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TIPS AND COMMISSIONS: A STUDY IN ECONOMIC CONTRACTING

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I. INTRODUCTION

Once it is recognized that exchange is costly--trading partners must be located, goods specified, terms negotiated, performance policed--then it must also be clear that every exchange involves a contract. While the economic study of contracts is relatively new to the profession, such study has rapidly rewarded economists with a much richer understanding of the process of exchange and the institutions which economize on its costs.[1]

In this paper, we hope to contribute to the study of contracts by distinguishing the roles of tips and commissions in economic contracts. While these institutions have been identified as monitoring devices,[2] the theory of monitoring fails to identify the specific costs which provide the motivation for tips and for commissions. The theory of contracts, as presented in this paper, attempts to fill the void. Our analysis, contrary to some authors, also suggests that ex post differences in the ratio of tip (or commission) to the marginal cost of service across customers does not necessarily indicate price discrimination. Rather, such pricing patterns may result from implicit contracting which reduces marketing or search costs.

The remainder of our paper is organized into four sections. We identify the motivation for tipping in Section II. In Section III, we suggest the motivation for commissions and explain the fundamental difference between tips and commissions. The issue of price discrimination is analyzed in Section IV, and we conclude in Section V.

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[1] See for example, Benjamin Klein, "Transaction Cost Determinants of 'Unfair' Contractual Arrangements," American Economic Review, LXX (May 1980), 356-62.

[2] Nancy L. Jacob and Alfred N. Page, "Production, Information Costs and Economic Organization: The Buyer Monitoring Case," American Economic Review, LXX (June 1980), 476-78.

II. TIPPING

The dictionary definition of a tip is that it is simply a small gift for some service. A gift in exchange for service may be a contradiction in terms to the economist, but apparently what is meant by this definition is that the size of the tip is discretionary and that failure to pay is insufficient cause for litigation. In any case, this definition masks too many distinctions to provide a useful conception for analyzing the role of tips in enforcing contracts. While the exact nature of a tip will emerge in the following analysis, no attempt will be made at this point to define a tip. To ensure that the relevance of the analysis is understood, we first consider the dining contract (i.e., the payment received by a waiter for full service in a restaurant upon completion of the dining experience).

A. The Dining Contract

The customer of a restaurant is a party to a contract. The customer is expected to behave with decorum and to pay for the experience, and the restaurant is expected to provide a dining experience. This experience includes prepared food, a table with accompanying ambience, and service by a waiter. While some provisions of the contract are explicit (e.g., the price of the food), others are implicit (e.g., the length of time the customer will occupy the table). Given that some services which are part of a dining experience are not specified in advance, what assurance does the customer have that the restaurant will provide the expected service? Or, to continue our example, why doesn't the restaurant maximize profits by serving the meal and asking the customer to leave hastily in order to clear the table for the next customer?

The fundamental answer given by Klein and Leffler[1] is that the firm can assure customers of meeting contractual expectations by investing in brand-name assets such as signs and advertising or in durable production assets. The value of such assets is conditional on the restaurant's reputation for performance. Should the firm be forced out of business because of failure to perform, the brand-name assets will be lost because a disreputable name is of little, or no, value. Similarly, durable production assets take time to sell or may otherwise be difficult to sell except at a discount so that part of their value to the restaurant owner is lost when the business is disbanded. Such specific, nonsalvageable assets thus place the restaurant in a position in which exiting the industry will impose unrecoverable losses.[2] Should the firm fail to hold the allegiance of customers willing to pay a premium for contractual performance, the nonsalvageable assets will not earn a sufficient return and losses will be incurred. It is therefore the ability of customers to withdraw future business--either directly or by informing other customers--which assures the restaurant will behave reliably.

Perhaps the representative paradigm of such a repeat purchase mechanism is a small trademarked item such as canned vegetables which a customer purchases frequently. If a can of vegetables is purchased, taken home and consumed, but is below the expected quality, the consumer is likely to try another brand on the next purchase. Since the price of the product is small

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[1] Benjamin Klein and Keith B. Leffler, "The Role of Market Forces in Assuring Contractual Performance," Journal of Political Economy, LXXXIX (August 1981), 615-41.

[2] If, in contrast, the firm does perform as expected, then customers will be willing to pay a premium for the firm's dining experience which, in equilibrium, is sufficient to provide a normal rate of return on the brand-name assets.

and evidence of inferior quality may have disappeared in its consumption, the consumer will most likely not return the unsatisfactory product.

In restaurants, on the other hand, the dining experience is undertaken on the premises, the price is not insubstantial, and the customer may not be planning to return to the restaurant even if satisfied. In this situation, customers could claim the dining experience was inferior, even if it wasn't, and demand to renegotiate the price. Such renegotiation imposes costs on other customers (by reducing the restaurant's ambience) and on the owner (by depreciating the restaurant's reputation). Yet, because some customers are transients who are not expected to return or to inform other potential customers, the restaurant could attempt to discriminate against these customers by providing poor service.

The ability of both the customer and the restaurant to impose losses on each other results from the commitment of nonsalvageable assets by both parties to the exchange. A customer can be seated and can scrutinize the menu without obligation. Although this imposes an opportunity cost on the restaurant, it also imposes a time cost on the customer. The time cost incurred by the customer signals that the customer obtained the seat in good faith. However, once the meal has been ordered, the restaurant has made a much larger commitment, and so will hold the customer more closely to the contract. If the customer inspects the food and rejects it, the restaurant will attempt to rectify it and may even replace it. However, once the food is consumed, the restaurant is no longer willing to allow the customer to terminate the contract because the consumed meal represents a major commitment of nonsalvageable assets on the part of the restaurant.

On the other hand, once the food is served and the customer begins eating, the restaurant could attempt to shorten the dinning period in order to prepare the table for the next customer. Such action on the restaurant's part could potentially impose far greater costs on the customer than the gain to the restaurant. The restaurant's immediate gain is a higher turnover of customers, but such bad service can destroy the entire value of the dining experience. If the explicit price of the dining experience includes a charge for service, the customer may suffer a loss since the dining experience, regardless of food quality, can be destroyed by poor service.

To summarize, the customer commits ever increasing amounts of time and the restaurant commits ever increasing amounts of physical resources. As each party commits more and more irrevocable resources to the exchange, the greater is the cost of a cancelled contract. Consequently, as one commits more irrevocable resources, the greater is the incentive of the other to renege on the contract.

In this situation, the tip represents a final compromise. It allows the customer to withhold a portion of the price without further negotiation, while still paying the food price stated on the menu. The tip therefore serves dually to protect the customer from bad service and to protect the restaurant from unscrupulous negotiations on the meal.

B. Metering

Clearly, the likelihood of poor service being offered to a customer is far greater when service is provided by a salaried employee rather than an owner. This is so for a combination of reasons. First, the nonowner will not suffer the wealth loss imposed by disatisfied customers who withdraw their

future patronage because of poor service.[1] Second, it is costly for owners to meter waiter output or to monitor waiter input of effort. If the owner could cheaply meter output or monitor input of effort, then shirking by employees could be prevented. Such shirking could mean providing too much service as well as too little service. In particular, a waiter who is paid a wage may be indifferent to how long customers occupy a table, but if instructed by the employer to move his tables more quickly, the waiter may offend some customers.

The system of tipping recognizes the dilemma of the owner in inducing the waiter to offer the appropriate length of the dining experience to each customer. Whereas some customers may only desire timely service, others may be constrained to a specific time frame, and still others may expect a leisurely meal with no time limitations whatsoever. The system of tipping provides the motivation for the waiter to properly identify and accommodate the individual desires of customers subject to the profit maximizing constraint of the restaurant owner. The tip meets this objective by making the waiter's income

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[1] The waiter will suffer some loss, however, if the restaurant fails and the waiter must search for a new job.

vary both with the satisfaction experienced by each customer and with the number of customers served.[1]

The effectiveness of the tip in reducing the opportunistic behavior of the waiter lies in the low benefits yielded by the waiter relative to the high costs he imposes on others. The waiter who ruins a dining experience by inappropriately hurrying his customers gains the incremental value of his leisure, but imposes substantial costs on the dissatisfied customers and on the reputation of the restaurant (owner). As long as the present value of the expected tips exceeds the present value of providing poor service, the waiter will be motivated to accommodate the individual desires of his customers.[2]

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[1] While it might be thought that this contracting problem only arises in the case of salaried employees, consider the following example. In some railway stations, porters operate as independent proprietors of push carts. They haul luggage at a fixed fee per case and a tip is expected. The tip is important from the customer's point of view because it can be withheld if the luggage is moved too slowly or is damaged. It is important from the porter's point of view because without tipping, a dissatisfied customer might refuse to pay the entire fee. Note that the contract involves the commitment of nonsalvageable assets by the porter. Once the bags have been moved and the customer has refused to pay (because the service is claimed to be worthless), it is difficult for the service to be returned. To guarantee that the customer was provided no service when payment was withheld, the porter would have to haul the baggage back to its original location, a costly act. The tip then can be seen as a direct substitute for the brand-name mechanism. The owner-supplier quotes a below equilibrium price and allows the customer some discretion on whether to pay the full price by including a tip.

[2] The opportunistic behavior of the customer is constrained as long as the present value of the system of tipping (i.e., the discretion of the customer to withhold payment for poor service) exceeds the present value of price concessions on meals and tips which are granted if the customer behaves opportunistically. If the customer plans to become a regular customer, he is likely to honor his implicit contract with the restaurant owner to meter the output of the waiter and to provide the standard tip if service is satisfactory. Similarly, if the customer is part of a group which contains at least one member who plans to return or who believes that a tip is warranted, the contract with the owner is also likely to be honored. As we will argue below, the system of tipping appears to be viable as long as the cost of the meal remains relatively low.

Conversely, if the value of shirking exceeds the costs it imposes on others, waiters will provide poor service. The system of tipping will not be viable and some other form of renumeration is likely to emerge.

C. Tips and Incremental Service

We should emphasize that the tip is not used to reward marginal increments in service. That is, the purpose of the tip is not to allow the customer to finely adjust the size of the tip to the amount of service provided. A rude or inconsiderate waiter can destroy the entire dining experience, not by varying work effort, but simply by pressuring a customer to eat fast and to leave quickly. In this situation, the time spent by the customer in (1) finding the restaurant, (2) waiting to be seated, and (3) waiting to be served in addition to (4) the obligation to pay for the food consumed all represent valuable assets that can be destroyed by the waiter's action. The tip is a payment mechanism which discourages the waiter from attempting to appropriate the return to meal-specific assets committed by the customer. If the customer feels that the service is inappropriate, the tip can be withheld. Further, if the waiter systematically fails to provide adequate service, his income is likely to fall below his reservation price and he will be forced to consider alternative employment opportunities.[1]

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[1] Essentially, we are combining the concept of shirking with the concept of a holdup. A potential holdup occurs when one party to an exchange has commited irrevocable or nonsalvageable assets; as a consequence, if the one party decides to renegotiate the terms of the exchange, the other party may be trapped and suffer a loss. See, for example, Benjamin Klein, Robert G. Crawford, and Armen A. Alchian, "Vertical Integration, Appropriable Rents, and the Competitive Contracting Process," Journal of Law and Economics, XII (October 1978), 297-326. Employee shirking may impose large losses on a seller or buyer who also invests in nonsalvageable assets. When the gain to the employee from shirking is smaller than the damages from shirking, however, the system of tipping may serve to reduce shirking and opportunistic behavior by the employee.

This interpretation is supported by the fact that the standard tip in a restaurant is expected to be 15 percent of the price of the food. While it may be argued that the tip varies in percentage at the customer's will, casual empiricism suggests that customers do not marginally adjust tip size to reflect performance. Rather, satisfactory performance earns the full tip, and inferior service is severely discounted. Agreement on a relatively fixed percentage payment may act to reduce implicit contract costs, including the reduction in the hold-up potential by the customer after the waiter has provided specific service to the table.[1]

Furthermore, the quantity of service required of a waiter is not necessarily proportionate to the price of the meal and to the standard 15 percent tip. To illustrate, consider two customers at a restaurant who order full course meals, one Salisbury Steak at $10 and one Lobster at $20, with both receiving the same amount of service from the waiter. If the waiter has a wage of $2 per hour and waits on four customers per hour, the different hourly earning rates based on a 15 percent tip will be:

$2 + (4)(.15)(10) = $8 per hour for Salisbury Steak, and

$2 + (4)(.15)(20) = $14 per hour for Lobster.

Granted that full course service requires the same effort of waiters in both cases, it is difficult to understand how the standard tip could be used to adjust reward to effort.

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[1] Similar reasoning applies to the negotiation of rigid wages in labor contracts which require the employee to make firm-specific investments. See, Benjamin Klein, "Contract Costs and Administered Prices: An Economic Theory of Rigid Wages," American Economic Review, Papers and Proceedings, LXXIV, No. 2 (May 1984), 332-38. The setting of the tip as a percentage of the value of the meal is analogous to the case of real estate commissions discussed in Section IV at p. 21. See also, p. 7, n. 2, *supra*.

If tips were closely related to work effort or input provided by the waiter, waiters would be indifferent between different customers. That is, customers who demand relatively more (or less) effort from the waiter would be expected to provide a relatively larger (or smaller) tip. Yet, waiters commonly indicate that certain types of customers are expected to be better tippers and are preferred.[1] Waiters, however, are prevented from competing for such customers by the device of assigning each waiter to a group of tables and then sequentially seating customers across all table groups. As a result, each waiter will get some large and some small tips, and over time can be expected to earn an average tip.[2]

D. Explicit Service Fees

The voluntary nature of the tip creates a malincentive for some customers. It allows customers to abuse the custom: to receive the expected service but fail to pay the standard tip. Interviews with waiters suggest that the worst tippers are single males. The vast majority of customers, however, are couples or parties of three or more who almost always leave a tip. Not

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[1] We note that for regular customers, waiters adjust work effort to meet the size of the tip rather than vice versa. Interviews with waiters indicate that regular customers are well known in restaurants and that waiters have these "regulars" classified according to size of tip. Regular customers who give a small percentage tip can expect less service than average, and those who give big tips can expect more service. The implicit nature of the tip thus allows different customers to procure different amounts of service without costly negotiations. But it is crucial to understand that the causation is from expected tip to work effort and not conversely.

[2] This is a type of block booking/exclusive dealing arrangement. The waiter must serve all customers seated in his section, and the customer uses exclusively the waiter assigned to his section. See, for example, Roy W. Kenney and Benjamin Klein, "The Economics of Block Booking," Journal of Law and Economics XXVI (October 1983): 497-540, and Edward C. Gallick, Exclusive Dealing and Vertical Integration: The Efficiency of Contracts in the Tuna Industry, Bureau of Economics Staff Report to the Federal Trade Commission, August 1984.

surprisingly, the biggest tippers are males on a date. Thus, the system of tipping appears to be viable under most circumstances. Nevertheless, as the size of the expected tip increases, the greater is the incentive for customers to ignore their implicit commitment to tip, and the more costly will it be to utilize tipping as a device for restraining opportunistic waiters.[1] This may explain why the voluntary tip is generally limited to relatively small purchases.

The tip can be considered a special case of a larger set of payment institutions which distinguish the contract price of a physical asset from the contract service that accompanies it. In the case of restaurants, this distinction is evidenced by explicit service fees at banquets which are negotiated in advance.[2] For a banquet, the absolute size of the tip is large and the temptation not to pay will be greater. The price negotiation for service at banquets will therefore reduce (implicit) contract violations by the customer by determining an explicit understanding on the amount of service (including time) which is to accompany the banquet.

Explicit service fees are perhaps more often associated with service contracts for complicated physical assets, such as the installation and maintenance of a heating system. In these types of purchases, the price of the physical asset is distinguished from the service price. Faulty service might

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[1] The failure to tip can be viewed as a cost of adopting tipping as a means of assuring contractual performance. The gain from adopting tipping is the reduction in brand-name capital and the saving of monitoring costs by the employer. See also, p. 7, n. 2.

[2] In Europe the tip is included in the bill as a service charge without consulting the customer as to the waiter's performance. What this "service charge" does is to change the legal status of the service portion of the bill and notify the customer that the payment for service is less likely to be negotiable once the food is accepted.

render the physical asset useless even if it was satisfactory prior to service. Because the installed system is costly to return (i.e., the heating system is severely depreciated if classified as a used good), both parties to the transaction have an incentive to minimize the rejection of the physical system due to faulty service (including installation). Stating service fees separately facilitates renegotiation of the service portion of the price and, if necessary, allows the customer to find a substitute service company without rejecting the physical heating system.

This example is exactly parallel to the restaurant example, where returning food is difficult or impossible. In both cases, the tip or explicit service fee permits a less costly renegotiation of the service price while maintaining the acceptability of the physicial goods which represent nonsalvageable assets.

E. A Note On Tourists

In developing our analysis of tipping, we suggested that the tip can protect transient customers, such as tourists, from discrimination by restaurants.[1] Assuming that a restaurant generally serves the same quality food to all patrons but may deal hastily or rudely with those who are not expected to return or to inform others, the tip reduces the degree of such discrimination.[2]

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[1] Recall the discussion at pp. 3-4, supra.

[2] However, while the tip may assure good service, it does not assure good food. It is the firm's reputation that assures food quality. Thus, we expect restaurants catering primarily to transient customers to develop reputations that extend beyond the local area. Clearly, chain restaurants have cost advantages in developing such reputations. The fact that some (not all) chains offering a standardized menu do not use tipping as a means of payment and provide minimal service (e.g., cafeteria style) reflects a demand for fast, inexpensive meals which are consistent in quality.

It is important to understand that the use of the tip by tourists to protect against "opportunistic" discrimination requires that tourists be able to judge the quality of the service before making any payment. This is not always the case. In the market for taxi service, for instance, tourists and other transients do not know the local routes and therefore may not be able to detect a circuitous route. Clearly, if such inferior service cannot be detected, the tip cannot be systematically withheld from opportunistic taxi drivers who exploit tourists by using circuitous routes.[1] On the other hand, the tip works to protect tourists in restaurants because, presumably, tourists can judge the quality of service as well as local customers.

F. A Tip That Is Not A Tip

Although it is commonly called a tip, another distinct type of payment is the seating fee. An example of a seating fee is the payment given to the maitre d' to obtain a preferred table. This is a side payment offered by the customer prior to being seated and placing an order. Such a payment does not assure the customer of good service or protect the seller from untimely renegotiations. Rather, it is a response to the average or uniform pricing of goods which are not perfectly homogeneous in the eyes of some customers.

The seating fee may be explicit or implicit. Common examples of explicit seating fees are found in restaurants and in night clubs. In these cases, the customer offers to make an explicit payment for a preferred seat. When the fee is implicit, however, the seller may establish several classifications of seats

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[1] Edward Gallick and David Sisk, "Specialized Assets and Taxi Regulation: An Inquiry Into the Possible Efficiency Motivation of Regulation," Federal Trade Commission, Working Paper No. 119, October 1984.

and include a seating fee in the price of each class of seat. Presumably, such a pricing scheme reduces the transaction costs of negotiating the price of each seat with competing customers. Further, as long as the seats within a seating classification are not perfectly homogeneous, the opportunity for customers to offer explicit seating fees will also exist. Thus, explicit and implicit seating fees are not mutually exclusive. Implicit seating fees are found in major modes of transportation (e.g., airplane, boat, and train), in professional althetic events (e.g., football, basketball, and baseball), in the live theatre, and in hotel and motel accommodations.

III. SALES COMMISSIONS

A. Tips Versus Sales Commissions

In this section we will compare and contrast the tip with the sales commission. While both are generally involved where (employee) monitoring is a problem and holdups are possible, the relative effectiveness of tips and commissions systematically varies with the specific nature of the contractual performance.

In the case of a tip, the buyer (or customer) is provided with a final means of automatic redress which serves to prevent unsatisfactory performance on the part of the seller. The possibility of unsatisfactory performance arises when the brand-name, repeat purchase mechanism is not effective or because employees of the seller are too costly to monitor. The consequences of the unsatisfactory performance to the buyer are costly because the buyer commits nonsalvageable assets to the exchange and cannot readily return a substantial portion of the purchase. If, for example, at the end of a dining experience, the unsatisfied customer could return the food in tact, the

customer would be under no obligation to pay for it. But since the food cannot be returned, the customer is under an obligation to pay. Allowing the customer to withhold a portion of the fee for the dining experience reverses the holdup possibility. The waiter becomes the potential victim of the holdup by a customer who receives good service but may withhold the tip.

In contrast, sales commissions appear when the seller--not the buyer--is subject to a potential holdup. For example, in purchasing a pair of shoes, the buyer makes only a small commitment of nonsalvageable assets (time) but incurs no obligation to pay for the shoes until the point of sale. It is not the buyer who is subject to a holdup, but the seller. The seller entrusts inventory to an agent or employee, and the value of that inventory depends on the rate of sales. If monitoring is costly, a shirking agent can reduce the rate of sales, stockpile inventory, and thereby impose losses on the seller. As in the tipping case, such shirking could result in too little or too much service to each customer. The shoe clerk, on a fixed wage, might make elaborate efforts to serve one customer while other customers go unserved; or, the shoe clerk's abruptness or indifference may result in lost sales or in false sales.[1]

Of course, just as a waiter can be motivated with a tip to provide adequate service to customers, so can the tip motivate the sales clerk. Such a payment mechanism, however, provides the clerk with the potential to hold up the owner. If customers are sold the wrong goods (e.g., shoes that don't fit), they may return them for a full cash refund, including the tip. Such a false

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[1] False sales include products returned because the customer was not fitted properly.

sale would require the employer to collect the tip from the sales clerk and to return it to the appropriate customer. Since the tip can vary in size, this arrangement would create opportunities for the employee to hold up the employer by denying tips were received or by quitting before customers return their purchases.[1] It would also allow the customer to hold up the seller by claiming to have paid a larger tip than was made.

One alternative to the tip is the commission. Essentially, the employer rewards the employee for past sales. That is, the commission is paid after a time lag which allows the customer an opportunity to cancel the sale before the employee is rewarded. This device prevents the employee from shirking by making too few sales or false sales.

The tip and the commission serve complementary but distinct roles in the exchange process. The tip protects the buyer from exploitation by a seller (when the brand-name mechanism is insufficient) or from exploitation by the shirking employees of the seller. The commission, on the other hand, protects the seller from exploitation by his own shirking employees. This fundamental distinction is not always recognized in the literature. Jacob and Page[2]

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[1] If the employer must refund tips from the sale of his shoes to dissatisfied customers, the return to his brand name or reputation is reduced and therein lies the holdup by the employee.

Nor would letting the clerk shirk and discounting his wage be an efficient solution. This is because the gain to the clerk and therefore his compensating wage discount is less than the cost to the owner of the shirking behavior. The compensation wage discount is limited by the next best use of the employee. The necessary discount to offset the loss imposed on the owner may be unacceptable to the employee: the employee is always better off to quit and search for another job as long as the expected wage reduction in the new job, if any, is less than the compensation wage discount in the current job. See, Benjamin Klein, "Contracting Costs and Residual Claims: The Separation of Ownership and Control," Journal of Law and Economics, XXVI (June 1983), 367-74.

[2] Jacob and Page, "Production, Information Costs, and Economic Organization: The Buyer Monitoring Case," 476-478.

briefly discuss tipping and commissions as examples of buyers monitoring employees of sellers. They view sales commissions and tips as alternative means of monitoring. Tips and commissions, however, are not alternative schemes of assuring the same type of contractual performance. Rather, tips reduce the hold-up potential of buyers whereas commissions reduce the hold-up potential of sellers. Because Jacob and Page fail to distinguish between these two distinct hold-up possibilities, they can not analytically distinguish between tips and commissions.[1]

An important similarity between the tip and the commission is that their effectiveness decreases as the size of the expected purchase increases. Consequently, for large purchases, the tip is negotiated in advance; the same is true for service fees. Although commissions are always negotiated in advance regardless of the size of the sale, additional contractual provisions often specify that a buyer or seller who withdraws from the sale (contract) is subject to a penalty. Agreeing to such a contingency makes sense because with large purchases, buyers and sellers often commit large amounts of non-salvageable assets to the process of exchange (e.g., inspection costs, inventory costs, credit verification costs, and liquidation costs). Accordingly, as large exchanges are negotiated and more assets are commited to

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[1] In addition, Jacob and Page confuse metering and monitoring. As developed in Armen Alchian and Harold Demsetz, "Production, Information, and Economic Organization," American Economic Review, LXII (December 1972), 777-95, the inability of employers to meter employee output requires that employers monitor input of effort to reduce shirking. Jacob and Page argue that customers are used, in the case of tipping, to monitor employees. This is incorrect. Customers do not monitor employee effort or input. Rather, customers meter employee output and implicitly contract to pay the standard tip contingent on the waiter providing the appropriate service or output. See, pp. 7-9, supra.

the transaction, penalties for withdrawing from the exchange are often assessed.[1]

The commission is not, however, as effective as a tip in promoting customer service. This is because such point-of-sale service is not an intrinsically, utility enhancing part of the product as in the case of the dining experience. Hence, even when clerks are rude, customers may still buy the product. It is the physical product that matters, not the service. Nevertheless, if the point-of-sale service is poor, customers may shift their subsequent purchases to a competing store. To prevent this outcome, stores may employ professional shoppers who report the demeanor of sales clerks to the store management. The existence of these professional shoppers indicates that the commission lacks sufficient influence over the behavior of sales clerks. Yet, the fact that tips are not used in this case indicates that commissions are better able to protect the seller.

B. Reputable Agents

While our discussion has focused on the use of commissions by reputable sellers who employ agents to make sales, a somewhat different case occurs when a seller employs a reputable agent (or middleman). A familiar illustration is a homeowner who engages a real estate agent to sell his house. Real estate agents specialize in the marketing of houses and develop reputations for reliable dealing. Once the purchase agreement is signed by the seller, the seller must pay the agent a commission even if the seller subsequently decides to withdraw from the sale. Such an agreement protects the agent from a reneging owner and indirectly protects the buyer by penalizing an owner-seller

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[1] David Sisk and Rod Parker, "Real Estate Sales: A Contractual Analysis." Draft, 1984.

who reneges on the contract after substantial costs have been incurred by both the agent and the buyer.

Knoeber[1] makes two errors in analyzing this situation. First, he asserts that real estate agents protect the buyer by requiring the homeowner to pay the sales commission if the homeowner reneges on a sales contract. Second, he argues that the reason for this arrangement is that each homeowner sells a unique piece of property. According to Knoeber:

> "Purchasers of unique real estate will be made worse off if the seller fails to deliver the property.... Because of the singular nature of the real estate..., damages for seller breach may be difficult for courts to determine and, if underestimated, provide insufficient incentive for seller reliability. A third-party default bond can assure reliability. The typical use of a broker or agent paid on a commission basis by the seller creates such a bond. If the seller defaults, he must pay the agent's commission."[2]

While we concur that a contractual commitment to pay the agent's commission may serve to prevent seller breaches, we do not believe that it is sufficient to explain either the payment or the employment of intermediaries on a commission basis. Our view is that payment of the agent on a commission basis protects the _seller_ (in this case the homeowner) from a shirking agent. The listing agreement between the seller and the agent generally provides that the sales commission is not paid by the seller until the agent has fulfilled all of his contractual obligations. The agent's performance is completed at the time a qualified buyer submits an acceptable purchase contract to the seller. It is not until the seller signs the purchase contract, however, that he is liable to pay the sales commission. Any attempt by the agent to renege

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[1] Charles R. Knoeber, "An Alternative Mechanism to Assure Contractual Reliability," _Journal of Legal Studies_, XII (June 1983), 333-43.

[2] Knoeber, _op. cit._, p. 343.

on the terms of the listing agreement (e.g., to demand a higher sales commission, to fail to advertise, to refuse to show the house, or to misrepresent the terms of the sale) is therefore limited by the right of the seller to terminate the agent prior to signing the purchase contract offered by the buyer.

Further, the reason intermediaries are employed in such sales is because there are gains to specialization in selling houses. By continuously being active in the housing market, real estate agents are relatively more efficient in appraising property, locating buyers, negotiating terms, and developing reputations for selling houses than the seller of a single property. The reputation of the agent is perhaps his most important asset. Potential buyers rely on the agent's reputation in developing and presenting a purchase contract to the seller. Once the offer is accepted, additional expenditures of time, loan application fees, appraisals, and legal fees may be incurred by the buyer. Since these expenditures are specific to the transaction, they are worthless if the seller reneges on the sale. The buyer relies on the agent to enforce the contract on the seller. This enforcement mechanism takes the form of the requirement that the seller pay the agent the sales commission once a proposed purchase contract is signed by the seller.

Moreover, it is not the uniqueness of the property that causes the seller to employ an agent, but the fact that the seller is making a single sale. A seller who is offering several unique properties for sale may be able to specialize in sales without employing an agent and to develop a reputation for selling houses. The return to the seller's reputation would depend on his ability to meet his commitments as specified in an accepted purchase contract. Given such specialized investments, if the seller were to renege on a purchase

contract, the return to his reputation or brand-name capital would fall below the competitive rate of interest. Furthermore, buyers may insist that reputable real estate agents be employed in which case the return to the seller's reputation would fall to zero.

IV. TIPS, COMMISSIONS, AND PRICE DISCRIMINATION

Tip and commission payment mechanisms may be erroneously associated with price discrimination schemes. The confusion arises because of the failure to distinguish between ex ante and ex post costs and revenues.

One can most easily understand why tips and commissions are established ex ante by viewing them as penalties rather than as rewards. Employees who accept payment on a tip (or commission) basis understand that their earnings are completely contingent on the buyer's (or seller's) determination of whether the service is acceptable. A dissatisfied customer, for example, can withhold the entire tip without negotiation or arbitration. Similarly in the case of the commission, a dissatisfied employer can withhold payment if his agent fails to maintain an acceptable rate of sales. It is the implicit contract to agree on such contingent payments that makes these payment mechanisms low cost devices of assuring contractual performance. Under a wage system, penalties could be invoked ex post, but explicit and more costly negotiation or arbitration would be required to prove misconduct as well as to establish the appropriate penalty or wage discount.[1]

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[1] Further, under certain conditions, discounting the wage of a shirking employee is not an efficient solution. See, p. 16, n. 1, supra.

One necessary condition for a behaviorally based definition of price discrimination is that sellers set different ratios of ex ante marginal revenue to ex ante marginal cost across different customers. Ex post differences are insufficient to indicate price discrimination. The reason is that the implicit contract price (i.e., the tip or commission) is for some average expected service over a group of customers. By classifying customers into relatively homogeneous groups and charging a price based on the average expected service for all group members, the costs of individually negotiating a price with each group member can be saved.[1] Since the group is not perfectly homogeneous, however, some customers may actually take more or less time to service than the average customer. Ceteris paribus, these ex post differences in service provided to different customers may therefore appear to indicate price discrimination when, in fact, such differences reflect efficient contracting. Only when both the ex ante and ex post marginal revenue to marginal cost ratios uniformly differ across customers is price discrimination indicated.

A related charge of price discrimination is sometimes expressed because commissions are usually stated as a percentage of the value of the product sold, but sales costs do not necessarily rise in proportion to product value. For example Yinger[2] argues that:

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[1] For a discussion of this type of oversearch behavior and the conditions under which it can be contracted away, see Gallick, Exclusive Dealing and Vertical Integration, Chapter II, especially pp. 10-15.

[2] John Yinger, A Search Model of Real Estate Broker Behavior," American Economic Review, LXXI, No. 4 (September 1981), 603.

> "(E)xpressing commissions as a percentage of house value is price discrimination, which could not persist without considerable market power. The serivce provided to a seller by a broker is to find a buyer and to finalize the sale. The cost of this service is, at best, only marginally related to the value of the house involved...."

Implicitly, this view ignores the role of commissions in assuring contractual performance. It presumes that such contract costs are nonexistent and views commissions as simple monitoring devices which can be adjusted by the customer to reflect marginal changes in the ex post service provided. We disagree. Contract costs exist and cannot be ignored.

We believe that commissions are an efficient response to specific contract costs. The failure of an agent or employee to sell products from inventory held by the owner imposes an opportunity cost on the owner which varies directly with the value of the inventory. Therefore, it should be no surprise that for a wide variety of products, from shoe sales to real estate sales, commissions are the standard basis of payment. By using commissions, both the opportunity cost of holding excessive inventory and the penalty for failure to sell vary directly with the value of the product.

Despite the fact that commissions are generally set as a percentage of product price, the expected income from selling higher priced products is not necessarily higher than for selling lower priced products. Consider the real estate commission. If, for the sake of argument, we assume that selling costs are independent of the value of the house, brokers may expect to earn higher incomes by limiting their sales to higher priced housing. If all brokers form the same expectation, however, more brokers will attempt to sell the high priced listings. With more clients being shown the house, the probability that any one broker will sell the house is substantially reduced. In equilibrium, therefore, the ex ante income from selling different priced houses is the same.

Contrary to Yinger, we do not believe that a comparison of ex post commission income and selling costs is sufficient to indicate price discrimination. The recognition that an individual broker's selling costs does not vary in proportion to the value of the house provides no information about the total sales effort of all brokers and, in turn, the ex ante payment for selling the house. Consequently, there is no basis to expect any systematic difference between ex ante commission and ex ante selling costs across customers. Thus, a necessary condition for price discrimination is lacking.

V. CONCLUSION

We have argued that the tip protects the buyer from inadequate service that may accompany the purchase of some physical asset which is costly to return. In our principal example, the physical asset in question was food served in a restaurant. Since a prepared meal is generally of no value if rejected by a customer, rejecting the food imposes a cost on the restaurant owner. The owner will therefore be reluctant to permit customers to reject food. On the other hand, the customer's personal valuation of the dining experience (including the prepared meal) can be destroyed by a waiter who is rude or who attempts to hasten the customer through the meal (i.e., to shorten the dining experience). To prevent such unscrupulous behavior on the part of the waiter, the restaurant owner grants the customer discretion in whether to withhold (via the tipping system) a portion of the equilibrium price of the dinning experience. This additional constraint on opportunistic waiters is necessary when the brand-name, repeat-purchase mechanism of assuring contractual performance is not fully effective or when employees (unconcerned with the owner's reputation) can successfully shirk on the delivery of service to customers. The tip represents

a discretionary payment because the buyer is given the legal right to withhold part of the price without proof of inadequate service.

Obviously, buyers may abuse the tipping privilege. If buyers fail to tip when service is satisfactory, they can be viewed as cheating on an implicit contract with the waiter (and the owner). Such behavior, however, does not appear to represent a significant number of customers. Nevertheless, as the absolute value of the expected tip increases, the greater is the incentive for customers to cheat, and the less effective is the institution of tipping. As a consequence, more tips will tend to be negotiated in advance as their absolute value increases.

Separately negotiated service fees that are often associated with the sale of complex physical assets represent a payment scheme designed to minimize the costly return of the physical asset. If the service is unacceptable, the buyer can withhold payment of the service without adversely affecting the sale of the physical asset. Conversely, tips can be viewed as a special case of the service fee. When the value of services which accompany a physical asset is small and their exact nature is difficult to specify contractually, then the privilege of tipping will tend to be granted to customers.

The economic functions of tips and commissions are quite distinct. Whereas the tip ultimately protects the buyer from an unscrupulous seller or agent of the seller, the sales commission protects the seller from an unscrupulous agent. Seller's agents or employees on fixed wages or salaries are not responsible for maximizing the present value of their employer's assets. Given that it is costly to monitor the performance of the agent, agents have an incentive to shirk even though it imposes a wealth loss on the employer. Under these conditions, payment on a commission basis appears to

represent a method of inducing agents to act on the behalf of the employer or seller.

Although tips and commissions are often set as a fixed percentage of the value of the product or service, this is no basis to allege that such payment schemes are price discriminatory. The false concern over price discrimination rests on the failure to consider ex ante costs and revenues. In order to reduce marketing costs, sellers may classify customers into groups and offer members whithin each group some average expected service at a price averaged across the group. Consequently, some customers may get more or less than the average service provided to the group as a whole. Such ex post differences in service received by different customers may therefore reflect efficient contracting--not price discrimination.