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EMERGENT PATTERNS OF STRATEGY, ENVIRONMENT AND PERFORMANCE IN A TRANSITION ECONOMY

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Insights from the resource dependence approach, dynamic fit, and strategic choice theories are used to explore the strategies adopted by Chinese enterprises, their settings, and the relationship between strategy, environment, and performance. Results from 959 firms indicate that respondents operating under 'more marketized' institutional settings tend to locate themselves in more munificent environments and place greater emphasis on meeting customer needs. Firms in China do not trade off one strategic direction against another, and certain strategy/environment coalignments have significant implications for performance. In particular, performance is better in more marketized and munificent environments and amongst firms who adopt an 'aggressive' strategic posture. Copyright © 2004 John Wiley & Sons, Ltd.

China has followed an idiosyncratic path in its transition from a command economy, ignoring many prescriptions proffered by Western economists (Blanchard *et al.*, 1991; Sachs, 1992). Property rights remain unclear (Naughton, 1994), state enterprises retain a large share of output, and the 'big bang' approach to reform has been eschewed in favor of incrementally 'touching stones to cross the rivers' (Nolan, 1994). Government intervention remains extensive and control of key sectors is tight. However, the relaxation of controls in other sectors has resulted in a more diversified business context (World Bank, 1997), and the growth of township, foreign invested and private enterprises has transformed the industrial landscape. At firm level, this process has resulted in 'China's relentless move from homogeneity to heterogeneity' (Brown and Porter, 1996: 8).

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Amid that heterogeneity, some of the central challenges in respect of understanding Chinese firms lie in characterizing the shifting environments in which they are operating, explaining the strategic choices being made, and articulating the links between those choices, environments, and enterprise performance. This study draws on insights from the resource dependence perspective and the literature on strategic choice and dynamic strategic fit to examine those links, using primary data from a large-scale survey of senior managers.

ALTERNATIVE PATTERNS OF RESOURCE DEPENDENCE AND THE NEED FOR STRATEGIC CHANGE

In a transition economy, enterprises operate in a range of institutional settings, subject to different 'rules of the game' (North, 1990). These rules determine the extent to which the enterprise is 'marketized' (Nee, 1992; Davies, 1995) by fixing its position in respect of: enterprise autonomy; distance from the plan in respect of acquiring inputs,

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selling outputs, and pricing; the intensity of incentives; and the importance of profit. At one end of the spectrum there are Chinese firms operating in highly marketized settings which resemble Western companies (Perkins, 1994). At the same time there remain state-owned enterprises operating under rules that differ only slightly from those which characterized the former command economy (EAAU, 1997; Studwell, 2002). The position of an enterprise along this spectrum is in part determined by its ownership, state-owned organizations having less marketized settings than collectively owned, private, or foreign firms. However, some state enterprises are highly marketized (Nolan, 2001), there are substantial variations within each ownership type, and it is the variation in institutional setting, rather than ownership type *per se*, that is the key determinant of enterprise behavior.

If the Chinese enterprise is to be understood, these differences in institutional setting need to be taken into account. It cannot be assumed that all firms are operating autonomously in free markets or that they are all controlled by the state. A suitably general starting point lies in the central insight of resource dependence theory, as articulated by Pfeffer and Salancik (1978), which characterizes organizations as dependent for survival and success on resources that must be acquired from the external environment. The key task is to establish effective mechanisms for the acquisition of resources. That mandates a number of tasks. First, organizations need to assess which collectivities in the environment are important and what they need from them (Pfeffer and Salancik, 1978: 84–88). Then they need to manage their dependence relations with those resource providers. Most simply, they may comply with resource providers' demands. Alternatively they may balance conflicting organizations against each other, co-opt important elements, or merge with key resource providers.

Peng and Heath (1996) use this perspective to explain how enterprises grow by 'blurring the boundaries.' Lukas, Tan, and Hult (2001) use it to explain links between 'strategic fit' and performance. The key question is 'How does marketization affect the ways in which Chinese enterprises manage their resource dependence?' The answer has two components. First, enterprises must identify the most important groups in their environment. Here, the difference between more and less marketized environments is substantial. Less marketized firms face soft budget constraints, administrative allocation of funds and materials, limited autonomy, and administered prices. For them, organizational effectiveness and performance are measured externally in terms of adherence to administratively set targets and internally in terms of securing organizational slack through generous resource provision. The key groups are officials in the supervising Ministries with whom such firms are in a situation of 'symbiotic interdependence,' which is the setting in which the resource dependence model is most directly applicable (Aldrich, 1999).

For firms in a more marketized setting, sales and profit are the condition for survival and the measure of performance. Funds, materials, and labor are acquired through market channels at market prices. Such firms have significant autonomy in respect of the product and market domains they occupy, and the key providers of resources are the customers from whom revenues are derived. While suppliers of materials, finance, and technology are also important, their willingness to supply the needed resources is contingent upon confidence that the revenue stream from customers will be sufficient to meet the payments involved. Hence primacy of influence lies with the customer.

Just as the groups that hold the key to resource dependence differ, so do the means by which it is mitigated. In the less marketized setting the most important activity is the cultivation of good connections (*guanxi*) with officials (Guthrie, 1998). As China's extensive bureaucracy has never fully codified the information used to control its enterprises (Boisot and Child, 1988, 1996) the rules are neither fully promulgated nor consistently enforced. Individual officials therefore wield significant and arbitrary influence over the resources available to an organization. Rational senior managers allocate their time and effort to identifying the key officials and influencing them through gift-giving and the building of mutual obligation (Shenkar, 1991). As the resource dependence model predicts, the key resource providers are co-opted via the particularistic networks of the firm's senior managers. As establishing and maintaining *guanxi* is a senior-management-intensive activity and senior managers' time is the scarcest resource in China (Studwell, 2002), these firms allocate less of that resource to being competitive in the marketplace. Hence Peng and Luo's (2000) finding of a

negative correlation between the quality of Chinese firms' products and the extent of their relations with officials.

For firms operating in a more marketized setting the co-option of officials through *guanxi* still has value, corresponding to the 'relational' approach to corporate political strategy in market economies, identified by Hillman and Hitt (1999). However, as Peng and Luo (2000) also found, network assets are becoming less important determinants of performance as they become less effective means of ameliorating resource dependence. Instead, survival depends upon selling products at a balance of price and quality that will provide positive net revenues (Guthrie, 1998). Attracting revenue from customers is the key requirement and resource dependence is best mitigated by using 'strategic choice' to secure those revenues. While the resource dependence approach makes a key contribution by highlighting the differences between less and more marketized situations, the strategies it prescribes are more appropriate in the former than the latter. Firms in more marketized environments are no longer in a particularistic 'small numbers' situation, where the identity of the key resource providers is known and they can be co-opted. Hence managers strategizing needs to take a different form.

The analysis above has compared less and more marketized situations as if they were steady-state alternatives. Co-opting of officials and meeting customer needs have been presented as unambiguously preferred options in their respective settings. However, marketization is a dynamic process; there is significant heterogeneity across enterprises and major elements of ambiguity about whether strategies should (or can) be changed. Hence China provides an ideal context in which to examine the issue of 'dynamic strategic fit' (Zajac, Kraatz, and Bresser 2000). As that analysis points out, firms may need to change or they may not, and they may implement change or not. If change is not needed and not made, the outcome is 'beneficial inertia' and superior performance will follow (on the performance criteria appropriate to their situation). Conversely, if change is needed and implemented the outcome is 'beneficial strategic change' and superior performance (on measures appropriate to the new setting). Failure to match the requirement for change (or the lack of it) with its implementation (or the lack of it) leads to inferior performance.

Chinese firms who remain in less marketized settings have less need to change. For them 'dynamic fit' lies in 'beneficial inertia' where they continue to use their 'distinctive competences' in *guanxi* management or 'relational political strategy' (Hillman and Hitt, 1999) to secure resources. However, as reform introduces more marketized settings, the firms affected need to redirect their strategizing away from the management of relationships with officials and towards meeting customers' needs. If they do that successfully, 'beneficial strategic change' and 'dynamic fit' will be achieved, with positive consequences for performance. If they do not shift their emphasis towards meeting customer needs there will be a 'dynamic misfit' with negative consequences for performance.

MARKETIZATION AND STRATEGIC CHANGE: THE SEARCH FOR MUNIFICENCE AND MEETING CUSTOMER NEEDS

Having described the Chinese situation as one in which firms face different degrees of marketization and hence different needs for strategic change, it remains to consider the nature of the changes that are required, and to develop hypotheses on the patterns of strategy, environment, and performance that emerge. Two broad categories of strategic action may be identified (Child, 1972). The first involves 'environmental strategies,' whereby firms seek to locate themselves in more favorable environments. The second involves using 'organizational strategies' to secure revenues within the environments selected.

Less marketized firms have limited autonomy in respect of the environments in which they operate, little incentive to seek out new ones, and the need for strategic change is limited. But more marketized firms have autonomy and greater freedom to select their environments. They also have greater motivation to reduce their resource dependence by locating themselves in more favorable business environments. For them, dynamic fit requires 'beneficial strategic change,' which lies in seeking product/market domains that offer better prospects for net revenue generation. Hence the first hypothesis:

Hypothesis 1: Enterprises subject to more marketized institutional regimes will be operating in

more munificent environments than those subject to less marketized institutional regimes.

The migration of more marketized firms to more munificent environments is unlikely to be complete. Some will fail to recognize the need, some will lack the capability, and others will be unable to overcome entry barriers. Nevertheless, after more than 15 years of enterprise reform, it is to be expected that a positive association between more marketized and more munificent environments will have become established.

The second category of action through which firms can exercise 'strategic choice' (Child, 1972) and seek 'dynamic strategic fit' concerns the 'organizational strategies' they adopt in order to generate the cash flow and profits that are the key to the mitigation of resource dependence. Such strategies may be conceptualized and measured according to a variety of traditions, notably the comparative (Venkatraman, 1989), and the configurational (Miller, 1996), both of which locate firms along sets of relatively well-established strategic dimensions. As most of the literature on strategic management is set in advanced market economies, a key question is whether it is appropriate to measure the behavior of Chinese firms along similar dimensions. Some analysts have argued that business organizations cannot be understood without taking account of their 'embeddedness' in cultural settings, which may be very different. It might therefore be inappropriate to mobilize mainstream Western constructs in China (Shenkar and von Glinow, 1994). On the other hand, the spread of 'marketization,' the entry of new firms (including foreign firms), and the emergence of competition have important implications for business behavior. In particular they imply that concepts and models drawn from market economies may be useful (Jefferson and Rawski, 1994). Tan and Litschert's (1994) study of the Chinese electronics industry used well-established dimensions derived from Venkatraman (1989) to measure business strategies which exhibited predictable relationships with environment and performance. Child (1994) showed that Chinese firms are becoming more strategic in their decision making, while Luo, Tan, and Shenkar (1998) and Luo (1999) used standard constructs to examine strategy/environment/performance relationships amongst township enterprises in south China. Most recently, Lukas *et al.* (2001) confirmed the applicability of standard constructs in China by applying them to the issue of 'strategic fit.'

There is ample reason to suppose that mainstream concepts can have explanatory value in the Chinese situation. However, differences in the institutional environment must be taken into account (White, 2000). In more marketized settings change in the direction of meeting customer needs is key. In less marketized settings, the need for change is less and motivation to serve customers is weak (Smith and Grimm, 1987). Hence the second hypothesis:

Hypothesis 2: Enterprises in more/less marketized settings will place more/less emphasis on business strategies designed to meet customers' needs.

PERFORMANCE, ENVIRONMENT AND STRATEGY

The meaning and interpretation of performance vary across institutional settings, in line with patterns of resource dependence. For more marketized firms, success or failure is reflected in market share, sales, growth, and profitability. For less marketized firms, superior 'system performance' (Seashore and Yuchtman, 1967) involves securing resources through the manipulation of influence in administrative channels (EAAU, 1997) and success is measured by the degree of organizational slack achieved (Walder, 1995). Such firms are not oblivious to market-economy indicators of performance. However, the penalties and rewards associated with those criteria are more limited. The need for strategic change is less pressing, 'beneficial inertia' is appropriate, the firms pay less attention to meeting market economy criteria, and hence perform less well on those criteria. The third hypothesis is therefore:

Hypothesis 3: Enterprises operating in more marketized settings will exhibit superior levels of performance on market economy criteria when compared with firms operating under less marketized regimes.

Superior performance on market economy criteria will be easier to achieve in more munificent

environments, for firms in all types of institutional setting. Hence:

> *Hypothesis 4: Superior performance on market economy criteria is found in more munificent environments.*

While the institutional environment determines how emphatically firms pursue market economy performance criteria and munificence increases the reward to that effort, 'organizational strategies' also have a role to play. Hypothesis 2 has suggested that in marketized settings firms will pay more attention to meeting customer needs. Faced with that imperative they might seek to achieve dynamic strategic fit by meeting a wide variety of different customer needs. However, meeting different needs requires different resource configurations (Porter, 1980), and different distributions of senior management effort. Hence it can be difficult to implement a variety of strategies simultaneously. In that case, superior performance on market economy criteria requires that firms direct their resources towards a limited set of strategic dimensions, in order to avoid becoming 'stuck in the middle' (Mahon and Murray, 1981). Such a relationship between strategy and performance has been supported by a number of studies. Kim and Lim's (1988) analysis of the Korean electronics sector found that firms adopted strategies which emphasized some dimensions at the expense of others. Tan and Litschert (1994) and Lukas *et al.* (2001) both found that in China firms chose between alternative strategies. Hence the following hypotheses:

> *Hypothesis 5: In more marketized settings firms will adopt business strategies that seek to meet customers' needs by emphasizing some dimensions of strategy at the expense of others.*

> *Hypothesis 6: In more marketized settings superior performance on market economy criteria is associated with the adoption of business strategies that seek to meet customers' needs by emphasizing some dimensions of strategy at the expense of others.*

Overall, the analysis suggests that performance on market economy criteria will be at its highest in more marketized and munificent environments, and in firms that have adopted business strategies involving the 'trade-off' of one strategic direction against another. It will be lowest in hostile and less marketized environments, where firms place less emphasis on meeting customer needs.

METHODS AND RESULTS

Variable selection

The first step towards testing the hypotheses lay in selecting the variables to represent the marketization and munificence of the environment, enterprises' 'organizational strategies,' and their performance (on market economy criteria). For marketization, the broad construct was represented by four sub-dimensions drawn from Nee (1992). These were: the extent of enterprise autonomy; distance from the plan; the intensity of incentives; and the importance of profit.

For environmental munificence a distinction was made between the immediate business environment, and the longer-term prospects determined by the technological environment. For the former, munificence was characterized by: market attractiveness (Burke, 1984); the intensity of competition (Jaworski and Kohli, 1993): and entry barriers (Porter, 1985). For the latter, munificence was described in terms of: technological opportunity; the value which customers place on new technology; and the regime of appropriability (Levin *et al.*, 1987).

The selection of variables to represent organizational strategies was based on four criteria. First, each of the variables should represent a means by which customer needs can be met. Second, the variables should represent fundamental strategic choices that have been shown to impact on performance in other settings. Third, the variables should be well established, having demonstrated validity and reliability outside Western settings and in the Chinese language. Fourth, the set of variables should be compact in order to reduce the burden on respondents. In the light of those criteria four dimensions of strategy were included, as used by Zahra and Covin (1993) and in Chinese by Davies and Ma (2000). These are 'commodity-to-specialty products,' 'marketing intensity,' 'emphasis on efficiency,' and 'product line breadth.' Each of those dimensions has been shown to be meaningful in a wide variety of environmental settings (Buzzell and Gale, 1987; Oster, 1990) and they cover the

main dimensions along which the influential Porter (1980) and Miles and Snow (1978) typologies are distributed.

Performance on market economy criteria was captured by following Venkatraman and Ramanujam (1986), with a broad measure covering both economic performance and operational success. For each of the variables identified, scales were adopted from earlier studies or developed using the methods outlined by DeVellis (1991), as set out in more detail below.

Methodology

The methodology adopted was 'configurational' and 'empirical taxonomic,' following Kim and Lim (1988). Having developed measures for environment and strategy, those were input to cluster analyses that identified different 'environmental settings' and strategic 'gestalts' or 'archetypes' (Fahey and Christensen, 1986). The clusters were then used to test Hypotheses 1 and 2. The performance measures were then included and firms grouped into a matrix of cells showing each strategy/environment combination and the performance associated with each cell, in order to test Hypotheses 3, 4, 5, and 6.

The sample and survey instrument

It is difficult to collect large-sample, firm-level data in China because probability sampling is made difficult by the lack of accurate sampling frames, and nonresponse is likely in an environment where many regard data collection with suspicion (Shenkar, 1994). Hence early investigations tended to rely on case studies focused on theory development (Boisot and Child, 1988, 1996; Child and Lu, 1990; Nee, 1992). However, conditions for data collection have improved and analyses based on surveys have begun to emerge, allowing the research agenda to progress from theory development to theory testing (Lukas *et al.*, 2001; Peng and Luo, 2000; Tan and Litschert, 1994: White, 2000; Xin and Pearce, 1996).

For this study, assistance was sought from local government agencies having an interest in the project for themselves and in a position to use some authority to request data from a representative sample of enterprises in their area. Principal collaborators were identified in each area. They held primary responsibility for data collection and were briefed on the need to provide a probability sample properly reflecting local conditions in terms of the distribution by industry, size, and enterprise type. Responses were gathered from across the country and the data set is considerably more representative than the 'local' data sets that have been used in some China studies. Nonresponse bias was not a significant problem as the collaborators were able to exercise authority in order to secure responses. There might be a danger of 'yea-saying' bias when respondents had been instructed to cooperate, but the questionnaire items had no obvious 'value-loading,' it was explained that the data were for statistical analysis only, and the responses show use of the full range of values for all items.

The survey method used a structured questionnaire, administered personally during interviews by survey workers to respondents who were either the general manager of the enterprise or not more than one level below them. An English version of the questionnaire was developed first and subjected to back-translation procedures (Brislin, 1970; Bhalla and Lin, 1987). The instrument was then piloted with 34 Chinese managers from six different cities and some modifications were made, involving simplification of the Chinese wording. The data were then collected in 1997 from 959 manufacturing enterprises operating in a total of eight different provinces and cities on the southern coast ($N = 223$), the central belt ($N = 396$), and in the north, west and inland ($N = 340$).

The environmental settings and performance

The environment has been characterized in terms of two broad constructs: marketization and munificence. For the dimensions of marketization new indicators were developed, drawing on the qualitative discussion in Nee (1992). For the technological environment indicators were developed by drawing on Levin *et al.* (1987). For the business environment preexisting scales were used, drawn from Burke (1984) and Jaworski and Kohli (1993). Appendices 1–3 show the indicators used for each variable, the results of exploratory factor analysis (EFA), the scales constructed and their Cronbach alpha coefficients.

As Appendix 1 shows, in respect of the business environment, three factors representing reliable scales were identified, for competitive intensity, market attractiveness, and market growth. A fourth factor loaded onto 'entry barriers' but as it

had a reliability coefficient of 0.54 it was dropped from the analysis. For the munificence of the technological environment, an EFA across indicators designed to tap the three *a priori* dimensions drawn from Levin *et al.* (1987) identified four dimensions (Appendix 2), representing respectively 'the value of technology,' the 'ease of copying,' 'research-based technological opportunity,' and 'industry-based technological opportunity.' Appendix 3 shows the results of an EFA across the set of indicators designed to tap the subdimensions of the marketization construct, which identified five scales, namely: autonomy in hiring staff; dependence upon officials in decision making; distance from the plan; the importance of profit; and incentive intensity. Only the first two of these met the conservative threshold of 0.7 for Cronbach's alpha. However, as they all exceeded 0.6, meeting the more liberal benchmark suggested by Robinson, Shaver, and Wrightsman (1991), they were retained for use in the next step.

Having identified and constructed scales for the three domains which make up the environment, it remained to use cluster analysis in order to identify the environmental settings in which firms were operating. One approach would be to include all 12 environmental constructs in the analysis, consistent with the 'inductive' approach to clustering (Ketchen, Thomas, and Snow, 1993). However, it has been argued that the salient features of the environment are the overall munificence of the business and technological environments and marketization. In that situation, a 'deductive' approach to cluster analysis is more appropriate where the theoretically specified variables are used. 'Business munificence' was therefore measured by summing the (standardized) measures for market attractiveness, market growth, and competitive intensity (reverse coded) to give a 'mechanical composite scale' (Einhorn, 1972), which was itself then standardized. Similarly, 'technological munificence' was measured with a standardized summation of the standardized scales for the value of technology, research-based technological opportunity, industry-based technological opportunity, and the ease of copying (reverse coded). For 'marketization' a measure of the broad construct was established by summing and standardizing the standardized measures for autonomy in hiring, distance from the plan, importance of profit, incentive intensity, and dependence on officials (reverse coded). The measures for marketization and the two aspects of munificence are therefore 'emergent' constructs, construed as 'effects' of their indicators, as opposed to 'latent' constructs (Bollen and Lennox, 1991). As a check for 'known group validity,' the values of the marketization variable were compared for different enterprise types, which confirmed that central and provincial-level state-owned enterprises had lower mean values on the marketization dimension than collective, private, or foreign enterprises. It also showed that the variation was relatively greater for the state enterprises, confirming their heterogeneity as described above.

Having limited the environmental variables to three, the next step used cluster analysis to identify groups of enterprises whose 'environmental settings' closely resembled each other while differing from those occupied by other groups. As there was no '*a priori*' basis on which to specify the number of clusters, or the cluster centers, agglomerative hierarchical clustering was adopted, using Ward's method (Ketchen and Shook, 1996). In order to choose the most appropriate number of clusters the agglomeration schedule was examined to find steps where the average distance between joined clusters increased significantly, and each solution from two clusters to six clusters was examined in order to identify the nature of the clusters at each step. As a result, the four-cluster solution was selected. Examination of those clusters showed that the first environmental setting had the highest values for both of the munificence variables and a marketization value above the mean. The second had values below the mean on all variables. The third displayed low scores for munificence but high scores for marketization, while the fourth environmental setting lay above the mean in respect of munificence but lowest in respect of marketization. Table 1 sets out that information in a contingency table which can be used to test Hypothesis 1. As the figures show, out of 235 firms operating in the more marketized settings 154 (65.5%) were in munificent environments, compared with 49.4% for the sample as a whole. Chi-square took the value 32.3 with 1 degree of freedom, allowing the hypothesis of no association to be rejected at the 0.001 level and supporting Hypothesis 1. Operating under a more/less marketized institutional regime is associated with a more/less munificent setting.

Hypotheses 3 and 4 concern the relationship between the environment and performance on

Table 1. Environmental settings: munificence/hostility and marketization

	Hostile environments $N = 485$	Munificent environments $N = 474$
More marketized regimes $N = 235$	$N = 81$ Business munificence = −0.60 Technological munificence = −1.36 Marketization = +1.47	$N = 154$ Business munificence = +1.08 Technological munificence = +0.83 Marketization = +0.74
Less marketized regimes $N = 724$	$N = 404$ Business munificence = −0.56 Technological munificence = −0.37 Marketization = −0.22	$N = 320$ Business munificence = +0.34 Technological munificence = +0.47 Marketization = −1.01

Chi-square for the distribution of cases across the cells, with 1 d.f. = 32.3, $Pr < 0.001$

market economy criteria. Performance was measured through a set of eight questionnaire items concerning objective measures of sales and profit growth, sales, market share, profits, and operational success (Cavusgil and Zou, 1994). Exploratory factor analysis found only one underlying factor and the scale had a Cronbach alpha in excess of 0.9. That scale was calculated and standardized. As common method variance may be a problem when dependent and independent variables are measured from the same source, the procedures used by Tsui *et al.* (1995) following Podsakoff and Organ (1986) and Williams, Cote, and Buckley (1989) were followed. At the questionnaire design stage the dependent variables were placed after the independents in order to reduce the impact of respondents' implicit effectiveness theories. After the data had been collected, exploratory factor analyses were carried out across sets of items used to measure performance and each of marketization, technological munificence, business munificence, and the business strategies. In every case the first factor accounted for only a small percentage of the variance. Such tests do not eliminate the common method problem, but they suggest that it is not serious.

Hypothesis 3 posited that superior performance on market economy criteria would be associated with more marketized environments, while Hypothesis 4 posited that superior performance would be found in more munificent environments. Table 2 shows the standardized performance measures for the four environmental settings. The mean performance for the 235 firms operating in more marketized environments was significantly higher ($Pr < 0.001$) than for the 724 firms in less marketized settings, supporting Hypothesis 3. Similarly, mean performance for the 474 firms in munificent environments was significantly better ($Pr < 0.001$) than for the 485 occupying hostile environments, supporting Hypothesis 4. Using the Sheffe test to control for multiple comparisons across the four different settings showed that performance in the more marketized and munificent setting significantly exceeded that in all others, as predicted, while performance was at its lowest in the hostile and less marketized setting. As an alternative, nonconfigurational, approach to testing Hypotheses 3 and 4 a multiple regression was run, with performance as the dependent variable, predicted by marketization, business munificence, and technological munificence. The results showed that the regression as a whole was highly significant and all three environmental variables were positive and significant at the 0.001 level ($F = 67.9$, Pr of $F = 0.000$, $R^2_{adj} = 0.173$).

The identification of strategic 'gestalts'

In order to measure the business strategies 14 statements were presented to the respondents, representing: 'marketing intensity;' 'emphasis on efficiency;' 'product line breadth;' and 'commodity to specialty products.' These were drawn from the original English versions used by Zahra and Covin (1993) and tested in Chinese by Davies and Ma (2000). Appendix 4 sets out those statements and the results of the exploratory factor analysis which identified four factors, all readily interpretable as the strategic dimensions intended. The Cronbach alpha coefficients all exceeded the conservative threshold level of 0.7. After standardizing the scores the same clustering procedures were used to identify three strategy 'gestalts,' as shown in Table 3.

Table 2. Performance and environmental settings

	Hostile environments $N = 485$ Mean performance = −0.33	Munificent environments $N = 474$ Mean performance = +0.34
More marketized regimes $N = 235$ Mean performance = +0.29	CLUSTER 1 $N = 81$ Performance = −0.16	CLUSTER 2 $N = 154$ Performance = +0.53
Less marketized regimes $N = 724$ Mean performance = −0.09	CLUSTER 3 $N = 404$ Performance = −0.36	CLUSTER 4 $N = 320$ Performance = +0.25
Sheffe test on performance: Cluster 2 > 4 > 1, 3		

Table 3. Strategy 'gestalts': the three-cluster solution

Cluster number and label	No. of cases	Mean value of product line breadth	Mean value of marketing intensity	Mean value of commodity/specialty	Mean value of emphasis on efficiency
1. Aggressive	322	+0.73	+0.77	+0.74	+0.91
2. Intermediate	326	−0.14	−0.01	+0.00	−0.18
3. Passive	311	−0.90	−0.86	−0.79	−0.75
Sheffe tests		All pairs different	All pairs different	All pairs different	All pairs different

As the table shows, the pattern of results differed from that anticipated. First, there was a cluster containing 311 firms who scored below the mean on all four dimensions of strategy and who can be labeled 'passive.' That was expected as it has been hypothesized that firms in less marketized environments will place less emphasis on business strategies that seek to meet customer needs (Hypothesis 2). However, it was also anticipated that other clusters would exhibit trade-offs between different strategic dimensions, with groups of firms emphasizing some of the strategic dimensions at the expense of others, and these were not evident. Unlike Kim and Lim's (1988) findings for Korea there were no clusters of firms having relatively high scores on one set of dimensions and relatively low scores on the others. Instead, there were monotonic increases in all of the strategy variables from one cluster to another. In addition to the cluster which has been labeled 'passive' with values for all four strategy variables below the overall mean, there was a cluster ($N = 322$) having all values significantly above the mean, which has been labeled 'aggressive.' Finally, the largest cluster, labeled 'intermediate' ($N = 326$), had values for all of the strategy variables which lay between those for the other clusters and which were not significantly different from the overall mean. Hence Hypothesis 5 was not supported by the cluster analysis and Hypothesis 6 could not be tested because the predicted strategic groups did not manifest themselves.

Strategy/environment and performance

Having identified four distinct environments and three strategy gestalts it remains to consider the associations between environment, strategy, and performance.

Hypothesis 2 posits that firms operating in the more marketized settings will place more emphasis on strategies designed to meet customer needs. Table 4 sets out the distribution of the sample across the strategies and settings, showing that the null hypothesis of no association between association between strategy gestalt and environmental setting can be rejected at a high level of significance (chi-square with 2 d.f. = 23.3; $Pr < 0.001$).

Examination of Table 4 shows that firms operating in the more marketized environmental settings adopted 'aggressive' strategies more frequently than would be expected by chance, while adopting both 'passive' and 'intermediate' strategies less frequently. Similarly, in the 'less marketized' setting fewer firms adopted 'aggressive' strategies and more adopted 'passive' and 'intermediate'

Table 4. Strategic gestalts and environmental settings

Cluster number and label	1. Aggressive $N = 322$	2. Intermediate $N = 326$	3. Passive $N = 311$
More marketized regimes $N = 235$	Obs = 109 Exp = 79	Obs = 68 Exp = 80	Obs = 58 Exp = 76
Less marketized regimes $N = 724$	Obs = 213 Exp = 243	Obs = 258 Exp = 246	Obs = 253 Exp = 234

Obs/Exp are the observed and expected frequencies for each cell. Chi-square with 2 d.f. = 23.3; $Pr < 0.001$

strategies than would be expected. Hence Hypothesis 2 is supported. As an alternative, comparative rather than configurational, approach the correlations were calculated between the marketization variable and each of the individual business strategies, showing positive correlations ranging from 0.10 to 0.30, all of which were significant at the 1 percent level or better.

Table 5 provides a more detailed examination of the links between strategy gestalts, environmental settings, and performance. Three findings emerge. First, there was a monotonic relationship across the sample as a whole between performance and the three strategy gestalts, with 'aggressive' strategies yielding the highest performance, followed by 'intermediate' strategies and trailed by 'passive.' Second, that pattern was repeated in each of the individual environmental settings (although the differences between the performance outcomes of the 'intermediate' strategies and the others were not significant in the smallest environmental subsample). Hence, even in the two less marketized settings, the 'aggressive' strategy yielded superior performance on market economy criteria. Third, even in the 'munificent and more marketized environment,' where mean performance was highest, the 29 firms adopting passive strategies yielded performance outcomes below the mean for the sample as a whole.

As a supplement to the configurational approach the multiple regression model linking performance with the environmental variables, reported above, was extended to include two dummy variables: one representing the 'aggressive' strategy and the other the 'passive' strategy (both relative to the 'intermediate' reference case). The equation fitted is as follows:

$N = 959$; $R^2_{adj} = 0.26$; $F = 67.2$; $Pr(F) = 0.000$;

beta values are given below,

t-statistics in parentheses.

$$\begin{aligned} \text{PERF} = {} & \underset{(3.6)}{+0.113}\ \text{TECHMUN} + \underset{(7.8)}{+0.242}\ \text{BUSMUN} \\ & + \underset{(3.4)}{+0.098}\ \text{MKTIZE} + \underset{(5.1)}{+0.168}\ \text{AGGRESS} \\ & + \underset{(-5.9)}{-0.189}\ \text{PASSIVE} \end{aligned}$$

where PERF = performance; TECHMUN = technological munificence; BUSMUN = business munificence; MKTIZE = marketization; AGGRESS = aggressive strategy; and PASSIVE = passive strategy.

As those results show, the strategies adopted also had a significant impact on performance, when controlling for the environment treated as a set of continuous variables, as opposed to a set of configurations.

DISCUSSION

The findings here provide support for the view that enterprise reform in China can be understood as a process in which changing patterns of resource dependence create a need for change in both environmental and organizational strategies. The direction of those changes is predictable and the achievement of dynamic strategic fit yields performance benefits. At the same time, some of the anticipated results did not manifest themselves, raising further issues for research. The results can be summarized as follows. Firms subject to more marketized regimes tend to locate themselves in more munificent settings as the resource dependence approach predicts. Performance on market economy criteria is higher in more marketized than less marketized environments and higher in more munificent environments than less, which is suggested by the dynamic fit perspective. There is also an association between more marketized settings and a greater emphasis on the adoption of strategies designed to meet customer needs. Each of these findings was anticipated. However, the 'strategy gestalts' identified were only partly predicted, as were their implications for performance. The

Table 5. Strategies, environments, and performance

Cluster number and label	1. Aggressive $N = 322$ Mean performance $= +0.49$	2. Intermediate $N = 326$ Mean performance $= -0.00$	3. Passive $N = 311$ Mean performance $= -0.50$	Sheffe tests across strategies All pairs differ significantly
1. Hostile and more marketized $N = 81$ Mean performance $= -0.16$	$N = 28$ $+0.14$	$N = 24$ $+0.04$	$N = 29$ -0.61	$1 > 3$
2. Munificent and more marketized $N = 154$ Mean performance $= +0.53$	$N = 81$ $+0.93$	$N = 44$ $+0.22$	$N = 29$ -0.15	All pairs differ significantly
3. Hostile and less marketized $N = 404$ Mean performance $= -0.36$	$N = 94$ $+0.08$	$N = 143$ -0.24	$N = 167$ -0.72	All pairs differ significantly
4. Munificent and less marketized $N = 320$ Mean performance $= +0.25$	$N = 119$ $+0.59$	$N = 115$ $+0.20$	$N = 86$ -0.17	All pairs differ significantly
Sheffe tests across environments $2 > 4 > 1, 3$	$2, 4 > 1, 3$	$2, 4 > 3$	$2, 4 > 3$	

expected result was that one group of firms, concentrated in less marketized environments, would place relatively little emphasis on meeting customer needs and would exhibit a low level of performance on market economy criteria. That group did manifest itself, as the 'passive' cluster; it was relatively concentrated in less marketized settings and its performance was below the mean. Hence there was support for the theoretical analysis in that respect.

The other result expected was based on previous studies. Drawing on Porter's (1980) analysis and the findings of Kim and Lim (1988) in Korea, Tan and Litschert (1994) in China, and Lukas *et al.* (2001) in China, it was argued that in more marketized settings some groups of firms would adopt 'trade-off' strategies that seek to meet customers' needs by emphasizing some dimensions of strategy at the expense of others. It was further argued that such 'trade-off' strategies would yield superior performance. However, the characteristics of the other two clusters found—'intermediate' and 'aggressive'—do not sit comfortably with those hypotheses. 'Aggressive' firms had the highest score on all four strategic dimensions, rewarded by superior performance, when compared with the 'intermediate' firms who lay between the two extreme clusters on every dimension of strategy, and in respect of performance.

This unexpected finding requires consideration and provides a direction for further research. One possible explanation for the lack of 'trade-off' between strategic dimensions may lie in managers' responses to uncertainty and the presence of organizational slack. In a less marketized setting, managers place a premium on the ability to hoard factor inputs that can be deployed to meet unexpected demands arising from new plans. Organizational slack represents superior performance in that setting and many Chinese enterprises have achieved it to a high degree (Walder, 1995; Peng and Heath 1996). When such firms enter a more marketized environment, where there is pressure for them to meet customer needs, they are uncertain about which needs to meet and unabsorbed slack allows for flexibility and resource deployment across a range of strategic dimensions. Managers have the incentive and the opportunity to attempt to do 'more of everything' concurrently. In that situation, some firms can place more emphasis than others along all of the strategy dimensions, since they have not yet reached the 'strategy-possibility' frontier along which it is only possible to provide more of one benefit by sacrificing another. The result is 'aggressive' business strategies characterized by a drive to better the competition on multiple strategic dimensions at the same time. Because the system as a whole embodies significant slack

such a multidimensional approach to strategy can be successful, providing the performance benefits found in the sample here. Such action is also more likely in situations where concepts like the opportunity cost of senior management time and the resultant trade-off between alternative strategies are poorly diffused and understood. A useful direction for further research, therefore, would be to use longitudinal studies to examine the process by which firms in China retain or lose organizational slack, and the influence that slack has on the nature of the business strategies they adopt. As marketization proceeds and WTO entry leads to more intense competition, it may be anticipated that slack is reduced and the pattern of strategy gestalts shifts toward one involving trade-offs.

The results here are subject to both theoretical and empirical limitations. In respect of theory, the resource dependence approach has been used to show how organizations craft their strategies in response to their environments, focusing on the distinction between strategies based on particularistic *guanxi* relations with officials vs. strategies based on meeting customer needs. However, because the focus here is on the impact of marketization, the resource dependence model has not been deployed to examine in detail how firms in the less marketized settings manage their relations with the resource providers. Similarly for the analysis of dynamic strategic fit: that perspective has been used to support hypotheses on the performance implications for marketized firms of meeting customer needs, where performance is interpreted on market economy criteria. Only passing attention has been given to the performance criteria which are appropriate for less marketized firms and to whether 'beneficial strategic inertia' yields benefits on those criteria, as the dynamic strategic fit model suggests.

A more complete approach to testing both the resource dependence and dynamic strategic fit models in a transition economy would not just acknowledge that performance is construed differently in less marketized settings. It would also measure performance on criteria appropriate to those settings (organizational slack being the most important) and the strategies that may be deployed there. Then it would test whether superior performance on nonmarket economy criteria is associated with the adoption of those strategies and with firms' dynamic strategic fit. Because this study had the purpose of examining the emergence of 'business' strategies and the consequences for performance measured on market economy criteria it made only partial use of the relevant theoretical frameworks and hence provided only partial tests.

The study also has empirical limitations. The indicators used to measure the environments and strategies were perceptual rather than objective, which raises concern about their validity. As Peng and Luo (2000) point out, that problem is common and unavoidable, especially in China, where statistical evidence is limited and archival evidence is not available. Nevertheless, it remains a weakness. Second, the measures for munificence and marketization are broad indices representing 'emergent variables' indicated by summing the values of their component indicators. The validity of such measures can only be demonstrated 'nomologically,' for which there is no set criterion (Bollen and Lennox, 1991). As they have been shown here to have explanatory power they can be regarded as appropriate but again there remains room for concern. Third, the problem of common method variance cannot be ruled out; although performance measures were based on reports of objective indicators, steps were taken at the design stage to reduce it and exploratory factor analysis suggested that it was not a major issue. Fourth, as Ketchen and Shook (1996) point out, cluster analysis remains as much art as science and the validity of the results depends essentially on their value as an explanatory device. The clusters identified here were chosen on the basis of significant step changes in the agglomeration schedule and the 'strategy gestalts' identified had a very significant impact on performance. Nevertheless, it would be helpful to have some replication of the results to provide further support.

The question of replication raises the issue of generalizability and the extent to which these results are 'time-bound.' The fundamental aim has been to identify the patterns of strategy, environment, and performance which arise in economies that are in transition from plan to market. As China's planned economy drew heavily on institutional designs from the Soviet bloc, it may be possible to generalize beyond the Chinese case into those countries. However, replication and extension are needed in support of that proposition. As the data were collected in 1997, it is possible that the rapid development of the Chinese economy since then has already led to an extension of the 'more marketized' settings and a 'shaking-out'

of the organizational slack that might account for some of the salient results. However, even if that were the case, the results here have extended our understanding of the transition process.

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APPENDIX 1: FACTOR ANALYSIS AND RELIABILITY OF FACTOR-BASED SCALES FOR THE BUSINESS ENVIRONMENT

(Chinese version available from the authors)

A priori constructs and items	Factor 1: Competitive intensity	Factor 2: Market attractiveness	Factor 3: Market growth	Factor 4: Barriers to entry
Cronbach alpha	0.78	0.82	0.76	0.54
Competitive intensity				
Our products are very similar to those produced by other firms	0.55			
We have a large number of competitors	0.74			
In this industry, customers often switch from one supplier to another	0.56			
Other companies often try to take away our customers	0.66			
Competition in this industry is very fierce	0.71			
In this industry, each customer buys from many different suppliers	0.62			
It would be easy for our customers to find an alternative supplier	0.71			
Market attractiveness				
This industry is very profitable		0.75		
In the next THREE years, the growth of output in this industry will be very high			0.74	
In the next TEN years, the growth of output in this industry will be very high			0.77	
The output of this industry will begin to decline in the next FIVE years			−0.72	
Demand for the products of this industry is growing very rapidly			0.60	
In this industry, the gross profit margin between unit cost and price is high		0.79		
It is easy to earn profits in this industry		0.79		
This industry offers a good prospect of future profits		0.68		
Barriers to entry				
It is difficult for enterprises to set themselves up in this industry				0.63
Many firms would like to enter this industry but are unable to				0.67
A new firm entering this industry will have difficulty finding customers or suppliers				0.73
Eigenvalue and % of variance accounted for	4.4/17.1%	2.8/14.9%	1.3/12.9%	1.3/9.4%

APPENDIX 2: FACTOR ANALYSIS AND RELIABILITY OF FACTOR-BASED SCALES FOR THE TECHNOLOGICAL ENVIRONMENT

(Chinese version available from the authors)

A priori constructs and items	Factor 1: Ease of copying	Factor 2: Research-based technological opportunity	Factor 3: The value of technology	Factor 4: Industry-based technological opportunity
Cronbach alpha	0.78	0.70	0.75	0.73
The value of technology				
Technological change provides good opportunities for profit in this industry			0.71	
In this industry, it is possible to stay ahead of other enterprises by introducing new products at frequent intervals			0.41	
In this industry, a firm which uses old technology loses many of its customers			0.63	
The technology in this industry is changing rapidly			0.70	
Technological developments in this industry are rather minor			−0.63	
For our customers, old products are just as good as new ones			−0.49	
In our industry, a large number of new products have been made possible through technological breakthroughs			0.43	
Technological opportunity				
Research institutes are useful sources of new technology for this industry		0.67		
Research and development carried out by our customers very often helps us to improve our products and processes				0.80
Research and development carried out by our suppliers very often helps us to improve our products and processes				0.82
Research and development carried out by our industry association very often helps us to improve our products and processes				0.73
Universities are useful sources of technology for this industry		0.72		
Regime of appropriability				
In this industry, we can protect new technology by keeping it secret		0.58		
There is no effective way to protect new technology	0.63			
In this industry, the information describing a new production process can be written down and another firm could install the new process by using that information	0.77			
In this industry, the information describing a new product can be written down and another firm could copy the product by using that information	0.78			
Patents are an effective way to protect a new product or process in this industry		0.68		
In this industry, if a firm introduces a new process, others can easily follow	0.71			
In this industry, a new product is easily imitated by other enterprises	0.68			
Eigenvalue and % of variance accounted for	4.6/14.7%	2.6/13.9%	1.7/13.6%	1.1/10.6%

APPENDIX 3: FACTOR ANALYSIS AND RELIABILITY OF FACTOR-BASED SCALES FOR THE INSTITUTIONAL ENVIRONMENT

(Chinese version available from the authors)

A priori constructs and items	Factor 1: Autonomy in hiring	Factor 2: Distance from the plan	Factor 3: Incentive intensity	Factor 4: Dependence on officials	Factor 5: Importance of profit
Cronbach alpha	0.79	0.64	0.66	0.80	0.68
Enterprise autonomy					
We hire our production workers without the help of government officials	0.85				
We hire technical staff and supervisors without the help of government officials	0.85				
Our managers were all appointed by the senior management of the enterprise	0.60				
Officials of the local government play an important role in our decision-making				0.89	
Officials from provincial or central government play an important role in our decision-making				0.88	
Distance from the plan					
We are free to purchase all of our materials and components on the open market		0.50			
We set the price of our products without intervention from government officials		0.58			
The prices we pay for equipment and components are determined by market forces		0.73			
Our materials and components are allocated to us by the authorities		−0.62			
Our customers are free to purchase elsewhere if they find a more suitable supplier		0.50			
Incentive intensity					
In our enterprise, workers are promoted if they make improvements to the company's operations			0.79		
Top managers receive higher pay or benefits if profits are higher			0.71		
In our enterprise, workers receive higher pay or benefits if they work harder			0.64		
Importance of profit/hardness of the budget constraint					
All of our products must be profitable					0.88
Profit is the most important objective of this enterprise					0.80
Eigenvalue and % of variance accounted for	4.2/16.1%	1.7/12.8%	1.3/12.5%	1.1/11.8%	1.1/10.2%

APPENDIX 4: FACTOR ANALYSIS AND RELIABILITY OF FACTOR-BASED SCALES FOR BUSINESS STRATEGIES

(Chinese version available from the authors)

A priori constructs and items	Factor 1: Emphasis on efficiency	Factor 2: Commodity/ specialty	Factor 3: Marketing intensity	Factor 4: Product line breadth
Cronbach alpha	0.80	0.71	0.78	0.84
Commodity/specialty				
Uniqueness of your products		0.67		
Targeting a clearly identified group of customers		0.80		
Making products for sale at high prices		0.53		
Making products for specific groups of customers		0.71		
Marketing intensity				
Heavy spending on advertising			0.83	
Intensive marketing effort			0.70	
Building strong brand identification			0.79	
Emphasis on efficiency				
Operating the factory at full capacity	0.71			
Operating efficiency	0.79			
Efficiency in getting materials and components	0.73			
Offering competitive prices	0.58			
Reducing production costs	0.57			
Efficient delivery of products to customers	0.50			
Product line breadth				
Offering a broad line of products				0.81
Having a wide variety of products				0.82
Eigenvalue and % of variance accounted for	5.4/19.3%	1.4/14.9%	1.3/14.7%	1.1/12.4%