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# The Role of Dependence Balancing in Safeguarding Transaction-Specific Assets in Conventional Channels

The authors develop a theoretical extension to the basic transaction cost model by combining insights from dependence theory with the TCA approach. They introduce offsetting investments as a means of safeguarding the specific assets of small firms in conventional channels. The traditional TCA safeguards are insufficient here, because vertical integration is not feasible for the small firm at risk and long-term contractual protection is not present in conventional channels. Data from 199 manufacturers' agencies support the theoretical predictions. Agencies with more specific assets invested in their relationship with a principal attempted to bond themselves more closely to their accounts to safeguard those assets. Such bonding efforts resulted in a lower level of dependence on the principal because the agencies were better able to replace the principal if necessary. Also, their financial performance was improved when dependence was reduced, provided levels of specific investments were relatively high.

**A** theoretical perspective that has attracted considerable interest recently in the area of marketing channels is transaction cost analysis (TCA). Developed principally by Williamson (1975, 1979, 1985), it is a blend of institutional economics, organizational theory, and contract law. The basic question posed in this analysis is: Under what conditions are transactions performed more efficiently within a firm's boundaries, by means of bureaucratic control and coordination, than across a firm's boundaries, by means of arm's-length market coordination? The thrust of the analysis is to match properties of efficient governance structures with the attributes of the transaction in question.

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The broad scope and generality of the analysis have led to its incorporation into several recent theoretical accounts by researchers in marketing, ranging from analysis of vertical integration (Anderson and Weitz 1983), the organization of marketing activities (Ruekert, Walker, and Roering 1985), and the impact of the environment on the political economy of channels (Achrol, Reve, and Stern 1983) to examining key account relationships (Jackson 1985) and describing the "domesticated" nature of markets in long-term inter-firm relationships (Arndt 1979).

Despite the growing acceptance and popularity of transaction cost analysis, there are some crucial obstacles to its successful application in explaining channels phenomena. One derives from the fact that the empirical evidence about the basic propositions of TCA is very sketchy. Apart from Anderson's (1985) study of the vertical integration of the selling function and John's (1984) study of opportunism by franchised dealers, virtually no studies in marketing involving the constructs implicated in the analysis have been reported. A perhaps more important obstacle is the con-

ceptual difficulty in applying the transaction cost approach to channels issues.

The major conceptual difficulty arises from the fact that TCA is incomplete in several respects. Our particular concern here is that TCA “. . . normally examines each trading nexus separately. Albeit useful for displaying the core features of each . . . , interdependencies among a series of related [trading relationships] may be missed . . .” (Williamson 1985, p. 203). Such interrelatedness between linkages is likely to be present in marketing channels. In fact, the dominant theoretical perspective on marketing channels is that they are viewed best as interorganizational systems comprising interrelated exchanges (Stern, El-Ansary, and Reve 1980). The deficiency associated with the extant TCA approach can be illustrated with an example.

Consider the case of manufacturers’ agents in their relationship with the principals they represent. Generally such agencies are much smaller firms than the principals. Suppose that in such a relationship an agency has made some transaction-specific investment.<sup>1</sup> It might consist of the time and effort invested by the agency in developing the market for the particular principal’s product line. The fundamental prediction of TCA is that when such transaction-specific investments are made, they must be safeguarded against opportunism. Protection is achieved by moving away from an arm’s-length market relationship toward a vertically integrated relationship and its associated bureaucratic control mechanisms. Unfortunately this prediction is simply irrelevant in our example because the small agencies cannot consider vertical integration as a feasible alternative. Note that the principal is uninterested in vertical integration because it is the agent’s investment at risk.

How then might specific investments be safeguarded? The global specification of the theory affords no clear answer. Implicitly, it assumes the perspective of a manufacturing firm that is large enough to consider the vertical integration option. Middle-range theoretical extensions (Merton 1957) are needed to enable TCA to address specific classes of situations not adequately addressed in the global specification.

We present such an extension of the basic TCA model by incorporating insights from dependence theory (e.g., Beier and Stern 1969; Emerson 1962) into the TCA framework. We argue that specific assets create interorganizational dependence and we draw on dependence theory to identify specific responses to such a condition.

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<sup>1</sup>Transaction-specific investments are specialized to the relationship and are not redeployable. Lacking any significant salvage value, these investments make the agency vulnerable to opportunistic behavior. They are the primary independent variable in TCA models.

Specifically, we show that a dependence-balancing approach can safeguard specific assets, even in situations for which the traditional safeguard of vertical integration is infeasible. The balancing operation takes the form of offsetting investments, which are specific assets invested in related trading relationships as a means of safeguarding specific assets in the focal dyad.

Our analysis shows that small channel members such as manufacturers’ agencies use such investments in relationships with their accounts (customers) to safeguard their assets at risk in the agency-principal dyad. Hence they do not need to depend on vertical integration or contractual protection. We also show that successfully safeguarding such assets enhances the agencies’ financial performance.

In the next section we review those aspects of transaction cost analysis that are relevant to our investigation. The idea of offsetting investments is introduced and is illustrated with reference to manufacturers’ agents. The resulting reduction in dependence on the principal is examined. We then describe the empirical study designed to assess the validity of the derived relationships and report the results of the data analysis. We conclude with a discussion of the results and their implications for theory and practice.

## Transaction Cost Analysis of Channels Relationships

Transaction cost analysis (TCA) poses the issue of economic exchange as a problem of designing efficient contracting relationships. In this perspective, the principal factor that distinguishes different trading or exchange relationships is the presence of transaction-specific assets. TCA is an attempt to explain how the efficient form or structure of relationships varies systematically with the level of specific assets present.

Transaction-specific investments are those human and physical assets (tangible and intangible) required to support exchange and which are specialized to the exchange relationship. If the relationship were to be terminated, the value of these assets would be largely lost because their salvage value outside the relationship is very low. Such nonredeployable assets can be thought of as creating switching costs (Jackson 1985; Porter 1980). To understand the nature of these assets, consider the relationship between a firm and a manufacturers’ agent.

Manufacturers’ agents are sales specialists who work for firms on a commission basis. They generally represent several complementary though not competing product lines and sell within a specific territory. (See Sibley and Teas 1979 for descriptive information about agents). Overall, they constitute about 10% of U.S. wholesale sales activities, but are responsible for

a large percentage of sales in some industries (Taylor 1981).

Manufacturers' agents may have a variety of transaction-specific investments. In some cases, certain dedicated equipment must be purchased in order to sell and/or service the principal's line effectively. In other cases, the employees of the agency must be trained specifically for the product line of a particular principal. Perhaps the most common transaction-specific investment of manufacturers' agents is the effort made to develop the sales territory for the principal's product line.

Specific investments vary in their degree of specificity. Consider, for instance, the dedicated equipment an agency must purchase to sell and/or service the principal's line. Its cost is a completely sunk cost and its salvage value would be close to zero if the agency were discontinued by the principal. Likewise, the agency's employees' training specific to the principal's product line is nonsalvageable because a termination of the relationship would necessitate learning the specifics of another manufacturer's line. To the extent that the training is transferable, the degree of specificity of this investment diminishes.

Transaction-specific assets pose a contractual hazard for the agency. The exchange partner can exploit or appropriate such assets because they are nonredeployable or at least have reduced value in an alternative exchange relationship. For instance, the principal can replace the agent with a company salesforce after the agency has developed the territory. In effect, the firm is expropriating the value of the investment made by the agency in developing the territory. Even if outright termination does not occur, principals can opportunistically expropriate some fraction of these "quasi-rents" (Klein, Crawford, and Alchian 1978) through increased use of house accounts, reductions in commissions, restrictions on sales to classes of customers, and other actions.

The fundamental concern of transaction cost analysis is to develop satisfactory safeguards, that is, ". . . organize transactions . . . [to] safeguard them against the hazards of opportunism" (Williamson 1985, p. 32). The principal safeguard identified by TCA is vertical integration of the activity in question. Vertical integration is presumed to afford protection of specific assets against opportunistic behavior through (1) monitoring and surveillance capabilities, (2) more sensitive reward structures, and (3) reduction of the opportunistic party's ability to profit from such behavior. Klein, Crawford, and Alchian (1978), Klein and Lefler (1981), and Williamson (1975, 1979, 1985) provide several illustrations of this relationship between specific assets and vertical integration. In each case, one party to an exchange is motivated to safeguard certain transaction-specific investments that it has made

in the trading relationship. This protection is ensured by initiating some form of vertical control, ranging from outright vertical integration to quasi-integration such as franchising.

Two recent empirical studies have shown support for this contention. Monteverde and Teece (1982) found that automobile companies were more prone to integrate backward into component manufacturing when sourcing parts that required more investment in specific assets. Anderson (1985) found that electronics firms were more likely to integrate forward when the level of specific assets in the sales function was higher. These firms utilized an employee salesforce rather than relying on independent manufacturers' representatives for territories characterized by high levels of specific assets. We show subsequently that one seemingly anomalous finding in this study is important. Considering the various types of specific assets, Anderson found that when salespeople had higher levels of specific assets *in their interaction with their accounts* (i.e., customer-related specific assets), firms were more likely to use the *non-integrated* manufacturers' agent option, contrary to the basic TCA prediction. All the other types of specific assets (e.g., firm-related specific assets) showed the expected positive relationship with vertical integration.

A theoretical extension of the basic TCA model is offered by Stinchcombe (1985), who argues that the protective safeguards available through vertical integration can be obtained also by explicit market-based contractual agreements that simulate elements of hierarchy. For instance, a long-term market contract sometimes can be used to safeguard long-lived specific assets because the value of those assets can be safely depreciated over the time period. Similarly, administrative control procedures can be inserted into contractual agreements. The party at risk thus obtains the authority to monitor and closely inspect the other party's worksite and procedures to minimize opportunistic behavior.

This alternative is not feasible if the party with specific assets at risk is much smaller than the other party and has less bargaining power. Obtaining protection through market contracts depends on having sufficient bargaining power to extract safeguards. Stinchcombe stresses the role of power in shaping the nature of hierarchical elements within market contracts. Clearly, the manufacturers' agents do not have much bargaining power in relation to the principals they represent.

The absence of contractual protection is striking if one examines these agencies' relationships with their principals. Typically, the contracts with their principals are cancellable on 30 days' notice at the discretion of either party. Administrative control and monitoring authority over the principals are also absent.

If anything, the principals are able to exert some administrative control over the agencies rather than vice versa.

In sum, the TCA approach described does not enable us to make theoretical predictions about small firms within conventional channels. We next describe an extension that addresses this class of channel relationships.

### ***Dependence and Transaction-Specific Investments***

Researchers in marketing have a well-established tradition of examining the dependence relationships between firms in a channel of distribution. Applying Beier and Stern's (1969) adaptation of Emerson's (1962) theory of dependence in interpersonal relationships, researchers typically have used the following definition: Firm A's dependence on B is directly proportional to the motivational investment in goals mediated by B and inversely proportional to the availability of those goals to A outside the A-B relationship (Emerson 1962, p. 32). Organizational behavior researchers (e.g., Jacobs 1974; Pfeffer and Salancik 1978; Scott 1981) have relied on a similar notion of dependence. Pfeffer and Salancik argue that dependence comprises three elements. "First, there is the *importance* of the resource, the extent to which the organization requires it, . . . second is the extent to which [the other party] . . . has *discretion* over the resource . . . , and third, the extent to which there are few *alternatives* . . ." (p. 45).

On the basis of these definitions, we can distinguish at least four means by which dependence is increased. First, when the outcomes obtained from a relationship are *important* or highly valued, the focal party is more dependent. The same is true when the *magnitude* of the exchange itself is higher. Thus, a firm is considered more dependent on a supplier when that supplier provides a larger fraction of its business. Several authors have used this notion of magnitude and/or importance of exchange to describe dependence (e.g., Dickson 1983; El-Ansary and Stern 1972; Etgar 1976; Pfeffer and Salancik 1978).

Second, dependence also is increased when the outcomes from a relationship are comparatively higher or better than the outcomes available from alternative relationships. Thus, firms dealing with the "best" supplier (in terms of price, quality, etc.) are more dependent because the outcomes associated with that supplier are higher than those available with lower performing suppliers. This notion of *role performance* and/or *comparison of outcome levels* has been used as the basis of dependence in the past (e.g., Anderson and Narus 1984; Frazier 1983).

Third, dependence is increased when fewer alternative sources of exchange are available to the focal

party. Both empirical and conceptual studies have capitalized on the notion of the *concentration* of exchange by measuring the number of exchange partners (e.g., Pfeffer and Salancik 1978) and/or the fraction of business done with the particular partner (e.g., Dickson 1983; El-Ansary and Stern 1972; Etgar 1976).

Fourth, dependence is increased when fewer *potential* alternative sources of exchange are available. The presence of potential exchange possibilities is assessed by examining the difficulty involved in *replacing* the incumbent exchange partner. When replacing or substituting an exchange partner is difficult, the potential alternatives are few and dependence is increased. This notion of the replaceability of the incumbent partner as a measure of dependence has been used in several empirical studies (e.g., Brown, Lusch, and Muehling 1983; Buchanan 1986; El-Ansary and Stern 1972; Etgar 1976; Phillips 1981).

The connection between the dependency perspective and the TCA line of reasoning is observed readily when the replaceability aspect of dependence is considered. Recall that the presence of transaction-specific assets creates exchange difficulties for the investing party. Fundamentally, these difficulties arise from the fact that an opportunistic exchange partner could appropriate some fraction of the value of these immobile assets. The appropriability arises because the investing party could no longer rely on the threat of switching to another supplier to induce non-opportunistic behavior. Because of switching costs, such a threat is not credible. These switching costs, or lack of replaceability, are a direct consequence of the immobility of the assets.

Viewed another way, the party with specific assets is potentially dependent on good-faith non-opportunistic behavior by the exchange partner. The extent of potential dependence is a function of the magnitude of the specific assets. Notice that we use the term "potential dependence" to reflect the fact that the realized level of dependence depends on the degree to which the assets can be safeguarded by some means. The realized level of dependence can be assessed by measuring the replaceability of the exchange partner.

The dependence arising from the presence of specific assets is distinguishable from the other aspects of dependency discussed previously. For instance, it is conceptually distinct from the dependence associated with *magnitude* of the exchange and/or the *concentration* of exchange. Even if a firm were to deal with a single exchange partner, high levels of specific assets need not be present. Likewise, it can be distinguished from the dependence associated with higher role performance. The degree to which specific assets are used to support the exchange is not linked intrinsically to the quality of role performance. Dependence associated with transaction-specific assets occurs even

if the exchange partner is "average" or even subpar in role performance. The only relevant characteristic of the exchange partner is its tendency to behave opportunistically, which is considered to be parametrically invariant. In the TCA approach, all parties will behave opportunistically if such action is possible and profitable.

To summarize, we argue that transaction-specific assets create dependence, which is described by the extent of the replaceability of the exchange partner. We now describe the ways in which the (dependent) firm with assets at risk can safeguard them.

### ***Transaction-Specific Assets and Dependence Balancing Via Offsetting Investments***

Consider the perspective of an agency in the simple manufacturer-agency-customer channel. Suppose the agency has invested in specific assets in its relationship with a particular principal. Clearly, it is at risk with respect to those investments unless some safeguards can be found. The traditional safeguard, vertical integration, is infeasible in this setting. Manufacturers can and do use forward integration as a safeguard, but small agencies cannot possibly integrate backward into manufacturing. Likewise, they do not have explicit contractual safeguards. Such safeguards might consist of long-term contracts involving territorial protection that enable the agency to depreciate long-lived specific investments. Agencies' contracts with principals typically have a 30-day cancellation clause.

We propose that the dependence-balancing notions offered by Emerson (1962) provide a basis for expanding the set of feasible responses. Specifically, we propose that an agency will reduce its dependence on the principal by engaging in *bonding behavior* with its accounts for the principal's lines. This behavior consists of actions to tie the accounts more closely to the agency. It includes such actions as developing personal relationships with the accounts' personnel and developing an identity separate from the line being represented. Other actions are adding value to the product and creating specialized procedures for the accounts to use in ordering, shipping, and servicing. The agency also may dedicate some assets (physical and/or human) to the account. Conceptually, one can think of such actions involving people, products, and procedures as creating exit barriers in the agency-account relationships. The accounts would incur switching costs if they were to change to another agency or even buy directly from the manufacturer. It is important to note that these offsetting investments in the agency-account relationships are themselves transaction-specific assets because their value would be greatly diminished if the accounts were to switch to buying from a source other than the agency.

One should note that the model posits the agencies as undertaking offsetting investments specifically in response to the dependence created by the presence of specific assets in the principal-agency dyad. In the context of dependence theory, it is interesting to ascertain whether this response might be evoked by conditions of dependence other than that created by the presence of specific assets, such as the dependence resulting from a reduced number of exchange partners or from an increase in the fraction of exchange accounted for by the major partner. To the agency faced with these dependency situations, it may seem sensible to balance all such dependence by undertaking customer bonding efforts.

We argue against such a response. We propose that firms are likely to be very discriminating in their responses to conditions of dependency. In particular, given a certain level of specific assets, the resulting dependency will not be reduced by increasing the number of principals or reducing the concentration of exchange. Such actions might *reduce* the levels of specific assets, but would not affect the level of *protection* available for the extant levels of such assets. Consequently, we predict that the number of exchange partners and exchange concentration are unlikely to explain the bonding efforts undertaken by the agency. An empirical finding that supports such reasoning would strengthen the nomological validity and specificity of the model.

One also might argue that the agency's efforts to build stronger bonds with its customers can be explained on the grounds that such behavior is always desirable from a marketing standpoint. Hence the variations in such behavior are simply a reflection of the circumstances prevailing in the marketplace aside from the need to protect specific assets. For instance, one could argue that competitive pressures can drive a firm to engage in such behavior as a means of differentiating itself from competitors.

To distinguish the specific-assets determinants of such behavior, any empirical effort to assess the theoretically specified dependence-balancing operation must control for common market- and product-related factors in the situation that might evoke such behavior. The major theoretical conclusion that emerges can be summarized in the following proposition.

- P<sub>1</sub>: When specific assets are at risk in an interfirm relationship and vertical integration is infeasible, the party at risk will utilize offsetting specific investments in related trading relationships to balance its dependence.

*Replaceability.* In TCA terms, one can speak of the presence of the offsetting investments as constituting a safeguard against opportunism by the prin-

cial. When customers are more closely tied to the agency, the agency's potential ability to replace the income derived from its current relationship with the principal is increased. It is this *potential replaceability* derived from the bonding efforts that measures the degree to which the agency's specific assets in the agency-principal dyad have been safeguarded. Two sequences of events are implicated. First, higher replaceability increases the fraction of accounts that the agency can retain if the manufacturer behaves opportunistically. Second, the manufacturer is less likely to behave in such a way if it is aware of the ability of the agency to substitute another principal. Consequently, potential replaceability constitutes an *ex ante* as well as an *ex post* safeguard against such behavior.

In this extension of the basic TCA model, the replaceability safeguard operates rather differently from the protection afforded by vertical integration or by explicit contractual provisions. In the case of vertical integration, opportunistic tendencies to exploit specific assets are curbed through bureaucratic control involving supervision, rules, and authority relations. Likewise, contractual protection creates authority structures to curb such behavior. In both cases, explicit forms of control are present. In our extension, the principal is induced to behave non-opportunistically through a set of incentives (potential replaceability) that reduces the potential gain from such behavior.

The extension can account for a seemingly anomalous empirical finding of Anderson (1985). She found that the nonvertically integrated option (manufacturers' reps) was preferred to the vertically integrated option (company salesforces) when there were higher levels of transaction-specific assets in the salesperson-customer situation. This finding is completely consistent with our model. Consider the agency's perspective in this situation. When it has higher levels of specific assets invested in its relationship with its principals, it will safeguard those assets by offsetting them with increased levels of customer-related specific assets. In other words, agents would not invest in the principal-specific assets unless they could offset them. The result would be the empirical effect found by Anderson.

In developing the rationale for the offsetting investments, we argue that the resulting replaceability constitutes a reduction in the dependence of the agency. From a dependence theory perspective, the question arises of whether we can distinguish between the replaceability aspect of dependence and other aspects of dependence such as the number of principals and concentration of exchange. One means of demonstrating the unique variance associated with replaceability is to assess the effect of the bonding efforts on replaceability while allowing for possible variation due to the other aspects of dependence. If bonding efforts re-

main a significant predictor of replaceability after we incorporate the possible effects of other aspects of dependence, we would have considerably stronger evidence for the posited model. Our empirical test includes these additional predictors.

The primary theoretical conclusion derived from the preceding discussion can be stated in the following proposition.

- P<sub>2</sub>: Offsetting investments made by a firm with specific assets invested in an interfirm relationship reduce its dependence by increasing the replaceability of the incumbent exchange partner.

### **Dependence and Performance**

The performance implications of dependence-balancing actions are implicit throughout the preceding discussion. Recall that a distinctive feature of the TCA line of reasoning is that these safeguarding actions are presumed to be undertaken to improve the transaction performance of the exchange. Specifically, it is assumed that exchange partners are inclined to behave opportunistically. A firm is motivated to employ safeguards to enable it to invest safely in (productive) specific assets that could not otherwise be deployed. To the extent that such assets are not safeguarded, the value of the firm's specific assets would be appropriated to a considerable degree, resulting in reduced returns. Alternatively, the firm would be constrained in its ability to invest in productive assets and its economic performance would decline.

Note that the need for a safeguard increases with the level of specific investments. In other words, the potential performance loss from having inadequate safeguards is significant only when the level of specific assets is high. Thus, firms with high levels of specific assets can improve their performance by improving the replaceability of their exchange partners. Correspondingly, when specific asset levels are low, the beneficial effects of replaceability should be absent. In this context, replaceability measures the degree to which assets have been safeguarded. The statistical contrasts that correspond to this argument are described in detail subsequently. These expectations can be summarized in the following proposition.

- P<sub>3</sub>: The positive effect of replaceability on performance is contingent on high levels of specific assets being invested by the agency in the interfirm relationship.

In contrast to the prediction from the TCA approach, the dependence literature does not offer unambiguous performance implications. In general, firms are assumed to be motivated to reduce dependence and this motivation is not linked explicitly to performance

consequences. As a leading theorist in the area (Pfeffer 1982) has noted, coping with dependence may or may not be related to dependence. Similar equivocal performance implications are found in the marketing literature.

Beier and Stern (1969) argue that dependence in an exchange situation makes one party susceptible to the power and influence of the other party. The more powerful partner is in a position to create more favorable terms of trade for itself and will divert profit from the less powerful party. The result should be a negative relationship between dependence and profit. This line of reasoning is congruent with Porter's (1980) arguments about the deleterious effects of the influence of suppliers and/or customers on the focal firm. A fundamentally different consequence also is predicted from the same perspective. As Beier and Stern note, ". . . those . . . with the greatest power are able to manipulate other members . . . in order to achieve greater positive results for the system" (p. 113). The result should be a positive relationship between dependence and profitability.

The conceptual work to date has not been able to isolate the circumstances in which each of the predictions is likely to hold. In sum, no unambiguous predictions are offered. Furthermore, despite two decades of empirical research into power and influence in channel relationships, no evidence has been found to support either one of the expectations. Clearly, one of the principal benefits of introducing the TCA line of reasoning into the dependence literature is that it enables us to advance our understanding of the performance implications of these variables.

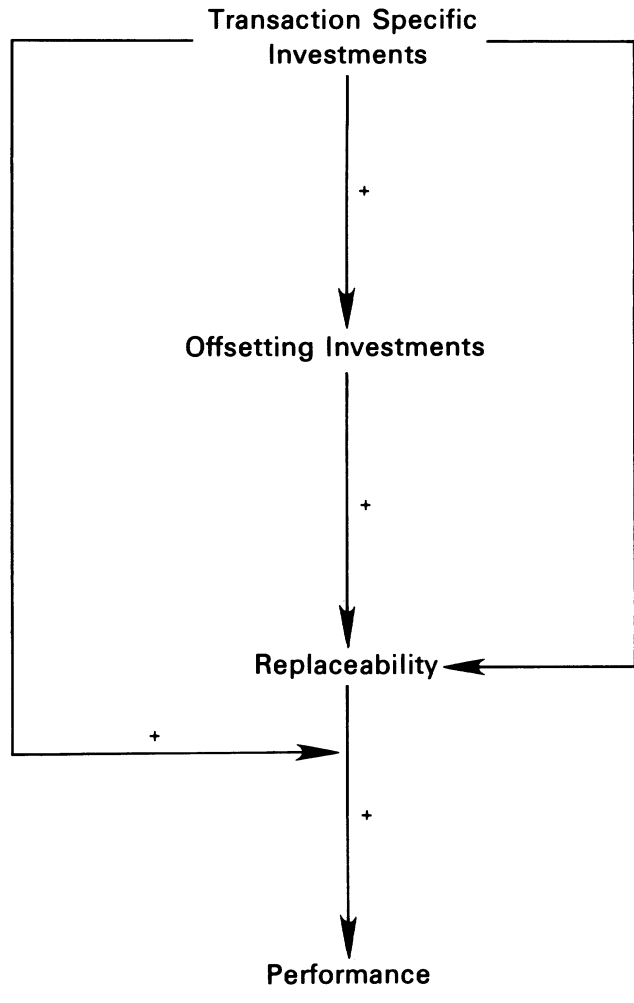
### Theoretical Summary and Statistical Models

Figure 1 depicts the working model and Figure 2 shows the specific equations for the statistical tests.

*Offsetting investments.* Equation 1 in Figure 2 is the statistical model that assesses the validity of  $P_1$ . As in the proposition, higher levels of specific assets invested by the agency (TSAPRN) in the agency-principal dyad have a positive effect on offsetting investments (OFFSET) in the agency-customer relationships. Because these offsetting investments are viewed as a dependence-balancing operation, two other dependency variables also are included as predictors to guard against any specification bias: the number of principals represented by the agency (#PRNS) and the percentage of business accounted for by the biggest principal, or concentration of exchange (CONC).

We also would expect customer bonding efforts to be affected by the nature of the product and market conditions. To control for this possibility, 14 items measuring various aspects of the market and the prod-

**FIGURE 1**  
Major Relationships in Model



uct line are included in equation 1. No explicit hypotheses are advanced for these control variables.

*Replaceability.* Equation 2 in Figure 2 is the statistical model assessing the validity of  $P_2$ . As proposed, higher levels of offsetting investments (OFFSET) increase the replaceability (REPLINC) of the incumbent partner. In addition, the presence of more specific assets (TSAPRN) reduces the replaceability because it creates more dependency. Thus, specific assets affect replaceability in two ways. They act indirectly through offsetting investments as well as having a direct unmediated effect on replaceability.

In testing  $P_2$  we must account for the possibility that aspects of dependency such as the number of exchange partners (#PRNS) and concentration of exchange (CONC) can adequately explain replaceability. Consequently, these two variables are included as additional predictors of replaceability in equation 2.

**FIGURE 2**  
**Working Model of Relationships<sup>a</sup>**

Dependent Variable	TCA Variables			Dependence Variables		Control Variables	
	REPLINC	OFFSET	TSAPRN	#PRNS	CONC	MKT	PROD
(1) OFFSET			+	NS	NS	0	0
(2) REPLINC		+	-	+	-		
(3) COSTCOMM	-			-	+	0	0

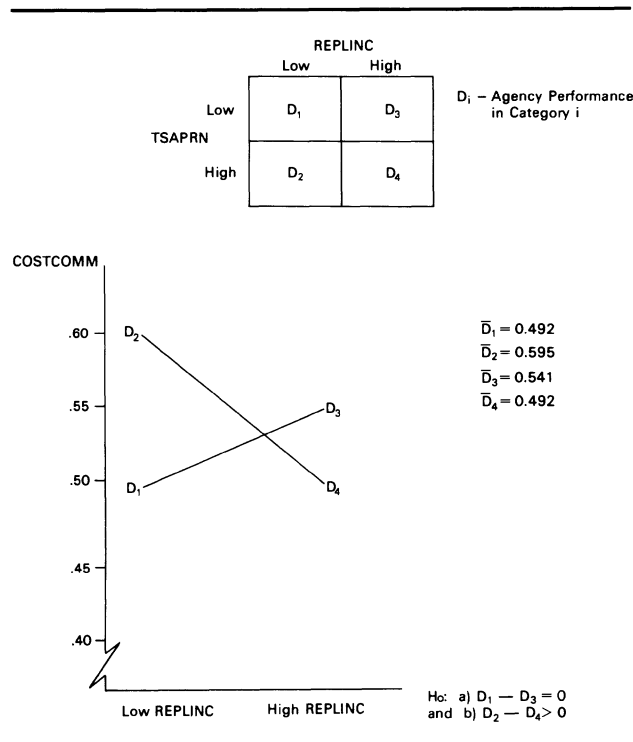
<sup>a</sup>Plus sign indicates positive effect, minus sign indicates negative effect, NS indicates no effect. Zero means no specific effect is predicted; measures are included as control variables. Blank indicates variable is not included in equation.

*Performance effects.* Equation 3 in Figure 2 is the statistical model assessing  $P_3$ . As in the proposition, the effect of replaceability is contingent on high levels of specific assets. This contingent effect consists of two specific contrasts, which can be understood by considering the  $2 \times 2$  matrix in Figure 3. The matrix categorizes agencies into four conditions. Cell 1 is the low specific assets/low replaceability condition and cell 2 represents agencies with high specific assets but low replaceability. Cell 3 corresponds to the low specific assets/high replaceability condition and cell 4 represents the high specific assets/high replaceability situation. In this representation,  $P_3$  consists of the two “simple effects” that (1) performance in cell 4 exceeds performance in cell 2 significantly and (2) performance in cell 3 is not significantly different from

that in cell 1. Notice that the contrasts in Figure 3 are described in terms of the negatively scaled performance measure COSTCOMM and hence are reversed in direction.

In addition to the contingent effect of replaceability on performance, several other possible effects are included in the model. Two variables describe other aspects of the agency’s dependence: the number of exchange partners (#PRNS) and the concentration of exchange (CONC). No directional hypotheses are advanced for these variables. In addition to these variables of theoretical interest, we include the set of 14 measures describing the various aspects of the market and product line. It is reasonable to assume that such exogenous factors as price, quality, and competition may have substantial effects on performance and we must control for these variables in assessing the relationships of interest.

**FIGURE 3**  
**Contingent Effect of Replaceability on Performance**



## Method

### Research Setting

Manufacturers’ agents in two industries (electrical/technical and process equipment) were selected as the research setting for our study. Several features of this setting make it appropriate for our investigation. First, the agencies are relatively small firms in comparison with the manufacturers they represent. Second, field interviews revealed that these technically oriented agencies often have substantial amounts of transaction-specific investments in their relationships with principals. Third, the conventional TCA safeguards (vertical integration and/or long-term contracts) are unavailable, as required by our model. Vertical integration into manufacturing is not an option because of the limited size of the agencies in relation to the manufacturers. Likewise, they lack contractual protection as their contracts with principals are cancellable at 30 days’ notice at the discretion of either party. Hence the necessary conditions for testing the notion of off-setting investments as a safeguard for specific assets appear to be satisfied in this setting.

The nature of the agencies also reduces certain



methodological problems. Because the organization is the unit of analysis in our hypotheses, we must be sure of our respondents' ability to report accurately on their organizations' activities. As John and Reve (1982) have shown, Campbell's (1955) criteria can be used successfully to obtain reliable reports from key informants. The key criteria for selecting informants are that (1) by virtue of their position, they must be knowledgeable about the issues in question and (2) they must be willing and able to communicate via the research instrument.

Our informants are the owners/general managers of the manufacturers' agencies. Their position in these small agencies makes them qualified to speak about such issues as relationships with principals and customers. They also have access to the accounting information needed for certain of the measures. To increase the accuracy of their reports, our informants were requested to consider their agency's relationship with its biggest principal (in terms of commission income generated) when answering the questions. We reasoned that more accurate financial records would be available for the largest principal and also that the saliency of the relationship would increase the accuracy of the perceptual measures. To enhance willingness to respond, we offered to give participating agencies a summary report of the mean responses to the questions. Finally, we ensured ability to communicate effectively by pretesting the research questionnaire. No particular problems were found. Callbacks were used to obtain responses to unanswered items. With the exception of answers to a few financial questions, very little information was lacking in the final data.

### **Measures of Principal Constructs**

The measures were developed by adapting the specific assets scale used by Anderson (1985) and John and Weitz (1985) and by devising new measures. Whenever possible, multiple measures were used for each of the theoretical constructs. Single-item measures were used for the market- and product-related control variables. Each of the principal constructs is described hereafter.

*Specific investments in agency-principal relationship.* The extent to which an agency has invested in specific assets in its relationship with the principal was measured by the items listed in Table 1. Some of the items are derived from Anderson (1985) and John and Weitz (1985); others were developed for our study. The scale obtained from these items is labeled TSAPRN.

*Offsetting investments.* This construct describes the extent to which an agency carries out efforts to develop close bonds with its customers (accounts) for the principal's products. Such bonding efforts consti-

**TABLE 1**  
**Specific Investments by Agency in Agency-Principal Relationship (TSAPRN)**

- 
1. It has taken us a lot of time and effort to learn the ins and outs of this principal's organization that we need to know to be effective.
  2. Our salespeople have spent a lot of time and effort learning the special selling techniques used by this principal.
  3. A lot of the tasks we perform for this principal require close coordination with their people.
  4. Our agency has spent a lot of time and effort to develop the sales territory for this principal's lines.

Alpha = .70

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**TABLE 2**  
**Offsetting Investments by Agency in Agency-Account Relationships (OFFSET)**

- 
1. We spend a lot of time with our accounts for this principal's product line to learn to be effective with them.
  2. Our accounts for this principal's product lines don't really care if they buy from us or from some other agent.<sup>a</sup>
  3. We don't just sell products, we build up a relationship with our accounts for this product line.
  4. The personal relationships between our salespeople and our accounts for this principal's product lines have a big effect on sales.
  5. Our accounts for this product line have a lot of unusual needs which can be met only if you have dealt with them for some time.
  6. To be successful with this product line, the most important task is to be responsive to our accounts' needs.
  7. Often we try to build more value into this product line by providing special services to our key accounts.

Alpha = .77

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<sup>a</sup>Reversed.

tute specific assets invested in the agency-account relationship that are intended to create switching costs. We used the items listed in Table 2 to measure various types of bonding efforts and to develop a multi-item scale (OFFSET).

*Potential replaceability of principal.* The degree to which an agency can replace the commission income currently generated from selling the principal's products represents the dependence (lack of) of the agency on the principal. We used the items in Table 3 to measure various means of potentially replacing this commission income. The resulting scale is labeled REPLINC.

*Performance.* We developed an objective indicator of performance. It is a negatively scaled measure and consists of the ratio between field selling costs

**TABLE 3**  
**Replaceability of Commission Income From This Principal (REPLINC)**

1. If we no longer represented this principal, the loss of the line would hurt sales of other related product lines.<sup>a</sup>
2. If we no longer represented this principal, we could easily compensate for it by switching our efforts to the other lines we carry.
3. If we no longer represented this principal, we could easily replace their product line with a similar line from another principal.
4. It would be relatively easy for our agency to diversify into selling new products.
5. If our relationship with this principal were terminated, we would suffer a significant loss in income, despite our best efforts to replace the lost income.<sup>a</sup>
6. Many principals in this industry would like to have us as their agent.

Alpha = .72

<sup>a</sup>Reversed.

(largely employee compensation) incurred to sell the particular line and the commission income generated for the agency by that line (COSTCOMM). Higher values of this measure indicate that the agency's return relative to costs is diminished.

This performance measure can be usefully compared with other commonly used measures of performance. One such measure is total dollar sales. Though it is easily obtained, it is undesirable because it confounds size and performance. A net profit figure could be used, but it also confounds size and performance.

Other candidate measures are net percentage profit and ROI. They are conceptually appealing, but the denominator raises some problems. Obtaining an estimate of the investment base is very difficult because the agencies tend to expense most expenditures. The dollar sales of the line could be used as the denominator, but this figure is somewhat misleading because the agency's revenues are really only its commissions. Clearly, commissions from the line would constitute an appropriate denominator. Notice, however, that profit as a percentage of commissions is simply a reexpression of our costs-to-commission ratio because profit is almost exactly revenue (commissions) minus selling costs.

The pretests showed no difficulty in obtaining the estimates. Using the largest principal as the referent for these numbers was advantageous because agencies have good information about the dollar amounts for that firm.

*Number of principals.* Informants were asked to report the total number of principals currently represented by the agency (#PRNS).

*Concentration of exchange.* This construct was measured as the fraction of total agency commissions accounted for by the largest principal. A higher value of this variable means that the distribution of exchange across all the principals is more concentrated (CONC).

*Market and product factors.* Two sets of semantic differential items were included as possible control variables. In the first set (6 scales, Table 4) the informant was asked to describe the focal principal's product line and in the second set (8 scales, Table 5) was asked to describe the market environment in the agency's sales territory for the focal principal's product line.

**Data Collection**

Systematic random samples of 400 agencies were selected for each of the two industries from a national directory of manufacturers' agents. The questionnaire was mailed to the owner/manager listed in the directory. This mailing yielded a response rate of 25% (199

**TABLE 4**  
**Product Line of Principal Sold by Agency**

Technical	1 2 3 4 5 6 7	Nontechnical
Unsophisticated	1 2 3 4 5 6 7	Sophisticated
Commodity	1 2 3 4 5 6 7	Customized
Low relative price	1 2 3 4 5 6 7	High relative price
Low relative quality	1 2 3 4 5 6 7	High relative quality
Hard to sell	1 2 3 4 5 6 7	Easy to sell

**TABLE 5**  
**Agent's Territory for Principal's Product Line**

Complex	1 2 3 4 5 6 7	Simple
Stable market shares	1 2 3 4 5 6 7	Volatile market shares
Easy to monitor trends	1 2 3 4 5 6 7	Difficult to monitor trends
Few new products	1 2 3 4 5 6 7	Many new products
Stable industry volume	1 2 3 4 5 6 7	Volatile industry volume
Sales forecasts are quite accurate	1 2 3 4 5 6 7	Sales forecasts are quite inaccurate
Unpredictable	1 2 3 4 5 6 7	Predictable
Few new competitors	1 2 3 4 5 6 7	Many new competitors

firms), which is within the range of response achieved in similar multifirm channels studies. Undoubtedly, a higher response rate would have been achieved if research budget considerations had not precluded a second mailing. The quality of the data appears to be high. With the exception of the financial performance measures, virtually no data are missing.

We compared early respondents with late respondents (Armstrong and Overton 1977) on several descriptive variables such as total dollar sales, total number of principals represented, total number of employees, and the percentage of total commission income accounted for by the largest principal. No significant differences were found except that early respondents tended to represent a larger number of principals. Nonresponse bias therefore does not appear to be a problem.

## Results

### Reliability

The pool of items for each of the three principal constructs was examined by using factor analysis and item-total correlations to assess their unidimensionality and reliability. The eigenvalue  $>1$  rule and the scree rule were used to establish that only one factor is needed to represent these items. Also, any item with an item-total correlation less than .30 was deleted. The reliability of each of the constructs assessed via multi-item scales is reported in Tables 1 through 3. All of them appear adequate for research purposes.

### Convergent Validity

Evidence for the convergent validity of two of the principal constructs is available in the data. We obtained a very dissimilar measure of the agency's specific investments variable to validate the multi-item scale (TSAPRN). Each respondent was asked to assess the dollar value of equipment and other items purchased that were dedicated to selling/servicing the principal's products. We reasoned that dedicated equipment was likely to be at least partially nonredeployable. The value of such equipment (\$EQPT) correlates significantly with the multi-item (TSAPRN) scale ( $r = .184, p = .02$ ).

Convergent validation of our multi-item scale measure (REPLINC) of the potential replaceability of income also was obtained via a dissimilar measure. Respondents were asked to assess the net dollar loss (if any) in commission income given their best efforts to replace it over the next two years if their relationship with the principal were to be terminated. The value of this loss (\$LOSSINC) correlates significantly with the multi-item scale (REPLINC) in the expected direction ( $r = -.253, p = .00$ ).

### Discriminant Validity

Evidence about the discriminant validity of the three principal constructs is particularly crucial because two of the constructs are specific investments variables, albeit in different relationships. Suppose the principal-specific investments (TSAPRN) and offsetting customer-specific investments (OFFSET) were actually measures of a single construct. The significant effect of the former on the latter could be explained without invoking any conceptual argument. It would simply represent some method or other common variance.

To show discriminant validity between these two constructs, we identify a third variable that is related significantly to each of these two variables, but in opposite directions. Such a relationship would be a logical impossibility if the two variables were in fact the same construct (see Tesser and Krauss 1976 for an extended discussion of this approach to demonstrating discriminant validity).<sup>2</sup> Note that the two focal variables must be correlated positively with each other. If the focal constructs were related negatively with each other, the third construct would have to be related positively to each of the two focal variables. The statistical model that corresponds to this argument is shown in Table 6. Notice that this type of evidence of discriminant validity is much stronger than the usual factor analytic or multitrait, multimethod approaches. It does not depend on finding a correlation between two

TABLE 6  
Discriminant Validity

Dependent Variable REPLINC	Independent Variable	Standardized Coefficient	Tolerance	T-Value
	Constant	.00	1.00	4.38 <sup>a</sup>
	TSAPRN	-.171	.92	-2.31 <sup>a</sup>
	OFFSET	.247	.92	3.34 <sup>a</sup>

$$R^2_{\text{adj}} = .06$$

Correlation between TSAPRN, OFFSET = .282,  $p = .00$

#### Statistical Model for Tesser and Krauss Criteria

Discriminant validity of A, B, and C is established if:

(1)  $R_{AB} > 0, R_{AC} > 0, R_{BC} < 0$  at  $p = .05$

or

(2)  $R_{AB} > 0, R_{AC} < 0, R_{BC} > 0$  at  $p = .05$

or

(3)  $R_{AB} < 0, R_{AC} > 0, R_{BC} > 0$  at  $p = .05$

In these data, if A = TSAPRN, B = OFFSET, and C = REPLINC, condition 2 is satisfied at  $p = .05$ .

<sup>a</sup>Significant at  $p = .05$ .

<sup>2</sup>These relationships must be addressed after demonstrating that the individual measures are unidimensional and reliable.

measures that is “low” enough to permit the inference that they are not the same construct.

Consider the results of the regression equation in Table 6. The Tesser and Krauss criteria are summarized by the three sets of hypotheses. The replaceability of the principal (REPLINC) is regressed against the principal-specific investments variable (TSAPRN) and the offsetting customer-specific investments variable (OFFSET). TSAPRN has a significant negative effect ( $\beta = -.171, p = .02$ ) and OFFSET has a significant positive effect ( $\beta = .247, p = .00$ ). However, TSAPRN and OFFSET are correlated positively with each other ( $r = .281, p = .00$ ). Thus,  $R_{AB} > 0, R_{AC} < 0$ , and  $R_{BC} > 0$  at  $p = .05$ , which satisfies the Tesser and Krauss criteria. Consequently, the three variables are discriminated from each other.

### Nomological Validity

Figure 2 describes the equations to be estimated in conducting the hypothesis tests that correspond to the nomological predictions. Three types of explanatory variables are included in the analysis. In each equation are the focal theoretical variables from our extended TCA model and the two variables, number of principals and concentration of exchange, measuring the other aspects of dependence. Finally, a set of possible control variables representing the product and market situation are used in two of the three equations.

Our strategy for handling the control variables in each equation involved estimating a stepwise regression using the set of 14 possible market- and product-related control variables if they were specified in the equation. Thus the best subset model was identified. Then the equation was re-estimated including the predictors specified by the extended TCA analysis, the two dependence variables, and those control variables identified as being significant in the stepwise model. This procedure has certain advantages. It enables us to test all the theoretically important predictions while allowing us to incorporate control variables. Moreover, the model is parsimonious because only the significant control variables are retained. Table 7 is the

**TABLE 7**  
Correlation Matrix of Variables

TSAPRN	1.0					
OFFSET	.199	1.0				
REPLINC	-.049	.197	1.0			
#PRNS	-.212	-.072	.152	1.0		
CONC	.090	.083	-.280	-.463	1.0	
COST-COMM	.004	-.045	-.141	-.049	.014	1.00
Mean	5.082	5.777	3.685	10.619	43.527	.535
S. D.	1.108	.842	1.143	5.572	21.304	.318

correlation matrix of the major variables involved in the analysis.

### Offsetting Investments

The results in Table 8 describe the effects on the offsetting investments variable. As predicted in  $P_1$ , specific investments in the agency-principal relationship (TSAPRN) increase the degree to which offsetting investments (OFFSET) are undertaken ( $\beta = .214, p = .00$ ). Also as predicted, the number of principals represented (#PRNS) does not affect this variable ( $\beta = .068, p = .38$ ). However, the other dependence variable, concentration of exchange (CONC), does affect it ( $\beta = .136, p = .08$ ).<sup>a</sup>

Five of the original set of 14 market- and product-related control variables were identified as significant in the initial step and were retained. Of these, only four are significant in the final model. Agencies selling more customized products ( $\beta = .159, p = .03$ ) increased their customer bonding efforts, as did agencies with volatile market shares ( $\beta = .158, p = .04$ ) and predictable territories ( $\beta = .165, p = .02$ ). Finally, agencies in territories with many new competitors reduced such efforts ( $\beta = -.147, p = .04$ ).

This evidence strongly supports our expectation that dependence arising from concentration and lower numbers of exchange partners does not explain safeguarding behavior to the extent that specific assets are not needed to account for it. Firms apparently behave in a discriminating way when faced with a dependence situation. The theoretically specified antecedent, specific assets, remains significant even when we control for product and market factors that might prompt the bonding activities.

**TABLE 8**  
Offsetting Investment  
(Statistical Model for  $P_1$ )

Dependent Variable OFFSET	Independent Variable	Standardized Coefficient	Tolerance	T-Value
	Constant	.00	1.0	6.6 <sup>a</sup>
	TSAPRN	.214	.85	2.90 <sup>a</sup>
	#PRNS	.068	.78	.88
	CONC	.136	.77	1.75 <sup>b</sup>
	SOPH PROD	.107	.85	1.44
	CUSTOM PROD	.159	.87	2.18 <sup>a</sup>
	VOL MKT SH	.158	.85	2.13 <sup>a</sup>
	PRED MKT	.165	.92	2.31 <sup>a</sup>
	MANY COMPET	-.147	.88	-2.03 <sup>a</sup>

$R^2_{adj} = .15$

<sup>a</sup>Significant at  $p = .05$ .

<sup>b</sup>Significant at  $p = .10$ .

## Replaceability

Table 9 describes the posited effects on the replaceability variable (REPLINC). As predicted in  $P_2$ , increases in offsetting investments increase replaceability ( $\beta = .271$ ,  $p = .00$ ). Also, as expected, principal-specific investments have a negative effect on replaceability ( $\beta = -.131$ ,  $p = .07$ ). Dependence is increased by the presence of specific assets in the agency-principal dyad and reduced by the balancing operations undertaken by the agency. Notice, however, that the mediating effect of the bonding behavior is the more important link. As expected, these effects remain significant when we control for the possible effects of other dependence variables. The number of principals represented has no significant effect on replaceability ( $\beta = .093$ ,  $p = .23$ ) and concentration of exchange reduces replaceability as expected ( $\beta = -.238$ ,  $p = .00$ ). These results provide strong support for the posited sequence of events. Replaceability is affected by the concentration of exchange, but this finding does not explain the effect of offsetting investments on replaceability. These aspects of dependency appear to have unique antecedents.

## Performance

In Table 10 are the results of the statistical model that assesses the posited effects on performance. Recall that the measure of performance (COSTCOMM) is negatively scaled. Consequently, the coefficients are in the reverse direction.

Initially, a stepwise regression was estimated to identify the significant product and market variables, which were retained for inclusion in the final model. In the final model, agencies selling nontechnical products have lower performance ( $p = .06$ ) whereas those selling more sophisticated products have higher performance ( $p = .10$ ). Agencies in simpler territories also have enhanced performance ( $p = .04$ ).

**TABLE 9**  
Replaceability of Principal  
(Statistical Model for  $P_2$ )

Dependent Variable REPLINC	Independent Variable	Standardized Coefficient	Tolerance	T-Value
	Constant	.00	1.00	4.10 <sup>a</sup>
	OFFSET	.271	.91	3.79 <sup>a</sup>
	TSAPRN	-.131	.91	-1.83 <sup>b</sup>
	#PRNS	.095	.78	1.20
	CONC	-.238	.77	-3.061 <sup>a</sup>

$R^2_{adj} = .13$

<sup>a</sup>Significant at  $p = .05$ .

<sup>b</sup>Significant at  $p = .10$ .

**TABLE 10**  
Contingent Effects of Replaceability  
on Performance  
(Statistical Model for  $P_3$ )

Dependent Variable COSTCOMM		
Analysis of Variance Table		
Effect	Effect Estimate	F-Ratio
Constant	.465	—
NON-TECH PROD	.044	3.67 <sup>a</sup>
SOPH PROD	-.041	2.672 <sup>b</sup>
SIMPLE MKT	-.041	4.518 <sup>a</sup>
SCOPE	.029	2.498
COMMFACORS	.123	7.963 <sup>a</sup>
#PRNS	-.002	.086
CONC	-.000	.042
CATEGORY	—	1.444
D <sub>1</sub>	-.014	—
D <sub>2</sub>	.058	—
D <sub>3</sub>	.044	—
D <sub>4</sub>	-.089	—
Contrast: D <sub>3</sub> - D <sub>1</sub>	$F_{1,94} = .431$	
Contrast: D <sub>4</sub> - D <sub>2</sub>	$F_{1,94} = 2.834b$	

<sup>a</sup>Significant at  $p = .05$  (2-tail).

<sup>b</sup>Significant at  $p = .10$  (2-tail).

Two additional control variables were included because they were expected to affect the numerator or the denominator of the performance variable (COSTCOMM). The first variable, SCOPE, measures an aspect of the situation that might be expected to affect the numerator of the dependent variable (selling costs of the line). It consists of an index of the number of different activities the agency might undertake in its relationship with the principal (e.g., servicing and repairs, promotional programs, etc.). Higher values of this variable would indicate a greater scope of interaction, which would increase the agency's costs and thus have a deleterious effect on the outcome measure. The results show the expected effect on performance, but it is not significant ( $p = .12$ ).

The second variable (COMMFACORS) affects both the numerator and denominator of the dependent measure. Possibly commissions received from the principal may be tied to more than just sales volume, especially if the agency is expected to perform various costly activities. To control for this possibility, we measured the number of factors included in calculating commission payments from the principal. Higher values of this index indicate that more factors in addition to sales volume (e.g., number of accounts opened, sales in relation to targets, etc.) are being included in calculating commissions. The results show a significant decrement in performance ( $p = .00$ ) as the number of such factors increases.

For the dependence-related variables, the results

show that the number of principals represented (#PRNS) has no significant effect on profitability ( $p = .77$ ). Likewise, more concentration of exchange with the largest partner (CONC) does not affect performance significantly ( $p = .84$ ). Evidently, higher levels of these variables do not result in any deterioration of the terms of trade for the agencies.

Finally, for the theoretically specified contingent effect of replaceability on performance, the statistical predictions are seen clearly if we consider the plot in Figure 3 of the mean value of performance in each of the four categories. The categories were formed by using a mean split for the specific assets (TSAPRN) and replaceability (REPLINC) scales. Under conditions of high levels of specific assets, agency performance is enhanced when replaceability is increased (COSTCOMM declines from  $D_2$  to  $D_4$ ). However, under conditions of low levels of specific assets, there is no corresponding increase in performance. Rather, agency performance declines slightly (COSTCOMM increases from  $D_1$  to  $D_3$ ) when replaceability increases under these conditions. These mean values provide graphic support for  $P_3$ , but a more formal statistical test is provided by two contrasts.

The first contrast,  $(\bar{D}_2 - \bar{D}_4)$ , is significantly positive ( $p = .09$ ). It supports the  $P_3$  expectation that the ability of the agency to replace its incumbent partner increases the profitability of exchange under conditions of high levels of specific assets. Also, as predicted, the second contrast  $(\bar{D}_1 - \bar{D}_3)$  is not significantly different from zero ( $p = .43$ ). In other words, the agency's performance is not affected by an increase in its ability to replace the incumbent partner when specific asset levels are low. Together, these contrasts support the notion that performance effects are contingent on high levels of specific assets.

## Discussion

We develop and test an extension of the basic TCA model found in the literature (e.g., Williamson 1985). We use the extension to analyze how specific assets in exchange relationships are safeguarded in circumstances for which the traditional safeguard, vertical integration, is not possible. The manufacturers' agencies in our study could not integrate backward into manufacturing because of their small size. They also lacked significant contractual protection for their specific assets.

The basic thrust of the model is that agencies are faced with dependence when they invest in specific assets in the principal-agency dyad. Consequently, they will attempt to balance this dependence by engaging in offsetting investments in the agency-customer dyads. To the degree this effort is successful, they increase the replaceability of their partner and hence reduce

their dependence. Agencies that reduce their dependence via increased replaceability of the manufacturer are posited to improve their performance in situations involving relatively high levels of specific assets.

Our empirical results provide good support for the posited relationships. Agencies with specific assets invested in the agency-manufacturer dyad engaged in more offsetting investments, which significantly enhanced the replaceability of the principal. A contingent effect is supported by the data: replaceability enhanced performance in situations characterized by higher levels of specific assets.

### Theoretical Implications

In terms of theory development, our study suggests that TCA is a promising avenue in developing an understanding of channels phenomena. Though the basic formulation is shown to be incomplete in some important aspects, our work demonstrates that it can be extended successfully. Such extension enabled us to account for the anomalous finding of an earlier TCA model test (Anderson 1985). We found that to develop an understanding of the agency-principal relationship, safeguards other than vertical integration must be incorporated. Other such extensions are likely to be needed if the general model is to be applied to different channels situations. It is naïve to assume that the basic model can be used across markedly different channels contexts without such modifications and extensions.

We stress that extensions must take into account the salient facets of the specific situation. Consider, for instance, a franchise channel. It is tempting to suppose that offsetting investments are an attractive safeguard for the relatively small franchise firms in such a channel. However, because strong contractual protection is potentially available to franchisees, we would not expect them to rely on offsetting investments to safeguard specific assets. A promising avenue for future research is to examine the safeguards chosen when multiple avenues such as vertical integration, "hostages" (Williamson 1985), contractual provisions, and offsetting investments are all available to some degree.

Another issue for future research is the causal ordering of the variables involved. Though we assume that the presence of specific assets leads to offsetting investments, it is entirely possible that the agencies will not enter hazardous transactions unless the safeguards are already in place to protect them. Williamson (1985) makes a similar argument about *ex ante* safeguards. Perhaps only agencies with strong customer-agency bonds will invest in specific assets in the agency-principal relationship. To test this two-way causation, a nonrecursive model must be specified. However, at the present stage of theory devel-

opment, the instrumental exogenous variables required to ensure identification of such a system cannot be specified. Alternatively, longitudinal data are needed.

The incorporation of the dependence notion into the TCA analysis is rather significant because the two approaches complement each other well. Based as it is on institutional economics, the basic TCA model is sketchy on several organizational and behavioral issues. The inclusion of such constructs as dependence has made it possible to extend considerably the scope of application of the TCA model.

From the perspective of dependence theory, perhaps the most significant contribution of the TCA analysis is that it enables us to draw explicit performance implications. It is noteworthy that despite almost two decades of research into dependence in marketing channels, virtually no studies have examined performance as an outcome of this construct (see Buchanan 1986 for an exception). Our results suggest that performance is related closely to the mitigation of contractual hazards. When dependence is created because of the presence of specific assets, dependence-balancing enhances performance. A promising avenue for future research is to examine more closely the contingent effects of dependence on performance. For instance, Beier and Stern (1969) indicated that symmetric dependence has an indeterminate effect on performance. However, an extension of our results suggests that balanced dependence achieved because of the presence of specific investments by both parties might enhance performance. When two parties are able to influence each other because of dependence, the positive consequences of power are more likely to occur.

Our findings also advance our understanding of the dependence construct itself. In examining the literature, it is striking to note the various empirical indicators that have been used more or less interchangeably as measures of dependence. They have included importance of exchange (El-Ansary and Stern 1972; Etgar 1976), concentration of exchange (El-Ansary and Stern 1972; Etgar 1976), role performance or com-

parison of net outcome levels (Anderson and Narus 1984; Frazier 1983), and substitutability or replaceability (Buchanan 1986; Phillips 1981). Dependence has been viewed as a global construct. However, our findings suggest a more complex picture. The different aspects of dependence do not necessarily covary, or share the same antecedents, or have the same effect on outcome variables. It seems better to view dependence as a multidimensional construct. A closer examination of each of its aspects is warranted.

### **Managerial Implications**

Any managerial implication drawn from our study is subject to two significant limitations. First, the setting was chosen deliberately to be sensitive to the relationships being investigated. One should not expect these relationships to be managerially important in every situation. Second, the results must be viewed with caution because theory development and testing are combined in one study. Further validation of the model is needed.

Nevertheless, some interesting managerial implications are evident. Vulnerability in business relationships is seen to have non-obvious aspects in addition to the straightforward notion that doing business with a few (or single) principals can increase dependence. In particular, it is important to assess how redeployable the investments must be. If nonredeployable investments in the agency-principal relationship are needed to be productive, being able to safeguard them is important. A small agency can safeguard such investments by strengthening agency-customer relationships. One difficulty is that customers may vary in the degree to which they desire such links or respond favorably to such "relationship marketing" efforts. As Jackson (1985) has noted, such efforts are not universally desired by customers. Under such circumstances, the firm would be advised to reduce the degree of dependence on a principal if contractual safeguards such as exclusive territories or franchise agreements are unavailable. This reduction can be achieved by representing a large number of manufacturers and avoiding a concentration of exchange.

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