The demand for and supply of assurance

Daniel B. Klein

Consumers want products and services that are safe and of good quality. Corresponding to such demand is the *demand for assurance*, before the fact, that the quality and safety will be as promised. This demand for assurance creates opportunities for entrepreneurs to profit by providing assurance – and they do so in a wide and largely unappreciated variety of ways. The essential dialectic of the free enterprise system *does* apply to assurance. Governments' quality and safety restrictions on the freedom of contract, known to be so costly, are, therefore, unredeemed and should be repealed.

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Introduction

Throughout the academy, scholars are coming around to the view that the consumption and production of bread and cheese are best left to voluntary processes (the free enterprise system). This new embrace of free enterprise extends sometimes even to housing, electricity, letter delivery and urban transit. But many who favour free enterprise for such tangible goods oppose it for certain intangible goods, looking instead to government production or intervention. The anthropologist/political scientist James Scott, for example, damns authoritarian planning but recoils from any very libertarian conclusions:

> 'The market is … dependent on a larger system of social relations which its own calculus does not acknowledge and which it can neither create nor maintain. Here I have in mind not only the obvious elements of contract and property law, as well as the state's coercive power to enforce them, but antecedent patterns and norms of social trust, community, and co-operation, without which market exchange is inconceivable.'[1]

In social intangibles, free enterprise gets low marks also from the political philosopher John Gray:

> 'The dynamism of market processes dissolves social hierarchies and overturns established expectations. Status is ephemeral, trust frail, and contract sovereign. This dissolution of communities promoted by market-driven labour mobility weakens, where it does not entirely destroy, the informal social monitoring of behaviour …'[2]

The Nobel economist Kenneth Arrow, too, suggests that the invisible hand comes up empty: 'Trust and similar values, loyalty or truthtelling, are examples of what the economist would call "externalities"… They are not commodities for which trade on the open market is technically possible or even meaningful.'[3] These writers join others who have argued that *laissez-faire* capitalism lives upon a stock of moral and social capital that it cannot maintain or replenish.[4]

Some intangible goods are poorly provided by the free enterprise system. Encompassing collective romance, the mutual co-ordination of shared sentiments and a common way of life, public experiences and rituals shared throughout the state – these are produced poorly by voluntary processes, in comparison with governments. But what of the intangibles mentioned by Scott, Gray and Arrow? Does free enterprise pale in comparison when it comes to truth-telling, trust, community and co-operation? Are their remarks too pessimistic?

Within the realm of social intangibles, there is an assembly of interrelated and mutually constitutive components: *promise*, *assurance*, *confidence*, *trust*, *promise-keeping*, *trustworthiness* and *integrity*. These reside under the rubric of assurance, one class of the broad set of social intangibles. Many regulators in the pessimistic vein believe that the components of the assurance rubric cannot be left merely to the invisible hand and a traditional tort system. To protect consumers, they impose quality and safety restrictions (as Arrow vaguely espouses[5]). I think such restrictions are bad for society and that intangible goods of the assurance rubric do best under the system of free enterprise.

Trusters and Promisers

Many transactions (commercial or otherwise) involve promises of quality and safety that cannot be fully verified before the fact. One party decides whether to trust the other to deliver what is promised. A consumer decides whether to trust the grocer or pharmacist or mechanic to deliver the quality promised. A bank decides whether to trust a prospective borrower. A landlord decides whether to trust a prospective tenant.

The canonical example is a creditor deciding whether to trust a borrower who promises to repay the loan. The trust relationship is clarified by figure 1. Truster (the creditor) decides either to trust or not to trust Promiser (the prospective borrower). If Truster decides to trust, then Promiser decides whether to keep his promise or to cheat. If he keeps his promise, then both parties achieve a happy outcome – each receives a payoff of 1. If Promiser cheats, he gets a payoff of W and leaves Truster with a payoff of -1. But if Truster initially suspects that W is greater than 1, then she suspects that Promiser will cheat, and does not trust in the first place. Deciding not to trust results in a pay-off of zero for both players. A lack of trust is a social tragedy because it prevents society from achieving outcomes in which everyone is better off.

I employ the following analytic scheme:

- Promiser communicates the content of the promise.
- Truster heeds any of a variety of *assurances* of Promiser's trustworthiness.

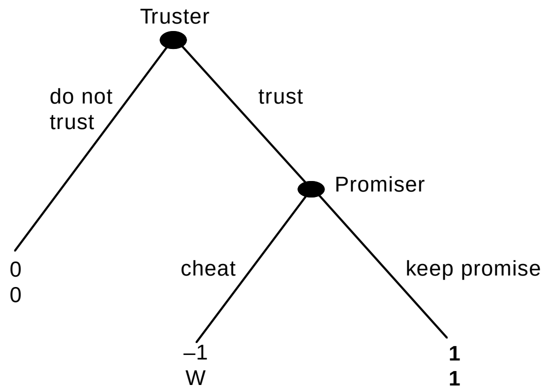

Figure 1: Truster decides whether to trust Promiser

- Truster thereby forms a level of *confidence* in Promiser's trustworthiness.
- The parties make the decisions as depicted in figure 1.

Of course, the parties may deviate from this scheme in many ways; they may negotiate the promise or restructure the relationship. The fulfilment of the promise may be made incremental rather than all-at-once, payment may be withheld until the promise is fulfilled, a security deposit may be demanded of the prospective tenant, collateral may be committed by the borrower, a warranty or guarantee may be attached to the promise, and so on. But with suitable interpretation, every transaction that entails an element of trust may be viewed in the manner suggested above.

The demand for assurance

Truster owns a car and the silencer is falling off. She has a demand for auto repairs. A local auto shop promises to do repairs honestly according to estimates. Pertinent to any such promise is the matter of Truster's confidence. Truster is the producer of whatever level of confidence she comes to place in the promise. Kelvin Lancaster suggested that we think of consumers as the producers of their individuated final goods – personal comfort, joy, stimulation, challenge, –*Z* goods, in Lancaster's lexicon – which they produce according to their personal production processes.[6] The inputs are bread, time at the tennis court, hiking gear, talking to mother on the phone, and so on – 'consumer goods' are actually factors of production. Likewise, Truster seeks to produce confidence at a level sufficient to trust Promiser. The 'inputs' are any of the variety of assurances of trustworthiness. Thus, corresponding to each promise entertained is a *demand for assurance*.

Adam Smith and Ludwig von Mises argued that within a free enterprise system the demand for *X* creates opportunities for entrepreneurs to profit by supplying *X*. When the *X* in question is bread or cheese, we put stock in this essential dialectic.[7] But when it comes to assurance, some academic economists see pervasive 'information asymmetries' and 'externalities' that would cause free markets to 'fail.' Jerome Rothenberg says: 'The market's myriad decentralized actions do not themselves ensure adequate safety. Centralized controls of various sorts are needed. These have been instituted in the form of regulations, constraints, information programs, licensing and certification.'[8] Rothenberg's statist pronouncements are, in fact, exceedingly rare among economists, but in that rare vein economists suggest other restrictions on the freedom of contract, such as housing codes, occupational licensing, pharmaceutical approval, consumer product recalls and workplace safety regulations.

Too often, economists conceive of demand and supply in narrow terms – as the exchange or delivery of something the quantity of which can be measured along a horizontal axis. Equilibrium models (such as textbook supply-and-demand) blinker our understanding of that intangible and highly particularistic transaction cost, assurance.[9] As noted, the demand for assurance corresponds to particular promises, so in making the final decision about auto repairs, Truster assesses the combination:

> (Thing-promised and its price, Confidence (Assurance), Other transaction costs)

Economists have neglected the corresponding demand for assurance. They have neglected the range of entrepreneurs (including the truster and the promiser themselves) who may find profit in supplying assurance.[10] My contention is that the free enterprise system mobilises an impressive, complex array of techniques to supply assurance, techniques which in one fashion or another overcome or circumvent any of the particular pitfalls noted by market-failure economists. The essential dialectic *does* apply to assurance, and restrictions (which are often very costly) are typically unredeemed.

The supply of assurance uses many methods and takes many forms. I attempt to catalogue the more important methods.

Extended dealings: time wounds all heels

Remaining on Main Street gives rise to the businessman's reputation – that is, relevant opinion

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of his trustworthiness. Continuance, repetition or the sharing of information among trusters – any of which are what I call *extended dealings* – open up vast institutional possibilities and provide fertile ground for trust. Our power to damage a promiser's reputation or to withdraw from dealings serves as a hostage that we hold against his promises. Career promisers build and protect their reputation, sensing the truth in the saying, 'Time wounds all heels.' (The phrase belongs to the late University of California, Irvine philosopher Gregory Kavka.)

Information sharing is a precautionary tactic used by wary trusters, but is unwelcome *only by untrustworthy promisers*. When trusters are pleased by the service, they increase their own patronage and spread the good word to other potential trusters, a sort of publicity that attracts customers. Alfred Marshall referred to 'that highest form of advertisement, which comes from the recommendations of one customer to another; and from the inducements which dealings with one department offer to dealings with another.'[11]

The umbrella of the brand name

In the United States in the nineteenth century, transportation systems and mass production created a national market. Consumers confronted 'a profusion of unstandardized packaged goods … [and] unfamiliar selling and processing techniques,' making it hard for them to judge such qualities as 'the freshness of food or the durability of clothing.' Historian Norman Silber tells how the market responded:

> 'To ease the minds of customers about problems of quality, reliability, and safety, manufacturers and advertisers appealed to consumers to buy according to brand names. National Biscuit, Heinz Soup, Armour Meat, Standard Oil, and other companies placed one banner on many different products. The consumer who found one product of a brand to be satisfactory, those companies suggested, could assume that all other products also would be suitable.'[12]

A machine-tool company such as Black & Decker makes hundreds of different products, but its customers will generalise to some extent about all of them based on their experience with only a few.[13] By enlarging its product base the company creates frequent dealings with many of its customers, giving them a better opportunity to evaluate its trustworthiness. In this way, Black & Decker becomes an institution providing assurance, as well as tools. The inventor-genius may create, *de novo*, in his basement workshop a fantastic new tool, but he has not produced a great *product* until he has created assurance. To achieve the latter he must collaborate with those who are practised in striving for and attaining trust; he may find it to his best advantage to sell his invention to Black & Decker and let the firm offer it under the umbrella of its brand name. In a sense, Black & Decker is the expert that tells the truster that the inventer's new gizmo is trustworthy. Black & Decker is not only a manufacturer, distributor and advertiser, it is also a knower that grants its own seal of approval. A 'knower' is anyone who knows valuable information about the promiser's trustworthiness (in this case, the inventor's).

Dealers make for extended dealings

Besides generating extended dealings with consumers, Black & Decker is at the centre of a starlike pattern of dealings with scattered inventors. Consider the similar case of the used-car dealer. The used-car dealer might have only isolated dealings with the sellers of used cars (like Black & Decker has with some inventors). The car dealer knows all about cars, so, unlike ordinary individuals, he deals *on an equal information footing* with the seller. By gathering up a stock of used cars from an array of isolated sellers, the dealer produces a fixed lot of cars and a basis for extended dealings with buyers. A buyer gets to know her car intimately, and if it disappoints her she will spread the news. Also, the dealer can offer guarantees and warranties. The dealer, then, besides reducing transaction costs and upgrading the commodity, transforms a series of isolated dealings – dyadic matching between many sellers and buyers – into a series of extended dealings: a fixed seller dealing with many buyers. Figure 2 shows the starlike pattern of interaction that the dealer has with sellers. In this manner he creates assurance, and he receives a payment for doing so.[14]

Reputational nexus and the middleman

When my neighbour recommends a house cleaner, I have greater trust in the house cleaner not only because my neighbour acts as a knower of the house cleaner's trustworthiness, but also because my neighbour's frequent dealings with her *enhances her trustworthiness in her dealings with me*. That my neighbour has relationships with both the house cleaner and with me embeds my relationship with the house cleaner within a *reputational nexus*, in this

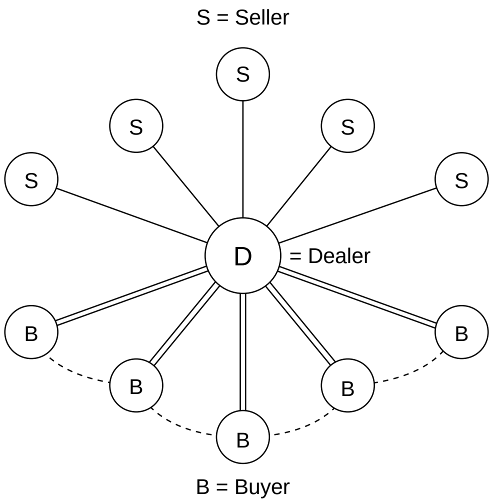

Figure 2: The dealer has a starlike pattern of dealings. With sellers he deals on an equal informational footing. Once he has gathered the goods he has extended dealings with buyers

case a triangle with extended dealings as each of the three sides. A reputational nexus is a constellation of extended dealings. Reputational nexuses exist in every area of life – the family, the church, the social club, the neighbourhood, the workplace and the marketplace. Our social linkages, including all our chatting, create a variety of nexuses that hang together to form one vast netting. Social network theorists figure that any pair of adult Americans can be linked by three or fewer intermediary acquaintances (p. 16).[15]

The role of the reputational bridge is best demonstrated by the retailer who, 500 times daily, serves as the link between a consumer and a producer. Many of the matches between consumers and producers are irregular – as when a consumer purchases an ulcer medication – but the consumer has extended dealings with the pharmacy, which in turn has extended dealings with the producer. As Janet Landa (1994) puts it, 'the middleman … mediates between traders … who do not trust each other but mutually trust the middleman.'[16] The middleman creates a bridge of trust between two traders (see figure 3).

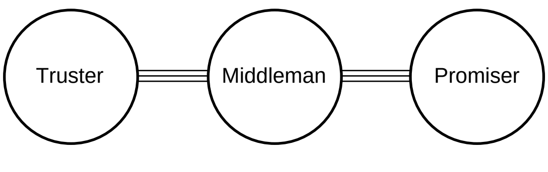

Figure 3: The middleman creates a bridge of trust between two traders

The university is a middleman. It contracts with the ultimate promisers – the professors – and builds a reputation for general quality with trusters – students and their parents. The firm, the chain-store, the university and the trade association are all different kinds of contract nexus. Simple contracting can produce assurance in much the same way that a chain-store does. The health care organisation contracts with physicians and hospitals: the patient has extended dealings with the HMO, and the HMO has extended dealings with the physician. The reputational role of the HMO ranges over a contractual continuum, from employment within the firm (the staff model), through intermediate stages (group practice, individual practice associations), to selective contracting with health care providers.[17]

The middleman also acts as knower

The retailer specialises in knowing good products from bad – by recognising brand names and seals of approval, by studying the information provided on labels and packaging, by conducting his own tests and inspections, by keeping track of customer complaints and purchase-returns, by hiring testing services, by following trade literature or consumer literature, by finding out whether other retailers carry the product and by chatting with colleagues at industry meetings. In his role as knower, the middleman works in information that is often too costly for the consumer to gather and judge herself. The premium she pays the middleman is a fee for the luxury of being both uninformed and covered.[18]

Knowers: fee for information

We might view gossiping as a sort of exchange. Exchanging information with acquaintances is one basis for our personal relationships. Information provision by gossip comes to be seen as a trade and as a source of profit. But how can providing information, which resembles a 'public good,' be a source of profit?

Information provision can be divided into two stages: generation and conveyance. The generation of information can take the form of testing, inspecting, researching, evaluating or interpreting. For example, Consumers Union does all of these when generating product ratings in *Consumer Reports*. Consumers Union makes profits by selling its magazine to trusters. Is its information a public good? Once one person has the ratings, she can indeed share them with her friends and acquaintances – she may even sell her expertise in some manner. If you can protect information at

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the conveyance stage, then you can appropriate its value at the generation stage. In the case of *Consumer Reports*, excludability is achieved in large measure by legal sanctions.[19]

Yet excludability is often simply a matter of technical limitations on the part of would-be free-riders. Information conveyance requires information receiving, organisation, storing, retrieval and transmission. For example, credit bureaux like Experian sell credit reports to trusters. They make profits by facilitating dealing, just as London parking entrepreneurs make profits by facilitating shopping. Experian releases valuable information to millions of parties every month, but that does not mean that they can appropriate the value of the information by reselling it. Besides contractual constraints, Experian provides highly individualised information. Its art is in making information complete, speedy and precise. For someone to free-ride on Experian by entering and competing, she would have to invest in vast data-processing systems. Kenneth Arrow jumps to conclusions when he says that in the absence of special legal protection, entrepreneurs cannot profit by selling information.[20] Like the private parking garage, the service performed by Experian is largely excludable.

Seals of approval and self-disclosure by promisers

When a knower generates basic quality information on a standardised product of interest to a wide class of trusters, reconveying the information might be easy, and he may go broke trying to sell information to trusters. In that case he goes to work for the promisers.[21] If a lack of parking spaces would prevent customers from coming to buy, and an independent parking entrepreneur could not meet consumer demand, then the retailer would himself provide space for customer parking, at no charge. Similarly, if a lack of information would prevent trusters from entering into deals, the promiser provides the information. If his quality is high, he has every incentive to self-disclose far and wide.

Pauline Ippolito remarks on how sellers self-disclose:

> 'Low tar and nicotine cigarette sellers have been vigorous in distinguishing themselves from the higher tar brands (going far beyond the mandated disclosures in advertisements). High mileage automobiles often feature this fact in their advertisements. Lower calorie foods (especially in the diet soda and frozen food categories) have been very successful in conveying their superiority to higher calorie counterparts. The same is true for high fiber foods.'[22]

When there is a way to demonstrate the uses, conveniences, durability or special pleasures of their products or services, sellers strive to do it. They employ salespeople to demonstrate and describe the product, they set up displays, they advertise product characteristics, they recruit the services of referral agencies, they offer guarantees and warranties.[23] Assurance is a necessary input to the consumer's production of her own confidence.

That the provision of information may exhibit 'public goods' characteristics is not a curse but a blessing. An independent knower often evaluates quality or safety. If the word is favourable, the promiser will spread it far and wide. Makers of computers and automotive products mention 'editor's choice' accolades in their advertisements, household products display the *Good Housekeeping* seal of approval, movie ads reproduce favourable and informative excerpts from the critics and restaurants display favourable dining reviews on their walls.[24]

Electronics manufacturers hire Underwriters' Laboratories (UL) to test and inspect their products and grant a UL mark upon approval. Companies and governments hire Moody's to rate their securities and use the ratings to market their securities.[25] Retailers apply for membership in the American Express network because such membership is a sort of seal of approval.[26] Promisers assure trusters by advertising in media that police the integrity of the promisers – a strategy first employed against the quackery of patent medicine by *Ladies' Home Journal*.[27] Another class of knowers paid by promisers, particularly relevant to the issue of occupational licensing, is made up of professional schools, technical schools, institutes and training programmes that grant degrees and certificates. These credentials are then displayed on office walls and listed in *curriculum vitae*. Transcripts and academic honours give a sort of rating system to the degrees. Each of these organisations grants its own seal of approval.

When a motorist pulls off the highway and into Joe's Garage for sudden repairs, she will have isolated dealings with Joe and feel vulnerable. The motorist would do better to pull into Midas, Shell or Mobil, because if the local Midas franchisee cheats her, it faces the prospect of punishment – not from her (the motorist), but from *the franchisor*. Franchisors police the service and probity of their franchisees using 'mystery shoppers,' audits, inspections and

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Knower is remunerated by

Knower engages in information	TRUSTERS	PROMISERS
GENERATION	Hired inspectors (for buildings, automobiles) Letters of recommendation Doctors Financial advisers Hired investigators American Automobile Association	Credential givers (universities, institutes, training programmes) Underwriters Laboratories American Dental Association *US Pharmacopoeia* Good Housekeeping Security ratings (Moody's, Standard & Poor's) Securities underwriters Financial and accounting audits Notary public Letters of recommendation Orthodox Union (kosher foods) Internet seals of approval (TrustE, Cyber Patrol, Safesurf, Verisign, BBB Online)
GENERATION AND CONVEYANCE	*Consumer Reports* Dun & Bradstreet Industry newsletters Hobby, product, and news publications Restaurant and movie reviews Employment agencies Brokers Internet chat groups (eBay)	Franchises Better Business Bureau Medical data banks Employment agencies Brokers (securities, real estate, produce, art, collectables)
CONVEYANCE	Gossip, e-mail Consumer credit bureaux	Referral services Advertising firms Signs, labels, packaging, displays, sales help Web pages

Figure 4: Classification of knower services

complaint investigation because they *do* have to fear that customers will harm them by injuring the reputation of the franchise.[28]

Two distinctions aid us in thinking about knower organisations: first, whether the knower is engaged in information generation or conveyance (or both); and second, whether the knower is remunerated by trusters or by promisers. Using the two distinctions we get a classification scheme as shown in figure 4.

Yet other paths to assurance

- Trusters and their agents test and monitor promisers and third-party knowers using unannounced inspections, decoys, undercover operatives, investigations and second opinions.
- The failings of promisers are exposed by rival promisers in competitive advertising, product comparisons and contests.
- By making visible investments that would be profitable only for a high-quality product, promisers signal quality by advertising, obtaining accreditations and making long-term investments in design, product line and facilities.

Intangible social goods and Hayekian dialectics

Economists have explained the co-ordination of promises. They have done much less to explain the *integrity* of promises. Hayek pointed out that the integrity issue looms larger as society becomes more complex: 'The more civilized we become, the more relatively ignorant must each individual be of the facts on which the working of his civilization depends. The very division of knowledge increases the necessary ignorance of the individual.'[29]

But the answer to our question *What explains promise integrity?* turns out to be (excepting the tort-enforcement explanation) a special instance of the answer to the original question *What explains promise co-ordination?* People truck, barter and exchange, utilising their local knowledge. To assure that promises will be kept, other promises are made. Supply follows demand for assurance.[30] That supply takes myriad forms.

But will not the 'assurance industry,' while supposedly solving one trust problem, simply create other trust problems? The manufacturer wants retailers to trust his microwave oven and contracts with Underwriters Laboratories, but how do we know we can trust UL? UL would stand to lose much if, by compromising integrity, its reputation were injured. Hence it would be incorrect to say that the division of knowledge implies a constant amount of vulnerability, or constant amount of doubt. No such conservation principle holds, because in the competitive processes of voluntary affairs, assurances tend to be shifted to the ground where they are strongest.[31]

The Internet is vastly expanding all forms of information exchange and reputation building. When critics find some fault in e-commerce (such as doubts about privacy, security or trust), entrepreneurs invent an e-solution, usually taking the form of a middleman service or a knower service.

Assurance and trust are among the intangible social goods that intellectuals and regulators often say ought not be left to free enterprise. Yet such pessimists do not seriously consider how resourceful middlemen, expert knowers, trustworthy promisers and wary trusters produce assurance and achieve trust. I have argued that in such matters the essential dialectic of the free-enterprise system holds. Whether it holds for other intangible social goods – broader forms of co-operation, honesty, decency, community and toleration – is another question. Yet, I suggest that the parallels are strong, that careful study of free-enterprise dialectics will sustain Hayek's judgement: '[L]iberty is not merely one particular value but … is the source and condition of most moral values.'[32]

1. James C. Scott (1998) *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*, New Haven, CT: Yale University Press, p. 351.

2. John Gray (1995) *Enlightenment's Wake: Politics and Culture at the Close of the Modern Age*, London: Routledge, p. 99.

3. Kenneth J. Arrow (1974) *The Limits of Organization*, New York: W. W. Norton, p. 23.

4. Daniel Bell (1976) *The Cultural Contradictions of Capitalism*, London: Heinemann. Jurgen Habermas (1976) *Legitimation Crisis*, London: Heinemann Educational. Fred Hirsch (1977) *Social Limits to Growth*, London: Routledge & Kegan Paul. Joseph A. Schumpeter (1943) *Capitalism, Socialism, and Democracy*, London: Allen & Unwin.

5. Kenneth J. Arrow (1963) 'Uncertainty and the Welfare Economics of Medical Care,' *American Economic Review,* 53 (December), 941–973.

6. Kelvin J. Lancaster (1971) *Consumer Demand: A New Approach*, New York: Columbia University Press.

7. I call it a 'dialectic' because, while implying that the free enterprise system tends to remedy or mitigate its own current shortcomings, it may also be taken to suggest that new shortcomings are continually identified and new demands continually brought forth; thus, when applied recursively, it suggests not only rising living standards but continual and recurrent processes of desire and satisfaction.

8. Jerome Rothenberg (1993) 'Social Strategy and the Tactics in the Search for Safety,' *Critical Review,* 7, 172.

9. Whether we ought to regard assurance as a transaction cost depends on how exactly we define transaction cost. If transaction costs are simply costs (other than price paid to the seller) of completing a transaction, assurance is not a transaction cost. But if transaction costs are costs (other than price) of coming to, assessing and completing an *ex-ante*-worthwhile transaction, then assurance is a transaction cost.

10. The neglect has been by no means entire. Many types of research may be credited here, but four come especially to mind: institutional and quantitative empirical studies of reputation and its value, game-theoretic models of reputation, consumer and marketing research on various certifiers and 'knower' organizations, and free-market explorations of how assurance has been, is, or would be provided in the absence of government intervention. For a Schematic Bibliography see Klein (1997). A somewhat expanded version appears in Daniel B. Klein (2000). Daniel B. Klein (ed.) (1997) *Reputation: Studies in the Voluntary Elicitation of Good Conduct*, Ann Arbor: University of Michigan Press. (2000) *Assurance and Trust in a Great Society*, Irvington-on-Hudson, New York: Foundation for Economic Education.

11. Alfred Marshall (1927) *Industry and Trade*, 3rd edn., London: Macmillan & Co., p. 297

12. Norman Isaac Silber (1983) *Test and Protest: The Influence of Consumers Union*, New York: Holmes & Meier, p. 3.

13. John A. Goodman, Scott M. Broetzmann and Dianne S. Ward (1993) 'Preventing TQM Problems: Measured Steps toward Customer-Driven Quality Improvement,' *National Productivity Review*, Autumn, 555–571.

14. Eric Bond studied the market for used pick-up trucks, looking for lemons-market results, and found none. He reports (p. 839): '[Pick-up] trucks that were purchased used required no more maintenance than trucks of similar age and lifetime mileage that had not been traded.' It would be interesting to learn whether used vehicles purchased from dealers require less maintenance than those purchased from isolated individuals. Eric W. Bond (1982) 'A Direct Test of the "Lemons" Model: The Market for Used Pickup Trucks,' *American Economic Review,* 72 (September), 836–840.

15. Ithiel de Sola Pool and Manfred Kochen (1978) 'Contacts and Influence,' reprinted in *The Small World*, edited by Manfred Kochen, Norwood, NJ: Ablex Publishing, p. 16.

16. Janet T. Landa (1994) *Trust, Ethnicity, and Identity: Beyond the New Institutional Economics of Ethnic Trading Networks, Contract Law, and Gift-Exchange*, Ann Arbor: University of Michigan Press, p. 125.

17. Eric R. Wagner (1989) 'Types of Managed Health Care Organizations,' in Peter R. Kongstvedt (ed.), *Managed Health Care Handbook*, Rockville, MD: Aspen Publishers, pp. 11–18.

18. Like Landa (1994), I am using the term 'middleman' in a sense much broader than the common usage, of one in between the manufactuer and the retailer. See B. Peter Pashigian and Brian Bowen (1994) 'The Rising Cost of Time of Females, the Growth of National Brands and the Supply of Retail Services,' *Economic Inquiry,* 32 (January), 33–65.

19. *Consumer Reports* states its position in each issue: 'Neither the ratings nor the reports may be used in advertising or for any other commercial purpose. Consumers Union will take all steps open to it to prevent commercial use of its materials, its name, or the name of *Consumer Reports*.' Silber (op. cit.) notes that in the 1950s '[a]ttorneys successfully protected the ratings of the magazine from unauthorized use by commercial interests' (p. 31).

20. 'In the absence of special legal protection, the owner [of information] cannot, however, simply sell information in the open market. Any one purchaser can destroy the monopoly, since he can reproduce the information at little or no cost' (p. 151). See Kenneth J. Arrow (1962) 'Economic Welfare and the Allocation of Resources for Invention,' reprinted

in Kenneth J. Arrow (1971) *Essays in the Theory of Risk-Bearing*, Chicago: Markham, pp. 144–163.

21. Howard Beales and Steven Salop (1980) 'Selling Consumer Information,' *Advances in Consumer Research,* 7, 238–241.

22. Pauline M. Ippolito (1986) 'Consumer Protection Economics: A Selected Survey,' in Pauline M. Ippolito and David T. Scheffman (eds.), *Empirical Approaches to Consumer Protection Economics*, Washington, DC: Federal Trade Commission, pp. 1–33. Pauline M. Ippolito and Alan D. Mathios (1990) 'Information, Advertising and Health Choices: A Study of the Cereal Market,' *Rand Journal of Economics,* 21 (Autumn), 459–480. Ippolito and Mathios (1990, p. 479) examine the effect of the removal in 1984 of a ban on health claims in the cereal market: 'The evidence clearly demonstrates that fiber cereal consumption increased once the ban on health-claims advertising was removed. The development of fiber cereals also increased when producers were given the ability to advertise the health features of the products. Moreover, advertising appeared to reduce some of the differences across the population [of cereals], suggesting that advertising may have had its effects by reducing the costs of acquiring information.'

23. Howard Beales, Richard Craswell and Steven C. Salop (1981) 'The Efficient Regulation of Consumer Information,' *Journal of Law and Economics,* 24 (December), 491–539.

24. Harry L. Strickling (1965) *Implications of the Existence of Consumers Union for Marketers of Major Appliances and Related Consumer Durables*, Master's thesis, Graduate School of Business, New York University, p. 18.

25. Viscusi (1978) provides a model of quality certification which yields a happy outcome, in explicit contrast to the unhappy outcome of Akerlof's model (1970). See W. Kip Viscusi (1978) 'A Note on "Lemons" Markets with Quality Certification,' *Bell Journal of Economics,* 9, 277–279. George A. Akerlof (1970) 'The Market for "Lemons": Quality Uncertainty and the Market Mechanism,' *Quarterly Journal of Economics,* 84 (August), 488–500.

26. Gerald P. O'Driscoll (1976) 'The American Express Case: Public Good or Monopoly?,' *Journal of Law and Economics*, 19(1) (April), 163–175.

27. Ernest Elmo Calkins (1928) *Business the Civilizer*, Boston, MA: Little, Brown, p. 49.

28. Paul Rubin (1978) 'The Theory of the Firm and the Structure of the Franchise Contract,' *Journal of Law and Economics,* 21, 223–233.

29. Friedrich A. Hayek (1960) *The Constitution of Liberty*, Chicago: University of Chicago Press, p. 26.

30. Friedrich A. Hayek (1948) *Individualism and Economic Order*, Chicago: University of Chicago Press, p. 97.

31. Hayek (1948) op. cit., p. 88.

32. Hayek (1960) op. cit., p. 6.

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