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**SURVIVING INDUSTRIAL TARGETING: STATE
CREDIBILITY AND PUBLIC POLICY CONTINGENCIES
IN MULTINATIONAL SUBCONTRACTING**

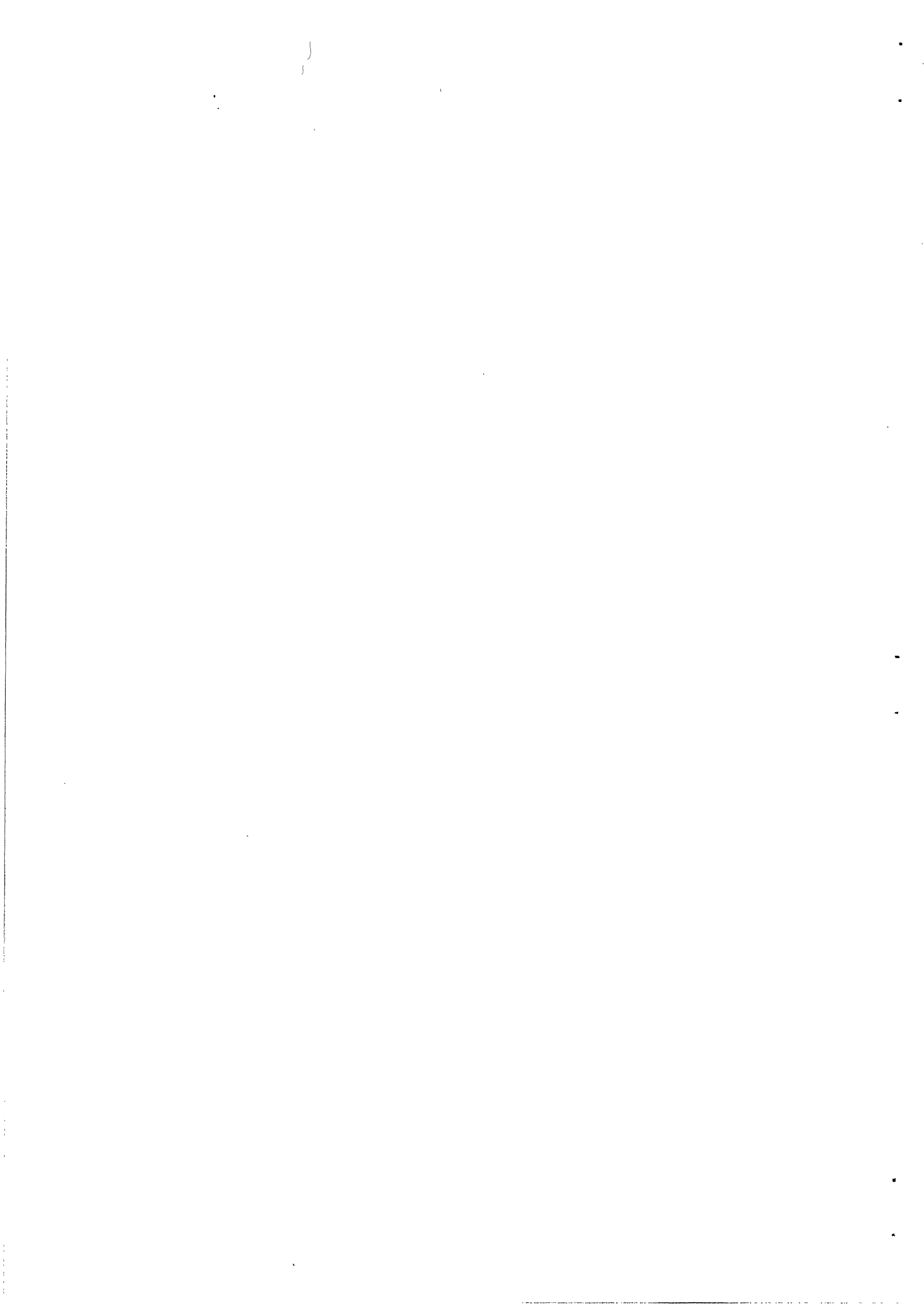
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ABSTRACT

TITLE: SURVIVING INDUSTRIAL TARGETING: STATE CREDIBILITY AND PUBLIC POLICY CONTINGENCIES IN MULTINATIONAL SUBCONTRACTING.

Recently, new models of strategic trade policy have challenged the liberal economic view that protectionism damages home country economic efficiency and social welfare. These models' controversial results depend critically on the assumption that state industrial strategies can transform domestic firms' tactics into credible commitments. This article argues and then empirically demonstrates that states vary widely in their capabilities to create perceptions of credible commitments. Indeed, under many circumstances state intervention may diminish rather than enhance domestic firms' credibilities, by creating uncertainty about their abilities to independently implement their strategies. Consequently, some business tactics which research identifies with state credibility, may actually reflect firms' efforts to show that they will persist in strategy implementation, even if their states abandon them.



**SURVIVING INDUSTRIAL TARGETING:
STATE CREDIBILITY AND PUBLIC POLICY CONTINGENCIES
IN MULTINATIONAL SUBCONTRACTING.**

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1. INTRODUCTION

International economists have long recognized that market imperfections create exceptions to traditional trade models which hold that protectionism diminishes national welfare. In recent years, some have introduced formal models of "strategic trade policy," (Stegemann; for examples, see Brander and Spencer, 1983; 1985; Krugman, 1984; 1986). These new models construe states as strategic actors, capable of maximizing national interests by implementing industrial targeting policies. As defined in these models, industrial targeting policies select certain national industries, firms or their activities for financial support, to make them more competitive in international markets. The new models often describe states in similar terms and assume they have properties that contemporary industrial organization economists ascribe to firms in competitive or collaborative rivalries. In particular, their results depend on the assumption that state targeting confers the properties of credible commitments on national firms' consequent strategic moves. Schelling (1960) originated the formal concept of credible commitment. In this context, it implies that rivals perceive the industrial-policy-derived tactics of national firms as irrevocable, and certain to persist in time.

Credible commitment represents a powerful assumption in any strategic interaction model, as it limits the set of probable responses that rational, opposing players need anticipate from one another. In the models under discussion here, international competitors faced with a government-subsidized rival's output expansion, perceive a high probability that a permanent market glut and lower prices will result if they do not cede market share (Brander and Spencer, 1983; Krugman, 1984).¹ But if the output expansion could be financed without the state, international competitors would not assume its

permanence, and would retaliate somehow. The value of spending public resources to support industrial policy rests on the "assumption that a government can make a credible commitment . . . while a firm cannot do so" (Stegemann:82).

This article argues and then presents empirical evidence to suggest that states which implement industrial policies vary in their capabilities to create credible commitments, depending on their reputations for consistency in policy implementation. Indeed, state targeting may often diminish, rather than enhance domestic firms' credibilities, by creating uncertainty about their abilities to independently implement international strategies. But targeted firms may offset states' negative reputations, by substituting credible commitments of their own. In particular, they may invest in transaction-specific assets to service their international customers.

The empirical results discussed here represent the principal findings of an analysis of data from a mail questionnaire survey on state targeting and U.S. multinational corporations' (MNCs') subcontracting (outsourcing) in targeted sectors of host economies. The survey response pool consisted of one manager from each of 111 foreign affiliates of 21 U.S. multinational corporations, operating in 36 countries. These data were gathered to estimate the parameters of a structural equation, latent variable model. The model was specified *a priori*, to examine transactions cost implications for MNCs' outsourcing in host countries, of cross-national variation in political institutions and government policy regimes.²

The article contains five parts, including this introduction. Part 2 discusses international firm/state relations and agreement enforceability, considers their implications for industrial targeting theory, and suggests the main hypothesis. Part 3 describes the structural equation and measurement models. Part 4 describes the estimation procedure and results. Part 5 concludes the article.

2. STATE CREDIBILITY AND INDUSTRIAL TARGETING

Students of economic development, politics and industrial organization have long argued that states' power, resources and expected policy inertia make their strategic choices more credible in economic development, than those of firms (e.g., Gerschenkron; Evans; Jacquemin). But the institutional basis of the state differs from that of the firm, in ways that offer opposite implications. Relationships among firms

may be governed by contracts. States, however, can not be contractually bound to carry out industrial policies according to pre-announced terms. Even if written agreements spell out the terms of government relationships with industries or firms, state sovereignty intrinsically impedes contractual enforcement, as no higher legal authorities exist to provide a sanction in cases of breach. (Laski; Morgenthau; Schelling:12; Yarbrough and Yarbrough, 1987a; 1987b; Grandy). Many cases have been documented of governments renegeing on implied or explicit contracts, when economic or political incentives seemed to demand it (Mikesell; Vernon; Teece; Lipson; Krasner; Grandy).

Many analysts of industrial policy have assumed that states face incentives to avoid such opportunistic behavior, because inconsistency in policy implementation devalues their good reputations (Stegemann; Jacquemin). But good reputation precludes the need of credible commitments, which serve to counterbalance the lack of credibility of those who offer them (Schelling). Neither states' good reputations, nor power and resources need imply unremitting targeting of particular industries. Rather than encumbering their countries in rigid, irrevocable economic plans, well-off states may use their resources to finance flexible adjustment to competitive changes in the international economy (Friedman). One hallmark of state power may be the ability to remain aloof from market intervention, despite domestic political pressure to do otherwise. Intervention, followed by policy inertia seems an unlikely characteristic of industrial strategies that keep pace with global technological advance.³

These considerations suggest that strategic trade policy models may misdirect the attention of business and government policy makers who shape responses to industrial-policy-derived competitive threats. Industrial targeting commits public resources to national firms, to provide them with international production cost advantages. Targeted firms may use these cost advantages to cut prices, in hope of expanding market share by attracting international customers and displacing rivals. At the same time, state targeting makes firms' pricing behavior and contractual relationships dependent on public policy contingencies. These contingencies enlarge the potential for unpredicted changes in the terms, conditions or even legality of transactions relevant to industrial strategy. States may freely shift programs, targets, funding levels and regulatory regimes, depending on domestic politics, as well as international economic circumstances.

If states renege on their commitments, targeted firms may seek to renegotiate their contracts with their international customers. These demands may lead to relationship breakdowns that can place their customers' competitive positions at risk. For example, an international pharmaceutical firm that participated in this study, received an offer from a state-owned domestic enterprise to supply its global requirements of a much-prescribed drug. The subsidized offer price undercut the firm's production costs, by one-half. The firm, nevertheless, chose to continue to supply its own needs rather than risk being left without capacity, in the event the subsidies diminished or stopped.

Even in stable industrialized democracies, domestic politics provides ample grounds for uncertainty about the prospects of similar breakdowns. Industrial targeting provides firms with a private benefit at taxpayers' expense, requiring new appropriations for each government fiscal cycle. These cycles create successive rounds of bargaining among business interests, government agencies and politicians. Each round, targeted firms must lobby a complex array of constituencies, while simultaneously outmaneuvering rivals for state assistance. Each bargaining outcome may more thinly spread or completely reallocate targeting benefits. Consequently, state strategic planning arms such as Japan's Ministry of International Trade and Industry (MITI) word planning documents in visionary terms, without very precisely spelling out timing, or how programs involve particular firms.⁴

The lack of transparency arises as governments try to leverage state political functions that may detract from policy consistency in industrial strategy implementation. States must balance commitments to business against competing constituencies' demands for public resources. Normal events such as governmental succession, or an incumbent's efforts to remain in power could result in changes in the ideological and party composition of governments, and lead to policy surprises. Changes in countries' international competitive positions may alter the domestic incidence of costs and benefits from participation in the world economy, creating new incentives to interest group organization and political action. International politics may also bring about unpredicted policy responses, particularly when policy makers construe current events as relevant to national security (Lenway and Crawford).

As a consequence of such considerations, credibility of industrial strategies requires that state commitments appear impervious not only to shifts in economic incentives, but also to political changes.

Targeting in itself does not overtly constrain state behavior under political pressure, nor targeted firms' behaviors in cases where state policies unexpectedly change. Targeting implementation, however, creates asset deployments and transactional networks involving targeted firms and their customers. Changes in these structures impose adjustment costs on targeted firms and customers that vary in magnitude and incidence, depending on the replacement values, financing arrangements and ownerships of assets involved; the assets' alternative uses and/or salvage values; and the costs of switching to alternative arrangements, if available. Targeted firms credibly commit themselves to implement industrial policy with or without state aid, to the extent that they make such investments and expose themselves to these costs. Evans' (1979:228-249) discussion of the Brazilian petrochemical feeder stock industry represents an example of transaction-specific investments under state auspices. The continuous-flow nature of the petrochemical industry's technology imparts substantial advantages to adjacent location of feeder stock and final goods processing facilities. New Brazilian feeder stock facilities, erected with a substantial infusion of state equity investment, attracted a constellation of domestic and international customers which signed long-term contracts and located facilities nearby.

In other words, targeted firms' staying power and ultimate international competitiveness may depend not on the doggedness of their states, but rather on their strategic choices about how they use state resources. These choices may need to incorporate elements of credible commitment, to signal targeted firms' intentions and capabilities to persist in their strategies, whether or not states persist in targeting them.

This paper presents a statistical investigation of these issues, as they apply to host states' industrial policies promoting the international competitiveness of domestic intermediate goods suppliers to multinational corporations. The choice of MNCs' intermediate goods suppliers as subjects, permits the paper to deal explicitly with the customer relationships that targeted firms must create, in order to displace international rivals. Transactions cost economics argues that credible commitments can act as key conditions in forming and maintaining intermediate goods contracting relationships on mutually-agreeable terms (Williamson, 1983; 1985). Scholars of industrial policy (Dixit) and of transactions cost economics have both argued that inflexible, transaction-specific investments can fulfill this credible

commitment function in their respective models. These exposures operate as credible commitments because, by definition, they are specialized to production in support of particular exchange activities, and earn suboptimal returns if redeployed (Williamson, 1979; 1983; 1985). Focusing on suppliers' inflexible asset exposures in multinational subcontracting relationships, the study relies on both strategic trade and transactions cost theory to predict relationships among state targeting, targeted firms' customers' perceptions of credible commitments, these customers' perceptions of states' reputations, and their purchase decisions. This is the appropriate context in which to ask whether states and targeted firms can actually implement strategies with the properties that the strategic trade policy models assume.

The analysis relies on the results of cross-national estimation of a structural equation model of MNCs' outsourcing from national firms targeted by host states. Latent variables derived from survey responses measure 1) MNCs' managers' perceptions of states' reputations for consistency in domestic policy implementation, and 2) their perceptions of the importance of any supplier transaction-specific investments pertaining directly to outsourcing arrangements. Tests of coefficient estimates reveal an expected significant, negative relationship between these variables. The paper interprets this finding to imply that 1) states' credibility in industrial policy implementation varies negatively with their reputations, and 2) that targeted firms make credible commitments to offset market uncertainty concerning their reliability, that results from states' poor reputations. In general, market perceptions of credible industrial policy commitments that meet Schelling's definition arise from firm, not state strategic choices.

The discussion of empirical results necessarily touches on another major goal of the larger study from which this article's argument is drawn (Murtha). This goal was to suggest ways to measure attributes of social and political institutional context as these vary across countries, and to study their relationship to state credibility in industrial strategy implementation.

3. A MODEL OF STATE TARGETING AND MNCs' LOCAL SOURCING

The argument above suggests the hypothesis that private firm credibility can substitute for state credibility in industrial targeting, when states suffer from reputations for policy inconsistency. More

particularly, it suggests that state-targeted firms can make transaction-specific investments in their relationships with international customers, in order to achieve this end. But it is important to note that targeted firms' customers' perceptions (*not* investment behavior) appropriately form the basis of this study. Reputation and credibility exist in the eyes of beholders. Although it may be possible to objectively evaluate transaction specificity as an asset's opportunity cost in its second-best use, this evaluation would not necessarily establish that managers use it as a criterion in the way the theory suggests they do. Both the existence and perceived importance of these investments matter.

Empirical tests of relationships among perceptions require statistical methods that can cope with unobservable variables. Such methods necessarily take account of measurement error. In recent years, econometricians and psychometricians have made substantial progress in statistical methods of indirect observation known as latent variable measurement (Kmenta:581-587; De Leeuw, Keller and Wansbeek). This approach assumes that latent or unobservable variables may be studied by measuring an appropriate set of multiple observable indicators associated with them. The investigator selects these indicators according to theory, observes their variation in field or archival data, and conducts a confirmatory factor analysis⁵ which apportions their variation between a single common factor and measurement error.⁶ This amounts to a test of an hypothesis that the intercorrelation among these indicators represents a single underlying concept: the latent variable in question.

Measurement of some latent variables implied by transactions cost theory constituted an important part of this study. But the meaning of the resulting measures can not be determined in isolation from their performance in hypothesis tests concerning the economic relationships that form the study's main focus. Fortunately, statistical techniques exist that permit latent variables to be incorporated as dependent or independent variables in structural systems of linear regression equations. These models can accommodate quite complex hypothesized interrelationships among both latent and observable variables (Kmenta:583). Conceptually, such models consist in two parts: a measurement model and a structural equation model.

In the study reported here, the structural equation model was specified first. Then a questionnaire was designed to obtain data on proposed indicators for the latent variable measurement model. Once the

data were gathered, proposed sets of indicators could be tested for their reliability as measures of the latent variables. This procedure will be reported in detail later in the article. Finally, the parameters of the combined measurement and structural equation model were simultaneously estimated and tested for significance.

In order to simplify the exposition, the next section will describe the specification of the structural and measurement equations in an integrated fashion, rather than reflect the procedural order described above.

3.1 THE STRUCTURAL AND MEASUREMENT EQUATIONS

The main hypothesis advanced in this study required a test to determine the sign and significance of the relationship between two latent variables: states' reputations for economic policy consistency, and MNCs' managers' perceptions of the importance of their state-targeted suppliers' transaction-specific investments. In order to examine this expected negative relationship under appropriate statistical controls, the investigator specified a four-equation model of managerial criteria for MNCs' foreign affiliates' make-or-buy decisions in host countries. The first two equations -- for affiliate internal value-added (make), and external sourcing (buy) -- model this decision context. These equations reflect the argument that MNCs' managers base make-or-buy decisions in part on their perceptions of their affiliates' production and transactions cost advantages over potential host national suppliers. For valid measures, the latent variable representing these perceptions should enter the value-added equation (2, below) positively, and negatively enter the external sourcing equation (1).

Make-or-buy decisions will also be affected by state targeting of national industries populated by potential subcontractors. If targeted subcontractors can undercut MNCs' internal production costs, MNCs will, all else equal, undertake fewer internal value-adding activities and more external sourcing in host countries. But all else equal includes the provision that the perceived transactions costs of dealing with state-targeted subcontractors do not exceed the production cost savings.

The study's main hypothesis, however, trades on the premise that state targeting creates public policy contingencies which, under some circumstances, may increase MNCs' prospective transactions costs of

dealing with national suppliers. MNCs' perceived importance of state-targeted suppliers' transaction-specific investments should, therefore, be expected to positively enter the external sourcing equation if the main argument holds, as it asserts that these investments reduce these perceived costs. The sign of value-added in the outsourcing equation should, likewise, prove positive for data reflecting government programs which reduce costs (See formula 2.1, below).

States' reputations and transaction-specific investments were also expected to enter the value-added equation positively, on the premise that these factors would reassure MNCs about the safety of committing to capital-intensive operations in countries.

The equations for external sourcing and internal value added reflect these expected relationships:

$$\eta_1 = \beta_1\eta_2 + \beta_2\eta_3 - \gamma_1\xi_1 + \zeta_1 \quad (1)$$

$$\eta_2 = \beta_3\eta_3 + \beta_4\eta_4 + \gamma_2\xi_1 + \zeta_2, \quad (2)$$

where

η_1 is a managerial estimate of the proportion of local market external sourcing in an affiliate's total costs.

η_2 is a managerial estimate of affiliate value added.

η_3 is a latent variable representing MNCs' managers' perceptions of the importance of their state-targeted suppliers' transaction-specific investments.

η_4 is a latent variable representing MNCs' managers' perceptions of states' reputations for economic policy consistency.

ξ_1 is an exogenous latent variable representing MNCs' managers' perceptions of firm-specific transaction and production cost advantages over local suppliers.

β_i represent estimates of regression coefficients on endogenous variables.

γ_i represent estimates of regression coefficients on exogenous variables.

ζ_i represents equation error.

Since the endogenous and exogenous latent variables could not be directly observed, measurement equations needed to be estimated for each. These equations associated hypothesized observable indicators and their error terms with underlying common factors. The indicators were chosen from

among items included in a cross-national questionnaire survey of managers in MNCs' affiliates. The set of measurement equations for suppliers' transaction specific investments was specified as follows:

$$y_3 = \lambda_{y3}\eta_3 + \varepsilon_3$$

$$y_4 = \lambda_{y4}\eta_3 + \varepsilon_4$$

$$y_5 = \lambda_{y5}\eta_3 + \varepsilon_5$$

$$y_6 = \lambda_{y6}\eta_3 + \varepsilon_6$$

where the y_i are observable indicators of managers' perceived importance of different categories of MNCs' local subcontractors' transaction-specific investments, given that these subcontractors benefit from state targeting in the form of subsidies, loans, loan guarantees, current or past equity ownership, or contracts with state-owned enterprises. The λ_{y_i} represent the regression coefficients of the indicators on the latent variable, and ε_i represent measurement error.

The categories represented by the y_i followed Williamson's (1979; 1983:526) taxonomy of transaction-specific assets, and were scored by questionnaire respondents on a five-step, zero-based scale. If state targeting or particular categories of transaction-specific investments did not figure in local subcontracting, items were scored zero. Where both targeting and transaction-specificity figured, categories were scored from 1 (not important) to 4 (often critical). The indicators were:

y_3 adjacent facilities (site-related asset specificity).

y_4 orders comprising the entire annual output of certain facilities (dedicated asset specificity).

y_5 manufacturing personnel's experience using your products (human asset specificity).

y_6 government job-training programs or credits aimed at processes which make or use the goods traded (human asset specificity).⁷

The measurement equations for states' reputations for economic policy consistency were specified as:

$$y_7 = \lambda_{y7}\eta_4 + \varepsilon_7$$

$$y_8 = \lambda_{y8}\eta_4 + \varepsilon_8$$

$$y_9 = \lambda_{y9}\eta_4 + \varepsilon_9$$

where the y_i indicate managers' perceptions of how frequently several categories of unexpected government economic policy changes had negatively affected their businesses during the preceding five years, and the other symbols are as previously defined. Items were scored on a scale of 1 through 5, ranging from "very frequently," to "never." The categories included were:

- y_7 unexpected tariff, local content, export quota or other trade regulation changes.
- y_8 loss of business advantage due to government approval delays.
- y_9 supplier unreliability due to government contract problems.

The set of measurement equations for managers' perceptions of their affiliates' firm-specific transaction and production cost advantages over prospective local suppliers was specified as:

$$x_1 = \lambda_{x1}\xi_1 + \delta_1$$

$$x_2 = \lambda_{x2}\xi_1 + \delta_2$$

$$x_3 = \lambda_{x3}\xi_1 + \delta_3$$

$$x_4 = \lambda_{x4}\xi_1 + \delta_4$$

where the x_i represent observable indicators of managers' perceptions of whether several criteria favored or disfavored subcontracting their affiliates' highest-cost internal activity to the most competent local supplier or potential market entrant, the δ_i represented error terms, and the λ_{xi} are analogous to the λ_{yi} . Survey respondents scored the criteria on six-step scales, which ranged from highly-favoring (low) to precluding outside supply (high). The criteria included as indicators of the variable were economies of scale (x_1), labor costs (x_2), inventory costs (x_3) and the risk that potential suppliers would become market competitors (x_4).

In addition to the latent variables, the dependent variables for internal value added and external sourcing also relied on survey data. Managers were asked to estimate these proportions for their operations, in accordance with the formula for affiliate value-added:⁸

$$\frac{S-C}{S} \quad (2.1)$$

where S equals total affiliate sales and C equals affiliate costs, including their intrafirm components; and the external sourcing formula:

$$\frac{O}{C}$$

where O equals total costs of local externally-sourced goods and services excluding the affiliate's wage bill. These data were standardized as percentage standard deviations from their industry means (as calculated from the survey data), before being used in model estimation. This step was taken as a statistical control for cross-industry differences in vertical integration.

Two structural equations remain to be specified for the importance of transaction-specific investments and states' reputations for policy consistency. These are written:

$$\eta_3 = -\beta_5\eta_4 + \gamma_3\xi_2 + \zeta_3 \quad (3)$$

$$\eta_4 = \gamma_3\xi_2 + \gamma_4\xi_3 + \gamma_5\xi_4 + \zeta_4 \quad (4)$$

where the various terms are defined as above, except that ξ_2 , ξ_3 and ξ_4 are observable exogenous political institutional attributes to be discussed shortly.⁹

The expected negative sign of the latent variable states' reputations, on the latent variable importance of transaction-specific investments (η_4 on η_3 in Equation 3), represents the study's central hypothesis. It should be noted, however, that the measure of η_4 does not precisely represent management perceptions of states' reputations, but instead incorporates indicators of management's prior experience with the government in question. This conceptual imprecision has advantages, in that it may approximate perceptions of actual government behavior that managers may use to discount typically diffuse and poorly-grounded perceptions of political instability in countries.¹⁰ It may, therefore, create a more conservative proxy for the phenomenon. On the other hand, it may confound indirect observation measurement error with misspecification error, and broaden the scope for alternative interpretations of the relationship, particularly that of simultaneity.¹¹ If a variable or set of variables can be specified that correlate with states' reputations for policy consistency, however, these may serve as instruments to correct for these problems (Kmenta:357-361). Equation (4) contains a set of such variables.

3.2 POLITICAL INSTITUTIONAL VARIABLES.

This study had an important secondary objective to investigate political institutional correlates of states' capabilities to implement industrial policies. The operating hypothesis for building up Equation (4) suggested that institutional attributes of capable industrial policy implementation should be expected to associate both with government policy consistency, and for some states, with the power to induce national firms to make credible commitments. The investigative strategy was to seek quantitative measures that correspond to institutionalist theoretical concepts developed in political science case studies comparing industrial strategy implementation capabilities across countries (esp. Katzenstein, 1977; 1984; 1985; Piore and Sabel).¹²

Political scientists have suggested a number of national attributes that may be common to countries with high industrial policy implementation capabilities. Many attribute these capabilities to social cohesiveness. Lodge (1990:1-40), for example, proposed that "communitarian" and "individualistic" national political ideologies, respectively enable and inhibit industrial policy implementation. Katzenstein sought to establish empirical attributes (such as state and societal centralization and differentiation) of public/private economic collaboration in industrialized democracies (1977; 1984; 1985). Others have tried to generalize from studies of particular countries' economic institutions. Chalmers Johnson for example, created his model of the interventionist, developmental state by studying the relationship between Japan's Ministry of International Trade and Industry (MITI) and private groups such as *Keidenren*, the manufacturers' association (1982).

The present study failed to identify quantitative measures of institutional attributes that consistently corresponded to industrial policy implementation capabilities as these vary across countries. The problem arose, in part, because institutional attributes themselves tend to vary among countries in substantive character and meaning. Attributes that appear, on first investigation, as common features of a group of countries often differ among them in their industrial strategy implications, while institutional differences across countries often mask similarities in underlying capabilities. For example, the fractious internal politics of Japan's ruling Liberal Democratic Party (LDP) may share many common characteristics with the shifting multiple-party coalitions that have ruled in many industrialized democracies since World War

II. Both may correspond to an essential communitarianism that associates with the need to organize governments that must encompass many interests in order to survive. On the other hand, the fact that the LDP has ruled Japan without interruption since just after World War II, does not mean that its economic role shared much in common with, say, the similarly long-ruling Yugoslavian Communist Party.

Despite these difficulties and related misgivings about the *ad hoc* nature of the process, the study specified three variables representing national institutional attributes that case evidence has often associated with capable industrial strategy implementation (e.g. Olson; Piore and Sabel; Evans; Duvall and Freeman, Freeman and Duvall).¹³ Single party dominance of executive power (ξ_2) was chosen as a characteristic both of some consensual industrialized democracies, and of authoritarian newly-industrialized countries (NICs), whose economic success observers have ascribed to authoritative channeling of public resources to target industries. It is calculated as:

$$\frac{\sum_{i=1}^{492} m_i}{492}$$

where m_i represents 1 for every month in which the dominant party held executive office from January, 1946 through December 1986, and 0 for every month when it did not. "Dominant party" is defined for countries as the party that has held office for more months than any other since World War II.

Central government revenue as a percentage of gross domestic product (ξ_3) was chosen as an attribute of state organizational centralization, and of the availability of financial resources to simultaneously target industries and compensate political interest groups disadvantaged by change. IMF (1986) and World Bank (1986) data were used to calculate it.

Rae and Taylor's F (1970), or legislative party fractionalization (ξ_4) was chosen as an attribute that arises from proportional representation electoral rules that typify corporatist and consensual industrial democracies (Lijphart). This statistic is interpreted as the probability that two random draws of members from a legislature will belong to different parties. It is calculated as:

$$F = 1 - \sum_{i=1}^n \left(\frac{n_i}{N(n_i - 1)} \right)$$

where n equals the number of parties, n_i represents the total number of seats held by the i th party and N represents the total number of seats in the legislature. Katzenstein, among others, has documented the flexible economic adjustment capabilities afforded to such countries by the necessity of forming encompassing coalitions to govern, and by a blurred distinction between the perquisites of public and private authority in running the economy.

Data for calculation of the party dominance and legislative fractionalization measures were obtained from various standard legislative and party histories (da Graca; Day and Degenhardt; Delury; Mackie and Rose; McHale and Skowronski). New York Times election reports brought the data series up-to-date.

Inspection of country rankings on data used to measure these variables reveals differences among the groups of countries having high values on party dominance on the one hand, and on legislative fractionalization and central government revenue on the other hand. (Table 1 presents the values and rank orderings

Place Table 1 about here.

on these variables for the countries in the study.) These differences seem broadly, although not perfectly consistent with a generally-recognized distinction between industrialized and newly-industrializing countries (NICs), in the institutional basis of industrial strategy implementation. Public/private intersectoral collaboration has played an important role in the industrialized democracies. NICs have relied on state dominant approaches,¹⁴ although recent evidence suggests that researchers may have overlooked a private sector consultative role (Doner, 1990). Some rapid industrializers (such as Japan) have passed through both phases.

Equation (3) also incorporates an expected positive relationship of party dominance (ξ_2) to transaction-specific investments (η_3), reflecting the following argument. Many countries that rank highly on party dominance are NICs, and share a background of comparatively late development (See Table 1).

Positive reputation effects of executive branch continuity must necessarily be constrained in these countries by their relatively brief histories of recent, rapid industrialization. Cross-national data, therefore, may reflect an overhang of past managerial perceptions concerning operational difficulties, as well as real problems associated with an institutional legacy of state-led catch-up industrialization. This legacy may include inefficient state-owned enterprises, low revenue extraction capabilities, and an excess of policy targets over effective policy instruments, leading to industrial policy equivocality in the face of competing political demands (Tinbergen).¹⁵ Consequently, it is hypothesized that targeted suppliers' transaction-specific investments retain their importance in their relationships with MNCs, as states establish their reputations in early stages of industrialization.

4. ESTIMATION PROCEDURE AND RESULTS

In order to measure the perceptual elements in the model, a survey instrument was designed. The survey was conducted by mail between November, 1986 and June, 1987 using a list of U.S. non-defense manufacturing MNCs' foreign affiliates. The investigator assembled this list through cold telephone contacts of U.S. MNCs' headquarters officials. The Conference Board's *Key Companies Directory* (1986) formed the basis for 146 initial contacts, of which 23 eventually permitted some or all of their foreign affiliates to receive the survey. The list of potential participants assembled in this manner numbered 203.

Questionnaires were directed by name to affiliates' managing directors in countries. These officials were asked to designate a relevant subordinate to respond to a survey concerning how government policies affect make-or-buy decisions, or to respond themselves. Respondents' titles included purchasing, manufacturing materials, supply or works manager; manufacturing or operations director; business planning, development or strategy staff; and managing director. The total of affiliates submitting questionnaires numbered 129, of which 111, representing 15 industries operating in 36 countries, proved usable for this analysis.

The results should be interpreted as a multi-country/multi-firm case study of strategic interaction between host states, their targeted local firms, and U.S. manufacturing MNCs that are the targeted firms' customers. The country list may be read from Table 1. Table 2 presents an industry list of respondents.

Place Table 2 about here.

4.1 MODEL ESTIMATION

Model estimation proceeded in two stages. The first stage established the reliabilities of the proposed latent variable measures. The second estimated the parameters of the structural equation model.

4.11 LATENT VARIABLE RELIABILITY AND VALIDITY

In order to form the latent variables, sets of indicators were selected by the investigator from among the questionnaire items designed to measure each. These indicators were then run in confirmatory factor analyses as submodels of the overall system,¹⁶ in order to establish the composite reliability of each set as a measure of its hypothesized latent variable. Bagozzi (1980:176-183) defines the test of reliability employed, which calculates the ratio of explained (common) to unexplained (error) variance. Acceptable reliability (.6 or above, according to Bagozzi and Yi) indicates a high degree of intercorrelation among the constituent indicators of a latent variable.

Reliabilities were .927 and .827, respectively, for the proposed sets of indicators to measure the variables firm-specific cost advantage (ξ_1) and states' reputations (η_4). Initial calculations of composite reliability for a proposed set of indicators measuring the latent variable, importance of transaction-specific assets (η_3) fell below the .6 cutoff, indicating a lack of unidimensionality. As a consequence, an indicator representing the importance of physical asset specificity was trimmed.¹⁷ Reliability for the variable as finally formulated was .732.

Although it would have been appropriate and desirable to statistically validate¹⁸ the latent variable measures, the questionnaire did not include enough alternative proposed indicators of concepts to support these kinds of tests. The latent variables transaction-specific investments, and states' reputations, however, refer to industries and countries with fairly well-agreed, publicly-known attributes that might correspond to these concepts. Ordering the industries and countries on values of the latent variables,

therefore, may provide a means of face validation by comparing the ranks to one's prior assumptions.

This procedure was undertaken as follows.

Latent variables, since they can not be observed, have only arbitrary measurement units. Group differences on their means can be estimated, with error, for groups of sufficient size. Industry and country groupings of observations in the study did not meet this size criterion. The procedure could, therefore, be implemented only in connection with some reasonable, necessarily heuristic aggregation scheme. The approach taken was to form equal-sized groups of countries on states' reputations, and industries on transaction-specific investments, reflecting expected high, intermediate and low values. Accordingly, the countries and industries were sorted into 3 groups each of 12 and 5 members respectively, using their ranks on mean raw factor scores of the appropriate latent variables. The raw scores were calculated as weighted sums of the questionnaire responses for each country or industry, on the relevant indicators. The regression coefficients (λ_j) of the indicators on the latent variables, as computed for the reliability test above, served as weights. Table 3 presents the groupings of industries and countries, and their relative means on the latent variables calculated according to the procedure specified by Joreskog and Sorbom (1988:247-261). The groupings generally conformed to the investigator's prior expectations. The reader should similarly satisfy him- or herself.

Place Table 3 about here.

4.12 PARAMETER ESTIMATION FOR THE ENTIRE SYSTEM

Tables 4, 5 and 6 present the results of simultaneous, full information maximum likelihood (FIML) estimation of the measurement and structural equation model parameters. In addition, Tables 4 and 6 present parameter estimates for a smaller version of the model incorporating only equations (3) and (4) for transaction-specific investments and states' reputations (η_3 and η_4 in the original model). This submodel was estimated to test the robustness of the findings on the key relationships. Both models are specified as recursive equation systems and are, therefore, identified (Long:34-36).¹⁹

The results reported in the tables represent the last of three rounds of estimation on each of the two models. Each round estimated a slightly different model specification. In the first round, zero restrictions

were imposed on the β and γ matrices, in accordance with the hypothesized equations as specified above. In the second round, zero restrictions were removed from all γ_i , so that regression parameters were estimated for all possible exogenous variable relationships in all of the equations. At this stage, central government revenue as a percentage of GDP (ξ_3) displayed theoretically unanticipated significant coefficients in equations 1 (external sourcing) and 3 (transaction specific investments). The third round imposed zero restrictions exactly as did the first, except on the variables unexpectedly shown as significant in the second round. The coefficients and t-statistics for the hypothesized structural relationships differed little across these rounds. Tests of overall goodness-of-fit substantially varied, with Version 1 the worst of the three, but acceptable on some criteria. The version reported here (Round 3) performed second best on these criteria.²⁰ The detailed discussion of these results follows in the next section.

4.2 DISCUSSION

Results of estimation of the combined model parameters in both models supported the main contentions presented in this paper. All regression coefficients of the x_i and y_i on the latent variables were significant, with the predicted positive signs.²¹

Place Tables 4, 5 and 6 about here.

States' reputations entered the transaction-specific investments equation negatively in both models, with very high t-statistics (-4.329 in Model 1; -4.281 in Model 2; the coefficients were .661 and .655, respectively). This robust finding supports the hypothesis of a negative relationship between states' reputations, and the importance of firm-level credible commitments in national industrial strategy implementation.

The value-added equation in Model 1 performed poorly. Firm-specific cost advantage displayed the expected positive sign, approaching significance at the .05 probability level. But transaction-specific investments and states' reputations proved non-significant. *A priori*, this equation seemed a necessary counterpart of the external sourcing equation, to completely model and control for the make-or-buy

decision context in which the key relationships are theoretically embedded. But its specification might have been more consistent with the main hypothesis, had the state reputation and transaction-specific investment variables been left out. If targeted firm credibility can substitute, in managers' perceptions, for that of states with poor reputations, then these variables' effects on value added should be neutralized.²²

In the external sourcing equation of Model 1, the coefficient estimate on firm-specific cost advantage met expectations of a negative sign, but was non-significant. Value-added displayed the expected positive sign, but was not significant. The key expected finding in the equation was, however, confirmed with a positive, significant transaction-specific investments coefficient. Model 2 drops this equation, as well as that for value-added, without significant consequences for the study's key findings.

Tables 5 and 6 also report goodness-of-fit statistics for the models, including chi-square, Joreskog and Sorbom's goodness-of-fit (GFI and degrees-of-freedom-adjusted GFI) indices, root mean square residual (RMR) and the coefficient of determination. These test statistics, taken together, suggest that ML estimation produced an adequate fit of the models to the data. Chi-square statistics suggest that the data fail to reject the models with significance levels of .345 and .117, respectively. AGFI (adjusted for degrees of freedom) offers a test of goodness-of-fit which is relatively robust to departures from normality, although its statistical distribution is unknown. Given a lack of agreement on standards of comparison, the model still does not seem to perform particularly well by this criterion: .677 and .791, respectively.²³ RMR for the models were both .06. Coefficients of determination were .435 and .342.

Two unanticipated significant relationships emerged: central government revenue as a percentage of GDP entered the equation for transaction-specific investments with positive sign, and the equation for external sourcing with negative sign. This juxtaposition suggests an alternative to the explanation proposed in this paper, of the relationship between states' reputations and targeted firms' credible commitments. This explanation limits but does not contradict the paper's main argument.

High-central government revenue countries, in general, fit a profile of advanced industrialization, high per capita income and considerable indigenous competence (See Table 1). Competence, industrialization and wealth might be expected to reduce the relevance of vertical integration for transfer of skills, technology and capital relevant to international production processes, and to increase the

availability and attractiveness of local suppliers. Furthermore, states that enjoy substantial revenue flows may have more resources to spend on targeting than do less well-off states. MNCs' sourcing in state-targeted industries might be expected to increase with the financial value of states' aid.

As MNCs' sourcing of any item increases toward the limit set by their total requirements, however, the availability of perfect substitutes and of alternative suppliers may atrophy. As the population of alternative suppliers declines, the bargaining power of those remaining increases (Williamson, 1979), creating an incentive for targeted supplier opportunism, independent of government action. Governments' reputations may become superfluous if subcontractors' bargaining power increases in this manner, while firm commitments may take on increasing importance.

Asset specificity may also innately characterize large projects, or correlate highly with capital intensity. If so, the unanticipated relationships of central government revenue in these equations may both follow from target suppliers' substitution of capital for labor to offset industrialized countries' higher wages. High labor costs and capital intensity may diminish countries' attractiveness as sourcing platforms, and increase MNCs' propensities to internalize activities, especially where alternative suppliers are few. This point can be made only tentatively, however, interpreting the revenue variable as a proxy for industrialization. High taxes may have other implications for costs and capital intensity of production in countries, that have not been investigated as part of this study.

5. CONCLUSION

Strategic trade policy models' results depend on the assumption that state targeting creates credible commitments that intimidate international competitors into ceding market share to erstwhile infant industries. If state targeting truly vests domestic intermediate products suppliers' tactics with an aura of irrevocability, it follows that it must help them not only to attract international customers, but also to form long-term relationships with them. Yet the evidence presented here implies that state industrial policy may not perform the latter function, and under some circumstances may actually detract from targeted firms' credibilities as long-term suppliers.

States, if not reputable, may nevertheless successfully implement industrial policies by applying an

asset specificity criterion to target and policy choices. In particular, such states may restrict their target choices to industries that employ product-specific manufacturing technologies, and provide incentives for firms to choose inflexible technologies in industries where alternatives exist. But this argument blurs the line between the public and private sectors as sources of external credibility in industrial strategy implementation, and predicates viability not only on state capabilities and strategic choices, but also on industry characteristics and firm choices. It also suggests that some business tactics which research identifies with state credibility, may actually reflect firms' efforts to show that they will persist in strategy implementation, even if their states abandon them.

This finding need not imply that national industrial policies can not work, or have had no impact in the contemporary international economy. But the possibilities raised detract from the pre-eminence of state power as an explanation for industrial policy success stories, and suggest that other political and economic factors, such as states' domestic coordinative capabilities, may have a more critical impact. The finding also raises the possibility that state financial incentives distort domestic firm choices in favor of inflexible assets. Over time, these assets may impede domestic industries' capabilities to adjust to international economic change, amplifying and accelerating historical tendencies for today's target industries to become tomorrow's political economic albatrosses.

NOTES

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1. Anticipating this reaction, the subsidized firm can set its output level to minimize any resulting market price decrease, while improving its cost position through enhanced learning and scale economies. If these conditions hold, the possibility exists for the national firm to increase its profits by an amount that exceeds the cost to the treasury of the subsidy. This line of reasoning is usually identified with the work of Brander and Spencer.
2. For more details, see the author's dissertation.
3. Benjamin Gomes-Casseres (1987; 1988) documents an association among Korean democratization, state autonomy from domestic military institutions, strategic choices that enhance the role of market forces in economic development, and the increasing salience of high technology in Korea's plans for competing in world markets. The same cases document the failure and subsequent abandonment of the government's more directive early seventies strategy favoring heavy industries.
4. I am indebted to my colleague Thomas Roehl for this example from his readings of the original Japanese and English translation of MITI's (1989) "Vision for the Distribution System in the 1990s." Gomes-Casseres (1988) documents a similar phenomenon for Korea.

5. **Confirmatory factor analysis differs from exploratory methods, in that the indicators representing a factor are specified by the investigator on theoretical grounds rather than extracted inductively by statistical analysis. The resulting latent variables are reliability-tested for goodness-of-fit to the underlying measurement model and for internal consistency, in advance of overall system estimation. Bagozzi presents an excellent discussion of the theoretical and practical issues (1980:176-183).**
6. **This approach has an advantage over dummy variable methods of modeling qualitative variables, in that it takes direct account of measurement error by estimating it. It therefore, attenuates the downward bias of β coefficients that result from this problem. Instrumental variable methods of dealing with measurement error can create quandaries over the need to augment models with variables that may lack a theoretical basis.**
7. **Without necessarily choosing to do so, parties to transactions gain specialized knowledge of each other's firms, technology, products, and even personalities. Consequently, some degree of human asset specificity arises over time in all exchange relationships, without being attributable to any public or corporate policies or choices. Indicator y_4 was included here because the theory requires measurement of that element of human asset specificity which *can* be attributed to the interaction of public and private strategic choices. The implicit hypothesis states that such an attributable element can be measured as the common variance of (a) a direct indicator of human transaction specificity with (b) an indicator of government job-training programs or credits tied to the relevant transaction.**
8. **Implicitly, the measurement model treats these variables as directly measurable, such that $y_1 = \eta_1$ and $y_2 = \eta_2$.**

9. Implicitly, the measurement model treats these variables as directly measurable, so that $x_2 = \xi_2$, $x_3 = \xi_3$, and $x_4 = \xi_4$.
10. In survey research in the late '70s, Kobrin documented a general unfamiliarity with political environments among MNCs' managers, and a corresponding failure to relate politics to impacts on firm operations (1982:111-124).
11. For example, the expected finding of a negative relationship between states' reputations and transaction specific investments could be interpreted to suggest that suppliers' transaction-specific investments have contributed to subcontractor hold-ups associated with past government policy changes.
12. Institutional approaches to the study of politics emphasize the causal bearing of elements of organization structure on political outcomes. State institutions operate not only as arenas for contending social interests, but also as "collections of standard operating procedures and structures that define and defend interests. 'They are political actors in their own rights'" (March and Olsen:738). The application to the present study emphasizes states' organizational capabilities to implement industrial strategies, as distinct from political orientations favoring such policies.
13. For details, see Murtha.
14. Katzenstein's discussions (1984; 1985) of the corporatist and consensual democracies of Western Europe and Japan help to establish the characteristics of public-private intersectoral collaboration. In such implementation regimes, relatively non-autonomous central public administrative organs lead a policy process within voluntary, collaborative networks of social institutions, representing broad cross sections of societies, including legislatures, business

associations and labor unions. Resources are allocated not only to build target sectors, but also to compensate declining sectors. Central government revenue as a percentage of GDP provides a measure of resources available to the state for funding these entitlements. Given the proportional representation electoral rules in force in these countries, the relatively high rank correlation by country central government revenue as a percentage of GDP, with legislative party fractionalization (Spearman correlation coefficient, .46 $p=.005$, $n=36$) is consistent with this characterization. Single party dominance of the executive branch highly ranks many states that evidence relatively autonomous capabilities to dominate the private sector by replacing market resource allocation with government authority. States in such countries may act in concert with interested private parties. But their responses to societal demands often entail state-dominant strategies that penetrate and supplant the private sector.

15. Tinbergen (1952) demonstrated that the simultaneous achievement of any given number of policy targets requires the same number of instruments.
16. Model estimation used the LISREL computer program (Joreskog and Sorbom, 1988).
17. The measurement of investment transaction-specificity according to Williamson's taxonomy (1979; 1983:526) presents a number of fascinating theoretical and methodological questions that range beyond the scope of this paper. The most relevant of these questions to the present discussion, asks how many variables the taxonomy implies might be needed to comprehensively represent the concept. The problems encountered in this study with achieving a unidimensional latent variable incorporating indicators of all four types, suggest that the taxonomy implies at least two distinct variables. But this evidence is inconclusive. It is unsurprising that indicators of dedicated and site specificity should highly correlate, as the latter represents a special case of the former. Human asset specificity, as implied in footnote 7, may pervade all relationships over time. It should, therefore, highly correlate with other forms. It is also important to note

that asset specificity may pervade some relationships without managers necessarily perceiving it as important. Successful relational contracting or a good reputation, for example, may defuse the issue. Indeed, this is one possible interpretation of the results in this study, as it observed many exchange circumstances in which managers identified asset specificity, but dismissed it as unimportant.

18. Validity tests, in this context, would seek to establish whether proposed measures of latent variables actually measure the ideas they purport to measure (See Bohrnstedt; Bagozzi). For example, the researcher might examine intercorrelations among indicators of self-evidently similar and dissimilar ideas. Bagozzi and Phillips (1982) provide a superb discussion of approaches to construct validation in latent variable models.)
19. Recursive models are specified such that endogenous variables can affect other endogenous variables, but there is no simultaneous causality (The β matrix is triangular). Furthermore, the structural equation error covariance matrix is restricted to diagonal, reflecting an assumption of uncorrelated errors. See Long:34-36.
20. Details of the two rounds of estimation not reported here may be obtained from the author.
21. As latent variables are unobservable, measurement units are arbitrary. Consequently, one indicator on each latent variable must be constrained to a coefficient value of one, to set the units.
22. I am thankful to an anonymous referee for pointing this out.
23. Bagozzi and Yi (1989:79) suggest that AGFI levels of "about .9" suggest meaningful models from a pragmatic (but conservative) point-of-view.

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Table 1: Countries in the sample ranked on single party dominance of executive power (ξ_2), with rank information also given on central government revenue as a percentage of GDP (ξ_3) and legislative party fractionalization (ξ_4). The formulae for calculating the values are given in the text.

ξ_2 RANK	ξ_4 RANK	ξ_3 RANK	COUNTRY	ξ_2 VALUE	ξ_4 VALUE	ξ_3 VALUE	CASES
1	31	35	Yugoslavia	1.0000	.0000	.0819	1
1	31	30	Hong Kong	1.0000	.0000	.1549	2
1	26	23	Indonesia	1.0000	.4740	.2021	1
1	27	27	Mexico	1.0000	.4180	.1879	3
2	9	34	Japan	.9614	.6920	.1168	5
3	25	21	South Africa	.9390	.4860	.2327	3
4	29	20	Taiwan	.9045	.2250	.2464	4
4	6	5	Italy	.9045	.7520	.4244	4
5	19	33	India	.8923	.5300	.1317	1
6	8	2	Luxembourg	.8780	.7010	.4717	1
7	14	26	Korea	.8659	.6070	.1936	2
8	11	7	Sweden	.8537	.6820	.4087	3
9	16	28	Canada	.7846	.5850	.1864	3
10	17	16	Australia	.7744	.5560	.2708	5
11	1	3	Belgium	.7419	.8710	.4427	4
12	18	19	Spain	.7276	.5440	.2593	6
13	20	11	New Zealand	.6972	.5260	.3416	4
14	7	10	Portugal	.6890	.7040	.3224	2
15	30	12	Singapore	.6829	.0270	.3249	3
16	4	9	Denmark	.6809	.8060	.3671	1
17	21	8	U.K.	.6138	.5230	.3779	10
18	3	24	Switzerland	.6098	.8120	.2000	2
19	10	14	Germany	.5935	.6850	.2940	8
24	31	22	Kenya	.5630	.0000	.2233	2
20	14	6	France	.5610	.6070	.4186	3
21	28	29	Pakistan	.5528	.3670	.1579	1
22	5	1	Netherlands	.5488	.7560	.5281	3
23	13	4	Ireland	.5467	.6120	.4273	1
24	22	25	U.S.A.	.5366	.5170	.1985	6
25	16	18	Brazil	.5061	.5860	.2603	7
26	12	17	Venezuela	.4837	.6250	.2645	3
27	24	32	Colombia	.4593	.4960	.1328	1
28	23	31	Argentina	.4431	.5110	.1443	3
29	15	13	Zimbabwe	.4045	.6000	.3121	1
30	2	29	Thailand	.4004	.8170	.1579	1
31	31	15	Chile	.3252	.0000	.2774	1

TOTAL COUNTRIES:36

CASES: 111

Table 2: Usable respondent group segmented by industry

INDUSTRY(a)	AUTHORIZED CONTACTS(b)	RESPONSES(c)	c/b*	c/111*
ADHESIVES	8	6	75.0	5.4
AUTO PARTS	21	6	28.6	5.4
AUTOMATION	10	5	50.0	4.5
AUTOMOBILES	39	25	64.1	22.5
COMPUTERS	24	8	33.3	7.2
CONSTRUCTION	3	0	00.0	0.0
ELECTRIC DEVICES	14	7	50.0	6.3
ELECTRIC MOTORS	3	2	66.7	1.8
FASTENERS	6	5	83.3	4.5
FILTRATION	11	7	63.6	6.3
HEAVY TRANSPORT	5	4	80.0	6.3
PHARMACEUTICAL	21	13	61.9	11.7
SECURITY	3	2	66.7	1.8
SPECIALTY MATERIALS	10	5	50.0	4.5
TIRE AND RUBBER	7	4	57.1	3.6
TOILETRIES	17	12	70.6	10.0
TOTALS	203	111		100.0

*column c quantities divided by column b quantities.

Table 3

COUNTRY AND INDUSTRY GROUPINGS
ON MEAN DIFFERENCES IN VALUES OF THE LATENT VARIABLES
FOR STATES' REPUTATIONS AND TRANSACTION SPECIFICITY

A. Country groupings* and their relative means on the latent variables *MNCs'*
managers' perceptions of states' reputations for economic policy
consistency (η_4)

High = 1.494
n = 34
Belgium, Denmark, Germany, Hong Kong,
Italy, Japan, Luxembourg, Netherlands,
Portugal, Switzerland, Thailand,
Yugoslavia

Medium = 1.058
n = 51
Australia, Canada, France, Ireland,
New Zealand, Singapore, South Africa,
Spain, Sweden, Taiwan, U.K., U.S.A.

Low = 0.00
n = 26
Argentina, Brazil, Chile, Colombia, India,
Indonesia, Kenya, Korea, Mexico, Pakistan,
Venezuela, Zimbabwe

B. Industry groupings* and their relative means on the latent variable *MNCs'*
managers' perception of the importance of their state-targeted suppliers'
transaction-specific investments (η_3)

High = .527
n = 26
Auto Parts, Automobiles, Electric Motors,
Filtration, Security

Medium = .252
n = 43
Adhesives, Computers, Heavy Transport,
Pharmaceuticals, Toiletries

Low = 0.00
n = 42
Automation, Electric Devices
Fasteners, Specialty Materials,
Tire and Rubber

*Country and industry groupings were determined arbitrarily by counting out equal numbers of members according to their ranks on mean raw factor scores. The relative factor means of the groups were then estimated using LISREL (Joreskog & Sorbom). See the text for details.

Table 4

MEASUREMENT MODEL ESTIMATION

<u>Latent Variables and Indicators (y, x)</u>	<u>Model 1</u>	<u>Model 2</u>
MNCs' managers' perception of the importance of state-targeted suppliers' transaction-specific investments (η_3)		
y_3 adjacent facilities (site-related)	0.705 4.362***	0.694 4.324***
y_4 orders comprising the entire annual output of certain facilities (dedicated)	1.000 [†] n.a.	1.000 n.a.
y_5 manufacturing personnel's experience in using your products (human)	0.919 5.404***	0.914 5.398***
y_6 government job-training programs or credits aimed at processes which make or use the goods traded (human)	0.941 5.489***	0.944 5.508***
MNCs' managers' perceptions of states' reputation for economic policy consistency (η_4)		
y_7 unexpected tariff, local content export quota or other trade regulation changes	1.174 7.378***	1.177 7.372***
y_8 loss of business advantage due to government approval delays	1.170 7.368***	1.171 7.355***
y_9 supplier unreliability due to government contract problems	1.000 n.a.	1.000 n.a.
MNC's managers' perceptions of their affiliate's production and transactions cost advantages over potential sub-contractors (ξ_1)		
x_1 economies of scale	1.000 n.a.	--
x_2 labor costs	1.213 11.974***	--
x_3 inventory costs	1.132 11.021***	--
x_4 risk that potential suppliers will become market competitors	1.054 9.984***	--

t-values are shown under parameter estimates

† As latent variables are unobservable, units of measurement are arbitrary. Consequently, one parameter was set to unit value for each latent variable, in order to scale its measurement. Significance tests do not apply for these indicators.

* Significant at the $p < .10$ level, two-tailed

** Significant at the $p < .05$ level, two-tailed

*** Significant at the $p < .001$ level, two-tailed

Table 5

STRUCTURAL EQUATION MODEL ESTIMATION

MODEL 1

Endogenous Variables	External Sourcing (η_1)	Value Added (η_2)	Transaction Specificity (η_3)	State Reputation (η_4)
<u>Explanatory Variables</u>				
% Affiliate <u>External Sourcing</u> (η_1)	--	--	--	--
% Affiliate <u>Value-Added</u> (η_2)	0.139 1.549	--	--	--
MNCs' mgrs' perceptions of importance of state targeted suppliers' <u>transaction-specific investments</u> (η_3)	0.267 1.838*	0.077 0.411	--	--
MNCs' mgrs' perceptions of <u>states' reputations</u> for economic policy consistency (η_4)	--	0.122 0.620	-0.661 -4.329***	--
MNC's mgrs' perceptions of their affiliates' production and transactions cost advantages over potential subcontractors (ξ_1)	-0.172 -1.471	0.211 1.705*	--	--
Single party dominance of government executive branch (ξ_2)	--	--	0.238 3.064***	0.203 2.917**
Central government revenues as % of GDP (ξ_3)	-0.308 -3.466***	--	0.162 2.059**	0.200 2.718***
Legislative party fractionalization (ξ_4)	--	--	--	0.169 2.358**

t-values are shown under parameter estimates

Measures of over-all Goodness-of-Fit

Chi-squared (96 d.f.) = 100.94

Probability level = 0.345

Goodness-of-fit index = 0.905

Adjusted goodness-of-fit index = 0.677

Root mean square residual = 0.060

Total coefficient of determination for structural equations = 0.435

* Significant at the $p < .10$ level, two-tailed

** Significant at the $p < .05$ level, two-tailed

*** Significant at the $p < .001$ level, two-tailed

Table 6
STRUCTURAL EQUATION MODEL ESTIMATION

MODEL 2

Endogenous Variables	Transaction Specificity (η_3)	States' Reputations (η_4)
Explanatory Variables		
% Affiliate <u>External Sourcing</u> (η_1)	--	--
% Affiliate <u>Value-Added</u> (η_2)	--	--
MNCs' mgrs' perceptions of importance of state-targeted suppliers' <u>transaction-specific investments</u> (η_3)	--	--
MNCs' mgrs' perception of <u>states' reputations</u> for economic policy consistency (η_4)	-0.655 -4.281***	--
MNC's mgrs' perceptions of their affiliates' production and transactions cost advantages over potential subcontractors (ξ_1)	--	--
Single party dominance of government executive branch (ξ_2)	0.232 2.962***	0.203 2.909***
Central government revenues as % of GDP (ξ_3)	0.157 1.986*	0.199 2.705**
Legislative party fractionalization (ξ_4)	--	.0169 2.356**

t-values are shown under parameter estimates

Measures of over-all Goodness-of-Fit

Chi-squared (35 d.f.) = 45.16
 Probability level = 0.117
 Goodness-of-fit index = 0.924
 Adjusted goodness-of-fit index = 0.791
 Root mean square residual = 0.060
 Total coefficient of determination for structural equations = 0.342

* Significant at the $p < .10$ level, two-tailed
 ** Significant at the $p < .05$ level, two-tailed
 *** Significant at the $p < .001$ level, two-tailed

