parties benefit*; but this is *not* to say that people in market exchanges typically benefit *equally*, or even that the *fairest possible* arrangement between them was found (let alone that of highest combined or total value to the exchangers or to society). To use the terms of Chapter Seven (35 ff.), market critics like to point out that market exchanges are typically of **Type II** rather than **Type I**, and they may all-too-easily be of **Type III** where one party accepts loss on pains of losing more. I think that these observations constitute a rational, if somewhat idealistic, critique of fairness in the marketplace.[64] But the resources for such a critique run deeper, tempering one's idealism. Consider:

Type I exchanges happen when the (positive) value of the exchange to one party is the same as the value of the exchange to the other, that is when $V_b[g, P(g)] = V_s[g, P(g)] > 0$. *But this is a more complex condition than mere agreement on transaction price, P(g), alone.* To see

why, equate the last two equations to each other. Omitting, for notational simplicity, the arrows indicating the direction-of-motion and destination of good and payment, **Type I** fairness implies that

value of the exchange to the buyer = value of the exchange to the seller > 0,

or, in algebraic terms (and leaving out the arrows for notational economy):

value of the good to the buyer		value of the price to the buyer		value of the remaining obligation		value of the good to the seller		value of the price to the seller		value of the remaining obligation	
$V_b(g)$	+	$V_b[P(g)]$	+	$V_b(\varepsilon)$	=	$V_s[P(g)]$	+	$V_s(g)$	+	$V_s(\varepsilon)$	$> 0.$

If $V_b(\varepsilon) = V_s(\varepsilon)$, or if both of these obligation terms are equal to zero (as is the case with spot cash transactions), then the above expression simplifies to:

$$V_b(g) + V_b[P(g)] = V_s[P(g)] + V_s(g) > 0,$$

which can be rewritten as

value of the good to the buyer		value of the good to the seller		value of the price to the buyer		value of the price to the seller
$V_b(g)$	–	$V_s(g)$	=	$V_s[P(g)]$	–	$V_b[P(g)].$

We see from this last expression that if an exchange is of **Type I**, and buyer and seller have different assessments of the value of the sum of money that is the good's "price," then they must have compensatingly *different* assessments of the value of possessing the good itself. Conversely, if they *do* agree on the value of the-sum-of-money-that-is-the-price (with opposite sign), then they must also agree on the value of the good (with opposite sign).[65] *The difference between these two states are not discriminated between in the marketplace* where the agreement is only as to *price itself,* not to the price's *value* or the good's value. The fairness of the marketplace is a rougher and blinder affair. The rich pay exactly as much for a given good as do the poor, which ignores the different value to them of the money transferred, P(*g*), and ignores

also the different value to them of the good (as well as of any remaining obligations).[66] Indeed, this blindness is precisely what operationalizes the difference between "being rich" and "being poor." When one is rich (as buyer or seller) the market price of a good is a relatively small fraction of one's wealth. It hurts less to pay it and it pleases less to receive it. When one is poor, the price is a larger fraction of one's wealth. It hurts more to pay it and it pleases more to receive it in payment. So when we know that the going price of a certain good in a certain marketplace is *x* dollars, we actually know rather little about the value of the good to the buyer as compared to the value of the good to the seller, and just as little about the value of *x* dollars to the buyer compared with the value of *x* dollars to the seller. All we know from the *fact* that exchanges are taking place at $P(g) = x$ dollars is that these two valuations together—i.e. value of the good and the value of the money that is the price—are privately judged to stand in some positive relation to each other on both sides of the exchange. That is to say, we can surmise with some confidence only that the sum of the value of the good and the (dis)value of the good's price is greater then zero for the buyer (i.e., that $V_b(g) + V_b[P(g)] > 0$), and that the sum of the (lost) value of the good and the value of the price of the good is greater than zero for the seller (i.e. that $V_s[P(g)] + V_s(g) > 0$). And if we found out that the trade was, in fact, perfectly fair—i.e. that $V_b(g) + V_b[P(g)] = V_s[P(g)] + V_s(g)$—we still would not know where fairness lay, component by component. Add back the obligation terms on both sides, which we neutralized earlier for simplicity of presentation, and our uncertainty as to the basis of fairness would be all the greater.[67]

Market fairness, then, is a vague business even when it is **Type I** fairness, and critics of the marketplace asking for more **Type I** fairness will simply have to admit that even if they achieved their goal, the "itemized" comparisons people make between (i) the value (to them) of a sum of money about to be paid or received for something, and (ii) the value (to them) of the something to be paid for or given over, would still fly "under the radar." It would still be unaccounted for.

In defending the marketplace certain economists make the following claim: that *ideal* markets are or would be precisely those that *do* or would) arrive at the market prices at which the more complex conditions of fairness and mutual advantage that we have been discussing hold.[68]

True?

One hardly knows, since it is really an empirical question. The prevalence of exchanges of **Type II** is all that real marketplaces can more or less guarantee. The conditions that must be met for all marketplace exchanges actually to *be* of **Type I** (rather than only presumed to be so) might in fact be so stringent—so difficult to achieve and verify, involving so much haggling, third-party checking, and obligation-tracking—that no high-volume marketplace with its own costs of doing business could execute them. *Markets*, that is, *may depend on unfairness*. Whether or not this is true is also an empirical question. But certainly, the moral direction is towards designing and instituting market processes that get us closer to substantial satisfaction-gain with every exchange *and,* allowing for obligations, to closer-to-perfect **Type I** fairness. "Quasi-fairness," discussed in Chapter Seven, is one result, one social maneuver. Quasi-fairness is how unfair exchanges can be made fair by making fairness itself something whose value people can disagree about.[69] In this, the institution of money can help: the two parties can privately transfer their differing feelings about fairness-as-such either into their differing valuations of the good or into their differing valuations of same sum of money (i.e. the agreed price), or a bit of each, and the uncomfortable issue of actual value fairness can remain unraised. This is harder to do in direct, good-for-good barter.

Notice that throughout the argument in this section, I have not treated money as a *measure* of value but rather as something *that is itself to be measured* in value. Money is a good among goods, a token among tokens, as I have said quite often now, which is really why the way in which market prices are reached is of such interest. Indeed, how market prices are reached is *the* problem of economic science and does not go away simply by declaring that money is a measure—or *the* measure—of value, or, more carefully, that *relative* money prices reflect relative good values (or marginal utilities).[70] In the next chapter I will try to explain how, alongside tape-measures for length and scales for weight, money came to be regarded as a standard measure of value. We have already uncovered one of the reasons: it is to make unfair exchanges seem fairer and in so doing, at least theoretically, to increase the freedom of all. •

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NOTES to Chapter Eight: *The Nature of Markets*

[1] Economist Geoffrey Hodgson agrees. In his *Economics and Institutions* (Cambridge: Polity Press, 1994), p. 172, he writes:

> The study of market behaviour is a major theme, if not the major theme, of economic science as we know it. Furthermore, the proposal that markets should be extended, unfettered, and made more competitive is a strident policy recommendation of our times. Remarkably, however, definitions of the market in economic literature are not easy to find, and analytical discussions of the institutional concepts involved are extremely rare. Mathematical models of market phenomena abound, and there is a voluminous literature on the theoretical determinants of market equilibria. Yet if we ask the elementary question—'What is a market?"—we are given short shrift.

Hodgson goes on to review the rather cursory definitions given by Cournot and Jevons, and their retelling in Marshall's *Principles of Economics* of 1890. These point out little more than that markets are places where many buyers and sellers exchange goods at prices that, for the same goods, converge.

> Economists understand by the term Market, not any particular market place in which things are bought and sold, but the whole of any region in which buyers and sellers are in such free intercourse with one another that the prices of the same goods tend to equality easily and quickly."

To this definition by Cournot, Marshall added:

> The more nearly perfect a market is, the stronger is the tendency for the same price to be paid for the same thing at the same time in all parts of the market.

(The two citation above are from the encyclopedia, *Britannica Online*.) Ludwig von Mises managed a definition without the concept of exchange, relying instead on "interaction," "cooperation," and the "division of labor." In general, Hodgson's aim is to point out how the institutional, conventional, and legal structures of market(place)s are overlooked in the economic literature, and how loosely the term "market" is used to explain why certain prices, rates, and wages are natural.

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[2] James Tobin, "Financial Intermediaries," in J. Eatwell, M. Millgate, and P. Newman, eds., *The New Palgrave: Money* (New York: W. W. Norton, 1989), 160.

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[3] If this analogy holds, and given the importance of catalysts to all living systems, then we might expect to find that social activity of *brokering* historically pre-dates the development of organized markets. Whether it does or not, I don't know. We know that brokering continues to function, of course, to catalyze relationships in the family, among nations, among firms.

Interestingly, the floor of the stock market and the commodities market in Chicago and others like them, is actually a *marketplace of brokers* who find each other and make exchanges largely without the need for further brokering among themselves. They are thus "brokers" only insofar as they represent both sellers and buyers and insofar as they can make the matches between customers *within themselves* as it were, or within their own organizations. Strictly speaking, someone who buys or sells something *for* you, on your behalf, in some distant marketplace is only an *agent*, not a broker.

But as for the computers that do automated trading: they fully *are* brokers—silicon brokers—making the lists and making the matches without, of course, a shred of understanding of their clients.

A final remark: it should be obvious that online markets and auction venues simulate the spatial aggregation,

chance encounter, and information intensity of traditional markets.

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[4] This often only applies to sellers if cash is offered by buyers.

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[5] Rules such as: no seller is free to *refuse* to sell to any buyer willing and able to meet his posted price and terms. Above all there must be a system of rules for the orderly transfer of property rights. Indeed, without the institution of private property together with the rule of law to protect and enforce those rights, there would be no free markets, and pretty much no science of "economics" as it is presently studied, at all. Economic life as a system of non-coercive exchange, is built upon the legal foundation of rights. Economics beneath or outside of the law and the concept of property is a different matter: it is the exchange of acts of power and violence.

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[6] This legitimacy is warranted, of course, by the threat of en*force*ment by greater *authority* than any market actor, or by greater *power*, ultimately backed by *violence.* Cf. p.... ff.

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[7] I do not mean to propagate naivéte about the self-interested political processes by which the S.E.C, the major exchanges, and large securities-trading and brokerage firms seek to shape the laws that govern them.

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[8] Many would not admit of the possibility of "overconsumption" since in even less-than-perfect markets, buyers may buy as much as they can afford to, and may do what they please with what they buy, including consume it. No one is *forced* to buy or consume any particular quantity of goods.

Perhaps not. But we have seen that "force" has many faces—most of them smiling. I have in mind most literally, of course, the "overconsumption" of food, alcohol, and entertainment by many North Americans and its expression in obesity, short attention span, declining education standards, and crime. In my opinion, certain goods can become too cheap to do anyone any good in the long run; especially when they provide mildly addictive satisfaction.

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[9] Most store-owners do not, of course, allow their shelves actually to empty out; they re-stock them periodically at a rate that more or less smoothly matches the outflow of the good in question. "Clearing" means only that the rates of inflow and outflow per period are equal. The store-owner of our text, looking at his cleared shelves, will re-stock them overnight with exactly the quantity of goods that will leave the shelves bare again at the end of the next day. Or raise his prices and re-stock with less.

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[10] This brings to mind the business of Goodwill or thrift stores. These will receive used or remaindered goods as gifts and sell them at low prices to the relatively poor at locations far from the original market.

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[11] What ought to be considered a market "crime" is not always that clear. Certainly theft, embezzlement, extortion, bribery, false billing/advertising, welching on loans, etc. are civil offences. But what about the practice of *predatory pricing* and "price wars," as, for example, when a well-capitalized supplier lowers its market prices so drastically, and does this for so long, that less-well-financed competitors are driven out of business, after which time he raises his prices again to monopolist levels?

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[12] There is a sense in which even the neurons of the brain operate in a competitive market of signals, with "transactions"—synaptic firings—occurring across broad fronts when certain "terms of trade" are met at each synapse. See Gerald Edelman, *Neural Darwinism* (New York: Basic Books, 1987).

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[13] This is the subtitle of Barry Schwartz's *The Costs of Living* (New York: Norton, 1994).

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[14] Ibid., p. 123.

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[15] Robert Kuttner, *Everything For Sale: The Virtues and Limits of Markets* (New York: Alfred A. Knopf, 1997)

[16] Philosopher-writer and Federal judge Richard Posner argues that in its everyday decision-making the law itself should seek to simulate the distributive results that an ideal market would bring about, which are to maximize the wealth (and presumably the well-being) of all parties. Crime on this view is a market imperfection—a sign of the failure of existing social arrangements to produce ideal-market-like outcomes, and bad law is law that takes human intercourse further away from market-like structuring. See his *Economics of Justice* (Cambridge, MA: Harvard University Press, 1983). While I follow Posner in his admiration for the logic of markets and in his appreciation of the subtlety of economic thinking, the non-idealness of real markets makes me suspect of model things other than markets—such as the law, or sport, or whatever—on ideal markets. There's a good reason real markets are *not* ideal. Besides, there is something circular about the argument that says the law should model itself on an institution whose ideality depends on the law...

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[17] Buyers cannot change the *size* of the supply for themselves. They can change it for others, of course, by buying up a substantial proportion of the total supply themselves. In most economic models of market behavior, however, the purchasing power of a single buyer is small relative to the overall supply.

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[18] Charles W. Smith makes the same point about auctions in *Auctions* (New York: The Free Press, 1989), 40–41.

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[19] In apparent exception to this rule are the prices of liquor under prohibition, of certain drugs and other illicit goods, of the services of prostitutes and of other often-illegal activities such as gambling. The prices of these are much higher than they would be were they legalized and available on the legitimate, i.e. "open," market. The question is, why?

The answer, of course, lies in the fact that *illicit* goods (and services) are different from *licit* goods and services that are illicitly made or obtained. Information about the second—i.e. information as to *origins*—can be lost at every change of hands, whereas information that is bound to the good, that *constitutes* the good, cannot be. Recognizably illicit goods are not permitted to appear in *any* market, in any shape or form, even if good, honest, and hard-working people unwittingly produced and supplied them. Prices are high in order to cover the sellers' expected losses if caught and punished. Were the buyers' risk and degree of punishment to be greater than the seller's, prices would be proportionately lower.

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[20] A radical socialist might argue here that *all* goods in a capitalist system are illegitimate, tainted, since they are wrested from their real makers—wage-earners, laborers, even Nature—at unfair prices under sanction of capitalist-serving law. "Exploitation" is the usual moniker. It is this residual illegitimacy in the capitalist system that buyers constantly (if unconsciously) need to cover over, and *do* cover over, by agreeing to pay the price demanded by the seller "no further questions asked."

Ironically, this buyer-provided service (i.e. the service of ignoring the good's conditions of production) can be thought of as costing the seller profit. "Green" or "socially responsible" businesses provide a case in point: such businesses can sell goods from organically-grown vegetables to shampoos developed without animal testing to investments in politically correct companies at higher prices, although they are functionally identical, or even slightly inferior, technically speaking, to regularly-produced goods, precisely because informed buyers need not be bought off for their acquiescence to violations of justice or morality further up the supply chain.

The reverse side of the coin, of course, allows those firms who can win customers on low prices to thrive, even as they cover up the fact that their products are made, say, under inhumane conditions.

All this represents a contemporary Marxist view. A contemporary Institutionalist, on the other hand, would simply point out that the transfer of goods always involves the transfer of property rights, and that these property "rights"—tokens embodied and transmitted by a variety of documents and time-consuming gestures—are not costless in the devising, the transfer, or the recording. The greater the number and value of such documents along the supply chain, the higher will be the final price to the buyer. In the case of environment-destroying, worker-exploiting, quasi-licit goods, a larger number and/or more expensive documents may be required, such as those needed to silence foreign governments, pay off inspectors, and so forth. In this way, exploitation-based products can end up costing almost as much as "good" ones, but with the further disadvantage of profits going to the wrong places.

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[21] In *The Armchair Economist: Economics and Everyday Life* (New York : Free Press, 1993), p. 14, Steven Landsburg correlates the new financial security offered by the Federal Deposit Insurance Corporation (FDIC) since 1934 with the decline in the construction of large and *physically secure*-looking bank buildings. I would agree with Landsburg, with due allowance for the temporary reversal of this trend in the 1980s when some major banks in the U.S. built themselves paper-thin but swank office buildings with lofty, if barren, "banking halls" on the first floor and showy vault doors. Since then, however, the rise of electronic banking in the 1990s has dealt bank architecture a second blow. Many banks have become a few frugally outfitted floors in the middle of an anonymous office building—although the bigger ones own and name the whole building, leasing out most of it—with a data processing outfit in some distant industrial warehouse and a public street presence no more impressive than ATM machines and a few neighborhood stores with a three tellers and a fan.

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[22] And many goods, of course, are tokens through and through—tokens only. For example, *memberships* in church, civic, business, sports, cultural, political, scientific, academic, trade, and recreational organizations, as well as licenses, patents, and so on.

Members of one branch of the armed services regularly disparage members of all the other branches. Each holds itself in higher regard than the others—for intelligence, training, toughness, usefulness to the national purpose, historical glory, and so on. This also goes on within branches, between battalions, companies, and even platoons. And yet, rank by rank, a soldiers' pay is identical throughout the armed services. One joins the Marines, rather than the Army or Navy or Air Force, for no other reason than the prestige, which is to say, for payment made in tokens other than money.

Note also the way that the working poor are persuade to accept their poverty by the approval tokens of the working (and sometimes non-working) rich. The principle of "equal opportunity"—much touted by the rich though very few needed to benefit by it—allows members of the working poor to imagine that there is a real chance that they could become rich solely by their own efforts. It allows them to take upon themselves the blame for *not* becoming rich, to accept, in lieu of value, expected value; to accept, in lieu of higher wages and real property, the "payment" of tokens of approval in return for perpetuating to the status quo. The Clintons' health care reform initiative of 1994 provides a case in point. It was turned back essentially by the Republican tactic of emphasizing the loss of freedom (choice) that Americans would experience in choosing their doctors, hospitals, and level of care. It seemed not to matter that a prerequisite of real choice is to have enough money to exercise it, and that the object of health care reform in the United States was to make it universal. Like the generally well-off group that they represent, Republicans assumed that freedom-of-choice is the always-predominant value of Americans, and they persuaded the great lower and middle classes that they too should place this freedom above all other needs, even when they face financial ruin from medical bills, or hugely burdensome insurance premiums, or from usurious credit card interest rates—all of which, it is implied, poor people would avoid if they only had enough *character*.

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[23] Interestingly, while there has been a strong consumer movement (in the U.S.) towards organic fruits and vegetables, there has not been a parallel consumer trend towards the greater use of organic cotton in clothing even though commercial cotton-growing is among the most environmentally damaging forms of agriculture (chiefly because of the intense use of pesticides). There are a number of reasons for this having to do with entrenched political and economic interests, but the main reason is that consumers simply do not *care* as much about the imperceptible material quality of what goes on their backs (and is laundered a hundred times) as they do about what goes in their mouths. Which is perfectly rational. See Andrea Adelson, "Organic Clothes on Backs not Minds," *New York Times*, November 6, 1997, A18.

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[24] It is no wonder then that Hayekian claims as to the informativeness of prices per se find their best illustration and application in financial securities markets, where the goods traded are highly abstract entities with very simple properties, where circles of concern contain the trading parties only, and information as to company makeup and history and past and comparable prices is readily available. Indeed, securities are hardly more than a collection of ciphers: dates, prices, "rates" with a signature...rather than consumable objects. Securities *are objects of trade only*—tokens warranted by the token "money"—and highly dependent on herd and beat-the-herd effects, i.e. on other people's judgments of yet other people's judgments about best bets about future prices...and so forth. They are prices-for-*re*sale, repriced prices. This means that information about "fundamentals," such as the real condition

of the companies or countries or commodities to be invested in matter less than the changing, market-clearing prices of the securities—themselves representing, as they are widely enough presumed to represent, the collective "wisdom" of all traders. For a good discussion of this material (*sans* mention of tokens, of course) see Sanford Grossman, *The Informational Role of Prices* (Cambridge: MIT Press, 1989, 1991), pp. 1–8.

What does this say about other sorts of prices? In exchanges such as the barter of material goods, or contracts for services, or tokens for tokens, prices can take many forms: goods of various quantities, qualities, and delivery schedules; promises to take certain actions at certain times on behalf of certain others; token bundles affecting the needs and feelings of the seller or members of his circle of concern, and so forth. Strictly speaking, the information content of these "prices" governs how much can be retrodicted about the circumstances that gave rise to them: the greater the information content the more can be retrodicted.

Again, I am not saying that money prices don't convey any useful information, just that the information they *do* convey, and thus their capacity to coordinate the actions of others or to transmit originary data, is constrained. The Hayekian would have to argue that this is a good thing—that knowing more would be knowing too much.

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[25] On the difference between making price a dependent vs. an independent variable, and its history in economic thought, see Donald W. Katzner, *Walrasian Microeconomics* (New York: Addison-Wesley, 1988), p. 16.

Very briefly: What does the renowned law of supply and demand *actually* consist in? It consists in two assertions and one stipulation: first, the assertion that in an ideal market the quantity of a given good demanded is a function of its price—i.e., $Q_D = f(P)$. Second, the assertion that the quantity of a good supplied is (another) function of its price—i.e. $Q_S = g(P)$. Third, the stipulation there exists some stable, market-wide *equilibrium* price of the good, P_E, that would cause $Q_D = Q_S$. This equilibrium comes about because, by some unspecified market processes that are the very engines of the law,

$$dP/dt = h(Q_D - Q_S),$$

where h is some third function that makes the speed of change of P ("dP/dt ") depend on the excess (or shortfall) of the quantity-demanded over the quantity-supplied ("$Q_D - Q_S$"). When $Q_D > Q_S$, then prices go up over time at the speed proportional to the difference between them. When $Q_D < Q_S$, then prices go down at the speed proportional to the difference between them. At the equilibrium market price, P_E, $Q_D - Q_S = 0$ and price movement stops .

This elegant formulation of the law of supply and demand, due to Kenneth Arrow, has its limitations of course, and requires supplementation to be useful. For example, imagine that Q_D is larger than Q_S. Prices will rise; and they will continue to rise until Q_S catches up, or Q_D moderates. Does this tell us what the price of the good *is* or "should" be relative to producer costs or consumer valuation? Not by itself, because the law is stated in purely differential form. Price is here unmoored and might come to rest at any arbitrary magnitude, depending on how long $dP/dt \neq 0$ and where it started from. This is easier to see if we perform a simple step of substitution. We have, by earlier definition, that $Q_D = f(P)$ and $Q_S = g(P)$. Substituting both into $dP/dt = h(Q_D - Q_S)$ we have:

$$dP/dt = h[f(P) - g(P)].$$

In this equation, price is both the dependent and the only independent variable, rate-change-in-price depending upon price alone. This is a somewhat insular formulation, if not entirely circular. Clearly, to do any practical work with the law stated in this differential form, "$f(P)$" and "$g(P)$" ought to be written "$f(P, x_1, x_2...x_n)$" and "$g(P, y_1, y_2..y_m)$" respectively, where x_i and y_i are...well, you name them: any or all of several independent variables thought to co-determine the quantity demanded and supplied, such as consumer valuation, income distribution, technological means, product and market complexity, etc. Suddenly, P becomes a dependent variable, which is how we posed the problem at the outset.

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[26] The assumption that each seller has only one unit good to sell is not as odd as it might sound. There are very few goods that people want more than one unit of: tomatoes, maybe, gasoline, electricity. And then, they don't often pay less for ordering more unless the retailer has set up incentives precisely in order to boost consumption (buy one, get one free). Certainly, most of the higher-valued things that people want come in "ones" that will satisfy for a period of time: *a* house, *a* car, *a* piece of clothing, *an* education, *an* entertaining experience. The buyer usually

just wants one unit of the good, no matter how many other units are on the shelf waiting for others. The "downward sloping demand curves" of modern microeconomics, explained as the aggregate effect of satiation with consumption (peaches being cheap during peach season because people tire of eating peaches) does not really describe the most common situation. Of course, *businesses* own and trade in large numbers of identical unit goods, and the economic law says that their per-unit price will drop with the quantity ordered—savings that may be passed on to consumers. But the reason that peaches and many other goods are cheaper in quantity is because the costs of making, storing, marketing, and transporting them, per unit, generally goes down as the number of units involved goes up and competing sellers lower their prices to match. The real reason consumption goes up when prices go down is the income *distribution* effect: there are more poor people than rich people in the world, and the lower the price of goods the more people there are who can afford them. For more on this, see Notes 59 and 64 below.

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[27] In economic terms, K_s represent total fixed and variable costs, per extra (marginal) unit. In theory, per-unit fixed costs (e.g. machinery, energy) go down with number of units produced—as, initially, do variable costs (e.g. labor, maintenance). However, as rising production levels begin to reach the limits for the firm, so do variable costs per unit rise up again. A firm's total (fixed plus variable) costs per unit are therefore apt to be lowest when the firm is operating well within production volume limits. None of this dynamic is captured in Equation 8.1.

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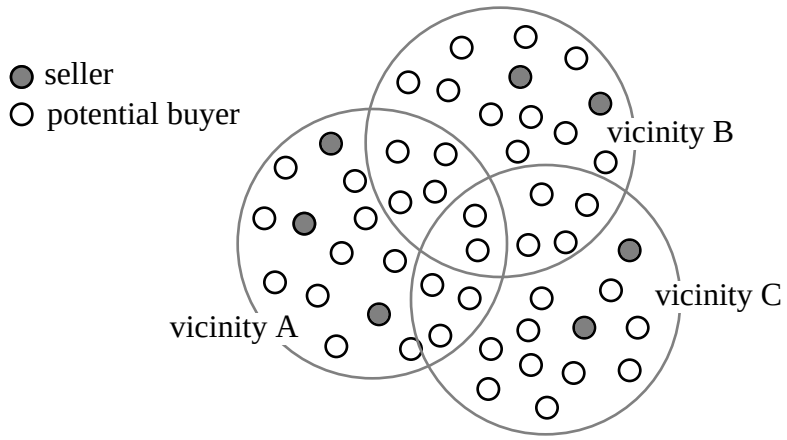
[28] About the idea of a market *vicinity*: The figure below illustrates three vicinities, A, B, and C, with sellers and buyers in each. In vicinity A, $S = 3$, $B = 19$; in vicinity B, $S = 2$, $B = 20$; in C, $B = 2$, $S = 21$. But notice that four buyers in A∩B have five sellers to choose from, two buyers in A∩B∩C have seven sellers to choose from, three buyers in A∩C have five sellers to choose from, and four buyers in B∩C have four buyers to choose from.



Any number of things can create vicinity boundaries. They can be physical, such as the walls of buildings, or sheer distance, or informational, i.e. boundaries of sight, of knowledge, of laws and tariffs, and so forth. They can also be temporal: marketplaces that are here today and gone tomorrow.

Subjectively, as each seller looks in her vicinity, she sees clearly only a sample of all the other sellers (her competitors) in the whole marketplace and a sample of all the buyers (her potential customers). Similarly, as each buyer looks around, he sees clearly only a sample of all the other buyers (his competitors) and a sample of all the sellers (his potential suppliers). Ditto for the number of goods that all sellers offer; ditto (with some elicitation or observation) for the quantities of the good other buyers want; and ditto for all the asking and offering prices for these goods. It is from the local, sampled information of their own vicinities that sellers and buyers can, if they wish, *estimate* the actual magnitudes of S, B, G_S, G_B;$\{P_s\}$ the set of all asking prices, and $\{P_b\}$ the set of all offering prices, in the union of all vicinities; and they do this with an accuracy that depends entirely on their diligence, mobility, and social and technological connectedness (via telephone, computer, and the like). Our market as a whole is less than ideal in this respect: complete and reliable information is not available to all participants in the whole market.

S, B, G_S, and G_B are nonetheless the numbers market actors perceive and act upon. For example, a seller

may know perfectly well that there are "lots of potential buyers out there," but know also that she is not going to go after them—that she is going to settle, rather, for appealing to the buyers *in her vicinity*. For her, local appeal is good enough. (Perhaps she has limited resources or ambition; perhaps she has reason to believe that conditions elsewhere in the marketplace would be roughly the same or worse for her.) Similarly, a potential buyer may stop shopping around for a better price long before all the sellers that he knows about have been visited. In both cases, what usually attenuates efforts to exhaustively address the whole market are mounting marketing and search costs—parts of K_s and K_b, respectively. (Indeed, these distance-dependent, "distance"-defining costs, together with the laws of physics, are what create "vicinities" in the first place.)

Within a vicinity, the market is closer to ideal than the whole market in respect to information, but less than ideal in respect to the limited number of independent buyers, sellers, and goods to be found in it. The ideal vicinity optimizes these two contrary factors to maximize....hmmm, let's see...could it be....Ω?

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[29] "Normal profit" is profit enough to cover all costs. It will just keep a business going—but not growing—under current conditions. Above-normal profits are what most businesses aim for. This is the money that allows executives to pay themselves at above-competitive rates, that allows the firm to invest in risky research, that allows it also to build up reserves for downturns, etc. The formula for per-unit profit is:

$$\begin{aligned} Profit_s &= P_s - K_s \\ &= K_s \frac{R_{\text{buyers}}}{R_{\text{goods}}} - K_s \\ &= K_s \left\lceil \frac{R_{\text{buyers}}}{R_{\text{goods}}} - 1 \right\rceil . \end{aligned}$$

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[30] For the fastidious, here are the underlying definitions of the terms used:

We combine the producer-distributor and financier-merchant views of what should determine market prices with that of a canonical producer-seller, or simply *seller*. Normal typeface denotes nameable elements and sets of elements as well as the names of functions; italic type denotes variables, indexes, powers, and other numbers:

Let G = {g} denote the set of all unit goods belonging to a certain category of goods that is for sale in a certain vicinity. Let the members of G be uniquely numbered thus: $g = 1, 2, \ldots\ldots G_S$ where S = {s} denotes the set of all sellers of G, themselves numbered $s = 1, 2, \ldots S$. Every seller has in his or her possession, and for sale, some positive fraction of G_S, namely $G_s/G_S > 0$. G_S is the economist's measure of the "supply" (actually, inventory) of goods to that vicinity of the market at that time.

Let B = {b} denote the set of all the potential buyers in the vicinity of the sellers, numbered $b = 1,2 \ldots\ldots B$. Every buyer wants one or more units of G (unless of course the value of good g, $V_b(g)$, is equal to zero, more about which later).

Let $G_{b,\,g} \geq 1$ represent the number of goods available for purchase by potential buyer b, and $G_{B,\,g}$ represent the number of goods available to all B buyers. When potential buyers are in the same vicinity or have the same access to the market as a whole, then $G_b = G_B$. G_B does not meet the economist's definition of total "demand;" it is, rather, a measure of "supply" from the buyer's point of view. Often enough $G_S = G_B$. Our correlate of "demand"—i.e., of "total quantity demanded"—is simply B if every buyer wants one unit of the good, or $\sum_{b=1}^{B} bg$ if buyer b wants good g.

Let $P_{s,g}$ be the *price* of g asked by seller s from all potential buyers. The set of asking prices from all sellers of the same good, $\{P_s\}_g$, serves to discriminate seller from seller in the eyes of the typical buyer, although differences in asking prices are not the *only* or even chief way that potential buyers discriminate among sellers or the goods they offer. Let $K_{s,g}$ be the marginal cost to seller s of bringing one more unit of the good to market, including purchase from a producer or wholesaler further back in the supply chain, plus advertising, electricity, salaries, rents, normal profit, etc.

Let $P_{b,g}$ be the bid-price or *offering price* for the good *g* to all sellers in the vicinity by potential buyer *b*. The set of offering prices from all potential buyers for that good, $\{P_b\}_g$, serves to discriminate buyer from buyer in the eyes of the seller, although differences in offering prices are not the *only* or even chief way that sellers or goods discriminate among buyers. Let $K_{b,g}$ be the marginal cost to buyer *b* of bringing him- or herself to the door of any particular seller of *g*, including search costs, transportation costs, etc., as well as the costs of getting the good home (or to wherever it will be enjoyed). We will assume that $K_{b,g}$ is the same for finding and dealing with all sellers.

G, *B*, and *S*, as well as *g*, *b*, and *s*, are always whole numbers. *K* and *P* are rational numbers.

Dropping the subscript *g* for notational simplicity, since it appears everywhere, note that P_s from a seller and P_b from a potential buyer are both *promises* announcing the willingness and the ability of the quoting party to honor the price (asked or offered) should it become the actual *transaction price*, *P*. When, after searching for each other, finding each other, and exchanging product and price information, the seller's asking price and the buyer's offering (or bid) price come to *coincide*—that is, when $P_s = P_b = P$—agreement is struck and a sale or *transaction* takes place between seller *s* and buyer *b*. This means, of course, that the good itself, and/or some right to use or enjoy it, is legally transferred from *s* to *b*, while a payment of *P* is transferred from *b* to *s*. Usually, but not always, $P_s \geq P \geq K_s$. and $P \geq P_b$. Usually, but not always, *P* is a sum of money, and *g* is not.

As for motivations: each seller naturally wants to increase *P* and decrease K_s, while each buyer naturally wants to decrease *P* and decrease K_b, and this difference in "natural" interests is what precipitates them into independent strategic behavior as well as into the strategic exchange of information with each other. (Interestingly, both parties share an interest in increasing the magnitude of another variable that will not make its formal reappearance for another few pages, namely, V_b, the value of the good to potential buyer *b*. In this enterprise they might even cooperate, just as they might cooperate in decreasing K_b and, more rarely, K_s.)

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[31] To be more specific: N_J is the length of a binary checklist (such as "0,1,1,0,1,0,1,0,1,1") that describes the presence ("1") or absence ("0") of each of *N* valued *attributes* of the category of good. N_K is the length of the binary checklist that describes the presence ("1") or absence ("0") of *interest in* those attributes by potential buyers (listed in the same order, of course). What are these "attributes?" Each category of goods has its own set. Name a category of good—land, cars, bread, colleges, compliments...—and one can come up with a list of things that people look for in them. The length of this list (N_J) would reflect how long and hard we thought about this kind of good as well as its inherent, qualitative, potential complexity. Ditto with buyers as a demographic, geographic, or otherwise-defined group. N_K and N_J represent the buyers' and goods' contribution, respectively, to the market's potential complexity as things-in-themselves, as it were, while the larger expressions, $(\log B_s + N_K)$ and $(\log G_{B_s} + N_J)$, encompass also the contribution to the C_{pot} of the market of the sheer number of the buyers and goods.

For now, we assume that $N_K = N_J = N$. That is, we assume that there is no attribute of the category that is not valued by at least one potential buyer, and no interest in attributes by potential buyers that at least one example of the category does not satisfy. We also assume that the attributes of the *sellers* are manifest in how potential buyers perceive the attributes of the *goods* that these sellers offer. Later in this chapter, and throughout the next, we will distinguish between N_B and N_G; but now, as I said, $N_B = N_G = N$.

For a more detailed explanation of "binary checklists" and measures of substitutability, see Appendix Six.

Some readers may wonder why I do not use the potential complexity measures $\log(2^{NB}) = NB$ bits and $\log(2^{NG}) = NG$ bits rather than the ones I do, namely $\log(2^N B)$ and $\log(2^N G)$. It is because, in our model, the world is *already organized* into discrete unit "buyers" and unit "goods" with *N* attributes belonging to each. Sellers and buyers do not confront the "raw" complexity represented by the products *NB* and *NG*. The degree of *a priori* organization involved in dividing the world into *buyers* on one hand and *goods* on the other is given by $R_S + R_B$ where

$$R_B{}^2 = NB_s{}^2 - [\log(B_s) + N]^2, \text{ and}$$
$$R_G{}^2 = NG_B{}^2 - [\log(G_B) + N]^2.$$

Recall also that all logarithms are "base 2."

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[32] This is not to say that they are conformists who deliberately or even unconsciously *imitate* one another or coordinate their actions; just that they have the same needs and tastes, similar incomes, etc., something which *could* happen quite independently and naturally. Leaves on a tree do not imitate each other. They just grow from the same tree. Our equation assumes that such like-minded buyers do *not* coordinate their actions , but compete with one another for the available goods. When a large number of buyers *do* coordinate their demand for a given product and act consciously as a group—i.e. act as one superbuyer who will or will not buy at a certain price—they acquire the bargaining power to make even large sellers compete with one another to bring their unit prices down to unit marginal costs. Here, $\beta = \gamma = 1$ and $B_s \leq G_B$, making $P_s \leq K_s$

Forming such coordinated buying cartels was precisely the business strategy of the so-called online "demand aggregators" like MobShop, Mercata, PriceLine Webhouse Club and LetsBuyIt.com. These companies presented suppliers with large orders for specific items (brands and model numbers)—orders from groups that they had help form on their websites. At the time of writing these companies were going out of business, however. It seems it was too difficult to create buying cartels in sufficient number to cover the costs of organizing them—i.e. of providing the artificial *R*, as it were, of people (buyers) who had nothing else in common, and who actually might have preferred a slightly different product to the one they consented to buy on the promise of cost-saving. "Consumers just never warmed to the aggregated buy concept," said one analyst. "What was missing was a better sense of affiliation, like group buying for Harley riders or something like that." (Laurie Flynn, "MobShop, a Group-Buying Site, Drops Its Consumer Business," *The New York Times*, January 15, 2001, C2.) There were also time-delays as group-formation and bid tendering proceeded.

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[33] Goods can be all-but-identical, like eggs or cans of Coca-Cola, only because (and to the extent that) other factors such as where they are bought and when introduce variation and differentiation into the market. (Some examples of "when-differentiation" in products: the freshness of foodstuffs, the model-year of used cars otherwise identical in mileage and condition. An example of "when-differentiation" in tokens: movie tickets which are all one price and give purchasers the right to sit in any seat in the theater—catch!—*that isn't already being sat in*. Hence the earlier one buys a ticket, the earlier one can get in, and the greater is the choice of seating—a kind of freedom—that the ticket, physically identical to any other, delivers. Ditto with bus tickets, Southwest Airline tickets, and many other "open seating" events.) Were all members of a set of goods *perfectly* equivalent in every respect, including price—that is, if $\gamma = 1$ when every salient attribute of the set is taken into account—*then there would be no reason to choose one seller over another, or one particular instance of the good over another*. Indeed, there would be little reason to have a marketplace at all because any differences between total supply and total demand could be handled more efficiently by other means of rationing. They might become public goods.

Indeed, technically, if every single physical attribute of the good(s) is taken into account, including spatiotemporal location, and $\gamma = 1$, then there cannot be more than one such good. This is a restatement of Leibniz's principle of the Identity of Indiscernibles, which is to my mind a very deep idea.

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[34] Interestingly, μ does not reflect income inequality (among potential buyers) in any simple way, although one would think it might or should, in analogy to what economists call "income elasticity of demand."

To see this, imagine that for a particular good, the people who value it and whose incomes render them able to meet the seller's asking price earn an especially wide range of incomes. (It follows that they each have a wide spread of uncertainty or flexibility in their valuation of the good. Cf. Figure 8.7.) With shortages of G, it is likely that the going price will be run up, but slowly, as the richer members of this income group come to have it. Each step of the price rise can be relatively large, but it excludes only a few buyers each time.

Now imagine that the people who value the good and whose incomes allow them to meet the seller's asking price earn an especially *narrow* range of incomes. Let us stipulate that these people equal, in total number, the number of potential buyers involved in the first scenario. (It follows that they have comparatively little uncertainty or flexibility in their valuation of the good.) With the same shortages of G, the going price will also run up higher—not much higher, but more quickly because small changes in price make dramatic differences in the number of people who can or want to afford the good, which quickly changes B/G.

"Sensitivity to competition," μ, can be construed as either the *degree* of price change with change in *r* or the *speed* of that change, or both. In the main text it is thought of as both; as the above argument illustrates, μ does not directly reflect income inequality since the degree-of-change and speed-of-change would *roughly* cancel each other out in any sum or product or average of the two measures that tried to describe the general effect of income inequality.

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[35] When the goods and buyers are such that β, γ, and μ are very low, a marketplace is unlikely to exist in the first place. More likely is it that sales are negotiated over time, and contracted over the longer term. This is a lesson that Internet market-makers, especially in the business-to-business ("B2B") arena, were to learn the hard way in 2000 and 2001. With both β and γ nowhere near unity—parts for a Ford dashboard being different to the "same" parts in a GM dashboard, so highly engineered and specified are they—there was not enough volume to sustain a marketplace at all. Price was not the major factor: so was quality and delivery and guarantees. The only online B2B markets to thrive were for those for commodities such as office and janitorial supplies, i.e. markets where both β and γ were approximately equal to 1.

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[36] The Lerner Index, Abba P. Lerner's measure of "monopoly power," is similar:

$$monopoly\ power\ = (price - marginal\ cost)/price,$$

or, in our nomenclature $(P - K_s)/P$. Note that $(P - K_s)/P = 0$ when $r_s^{\mu} = 1$, and is equal to 1 when $r_s^{\mu} = \infty$. On the assumption that $P_s = P$, the link is this:

$$(P - K_s)/P = (1 - 1/r_s^{\mu}),.$$

If $K_s > P$, the seller is losing money. Here the Lerner Index goes negative, while our measure of market power, r_s^{μ}, drops below unity, descending to 0. The average market power of a given industry times 100 (i.e 100 r^m) would be unlikely to persist at more than a few percentage points higher or lower than the average return on capital.

It should go without saying that "*r*" has no direct relation to "*R* " (organization); and that "*s*" or "*S*" (seller i.d. or number of different sellers) has nothing to do with "*S*" or "***S***" (denoting satisfaction in Chapter Six.)

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[37] The largest threat to tacit price-maintaining cooperation among producer-sellers generally comes from *foreign* competition. Why? Because foreigners (and recent immigrants) are always (it is claimed) "unscrupulous"—that is, they undervalue the legitimacy and approval tokens whose exchange bind countrymen into supporting their local common good. They also work too hard for too little, and get help from their governments. This justifies import tariffs, high barriers to market entry for foreign owned companies, and the like. Absolutely intolerable is it for a foreigner to have monopolistic market power.

Actually "foreignness," "not-one-of-us-ness" is a marvelously relative term. It can apply to the people of the next town over, or even of the next neighborhood over in the same town. Here the largely invisible trade in legitimacy and approval tokens can create boundary effects that make themselves felt in the surface economy of material goods and services, effects that outside economists and planners write off to irrationalities or to inexplicable "cultural factors" rather than of see as the action of *another economy* which obeys economic laws that they could understand.

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[38] These attributes make the goods "positional goods." Such goods are able to fetch prices far above their costs of production, as many economists have observed. (See, for example, Fred Hirsch *The Social Limits to Growth* [Cambridge: Harvard University Press, 1976] or Robert Frank, *The Winner Take All Society* [.....]).

If the remaindered goods have to be priced below cost to "move" them, then the average price of the whole stock of goods comes back to normal. Land developers often face this situation: not all the lots in a larger subdivision, even if equal in area, are perceived as equal in value by potential buyers. Indeed, no two lots are likely to have the same geometry, degree of amenity, accessibility, soil quality, views, proximity to desirable/undesirable neighbors, etc. This makes γ rather low, while leaving β rather high (most people want the same thing). Thus are the prices of lots in a new subdivision quite different, and subject to bargaining between buyer and seller.

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[39] The effect of lowering μ is to reduce the *price range* over which the supply and demand curves look like Figure 8.2. For example, if we lowered μ to 0.7, the price range shown on the Y-axis would be 0.9 to 1.1. This illustrates how μ serves as a measure of price sensitivity to competition, explained by my theory as statistically correlated with the degree of "match" between buyer's preferences as a group and goods' attributes as a whole.

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[40] This is a simplification, of course, and not always true. Firms might choose lower-than-maximum profit margins so as to forestall the entry of competing firms. Firms might also want to *grow*—i.e. increase market share—which might mean forgoing present profits in order to establish effective monopoly and to secure handsome profits in the future. Based on promises of this, the focus of management might also be success in capital rather than retail markets, i.e., on encouraging investment, increasing the firm's stock market "valuation ratio" (share value to book value) which lends prestige to the firm's managers as well as money to their stock accounts.

Certainly, to believe economics texts is to believe that very few firms are really in business to sell "great products" or to provide local pleasures and local employment, although these motives might well appear in their advertising. Only among small privately-owned firms are these social and "psychoeconomic" motives likely to dominate. For these firms, profitability in monetary terms is the *sine qua non* of *staying* in business and nothing else; for these firms, normal profits are enough.

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[41] Two other things she can do we will discuss later, to wit, increase the *value* of the good to his potential buyers, and/or increase buyer wealth.

One other strategy is more complex yet, requiring a degree of collusion with the other sellers, implicit or explicit, as well as some cultural and/or legislative persuasiveness: It is to conceal from the consumer, or to justify, a substantial amount of profit already buried in the costs considered "normal" for that category of good's production and marketing, K_S, and then to prevent the entry of new sellers who appear willing to pass on only actual costs to consumers.

Let us look at this a bit more closely. With Equation 8.3, per-unit profits are easily expressed (omitting the subscript "*s*"):

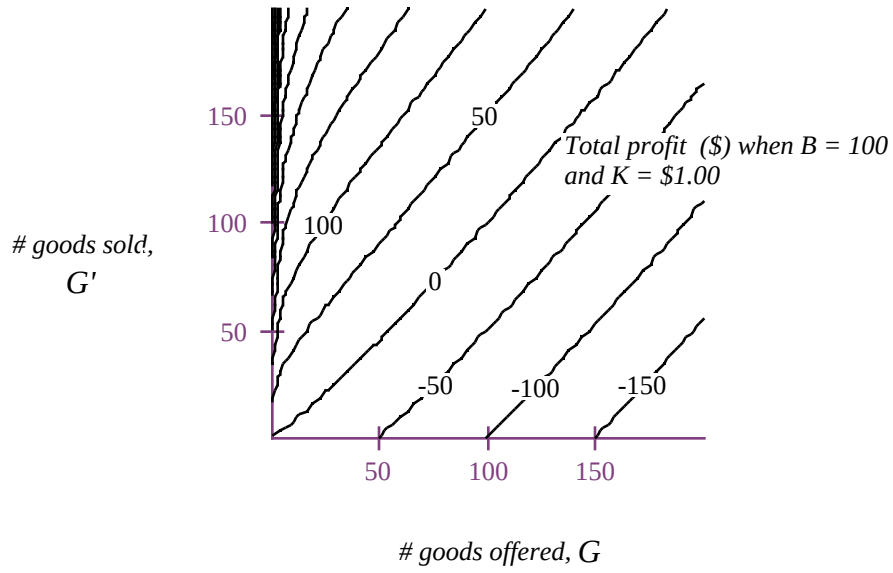
$$\begin{aligned}\text{Average Per-unit Profit} &= \text{Unit Price} - \text{Average Cost of Production per Unit} \\ &= r^{\mu}K_1 - K_2\end{aligned}$$

Here, unlike in the main text, and in order to throw a little more light on the situation, I distinguish between the normal, expected, or industry-standard value of K, namely K_1, and the real marginal costs per unit of the individual firm, K_2. This is because the price that can be charged in the marketplace from buyers-at-large is often built upon the *perception* that the buyers have of the ordinary costs and normal profits of that *sort* of firm. Doctors are expected to be well-off. Lawyers too, and CEOs of financial services companies, and so on. The *real* costs for any one of those firms (and people) might be quite different, however, and yet all share an interest in misrepresenting it as high. To the extent that $K_2 < K_1$, and for as long as $K_2 < K_1$, any firm (or oligopoly of firms) can enjoy handsome surplus profits.

With between-seller price competition, however, with the diffusion of new production technologies, and with information as to real costs sooner or later made available to buyers, K_1 tends to become equal to K_2. Surplus profits disappear. When this happens we can write

$$\begin{aligned}\text{Per-unit Profit} &= (r^{\mu} - 1)K, \text{ making} \\ \text{Total Profit} &= G([r^{\mu} - 1]K) - (G - G')K \\ &= [G'r^{\mu} - G]K,\end{aligned}$$

where G' is the number of goods actually sold and $(G - G')K$ is the cost of having produced *but not sold* $G - G'$ goods. We can see why it is often in the interest of the seller to increase G' relative to G, i.e. to segment the market into sub-markets so that each one is a "seller's market" relative to the number of goods, G, locally offered and on display, even to the point of selling not-yet-manufactured goods. (Note: $G \geq 1$, but G' can be any number between zero and B.) Put into diagrammatic form:



Remember that "profit" and "total profit" here exclude the non-negotiable and (usually) minimum "normal profit" built into K_s by every producer-seller to cover the costs of doing business in the long term. As Tibor Scitovsky points out, if producers were to sell their goods at a price equal to their actual marginal costs, and if those marginal costs did not already include a normal-profit amount, there would be no incentive for any producer to increasing production quantities and, though marketing, the number of buyers. That is, there would be hardly any reason for quantitative, let alone qualitative, growth. (See Tibor Scitovsky, "A Neglected Benefit of Monopoly Capitalism," in *Human Desire and Economic Satisfaction* [Brighton, U.K.: Wheatsheaf Books, 1986].)

Some would call our "total profit" *surplus profit* or long-term *quasi-rent*, "long term" because of the presumption that between-seller competition typically drives *P* down to *K*, and may even erode the normal profit component of *K*. When a firm invests its surplus profits in itself, in the form, say, of internal specialization, retraining, and hiring, or new capital equipment, or research and development, or extra quality control, or whatever, it is doing two things. First, it is ensuring—or at least promoting—its future growth and/or security in the marketplace against competitors; second, it is taking surplus profits and re-categorizing them as normal. This protects the firm from paying taxes on the profits, and it helps change consumers' perception of the prices they pay from "unnecessarily high" to "normal." The true costs of manufacture are unknown to consumers, and, competitive though they are with each other, producers of like goods have no interest in informing them otherwise.

Note that Equation 8.3 has little to say about the profits and losses accruable to the seller from ups and downs in his company's stock price, and little to say about the interest and dividends that might earned by the buyer in saving/investing his assets in the firm that *makes* the goods, say, rather than buying the good itself. Both of these purely financial-market narratives occur outside the occasion of *this* market for goods, services, or tokens, entering it only indirectly and rudimentarily in K_s (which includes the cost of borrowing money capital), and later in W_b, the buyer's disposable income.

The very concept of "profit" is quite problematic. Mark Obrinsky's survey and critique *Profit Theory and Capitalism* (Philadelphia: University of Pennsylvania Press, 1983) argues that *no* economic theorist, from Smith till today, understands profit well at all. It would take another book to compare and defend the view of profit I have outlined here against all extant and competing views.

Note, incidentally, that "percent mark-up" is given by the expression: $100(r-1)$.

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[42] In purchasing art for investment purposes, for example, it is not uncommon for wealthy collectors to use anonymous agents to carry out negotiations with the artist (or their agent), or to bid at auctions, lest knowledge of the collector's great wealth itself run up the price.

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[43] See Arjo Klamer and Deirdre McCloskey, "One Quarter of the GDP is Persuasion," *American Economic Review* 92 (May 1995): 191–195.

At the time of writing, realtors are making arguments for why they deserve their 6%-of-sales-price fee, even if the property listed was found online—say, at *www.realtor.com*.. Their arguments are based almost entirely on claims about N's large size (N_K and N_J) as well as how low β, γ, and μ (match) are. To the architect, the realtor's estimate of N is still far to low.

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[44] Strictly speaking, he re-sells the good to even these individuals in an exchange of *tokens*, to earn their approval, say, or to do his duty, or to attract new friends, and so forth. For simplicity's sake, I shall neglect the effect of this "shadow" re-seller perspective on the valuation of the good from the buyer's point of view. But it is salutary to note that no exchange happens in total isolation: all are evaluated with a view to past and future exchanges, with the same *or with different* parties, with an accuracy and salience that grades away over time.

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[45] A unit good might actually be a unit-lot of the actual good, e.g. a dozen eggs.

A note about what economists call reservation prices and offering prices. The "reservation price" of a good is the most a buyer is willing and able to pay for it. Unlike offering prices, reservation prices are not made public, i.e. "offered." In our analysis, offering prices and reservation prices are treated as equivalent, although it is easy to construct bargaining situations where they would not be, at least at the start of bargaining.

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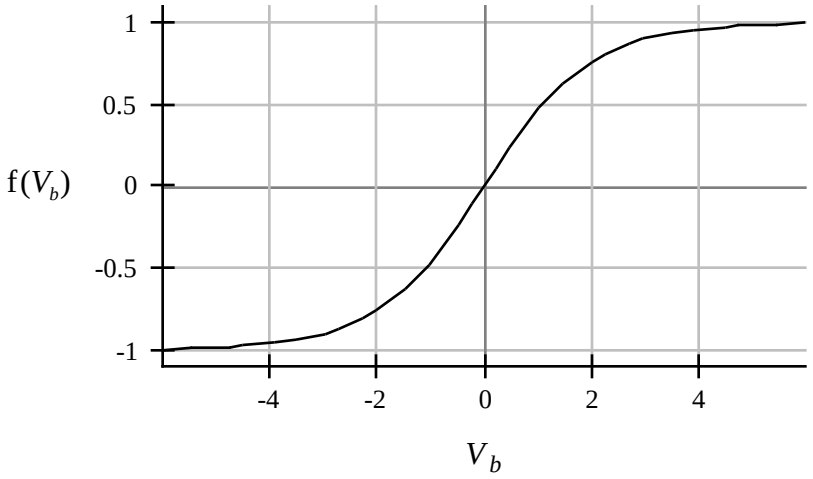
[46] This function can take many forms. The one that seems most economical and correct to me is

$$f(V_b) = \frac{2}{1+e^{-V_b}} - 1,$$

where e is the natural constant 2.7183..., V_b is the *value* of the good to buyer b—which is the happiness, $\Delta \boldsymbol{S}$, that the buyer anticipates experiencing on account of the good, apart from the (dis)value of paying the price. This is how

f(V_b) behaves:



The unit of value, theoretically, is bits. I say "theoretically" because normalizing S_{max} to unity for each need distorts the basis for the measurement. In any empirical work, S_{max} for each need would have to be determined within the experimental framework of tasks, questions, and so forth. Cf. my remarks on this question in Chapter Six, page 8.

The *degree* of anticipation—or "strength of belief," to use Keynes' terms—with which the buyer anticipates that the good in question will give him the satisfaction he imagines, is here implicitly folded into the measure of *V* itself. That is $V_i = p(V_i)(V_i)$ where $0 \leq p(V_i) \leq 1$ is the buyer's probability-like weighting applied to the value of *i* when *i* is thought of as a "sure thing." It is his or her "subjectively expected marginal utility," to use the language of decision theory. The introduction of $p(V_i)$, and the distribution of this weighting over all the options-to-buy facing the buyer—and therefore the complexity of his choice—will not be dealt with here. We are concerned with the average buyer's valuation and the behavior of a given good *i*. For simplicity, we can assume a normal distribution of V_i around its average value.

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[47] $V_b = \Delta \boldsymbol{S}_b$ varies between –6 and +6 because of the assertion from Chapter Six (p. 26) that $\boldsymbol{S} = S_1(1 + S_2(1+ S_3(1 + S_4(1 + S_5(1 + S_6)))))$, numbering the needs 1 (survival) though 6 (freedom), and under the assumption that S_{max} for any need is equal to 1.

Note also that f(V_b) varies between –1 and + 1 as V_b varies between –6 and +6, and that $f(V_b) \approx V_b/2$ when $-1 < V_b < 1$, that is, when the value of the good is "small," meaning you would spend less than half of your income on it in that period.

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[48] There is inherent uncertainty in assessing *W*, not because we cannot find honest data about wealth or income, but because the definition of forms of wealth and their "disposability" varies with the *liquidity* of the asset at hand in relation to the *urgency* of the need to be satisfied.

For example, one does not usually count one's house, or mortgage loan equity, or retirement savings, as a part of *W* when contemplating the purchase of a camera or clothing. One buys these consumer items with money already in the bank in demand-deposit form (e.g. a checking account), with money that is recently saved or soon to be earned from a steady income. Under extreme circumstances however, like a medical emergency, one may indeed sell one's house or make loans against one's retirement account in order to pay the hospital bills. At the other extreme, the decision to purchase a very small item, such as, say, an ice-cream cone, is often made under the assumption that *W* should be the amount of cash in one's pocket at the time. And often *W* is thought of as an amount pre-*budgeted* for a certain category of good, like food or clothing or entertainment. This breaks the value judgment into two: W_x/W_{total} which is proportional to the value of all goods in category *x*, and P_i/W_x, which is

proportional to the value of a particular good *i* "inside" that category. While mathematically P_i/W_x, times W_x/W_{total} equals P_i/W_{total}, it is not clear that this is the case *psychologically*, as budget limits are often self-given and therefore manipulable. Indeed, many sellers will try to show potential buyers is how "properly" to calculate *W* such that *W* is as large as possible.

At the macroeconomic scale, related problems bedevil defining the *proper* measure of the national money supply. Economists use several: *M1, M2, M3* and so forth, and there is often disagreement among them as to which to use when, and why.

Standardly, "disposable income" simply means money income (per period) remaining after tax obligations have been met. But inasmuch as people are existentially free not to pay their taxes (for a while), we could treat total realizable income as "disposable" (for that while). Why do we pay taxes? In order to maintain our legitimacy in society, and to avoid punishment. In this sense, taxes are merely one high-value expenditure among others. Then, indeed disposable income = total income. But what of savings regimens, such as saving for retirement? At the macro level, Keynes posited a "propensity to save" that we would have to classify as part of our (aggregated) need for security. But what about health insurance premiums, which also address our feelings of security? These monies, too, vary in how voluntarily we part with them and in their liquidity, and both make substantial chunks of real after-tax income unavailable for choiceful spending.

Clearly, then, for any empirical study in which the investigator wants to be able to say what someone can *really* afford, a precise definition of *W* is called for, and must be consistently applied throughout the study. Typically, *wealth* (the present money value of holdings of stocks and bonds, of real estate, ownership in a company, etc.) is not considered as income or as convertible to income, although one might add to income—via what economists call the "wealth effect"—some percentage (around 3%, though this is disputed) of the *change* in one's wealth over some recent period (say a year) as a change in spendable income for the subsequent year.

In our terms, the "wealth effect" is intended to capture the likelihood that the security provided by wealth itself would lessen security-related expenditures out of regular income, thus freeing it for other types of spending. It reflects also the increased spending that normally accompanies the increased confidence that comes from increased wealth. Of course, decreased wealth engenders opposite effects.

Implications remain, however:

For example, one of the more powerful theoretical tools applied by economic theorists is the idea of the *budget constraint.* This requires that every buyer will, indeed must, make their purchases so that the sum total of the prices of their purchases is equal to their income for that period. Without this tool, half of microeconomics (as an academic discipline anyway) would disappear! One has to leave aside the flexibility that is introduced—if mainly at the upper income levels—(1) by debt and deficit spending, (2) by endowments and resources of differing liquidities, or (3) by access to, and re-allocation of, income intended to build up surpluses for future expenditures, for successors, etc.

V does not vary linearly with f(*V*), especially for large values of *V*. This fact compromises the confidence with which budget-like constraints can be proposed and modeled in the realm of value itself.

When it comes to the devising and trading of tokens other than financial instruments, the constraint of a budget is further softened. I say "softened" and not altogether "dissolved" because we all know that there are real *limits* to our time, creativity, patience, authority, goodwill, and so forth. Although these limits are inherently flexible, we can feel their approach quite definitely, like magnetic repulsion fields or the edges of cliffs, like impending climactic dissatisfactions. Are these limits any more or less flexible than what can be achieved by the average "creative accountant" in the realm of business? It's hard to say.

We must conclude, then, that the idea of a budget constraint in psychoeconomic theory, when neither money nor time is the complete measure of value, *can* be used, but with caution.

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[49] There are other things that Equation 8.4 cannot handle in this basic form—for example, the effect on P_b of various time-deferred payment schemes, discussed in Chapter Six under the rubric of "the immediacy effect." We will not attempt to model these effects by developing Equation 8.4 any further. This is work for the future.

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[50] Specifically: $V_b \approx -\ln\left(\frac{2}{\frac{P_b}{W_b - K_b} + 1} - 1\right)$

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[51] My treatment is similar but not identical to how microeconomic theory treats the subject of the origin and meaning of prices from the consumer-buyer's point of view using marginal utilities. See Appendix 8 for a comparison.

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[52] In Chapter Six we discussed the climactic good whose "climacticness" consisted in its value's increasing to follow the increasing time and money spent trying to acquire it.

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[53] See Werner Hildenbrand, *Market Demand* (Princeton University Press, 1994) for empirical research on expenditure dispersion as a function of income level that confirms this normal (or Gaussian) distribution of buyers around an average. The edges of the shaded area representing the value range of the hypothetical good in Figure 8.5 might reasonably represent one standard deviation on either side of the mean value—meaning that 68% of the potential buyers of a given good at a given income level will make offers between these two limits. In practice, with all else equal, goods are likely to be priced slightly lower than the average of *P1* and *P4* because, across any income range, there are *more peopl*e with lower incomes than higher incomes, and sellers also price for sales *volume*.

It may at first seem odd that there could be a lower limit to the price of a good from a consumer-buyer's point of view, because it is usually the seller's willingness and ability to sell at a "loss" (i.e. at K_s or below) that governs the floor of a market price. But we are considering what most buyers would consider a reasonable unilateral offer. Besides, buyers are often not willing to pay less than what they think a good is worth, even if they think they could get away with it. To some extent, the price of a good is taken to be *evidence* of its quality and the legality of its acquisition by the seller.

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[54] Hildenbrand, *Market Demand*, 72ff. In his highly mathematical as well as empirical study, Hildenbrand also tries to show that the standard downward-sloping monotonic market demand curve of microeconomics is itself the outcome, or reflection, of this increasing expenditure dispersion with income. I do not follow Hildenbrand's mathematics well enough to incorporate it here, although my intuition is pleased by the proposition—which I see inherent in his argument—that the increasing freedom of the wealthy underlies the whole concept of "demand."

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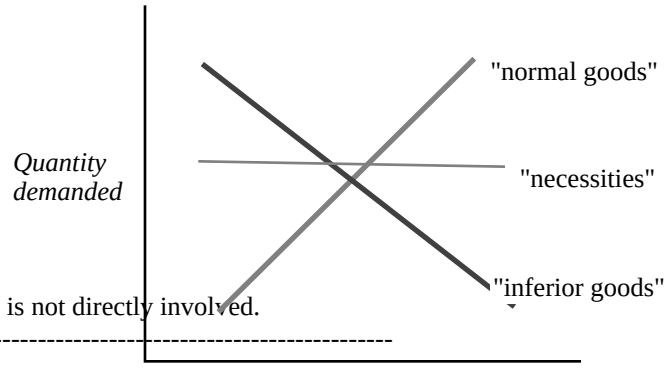
[55] According to C. Pass et. al. in *The Harper Collins Dictionary of Economics* (New York: Harper Collins, 1991), an inferior product is one "for which income elasticity of demand is negative; that is, as income rises, buyers purchase less of the product." A normal product is one "for which income elasticity of demand is positive; that is, as income rises, buyers purchase more of the product." This is illustrated on a graph called the Income Consumption Curve:



Note that price is not directly involved.

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[56] We might also note that certain goods change from superior to inferior as income increases. These are goods that are valued in social groups, defined by culture and income, that suddenly, as one breaks through that income barrier and/or changes one's cultural affiliations, become re-valued downward. For example, a working-class young man might spend ever larger proportions of his modest income on owning and enhancing a pickup truck, until

Can we generalize? Might it be that goods are "superior" *only* at the thresholds between social classes? Conversely: can we tell where class thresholds lie by examining what and how many goods change from superior to normal or inferior status? I think so, and feel sure that Paul Fussel, author of *Class* (New York: Summit Books, 1992 [1983]) would agree. See also Note 31 of Chapter Nine.

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[57] When $\gamma \approx 0$, every particular good is so different from any other that it cannot belong to any class; it is literally "in a class of its own." Similarly, when $\beta \approx 0$, buyers are so profoundly different to each other in their characteristics and wants that they cannot be induced to compete for the same good(s), much less act as a group or class of consumers. At this extreme, it is unlikely that the perfectly unique good would *ever* find its perfectly unique buyer. The seller of a merely *very* unique good may well have to bear a high carrying cost waiting for the right sort of buyer to come along (increasing K_s, which will raise his asking price) while the super-finicky buyer would have to accept a high time-and-trouble cost for searching, K_b. Although we can predict some intrinsic positive correlation between β and γ (after all, unique people look for unique products, as any boutique owner will gladly attest), it is in the interest of both seller and buyer to "uncorrelate" them. As I noted earlier, the seller works to make β high and γ low, while the buyer works to make γ high and β low.

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[58] A few successful people are apt periodically to sabotage their life's arrangements just so that they can rise up again, enjoy the climb, re-feel the needs. Others sabotage themselves *before* they are successful, this out of fear of change, out of worries about legitimacy, apprehensions about what they would really do with their freedom, and so on. This is unfortunate; this is unhealthy. And if it intentionally drags down or sabotages others, it can even qualify as evil, as I argue in Chapter Ten.

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[59] Fully expanded, Equation 8.5 looks like this:

$$K_s\left(\frac{\beta}{\gamma}\frac{(\log B_s + N)}{(\log G_{B_s} + N)}\right)^{\mu} = P = \left(\frac{2}{1+e^{-V_b}} - 1\right)W_b - K_b$$

Now you know why it's not presented in the main text.

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[60] We can always consider it be contained in P_b, which then becomes b's outlay, Y_b, Similarly, marketing and other indirect costs are contained in K_s.

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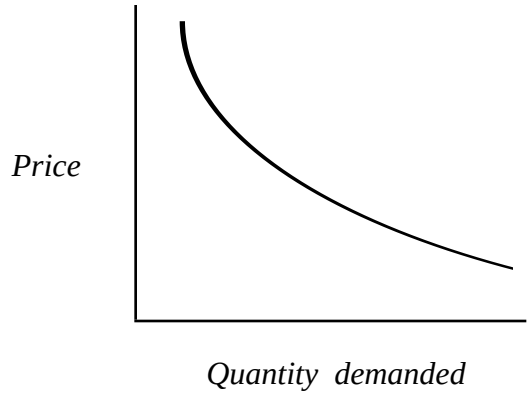
[61] Through all economics textbooks, this is a typical "downward-sloping demand curve" (though sometimes it is a straight line):



Here *price* is the independent variable and *quantity-demanded* is the dependent variable: as the price of a good drops, so more of the good is demanded (and presumably actually purchased). The question is: why?

Paul Samuelson, in his canonical introductory text, *Economics*, more or less dismisses income distribution explanation of the "origin" of downward sloping demand curves. It is mentioned by in one or two sentences and then dropped, presumably for being uninteresting. More interesting to Samuelson is the relationship of demand to want or desire, in other words, the relationship of demand to the "willingness" part of the "willing-and-able-to-pay" criterion, and thence back to the principle of diminishing marginal utility (with quantity consumed) and Gossen's Law of Satiable Wants.

If Samuelson were alone in this semi-dismissal of income distribution we would not bother to take note. But the self-evident connection between demand and the general ability to pay, like a persistent slope of land underfoot, is overlooked almost everywhere in the basic economics literature...where it appears, much modified, as "the income effect." The income effect derives from the observation that as a given good becomes cheaper so the consumer on a fixed income becomes in effect *richer* by the amount of money he "saves" buying it. With this extra money he can now buy more of the good, or some other good he wants more. But to identify an income effect is really not the same thing as to declare what every businessman knows, that "…lowering prices brings in new buyers" as, indeed, Samuelson cursorily puts it in *Economics* (New York: McGraw-Hill, 1970), p. 58.

I have found one modern exception to rule of short-changing income distribution as an explanation of downward sloping demand curves: Robert Heilbroner and Lester Thurow in their *Economics Explained* (New York: Simon and Schuster, 1987), pp. 160 ff.

The redoubtable Adam Smith, of course, was there first. From *Wealth of Nations* (New York: Prometheus Books, 1991 [1776]), p. 59:

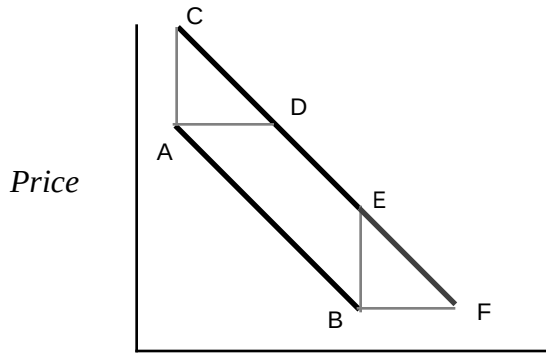
> (T)hose who are willing to pay...the natural price...which must be paid to bring it thither...may be called effectual demanders, and their demand effectual demand, since it may be sufficient to effectuate the bringing of the commodity to market. It is different from the absolute demand. A very poor man may be said to have in some sense to have a demand for a coach and six; he may like to have it; but this demand is not an effectual demand, as the commodity can never be brought to market in order to satisfy it.

Ever since Smith, economists have distinguished *effective demand* from absolute *demand*: effective demand comes from people who want *and can also afford* the good. Absolute demand comes from everyone who just *wants* it. When prices drop for a given good, it is the *effective* demand for it that increases, even though people may desire the good with less intensity. Since it is effective demand that we plot in diagrams such as the above, the economist argues, income distribution effects are already built in, taken account of. No theorist I know of has made the case

that the transition from the *willingness* to pay to *ability* to pay—from won't to can't—is most often a gradual one, based on valuation as much as on wealth. One actually decides again and again on what one *can afford*. The line between effective demand and demand is quite soft for this reason. Without changing valuation and income (or wealth) distribution in one picture, one diagram, one equation, the concept of demand is incomplete.

Thomas Malthus might have been the first political economist to make clear that the *intensity* of desire for *x* (which is our *V* of x) was the co-driver of "demand" with (1) the quantity of the good wanted per person, and (2) the number of people wanting to consume that quantity. In correspondence with David Ricardo on how to measure demand, Malthus wanted to distinguish the "intensity of demand " from the "extent of demand." In modern terms we would say that Malthus wanted to distinguish *upward* movement of the demand curve ("intensity") from *rightward* movement ("extent"). This makes sense—up to a point. For it is mathematically impossible to distinguish, except by the exact location of its end points, whether a negatively sloped line segment has moved rightward or whether it has moved upward. Looking at the figure below, we are convinced that the solid line segment AB has moved upward only because its end point, A, has apparently gone to C, and B to E. If the endpoints of AB had gone, respectively to D and F, we would want to say that the demand "curve" had moved to the right. But what really can we say about the line segment DE? Is it an upward movement of the lower part of AB? It is a rightward movement of the upper part of AB? And what if AB had shifted *and* lengthened to CF?

Typically, the end points of demand curves and their exact lengths are not noted, or rather, are noted implicity because of the "narratives of shift" they support. But as we can see, these "shifts" are ambiguous in direction, and we can have only equally ambiguous interpetations of what they mean: an increase in intensity of demand? Or an increase in extent?



For a discussion of Malthus' vs. Ricardo's definitions of demand (and subsequently J.S. Mill's, and all economists up till the Marginalist's definitions of demand) see Thomas Sowell, *Classical Economics Reconsidered* (Princeton, New Jersey: Princeton University Press, 1994 [1974]), pp. 105–109.

In our theory, the dropping of the demand curve with greater consumption is handled by the fact that (usually) V_b decreases as the consumer has already consumed some more-than-one unit quantity of the good, all as we discussed in Chapter Six. When, therefore we equate Equation 8.3 with Equation 8.4 in Equation 8.5, V_b is *already* a magnitude lowered by the buyer's previous consumption of the good, i.e., by how satisfied he already is.

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[62] Interesting is when rents are income-indexed, i.e., subsidized so that they constitute a fixed fraction of a resident's income. Under these value-equalitarian rules, the relatively rich and the relatively poor might live in the same building, paying different rents for the same apartment. The result is usually deep social resentment and an outmigration of the wealthier tenants, as occurred at the Taylor housing project in Chicago in the 1960s. Rent control often has the same effect, in addition to suppressing the supply of new housing.

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[63] The key, often, is to index payment over time to the value experienced, making the first payment low or zero. A good method for addictive goods, too.

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[64] The typical rejoinder to all this from market enthusiasts, of course, involves pointing to failed examples of centralized economic management by socialist governments and the like. Markets may not be perfect, they say, but they are best mechanisms we have for increasing the common welfare while benefiting from and promoting our highest social ideals: individual freedom and responsibility.

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[65] To see how this formulation is both similar to and different from the standard formulation in microeconomics, which has the *ratio* of the prices of two goods being equal to the *ratio* of the marginal utilities of those two goods, see Appendix Eight.

Note also that whereas the marginal utility formulation of relative money prices, i.e.,

$$\frac{\$\ price\ of\ A}{\$\ price\ of\ B} = \frac{marginal\ utility\ of\ A}{marginal\ utility\ of\ B},$$

refers to judgments made by an average single buyer, our exchange formulae compare the value of a particular good and sum of money to two, quite differently motivated agents: a buyer on the one hand, and a seller on the other.

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[66] Would that this were always true! The prices of supermarket and convenience-store goods are often higher in low-income neighborhoods than in high-income ones. This seems to derive from two facts: first, that the *value* of the items themselves are likely greater for the poor than the rich, and second, that the poor cannot afford the cost of comparison shopping—the search time, the transportation costs—and are thus more subject to monopolistic profit-taking by store owners. Stores in poor neighborhoods must also cover the costs of crime, crime prevention measures, and higher insurance.

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[67] Curiously, because **Type I** exchanges remain a cultural ideal, buyers and sellers are often induced to under-represent their happiness. Why? Because the buyer would like the seller to think that they—the seller—got the best of the deal, that they—the seller—received the greater experience of value from the exchange and are thus obligated either to accept lower-value exchanges in the future or to offer something altruistically in recompense, like a gift. And vice versa: the seller attempts to convince the buyer of that the buyer got the best of it, and so shows no happiness for himself or at all. The contest ends when both parties act as though they were hardly benefited by the exchange. No-emotion-betrayed becomes a sort of equilibrium.

Of course, there are exchanges—rarely commercial ones but often social ones—in which one party will *over*-represent their happiness. The logic of so doing is interesting. The one who gushes with gratitude might know full well that his or her display is known by the other to be insincere, but he or she is counting nonetheless on that aspect of human nature which makes people genuinely happy at the apparent happiness of others in spite of themselves. (I discussed some of this in Chapter Six). This involuntary response—this residue, this echo of fellow-feeling—leaves its mark, and thus an obligation towards the one who caused it. Implicitly if not explicitly, the gusher also compliments the other for his magnanimity and capital endowment: so generous, so smart, so sensitive, so wonderful just to *see* you...! And if the gusher's insincere display of pleasure forces the other person to produce an equally insincere display of pleasure for the sake of *appearing* to have made a **Type I** exchange, then this is all the better for the gusher: both parties now have equal standing where they did not before. Moreover, the precedent for high-value **Type I** exchanges with each other in the future has been established (or at least of *apparently* high-value **Type I** exchanges, until, by chance, or mistake, or, buckling under the weight of their own insincerities, one party offers something of real value to the other...).

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[68] In other words, auctions, bargaining, "voting with one's dollars," competing for customers, etc., etc., are all market processes that in ideal markets would push $P_b(g)$ and $P_s(g)$ towards one another *and* to a "just right" level, where "just right" means: that magnitude of $P(g)$ at which the value of the *whole* exchange *is* both positive and equal to both parties, buyer and seller, given that they each value the good itself as they do. (To illustrate this claim: On a

scale of –6 to +6, let $V_b(g) = 4$ and $V_s(g) = 1$. There will then exist, says our economist, a market price P(*g*) *such that* $V_b[P(g)] \leq 4$ and $V_s[P(g)] \geq 1$. Moreover, there will exist a market *process* that will "find" this happiness-equalizing transaction price.)

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[69] Research shows that consumers *do* care about fairness in the marketplace, believing that retail sellers have a right to make normal profits as well as the right to keep any profits above this level earned through new, internal efficiencies and even through lower wholesale prices. Consumers reject, however, price increases due only to a seller's increased market power. Consumers develop "reference-level" prices for goods—prices they have gotten used to, prices that now comfortably represent how much they value the good—and they are suspicious of any sudden change in asking prices relative to these reference-level prices. This is what lets them allow retailers to take most or all of the gains of their new, internal savings, and what tempts sellers to mis-explain price increases as being due to unspecified "increasing costs" when in fact they are actually due to new market power, r^{μ}_{s} (caused, say, by the closing down of the seller's nearest competitor).

To take another example, why do beach cottage rental rates dip in the winter and rise in the summer? One reason only: fluctuations in the quantity demanded. But consumers are apt to accept the price change on different grounds: because the good "being-at-the-beach" has greater *value* in the summer than in the winter. The buyer's perspective rules. But buyers will not readily accept *auctioning* off the last remaining cottages at the beach, seats at a movie, or rooms at a hotel to the highest bidder. The airlines' practice of pricing identical seats on a particular flight so as to track *B*/*G* changes over time has most people riled—especially, of course, those people who find out that they have paid above-average prices. Airlines can get away with this up to a point because they do not publicize the variability of prices or make it easy for passengers to find out what others paid. See Daniel Kahneman, Jack L. Knetsch, and Richard Thaler, "Fairness and the Assumptions of Economics," in R. M Hogarth and M. W. Reder, eds., *Rational Choice: The Contrast Between Economics and Psychology* (Chicago: University of Chicago Press, 1986) pp. 101–116. See also Arthur Okun, *Prices and Quantities: A Macroeconomic Analysis* (Washington D.C.: Brookings Institution, 1981), p. 153, cited in the above, p. 112.

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[70] See Appendix Eight.
