

Economic Liberalization and the Antecedents of Top Management Teams: Evidence From Turkish ‘Big’ Business

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There has been an increased interest in the last two decades in top management teams (TMTs) of business firms. Much of the research, however, has been US-based and concerned primarily with TMT effects on organizational outcomes. The present study aims to expand this literature by examining the antecedents of top team composition in the context of macro-level economic change in a late-industrializing country. The post-1980 trade and market reforms in Turkey provided the empirical setting. Drawing upon the literatures on TMT and chief executive characteristics together with punctuated equilibrium models of change and institutional theory, the article develops the argument that which firm-level factors affect which attributes of TMT formations varies across the early and late stages of economic liberalization. Results of the empirical investigation of 71 of the largest industrial firms in Turkey broadly supported the hypotheses derived from this premise. In the early stages of economic liberalization the average age and average organizational tenure of TMTs were related to the export orientation of firms, whereas in later stages, firm performance became a major predictor of these team attributes. Educational background characteristics of teams appeared to be under stronger institutional pressures, altering in different ways in the face of macro-level change.

Over the last two decades there has been an upsurge of research interest in studying top management teams (Finkelstein and Hambrick, 1996; Olie and van Iterson, 2004). Stimulated to a large degree by Hambrick and Mason's (1984) upper echelons perspective, much of this work has been preoccupied with examining the effects of top management team (TMT) demographics on organizational strategies and performance. Although there have been a number of studies on environmental and organizational influences on chief executive or general manager characteristics (e.g. Datta and Guthrie, 1994; Datta and Rajagopalan, 1998; Guthrie and Olian, 1991; Rajagopalan and Datta, 1996), research on the antecedents of top teams has been limited (Athanasiou and Nigh, 2000) despite repeated calls for considering TMT attributes as a dependent variable (e.g. Finkelstein and Ham-

brick, 1996; Hambrick, 1994; Olie and van Iterson, 2004; Pettigrew, 1992; Pfeffer, 1997).

Upper echelons research has also been, almost exclusively, US based (Carpenter and Fredrickson, 2001; Glunk, Heijltjes and Olie, 2001; Pettigrew, 1992; Olie and van Iterson, 2004), with very few empirical studies conducted in non-US settings (e.g. Papadakis and Barwise, 2002; Wiersema and Bird, 1993). Moreover, given the US focus, the limited literature on the antecedents of top team characteristics has been concerned, typically, with industry or organizational-level variables (e.g. Keck and Tushman, 1993; Michel and Hambrick, 1992), ignoring the possible effects of the national context (Olie and van Iterson, 2004). Studies on comparative characteristics of top managers, on the other hand, have shown that management attributes vary across countries (e.g. Glunk, Heijltjes and

Olie, 2001; Mayer and Whittington, 1999; Norburn, 1987). There has been little attempt, however, to link this literature with research on the determinants of TMT characteristics. In particular, no study to date has examined empirically how changes at the national level may interact with organizational variables in shaping top team formations.

The present inquiry aims to contribute towards addressing this gap in TMT research by studying the changes, over time, in the demographic characteristics of top management teams within the context of an 'emerging market economy'. As Hoskisson, Eden, Lau and Wright (2000) have pointed out, 'emerging economies' provide a useful setting for examining the effects of macro-level institutional change on business firms. In the last couple of decades, many countries have experienced policy-induced changes in the way of liberalizing and internationalizing their economies (Ghemawat and Khanna, 1998; Hoskisson *et al.*, 2000). The post-1980 Turkish liberalization experience, providing the setting for this study, constitutes one such case (Ghemawat and Khanna, 1998; Krueger and Aktan, 1992).

The state has occupied a central role in the economic development of Turkey since the early phases of nation building after the demise of the Ottoman Empire in 1923. Beginning with the 1950s, state support in the way of protection from domestic and international competition and through incentives for investments, subsidized credit and under-priced inputs enabled the development of a sizeable private-sector organized predominantly in the form of family-controlled diversified business groups (Buğra, 1994). The outcome in the 1960s and the 1970s was an inward-oriented business sector that benefited from a lucrative domestic market (Lauter, 1968; Öniş, 1996). Transition towards marketization that began in the early 1980s was endorsed and encouraged by international agencies like the IMF and World Bank, and represented a radical shift from inward-orientated import substitution towards export-led industrial development (Dornbusch, 1992; İlkin, 1993; Togan, 1994). The early period (1980–1983) in the transition has been described as involving an 'orthodox shock treatment' (Boratav, Türel and Yeldan, 1996, p. 373) geared abruptly towards economic stabilization with concomitant liberal-

ization (Nas, 1988) in the wake of the high inflation and economic instability of the late 1970s. Amidst the turmoil generated by such radical measures, the shift to an export orientation, along with alteration in the make-up of exports from agricultural produce to manufactured goods, constituted the highest priority of policy makers (Krueger and Aktan, 1992; Öniş, 1995; Togan, 1994). The emphasis in the early stages on export promotion was intended both to alleviate the acute foreign currency crisis of the time and to be a long-term re-direction of the country's industrialization model (Öniş, 1995). The decisive move towards liberalization came in late 1983 (Öniş, 1992), and the 1984–1988 liberalization period, it has been argued (e.g. Boratav, Türel and Yeldan, 1996), was followed in 1989–1992 by an increase in emphasis on privatization and internationalization. By the end of the 1980s, Turkey had made substantial progress in economic liberalization, with a much greater degree of market competition and a considerable reduction in state intervention and rates of protectionism (Öniş, 1996). Moreover, despite various policy reversals and macro-economic uncertainties (Sunar, 1996), the later stages were characterized by some degree of stability and gradualism relative to the turmoil of the early period (Nas, 1988; Şenses, 1988). With this trajectory, the Turkish liberalization experience provided an opportune setting to examine the relationships, over time, between macro-economic and macro-institutional change and the composition of top teams in business firms.

The next section of the article provides a review of the major themes in the literatures on the relationships between contextual factors and TMT (e.g. Bantel and Finkelstein, 1995) or chief executive (e.g. Datta and Rajagopalan, 1998; Gupta, 1988; Guthrie and Datta, 1997; Guthrie and Olian, 1991) characteristics. In the following section, these themes are combined with ideas from punctuated equilibrium models of change (e.g. Keck and Tushman, 1993; Meyer, Brooks and Goes, 1990) and institutional theory (e.g. DiMaggio and Powell, 1983) to develop a research model for examining top team composition in the context of macro-level market and trade reforms in emerging economies. The central premise of the model is that which firm-level antecedents affect which attributes of top teams varies across stages in the liberalization process.

The specific hypotheses derived from the research model, couched in the post-1980 Turkish liberalization experience, are presented in the section that follows. Next, methods employed in the empirical examination are described, followed by a presentation of the results. The article concludes with a discussion of the major implications of the findings and the research avenues that they suggest.

Antecedents of top management team characteristics

The upper echelons perspective (Hambrick and Mason, 1984) rests on the idea that the demographic characteristics of TMTs affect organizational strategies and outcomes. Treatment of top team attributes (or chief executive characteristics for that matter) as a dependent variable reverses this line of reasoning (Guthrie and Datta, 1997). In the latter stream of research, the central argument has been based on the alignment theme in contingency perspectives. Firms are viewed as seeking to obtain a match between the requirements posed by the external or organizational context and the orientations and capabilities of their top managers (e.g. Bantel and Finkelstein, 1995; Finkelstein and Hambrick, 1996; see also, Datta and Guthrie, 1994; Guthrie and Datta, 1997; Guthrie and Olian, 1991; Rajagopalan and Datta, 1996). Following the conventional upper echelons perspective, demographic characteristics of managers are, in turn, regarded as reflecting the orientations and capabilities that are needed. Although the demographic approach inherent to the upper echelons perspective has been a source of considerable criticism in the literature (see Hodgkinson and Sparrow, 2002 for an extensive review), when top team characteristics are treated as a dependent variable attention becomes shifted to recruitment decisions in organizations (Hambrick and Mason, 1984). As Guthrie and Olian (1991) have pointed out, selection is based on beliefs about the demands of a position and the attributes needed to meet them. Overt characteristics are likely to serve as important 'signals' for these attributes (Datta and Rajagopalan, 1998; Guthrie and Datta, 1997), especially in the case of upper-level appointments, where more direct means for obtaining information on the qualities of managers may be highly limited. Thus, demographic characteristics have been consid-

ered as useful proxies for examining the ways in which organizations attempt to match their top teams with external or internal conditions.

Within the overarching alignment theme that characterizes research on the antecedents of top team (or chief executive) characteristics attention has been drawn to a number of possible contextual influences, notably the industry environment, organizational strategy and performance (e.g. Finkelstein and Hambrick, 1996). Indeed, there has been some divergence with respect to the emphasis on environmental as opposed to organizational antecedents, notably, the strategies that organizations pursue (see, e.g. Datta and Rajagopalan, 1998; Finkelstein and Hambrick, 1996; Rajagopalan and Datta, 1996; Wiersema and Bantel, 1993). On the one hand, executive attributes have been considered as a mechanism for alignment with the industry environment (e.g. Datta and Rajagopalan, 1998). One implication of this view is that a major shift in the environmental context will lead to wholesale changes in the characteristics of top managers of firms in the industry (e.g. Guthrie, Grimm and Smith, 1991; Keck and Tushman, 1993). Strategic staffing viewpoints, on the other hand, have prioritized the strategic choices of firms and pointed to the need for aligning strategies with top team (e.g. Chaganti and Sambharya, 1987; Michel and Hambrick, 1992) and CEO or general manager characteristics (e.g. Gupta, 1988; Gupta and Govindarajan, 1984; Govindarajan, 1989; Smith and White, 1987). Staffing of top positions has thus been viewed as a mechanism for facilitating the achievement of strategic goals and the implementation of chosen strategies (see also, Datta, Rajagopalan and Zhang, 2003; Thomas, Litschert and Ramaswamy, 1991; Tihanyi *et al.*, 2000). In an attempt to reconcile these two themes, an additional argument has held that instability in industry environments may lead to strategic change, which in turn, may necessitate alterations in the composition of top teams (e.g. Thomas and Ramaswamy, 1996; Wiersema and Bantel, 1993).

Yet another version of the alignment theme has focused on prior organizational performance (Finkelstein and Hambrick, 1996; Hambrick, 1994). Organizational performance has been treated as an important antecedent condition affecting the extent and nature of management changes at the top team (Bantel and Finkelstein, 1995) and

CEO or general manager levels (Datta and Guthrie, 1994; Guthrie and Olian, 1991). Satisfactory performance has been linked with stability in top ranks, whereas performance decline has been considered as signalling problems of adaptation and therefore instigating management changes with the hopes of achieving a better alignment with external and organizational conditions.

Economic transition and top management teams

The core alignment idea in the TMT and chief executive staffing literatures may serve as a starting point for examining the impact of economic reforms on the TMTs of business firms in emerging economies. Changes at a national scale would be expected to generate problems of organizational adaptation as new conditions emerge, both because of alterations in the institutional environment and the effects that such changes are likely to have in the proximal operating contexts of firms.

In positing more specifically, however, the ways in which the adoption of market and trade liberalization policies by governments may influence TMT composition, there is a need to consider the nature of the process of transition towards a more market-based and open economy. Although the scale and the pace of reforms have varied across emerging economies (Hoskisson *et al.*, 2000), economic liberalization has often unfolded in a punctuated manner (cf. Gersick, 1991; Keck and Tushman, 1993). Quite often, policy reforms are introduced in an abrupt fashion. Their immediate aftermath is a highly uncertain environment where firms in a wide spectrum of industries in the country must confront unprecedented conditions (Aulakh, Kotabe and Teegen, 2000; Ghemawat and Khanna, 1998). As the broad direction of the transition takes hold however over time, changes become more incremental and the new context begins to gain a relatively more familiar character (cf. Czaban and Whitley, 2000). The movement in this later stage is not entirely smooth either and considerable degrees of uncertainty may still prevail (Hoskisson *et al.*, 2000). This is likely to be because of policy reversals resulting from unexpected outcomes of the policy changes or to political pressures (Öncü and Gökçe, 1991). Nevertheless, despite such

oscillations, the environment begins to evolve incrementally as the transition settles on its course. The early revolutionary period, and the more evolutionary later stages in the transition process, should in turn differ in the variations they engender in organizational responses (Meyer, Brooks and Goes, 1990). The former context is likely to be variation inducing, whereas the latter is likely to encourage organizational actions that are convergent with evolutionary patterns.

Early revolutionary stage in economic transition: strategic posture as the primary antecedent of TMT composition

The aftermath of the initial introduction of the reform package is characterized not only by turbulence but also by greater organizational discretion (Hambrick and Finkelstein, 1987). As restrictions imposed on firms by political authorities are lifted, business organizations obtain greater latitude in their decision-making. New business opportunities also emerge as a result of the reforms. Akin to what Meyer, Brooks and Goes (1990) have postulated for industry-level revolutionary change, the highly turbulent and discretionary environment of the early stages in the liberalization process is likely to elicit divergent organizational reactions. Some firms may engage in rapid 'metamorphic' or frame-breaking strategic changes geared towards becoming better aligned with, or benefiting from, the novel opportunities generated by the new context (Meyer, Brooks and Goes, 1990). Others may, in view of the high levels of uncertainty and because of internal inertial pressures, persist with their past strategic postures or respond only with minor changes (cf. Datta *et al.*, 2003). Whether firms embark on strategic changes attuned with the new context, or persist with their old strategic postures, will in turn determine to what degree they need to break away from the structures and practices of the past. Firms responding rapidly to the new context by making major alterations in their strategic postures are more likely to experience changes in the composition of their top teams (Wiersema and Bantel, 1993). Moreover, implementation of new strategies will call for upper-level managers perceived as possessing the orientations and the abilities for managing change (Wiersema and Bantel, 1992).

In economies where business success depends largely on governmental policies, the link

between managerial actions and organizational performance is likely to be perceived, at best, as tenuous (Buğra, 1994). Therefore, in the pre-reform institutional régime organizational performance would be expected to be only weakly linked with the characteristics of and alterations in top management ranks, especially when there are high degrees of family ownership and involvement. In the highly turbulent and ambiguous context generated by the abrupt introduction of radical economic reforms these perceptions and institutionalized patterns are not likely to change rapidly. Thus, strategic reactions of firms are likely to be a more salient source of influence on top team compositions than performance levels in the recent past.

Significant variation in the immediate strategic reactions of firms would also imply that wholesale change in top management characteristics within, as well as across, a broad range of industries is not likely in the early stages of market and trade reforms. Indeed, Whitley and Czaban's (1998) study on Hungary showed that there was considerable continuity with past practices as changes in management largely involved internal replacements, and that internal recruitment often accompanied incremental alterations in firm strategy, structure and employment practices. It was only the enterprises controlled by foreign parents that resorted more to outside replacements. These were also the firms that made greater changes in their strategies and work organization. Similarly, in the context of post-1980 macro-economic and regulatory changes in Turkish banking, it was initially the smaller avant-garde banks that mostly promoted younger managers to top positions (Öncü and Gökçe, 1991; Üsdiken, 1992).

Altogether, these considerations and the evidence suggest that in early stages of economic reforms, among the contextual factors considered in prior TMT and chief executive literatures, strategic change or persistence is likely to serve as the most salient antecedent of the composition of top teams.

Later evolutionary stages in economic transition: institutional processes and performance outcomes

Granting primacy to strategic change in shaping top team formations in the face of abrupt macro-level shifts needs to be tempered, however, when

the process of economic liberalization is considered over the longer term. As economic liberalization takes hold, the transition process gains an evolutionary character. Economic and institutional reforms become more incremental and therefore less influential in triggering major strategic changes in firms. The largely incremental policy moves in the later stages are likely to instigate relatively minor adaptations by firms (Meyer, Brooks and Goes, 1990) often in line with the directions encouraged by the reform project. Thus, firm strategies become more convergent with changes occurring not by radical alterations but through slower and smaller scale adaptive moves. The differentiating effects generated by divergent strategic responses in the early revolutionary period are likely to diminish as new administrative arrangements and practices also begin to diffuse across firms in a broad range of industries.

Indeed, in broader terms, the early movers may increasingly come to be seen as models within the evolving macro-economic and institutional environment, not only with the strategic changes that they have undertaken but also, and perhaps more significantly, with the administrative arrangements that they implement. That some degree of uncertainty still prevails later in the transition process should contribute to such isomorphic tendencies among firms (DiMaggio and Powell, 1983; Newman, 2000). Top management staffing patterns might be one administrative mechanism that may later be adopted by other organizations and in ways that are dissociated from the strategic changes that mandated them (Tolbert and Zucker, 1983). Indeed, the relatively more visible nature of the background characteristics of top managers is likely to make recruitment practices a major element of inter-organizational mimetism. That these practices may be exemplified or endorsed by political and bureaucratic authorities may also contribute to their diffusion.

On the other hand, the cumulative effect of the movement towards a market-based economy is to expose firms to a greater influence of market forces. Pressures on firms increase and performance becomes more dependent on interactions with more competitive market environments (Aulakh, Kotabe and Teegen, 2000; Hoskisson *et al.*, 2000). Firms become more driven by a performance logic, developing greater sensitivity

to internal factors and administrative arrangements enhancing or detracting from competitiveness. The greater organizational discretion afforded by the liberalized context should also alter the significance attached to top managers in affecting outcomes (Hambrick and Finkelstein, 1987). Thus, in the evolutionary context of the later stages of the liberalization process executive staffing decisions are likely to be increasingly influenced not by strategic changes but by organizational performance.

In the way of summary, the research model for this study builds selectively on different versions of the alignment theme in TMT and chief executive literatures by taking into account the varying nature of environmental changes over the course of the transition to a more market-orientated and open economy and the institutional processes that are engendered. The focus is on the demographic composition of top management teams. As in much of the literature (e.g. Finkelstein and Hambrick, 1996), the specific team attributes that are examined are TMT average age, TMT average organizational tenure and the educational backgrounds of the executives on the team. The central premise of the model is that the relative significance of strategic change and organizational performance as antecedents of top management characteristics will vary over the course of the liberalization process. Two main propositions follow from this central theme.

- in the early stages of economic liberalization, TMT characteristics, namely, age, organizational tenure and educational backgrounds, will reflect the extent to which firms engage in significant strategic changes in response to the abrupt macro-level reforms.
- in later stages, on the other hand, firm performance will become the major predictor, though only of TMT average age and average organizational tenure; educational background characteristics are likely to become independent of firm properties and follow broader institutional influences.

These propositions provide the framework for the hypotheses to be examined empirically within the context of the post-1980 Turkish liberalization experience.

Hypotheses

Age and organizational tenure

With the revolutionary changes brought about by the introduction of economic reforms, the domestically oriented Turkish industry was faced with the strategic issue of responding to the new context and, in particular, the export drive promoted by the state. The broad response was there, as shown by the dramatic pace of export growth and the diversification of its composition in the early 1980s (Öniş, 1995; Togan, 1994). There was variation, however, among industrial firms in the extent to which they were willing and able to redirect themselves strategically from their traditional domestic outlook towards an external orientation. The most critical element of strategy and strategic change for Turkish businesses at the time was, therefore, the extent to which they rapidly reoriented their activities towards exports. This was, for firms, the first major step in moving from a traditional domestic outlook towards internationalization (see also, Aulakh, Kotabe and Teege, 2000; Leonidou and Katsikeas, 1996; Tihanyi *et al.*, 2000). Given the family dominated character of Turkish large business, strategic decisions of the kind would have been taken by members of the controlling family and the top managers of firms would be charged with the responsibility of putting them into action (Buğra, 1994; Gökşen and Üsdiken, 2001).

In closed economies, as in the case of Turkey prior to 1980, larger industrial firms develop very limited or no international experience. Responding to the new context and benefiting from the opportunities that were offered through a turn towards an export orientation therefore required changes in the mentality and logics of doing business and the development of new capabilities. Organizational and managerial expertise that extant top managers have built up under the previous economic régime would not be considered useful and would not be likely to be highly valued in these new endeavours. Thus, industrial firms that responded more vigorously to state initiative and support for export promotion are likely to have experienced greater change in their top teams. Moreover, they are likely to have searched for and attempted to recruit managers who would be able to carry out these novel strategies in the highly unfamiliar and much more

competitive foreign contexts (Aulakh, Kotabe and Teegen, 2000). Being able to do so would likely be considered as requiring openness to change and to innovation and the ability to bring fresh perspectives in dealing with novel markets (Datta and Rajagopalan, 1998; Datta, Rajagopalan and Zhang, 2003). Such orientations and capabilities would tend to be associated with younger age and experiences outside the firm (e.g. Guthrie and Datta, 1997; Thomas and Ramaswamy, 1996; Tihanyi *et al.*, 2000; Wiersema and Bantel, 1992). Thus, firms turning towards exports, relative to those that have adhered to their domestic orientation, are not only likely to have brought in new members into their top teams, but in addition, these new members are likely to have been younger and with less organizational tenure.

Altogether, these considerations suggest that the extent to which larger industrial firms engaged in a rapid strategic turn to respond to the national-level export drive, as opposed to preserving their traditional domestic orientation, are likely to be the prime determinant of the degree and the kind of changes in their top teams. The strategic choice that was involved was in response to the highly turbulent context and the opportunities generated by the introduction of the economic reforms. Therefore it should have been independent of prior performance levels of firms. Moreover, given a history of operating in protected, regulated and limitedly competitive environments, it is unlikely for prior performance levels to have served as a prime consideration in the way top teams were composed in this revolutionary period. Thus, in more formal terms, the following set of hypotheses are proposed for the early stage in the transition process:

H1a: In the early stage of economic liberalization, firm export orientation will be negatively related to TMT average age.

H1b: In the early stage of economic liberalization, firm export orientation will be negatively related to TMT average organizational tenure.

H1c: In the early stage of economic liberalization, prior performance will not be related to TMT average age.

H1d: In the early stage of economic liberalization, prior performance will not be related to TMT average organizational tenure.

The research framework developed for this study would suggest that after the early revolutionary stage stability or change in TMTs are likely to become decoupled from the export orientations of firms. This is essentially because of the evolutionary and more familiar character that the later stages gain as the economic liberalization project unfolds.

Indeed, within the Turkish context the later periods saw a diminution in the incentives provided by the government for exports (Buğra, 1994; Öniş, 1995). For firms that pioneered the export drive this could have led to some degree of digression from their outward orientations. This may not have necessarily been accompanied, however, by changes in top teams or in recruitment patterns for top positions. New cohorts of managers appointed during the revolutionary period may have consolidated their positions, or the recruitment practices accompanying initial strategic moves may have become increasingly institutionalized. Any moves towards exporting, on the other hand, on the part of firms that maintained their domestic orientation in the early revolutionary period is likely to have been slow-paced, thus, not requiring major alterations in top management positions. Movement to export domains may have been achieved through other types of changes facilitating organizational learning, such as new recruitment for lower levels rather than senior appointments. In fact, some of these firms may have tended to mimic the export-oriented ones through similar recruitment practices, though only with the intention to turn towards exports over the long term.

In addition to the decoupling that these considerations suggest between export orientation and younger and less tenured TMTs, perceptions about the desirability of open-minded, flexible and innovative managers for carrying out export-oriented strategies may also become weakened. In the early stages, the turn towards exports largely involved venturing into the unknown, where such orientations and abilities on the part of senior managers would have been considered as more valuable, even perhaps singularly most important. As more and more firms became involved with exporting, more came to be known about operating outside the country's borders. Although the successes of the earlier movers contributed to such learning at the industry and broader levels, their failures are also likely to have ushered greater degrees of

caution and calculation in the moves of the latecomers in the same direction. This could have in turn led to more balanced perceptions with regard to innovative and risk-taking propensities of TMTs expected to lead new initiatives towards exporting.

A companion argument for later stages in the economic liberalization processes is that firm performance should become a more salient criterion in the assessment and selection of top-level managers. In the Turkish case too, as liberalization and internationalization progressed following the initial shocks, external pressures on firms are likely to have mounted. With very limited or no international experience, the early movers to export markets had to confront the uncertainties of competitive markets (cf. Aulakh, Kotabe and Teegen, 2000). The domestically orientated firms also encountered greater competition in home markets because of increases in foreign direct investments and the liberalization of imports (cf. Hoskisson *et al.*, 2000). Industry environments became very different from the more munificent and lucrative context of the pre-1980 insulated era, when firms were heavily protected and faced limited domestic competition (Krueger and Aktan, 1992; Lauter, 1968). Thus, the strengthening of market effects would be expected to make top-team composition more susceptible to performance outcomes. Given that there has been no significant alteration in the 1980s in the family control of Turkish 'big' business, not much has changed with regard to the role of top salaried managers in the strategy-making process of the firms that they head (Gökşen and Üsdiken, 2001). As strategy implementers, however, they are likely to have been perceived within the new context as more important in affecting organizational outcomes.

The performance-stability theme in the TMT literature (e.g. Bantel and Finkelstein, 1995) suggests a positive relationship between prior performance levels and the longevity of top teams. This would be the case not only with the better performers among firms that have persisted with their old strategies in the early stages, but also with those that have made significant strategic changes with a move towards exporting. Performance decline, on the other hand, is likely to have instigated major changes in the incumbents of top management positions, irrespective of strategic change or persistence in the early period. That organizational environments con-

tinue to be considerably uncertain in later stages too makes top management changes more likely among the poor performers (Boeker and Goodstein, 1991). Changes in top ranks as a result of performance problems have been associated in prior research specifically with replacements by young managers who come from outside the organization (e.g. Guthrie and Olian, 1991), thus leading to top teams that are younger and less tenured (e.g. Bantel and Finkelstein, 1995).

These considerations lead to the following set of hypotheses for the later stages in the course of the liberalization process:

H2a: In the later stages of economic liberalization, firm export orientation will not be related to TMT average age.

H2b: In the later stages of economic liberalization, firm export orientation will not be related to TMT average organizational tenure.

H2c: In later stages of economic liberalization, prior performance will be positively related to TMT average age.

H2d: In later-stages of economic liberalization, prior performance will be positively related to TMT average organizational tenure.

Educational backgrounds

Since Hambrick and Mason's (1984) early formulation of the upper echelons perspective, the amount and the type of formal education has featured in both TMT (e.g. Finkelstein and Hambrick, 1996; Wiersema and Bantel, 1992) and chief executive literatures (e.g. Datta and Rajagopalan, 1998) as an important demographic characteristic indicating not only cognitive orientations and abilities but also the knowledge and skills that managers possess.

The amount of formal education has been linked in the literature with greater cognitive complexity, open-mindedness and receptivity to change and innovation (e.g. Datta and Rajagopalan, 1998; Finkelstein and Hambrick, 1996). As discussed above, these are the qualities that would have been sought by firms making the turn towards exporting in the early revolutionary period.

Specifically with respect to exporting, knowledge of foreign languages would also be considered as an additional asset. Reuber and

Fischer (1997), in their review of prior research, noted that in addition to various forms of international experience, foreign languages spoken by managers was found to be associated with a predisposition towards, or success in, exporting (see also Leonidou and Katsikeas, 1996). Within the Turkish context, proficiency in a foreign language can be gained by higher education abroad or through attendance at state, private or foreign high schools or universities where instruction is in a foreign language. Entrance to most of these high schools and universities is highly competitive, as they are widely believed to offer the best education in the country (İlkin, 1993). Indeed, the significance and prestige of these institutions goes beyond the quality of the education they provide and the language skills they impart. Like education abroad, they are regarded as media for acquiring a 'Western' outlook and approach (Buğra, 1994; İlkin, 1993). The broader worldview (cf. Tihanyi *et al.*, 2000) and the affinity to Western culture they are believed to inculcate are likely to have been particularly valuable for firms embarking on an export strategy. This would particularly be the case when, as in Turkey, managers with any international experience have been practically non-existent. In such a context, firms turning to exports in the immediate aftermath of post-1980 reforms were more likely to have recruited graduates of these more prestigious institutions with instruction in a foreign language and individuals who have been educated abroad to their top ranks.

Overall, the TMT and chief executive literatures have devoted less attention to the types of formal education of managers (cf. Hambrick and Mason, 1984). Within the particular post-liberalization context in Turkey, firms directing their activities towards exporting would be expected to have brought in a greater proportion of engineers into their top teams. Engineering graduates are likely to have been sought for injecting a stronger technological culture and an efficiency orientation into these firms (Lam, 1996; Lee and Smith, 1992; Mayer and Whittington, 1999). This would have been because of the competitive conditions in export markets, as quality and efficiency in manufacturing would be more critical than it has customarily been in the highly protected domestic environment (Buğra, 1994; Lauter, 1968; see also Aulakh, Kotabe and Tegan, 2000). Indeed, for the export-oriented firms in the early stages of the transition, the strategic turn also called for a shift

towards developing competitive production capabilities and technological innovativeness. This was to replace the predominant commercial orientation and the assembly-based capacities that characterized much of Turkish industry in the pre-1980 import-substitution era (Buğra, 1994). The tendency in these firms to bring engineers to top ranks should have been facilitated by the engineering profession historically enjoying a high status in Turkish society (Buğra, 1994; Göle, 1993; Öncü, 2003) as a scientifically trained élite (cf. Gerpott, Domsch and Keller, 1988). Indeed, more generally too, Wiersema and Bantel (1992) have argued that education in engineering and the natural sciences is geared towards progress and discovery. These kinds of perceptions about science-based advance education should also be associated with the qualities sought for managers to head firms engaging in a major strategic change.

Based on these considerations the following set of hypotheses is proposed for the early period in economic liberalization.

H3a: In the early stage of economic liberalization, firm export orientation will be positively related to the educational level of TMTs.

H3b: In the early stage of economic liberalization, firm export orientation will be positively related to the proportion of engineers in TMTs.

H3c: In the early stage of economic liberalization, prior performance will not be related to the educational level of TMTs.

H3d: In the early stage of economic liberalization, prior performance will not be related to the proportion of engineers in TMTs.

Over the course of the transition process, on the other hand, educational profiles of TMTs are likely to have become increasingly decoupled from firm-specific factors such as strategy and prior performance. The basis of this argument is that in selection decisions for top positions, educational background characteristics will be more and more subject to emergent institutional prescriptions. For the big-business sector examined in this study, conceptions and norms about the 'appropriate' educational qualifications of senior managers of large industrial firms within the liberalized and internationalized economy

would have emerged from the profiles of the managers selected to head the firms pioneering a rapid turn towards exporting, and of government administrators chosen to lead the economic reforms. The hypotheses developed above posited, for the former, top teams composed of better-educated managers and a higher proportion of engineers. As these firms would be seen as better attuned with the new macro-economic and institutional context, their recruitment practices should have considerable modelling effects for larger businesses in the entire industrial sector. The privileging of these particular educational credentials in executive appointments would have also been a result of their being isomorphic with the significant changes starting in the early 1980s in the backgrounds of administrators brought to key policy-making positions. Not only executives from the private sector, but also well-educated Turkish nationals with careers abroad in international organizations or academic institutions, were recruited to these ranks (Buğra, 1994; İlkin, 1993; Öncü and Gökçe, 1991). Likewise, Göle (1993) has observed that, in line with the rising technocratic and pragmatic approach of the post-1980 period, engineers gained greater access to positions of power in politics and the higher echelons of bureaucracy. Appointments of individuals with these kinds of educational backgrounds to lead the liberalization process and the export drive are likely to have served as an additional normative frame of reference. The 'technocratic approach' that the post-1983 governments have symbolized (Göle, 1993), should have helped in the diffusion and the strengthening of these norms. Thus, the following set of null hypotheses is proposed for educational background characteristics in the late stages of liberalization.

H4a: In the later stages of economic liberalization, firm export orientation will not be related to the educational level of TMTs.

H4b: In the later stages of economic liberalization, firm export orientation will not be related to the proportion of engineers in TMTs.

H4c: In the later stages of economic liberalization, prior performance will not be related to the educational level of TMTs.

H4d: In the later stages of economic liberalization, prior performance will not be related to the proportion of engineers in TMTs.

Data and methods

The study included firms located in the Istanbul metropolitan area, the industrial heartland of the country, and which ranked among the largest 500 industrial firms in Turkey both in 1983 and 1992. As noted in the description of the post-1980 Turkish experience, the 1980–1983 period has been characterized as the early revolutionary period, which included radical policy moves to break away from the previous regulated and autarkic import-substitution régime. The year 1992 has been considered as the end of two further phases towards liberalization and internationalization (see Boratav, Türel and Yeldan, 1996). It was therefore an appropriate point in time for assessing the effects of the later stage of transition towards a more marketized and open economy.

Sample

Excluding state-owned enterprises, the initial sample comprised 119 firms located in Istanbul that had been in the top 500 lists both in 1983 and 1992. All of these firms were contacted personally and 84 agreed to participate in the study. Among these 84 firms, 13 had to be excluded during the data-collection process, as they did not have some of the required information on incumbents of top positions, leaving a total of 71 firms to provide the database for the study. These firms came from eight different 2-digit ISIC (International Standard Industrial Classification) industries, namely, food and beverages (4 firms), textile, apparel and leather (12 firms), wood and wood products (1 firm), paper and paper products (2 firms), chemicals (19 firms), non-metallic minerals (8 firms), primary metals (1 firm) and fabricated metal products and machinery (24 firms).

T-test results using publicly available data showed no significant differences in size (total sales and number of employees), profit performance or export orientation between the firms that took part in the study and those that could not be included because there was insufficient data. Similarly, when the sample was compared to the rest of the firms in the top 500, no significant differences were found in size and profit performance. Firms in the sample, however, had a higher proportion of exports compared to those that were not located in Istanbul and thus were not included in the sample.

Comparing the characteristics of the sample with Buğra's (1994) detailed analysis of the top 500 industrial firms in 1987 (the only publicly available information that corresponds to some of the dimensions included in this study and the time period it covers) suggests that the present sample is representative of Turkish 'big' business. Buğra (1994) found that three quarters of firms were affiliated with business groups. The corresponding proportion in the study sample is 79% in 1983 and 85% in 1992. Buğra (1994) also showed that amongst firms where there was no state involvement, those with partial or total foreign ownership constituted approximately 17%, whereas the proportion in this sample was 10% and 21% in 1983 and 1992 respectively.

Data sources

As publicly available data on TMTs does not exist in Turkey, information on top team characteristics was obtained from the personnel departments of the firms included in the study. After agreement for participation was obtained, firms were personally visited and asked to fill out, based on their personnel records and in the presence of the first author, a detailed survey on all 1983 and 1992 incumbents of positions defined for this study as constituting the top team. Information on date of founding and the business group that the firm was affiliated with, if any, was also obtained through the data-collection instrument. Data on other variables included in the study came from published sources: the Istanbul Chamber of Industry's (ICI) annual listing of the 500 largest industrial firms in Turkey (for export figures, profit performance, foreign ownership and organizational size) and ICI membership directories (for the product diversification measure).

Dependent variables

The TMT definition employed in the study included the top executive and the next tier of management reporting directly to that position (see Finkelstein and Hambrick, 1996). Based on Turkish business nomenclature, this definition was operationalized as including managing directors and/or general managers as the top position and deputy general managers as the next level of management. When the latter positions did not exist, incumbents of positions reporting directly

to the top person and labelled in the firm as 'director' or 'manager' were included. Board members were excluded, with the exception of 'managing directors', if there were any in the firm, who are charged with executive responsibilities within the Turkish legal framework. All measures for top team variables were calculated respectively for 1983 and 1992. Descriptive statistics for top team measures as well as the independent and control variables are reported in Table 1.

Age and organizational tenure

Age and organizational tenure were calculated in years for each executive in the TMT and averaged over the entire team.

Educational background

Of the two variables used to assess educational background, one was related to the average level of education of the members in the top team. Three indicators were employed for assessing this variable. One of these indicators measured the amount of education of each manager by the number of years spent in formal education after

Table 1. Descriptive statistics—TMT measures and independent and control variables^a

Variables	1983		1992	
	Mean	Std.dev.	Mean	Std.dev.
Age***	45.31	6.05	47.54	4.49
Organizational tenure***	11.23	4.71	15.08	4.80
Engineers in teams*	0.46	0.31	0.53	0.26
Amount of education** ^b	10.27	1.31	10.56	1.07
Prestigious high school graduates ^b	0.34	0.29	0.40	0.27
Prestigious university graduates ^b	0.32	0.30	0.36	0.31
Export orientation	0.16	0.19	0.13	0.14
Prior performance	0.08	0.08	0.09	0.08
Business group affiliation	0.79	0.41	0.85	0.36
Foreign ownership [†]	0.10	0.30	0.21	0.41
Organizational size [†]	794.82	726.37	958.70	1085.99
Product diversification [†]	3.68	3.15	3.17	2.18

Notes: ^aAsterisks indicate significant differences between 1983 and 1992 (paired t-tests; two-tailed).

Test of proportions (two tailed) was used for business group affiliation and foreign ownership variables.

[†]p < 0.10 *p < 0.05 **p < 0.01 ***p < 0.001

^bAs the educational level variable was operationalized as a composite index, descriptive statistics are provided for component measures. The 1983 and 1992 means of the composite measure (i.e. educational level) were not significantly different.

obligatory primary school. The figures were then averaged for the team. The other two indicators assessed the prestige of the high school and the university attended for undergraduate education. As mentioned above, high schools in Turkey are distinguished primarily on the basis of whether entry is through competitive examination after primary education. The indicator for high school prestige was coded for each manager as binary, distinguishing between whether or not s/he was a graduate of a select school. At the team level the indicator measured the proportion of such managers. University prestige was also based on a categorical measure. Four university professors of different age groups, disciplines and institutions were asked to rank order the four types of higher educational institutions in Turkey (Üsdiken, 1996), together with education abroad, according to their prestige. Almost complete agreement (0.96; $p < 0.05$) was obtained among the rankings of the referees. At the team level, university prestige was measured by the proportion of managers who were graduates of an institution of the type ranked in the first or the second category (namely, foreign institutions and Turkish universities where instruction is in a foreign language). Principal components analysis yielded, for both sets of data, a single factor justifying the summation of standardized scores for the three indicators to obtain an overall measure of educational level.

The second educational background variable pertained to the presence of engineers in the top team and was measured by the proportion of team members with an undergraduate degree in engineering.

Independent variables

Firm export orientation was measured separately for 1983 and 1992 using the ratio of exports to total sales of the firm. The performance measure was accounting based, and was computed by averaging the ratio of after-tax profits to total sales for the three years preceding the dates for which data on top-team characteristics were collected.

Control variables

The analyses included four control variables, two of which were context specific and related to the governance of the firms in the sample. The other

two variables were associated with factors that have been considered as significant in the TMT literature (e.g. Bantel and Finkelstein, 1995). Business group affiliation, measured as a dummy variable, was included to control the effects of the business group phenomenon, a salient feature of industrial organization in Turkey. Although largely under the centralized direction of the controlling family (Gökşen and Üsdiken, 2001), business groups constitute the most institutionalized sector of private business. Their affiliates, although legally independent, are more like units within bureaucratized and administratively complex structures. The foreign ownership variable controlled for the impositions of foreign parents on managerial recruitment (Czaban and Whitley, 2000; Newman, 2000). The dummy measure distinguished between firms that had some foreign involvement in their ownership and those that were based totally on local capital. Those firms where foreign shareholding was above 10% were considered as having a significant foreign stake. Of the two more generic variables, organizational size was included to account for inertia associated with large scale and the availability of a larger pool of managers for internal staffing of top positions (Dalton and Kesner, 1983; Hambrick, 1994). Size was measured as the total number of employees and log transformed in the analyses. The other variable controlled for product diversification, another key strategy feature, which has been associated in the TMT literature with lower average tenure (e.g. Bantel and Finkelstein, 1995). A product count measure was employed for product diversification, deemed as an appropriate alternative to entropy measures (Kim, Hoskisson and Wan, 2004). As the firms in the sample are not very large and most are affiliates of business groups, narrow-spectrum diversification was measured. This particular measure is based on a count of the number of four-digit ISIC sectors in which each firm is involved and, thus, serves as an indicator of both the related and unrelated areas in which the firm operates (Kim, Hoskissen and Wan, 2004).

Results

Table 2 shows, separately for the two measurement occasions, the simple correlations among

Table 2. Bivariate correlations among variables (1983 and 1992)^a

	1	2	3	4	5	6	7	8	9
1. Age									
2. Organizational tenure	0.42***								
	0.45***								
3. Engineers in teams	-0.13	-0.24*							
	-0.12	-0.13							
4. Education level	-0.11	-0.17	0.24 [†]						
	0.01	-0.07	0.34**						
5. Export orientation	-0.20 [†]	-0.35***	0.40***	0.17					
	-0.23[†]	-0.13	-0.11	0.10					
6. Prior performance	0.15	0.04	-0.03	0.04	-0.10				
	0.33**	0.33**	-0.08	-0.16	-0.30*				
7. Business group affiliation	-0.12	0.08	0.03	-0.00	-0.08	-0.06			
	-0.22[†]	0.08	-0.03	0.18	-0.06	-0.08			
8. Foreign ownership	0.11	0.13	-0.06	0.15	-0.24*	-0.08	0.17		
	0.05	0.04	-0.17	0.27*	-0.14	0.01	0.22[†]		
9. Organizational size	0.09	0.14	-0.06	0.16	0.02	-0.18	0.11	0.03	
	0.23[†]	0.09	-0.10	0.30*	-0.06	0.08	0.12	0.27*	
10. Product diversification	-0.25*	-0.06	0.28*	0.02	-0.09	-0.08	0.03	-0.18	0.26*
	-0.00	0.17	0.13	0.03	0.02	0.07	0.21[†]	-0.14	0.09

Notes: ^aRegular-1983; bold-1992.

[†]p<0.10 *p<0.05 **p<0.01 ***p<0.001

the variables included in the analyses. The results of regression analyses for testing the hypotheses are reported in Table 3.¹

Results presented in Table 3 provide support for *H1*. As predicted, in the early stages of the macro-economic shift, firms with a stronger export orientation had top teams that were, on average, younger and had lower organizational tenures. Firms that were largely domestically orientated, in contrast, had TMTs that were older and had longer organizational tenures. In addition, and as expected, prior performance did not emerge as a significant predictor of TMT

average age or organizational tenure in the early stage of macro-economic change.

Findings show, on the other hand, in support of *H2a* and *H2b* that in the later stages of economic liberalization, age and organizational tenure were no longer associated with the export orientation of firms. As predicted in *H2c*, on the other hand, prior performance now emerged as a predictor of the average age of top teams. *Hypothesis 2d* was not supported, although the direction of the relationship is as predicted. There is thus an indication that at this later stage of the transition process better performing firms tended to have teams with longer average tenures, but the overall model, though close, does not reach an acceptable level of statistical significance.

Overall, *H3* is only partially supported. *Hypothesis 3a* does not receive support as neither export orientation nor, indeed, any of the other variables can explain the variation in the educational level of top teams in the early period of the transition process. In support of *H3b*, however, a highly significant regression model was obtained for the proportion of engineers in top teams in the early stages of economic reforms. As predicted, firm export orientation was positively associated with the proportion of managers with an engineering background. Likewise, in line with the two null hypotheses (*H3c* and *H3d*), prior

¹Upon the recommendation of a reviewer, we also checked for possible industry effects. To carry out these additional analyses, the 2-digit sectors in which firms comprising the sample belonged were reduced to six categories. As would be expected, there were significant differences in the 1983 data among the export orientations of firms in these six industrial sectors, whereas no differences were observed for 1992. To control for industry effects we repeated all the regression analyses with an indicator that measured export orientation relative to sector averages in the sample (i.e. export orientation-sector average/sector average*100). Results were similar to those reported below, though the use of this measure improved the overall models for age for both data sets while weakening the one for organizational tenure for the 1983 data.

Table 3. Regression results for the early and late stages in economic liberalization^a

	Age		Organizational tenure		Educational level		Engineers in teams	
	1983	1992	1983	1992	1983	1992	1983	1992
Export orientation	-0.22 [†]	-0.15	-0.35**	-0.03	0.23	0.11	0.46***	-0.18
Prior performance	0.13	0.25*	0.03	0.31	0.11	-0.14	0.02	-0.14
Business group affiliation	-0.15	-0.24*	0.04	0.07	-0.02	0.10	0.04	-0.04
Foreign ownership	0.03	0.03	0.01	0.03	0.23	0.19	0.10	-0.14
Organizational size	0.21 [†]	0.21 [†]	0.19	0.03	0.16	0.25*	-0.17	-0.07
Product diversification	-0.30*	0.02	-0.14	0.14	0.02	0.03	0.39**	0.14
R ²	0.18	0.22	0.16	0.14	0.10	0.18	0.30	0.08
Adjusted R ²	0.10	0.15	0.09	0.06	0.00	0.10	0.23	0.00
F	2.35*	3.00*	2.09 [†]	1.71	0.99	2.22*	4.36***	0.93

Notes: ^aStandard betas are reported.

[†]p<0.10 *p<0.05 **p<0.01 ***p<0.001

performance was not, in this early stage of the liberalization process, associated with any of the educational background variables.

Lastly, the predictions for null effects comprised in *H4* are fully supported. Neither firm export orientation nor prior performance distinguished in the later stages between the educational level of and the engineering presence within top management teams. The regression results for educational level are statistically significant however, and organizational size emerges as positively associated with better education in top teams.

Size was also associated, though not very strongly, with TMT average age in both measurement occasions. Overall, experience appears to be more valued in this context in larger firms. As another strategy variable, product diversification was significantly related to TMT average age and the proportion of engineers in the early stages of economic transition. It seems that firms with more diversified product portfolios were also in search of expanding their capacities for innovative action as well as injecting a more technology and efficiency oriented culture. Overall, the governance variables (business group affiliation and foreign ownership involvement) do not appear to have played a significant role in the composition of TMTs during the economic liberalization process. Only in relation to TMT average age and in the later stages of transition did business group affiliation emerge as a significant predictor. This may perhaps be indicative of a late-coming and centrally driven initiative on the part of the business groups in the country to bring in younger managers to top

cadres in their affiliated firms, as they possibly searched for alternative strategies within the new context (see Gülşen and Üsdiken, 2001).

Discussion and conclusions

Empirical results provided considerable support to the central ideas framing the study in that, within a context of macro-economic policy change, which firm-level factors were salient in shaping top team formations varied with the early and late stages in the course of economic reform. As expected, in the early revolutionary stage, the average age and average organizational tenure of top teams was mainly dependent upon firm export orientation. Under the less erratic context of later phases, however, the differentiating effects of strategy diminished, with firm performance becoming the main determinant, though only of the average age of teams. With regard to educational backgrounds of top team members, hypotheses concerning the relationships between firm-level variables and the extent of engineering presence in top teams under different sets of macro conditions also received full support. In the case of the average educational level of TMTs, however, only partial confirmation was obtained.

The results of the study suggest a number of broader implications that relate both to the North American-based TMT literature and to the broadening of top management research to incorporate societal influences.

For the first part, findings do suggest that previous TMT research has served to identify

relationships between firm-level factors and top team formations that may hold universally, although which particular antecedents become salient when, is contextually contingent. Very much in line with this literature, strategic change was associated with younger and less-tenured top teams. Likewise, the performance-stability theme in some of the literature received support within the Turkish context. The relative significance of each of these antecedent conditions, however, varied, in the particular setting examined here, with the scale and the sequence of macro-level economic and institutional change. A general contribution of these findings to the TMT literature could be that firm strategy is a more salient antecedent of top team composition in times of major strategic reorientation, whereas prior performance is more significant during periods of incremental change. Moreover, there is also the indication that in the latter case strategy may become decoupled from TMT characteristics because of both reset internal inertial pressures and inter-organizational mimetism.

In blending universalistic and nationally specific influences on top management cadres, this study has shown that the content of firm strategies could be contextually shaped, to then generate, the outcomes outlined above and predicted in the TMT literature. In the early stages of trade and market reforms, a major change in the strategic posture of some of the firms in this sample was triggered by the government incentives provided for exports. That variations in strategy became, in the later stage of the transition process, less significant in affecting top team demographics also appears to have been determined, partly at least, by the evolving macro-context. As Table 1 shows, over the decade there was a weakening overall in the export orientation of the firms in the sample, as well as reductions in product diversification (though not statistically significant in the former case). Additionally, there were significant decreases in variation among firms with regard to both of these variables (Levine test, $p < 0.05$). These convergent behaviours may have had to do partly with reductions in government incentives for exports, though mimetic actions on the part of initially more conservative firms are also likely to have been at play, contributing to an overall decoupling of strategy and top team formations.

The empirical results also suggest that some background features of top teams may be under stronger institutional pressures and gain a socially specific character. The case in point in this particular setting is the educational level of top managers. No association was found between strategic reactions of firms to the national-level policy shifts and where, and how much, education top managers had received. This finding is in line with Mayer and Whittington's (1999) observations for France, where they note that waves of nationalization and privatization in the 1980s and 1990s did result in managerial changes, but brought in people with similar educational backgrounds. Thus, top teams may become more volatile in response to firm-level contingencies, but only through membership changes that conform to established patterns enabling advancement to higher ranks.

Lastly, the study also indicates that such institutionalized patterns of top managerial recruitment may also alter along with macro-level economic and institutional change, though the degree and the processes of such alterations may vary across managerial background characteristics. Examining the educational level variable across the early and late stage of macro-level change by decomposing it into its component indicators suggests, as shown in Table 1, that there has been an overall increase in the amount of education ($p < 0.01$), whereas school origins have not altered significantly. The former result is in line with the findings that Üsdiken (1992) obtained for the Turkish banking sector in the post-1980 period. In both cases there appears to have been a broad-based response in accentuating education as a gateway to top positions in the face of the transition towards a market economy. Practices with regard to school origins, on the other hand, appear to be more entrenched (cf. Finkelstein and Hambrick, 1996; Pfeffer, 1997). Macro-level change also appears to have further consolidated the advantages of an engineering education. As shown in Table 1, the proportion of engineers in top teams has increased significantly ($p < 0.05$) over the decade, with an accompanying reduction in variance among firms in the extent to which they employ managers with an engineering background in their top ranks (Levine test, $p < 0.10$). The process of change in this case, however, has followed a pattern different from that of the increase in the amount

of education. In the beginning it was led by firms adapting more readily to the new context by making strategic changes, and became more widespread only as economic liberalization progressed.

Clearly this study is limited by having investigated only a single setting undergoing transition towards a more market-oriented and internationalized economy. Research in other countries that have undergone or are currently in the process of going through similar forms of economic and institutional reforms would certainly be needed to assess the generalizability of the ideas that have guided the study and of its empirical findings. Moreover, future work could expand on these ideas by incorporating concerns and variables that have not been dealt with in this study. Most notable perhaps is the need to consider industry effects under macro-level economic transition. Furthermore, as this study could focus on a single, though highly salient, element of firm strategy it would be useful to examine other strategic dimensions as well as direct assessments of strategic changes undertaken by firms. Background variables that are examined could also be expanded, to include not only attributes that are well established in the TMT literature, such as functional backgrounds but also characteristics such as international experiences or prior careers in multinational firms.

At a broader level this study has extended further the idea that top team characteristics are also affected by institutional prescriptions and practices that may gain a nationally specific character, a theme hinted at, though only for the industry level, in Hambrick and Mason's (1984) early formulation. So going beyond countries that have been going through macro-level economic and institutional changes, this study joins the more recent calls (e.g. Olie and van Iterson, 2004) for examining top management teams in their societal contexts. Its findings do indicate the merits of contextualizing the study of TMTs, as well as their effects.

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