Brokers, clients and elite political networks in Mexico

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Abstract

Political sociologists have distinguished between Weberian states in which elite promotions are based on meritocratic criteria and states in which personalistic networks dominate government careers, linking these different career types to state structures and capacity. While researchers also recognize that elite networks are important even in highly bureaucratized states, there is little systematic research on the structure or consequences of these networks. This paper analyzes the determinants of promotion to the cabinet in Mexico, demonstrating that brokerage positions in elite networks are associated with a higher likelihood of political promotion and arguing that brokerage appointments are a strategy for maintaining elite cohesion. The results also show that this brokerage advantage coexists with a patronage appointment strategy. The empirical analysis relies on elite networks inferred from a unique new dataset that includes systematic educational and career histories of senior political elites over a period of more than seventy years. Brokerage advantage is stronger during periods marked by less internal fragmentation and contestation, implying an extension of previous theories of brokerage advantage in political networks. The results also show that patronage appointment strategies are not unique to weak, patrimonial states.

Keywords: political networks, brokerage, patron-client relations, state structure, Latin America

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Elite career paths are constitutive elements in many institutionalist conceptions of state structure. Political sociologists contrast high-capacity “Weberian” states characterized by meritocratic recruitment and predictable promotions with patrimonial or “predatory” states in which the allocation of positions depends on personalistic networks (Evans, 1995; Geddes, 1994; Portes and Smith, 2012). However, many of these same scholars recognize that internal informal networks are important even in the most formally bureaucratic states (Evans, 1995; Ha and Kang, 2010). Nevertheless, the structure of these networks and their impact on elite careers has rarely been studied directly, particularly using systematic network data. This paper fills this gap, demonstrating one important influence of informal networks on political careers: the promotion advantage that accrues to brokers in elite networks. I argue that this advantage holds because promoting brokers is a strategy for maintaining elite cohesion; this role of informal networks has not been considered in the state structure literature. The results also show that this brokerage advantage coexists with promotions based on patron-client ties, even in a relatively effective state. This finding casts doubt on the association between patronage logics and weak state capacity; instead, the paper shows that blending patronage and brokerage appointments can be an effective strategy for maintaining state capacity.

The patron-client perspective is a baseline model which is influential in the state structure literature and in discussions of political careers in many developing countries. However, it is only a partial model of elite political networks, overly focused on the networks surrounding particular influential nodes (patrons) and making strong assumptions of vertical hierarchy. Re-
laxing these assumptions introduces the possibility that a wider range of positions in elite networks influence career prospects. In particular, while network theorists have long argued that brokerage positions are a source of advantage in a variety of contexts (Burt, 1992; Gould, 1989; Marsden, 1982; Stovel and Shaw, 2012), this hypothesis has not been tested in the context of elite career paths. Political brokers are meditators: positioned between competing individuals, groups or factions, elites occupying brokerage locations are well-positioned to arbitrate in conflicts, making them desirable coalition partners. While some network theorists argue that brokerage advantage in political networks is limited to highly factionalized settings (Gould 1989), the findings of this paper imply the opposite. The results thus also extend the reach of a long line of network research on brokerage.

The empirical analysis demonstrates the impact of elite patron-client relations and brokerage positions on political careers by examining the determinants of promotion to a senior political position in Mexico: the cabinet-level post of secretary. While scholars have long argued that elite networks are critical to political careers in Mexico (Babb, 2001; Camp, 1990, 2002; Centeno, 1997; Gil Mendieta and Schmidt, 1996; Grindle, 1977; Schlefer, 2008), no studies have examined this issue using systematic network data. The Mexican case also has important theoretical implications, because it affords the opportunity to examine a state in which moderate state capacity coexists with patronage promotions (as this study confirms empirically). However, the implications are not confined to this case: the Mexican political system invites comparison to other “competitive authoritarian” polities (Levitsky and Way 2010) as well as one-party states such as China and the
Soviet Union, in addition to, among more democratic regimes, Japan, India and South Africa. While generalization would require direct study of these countries, the Mexican case provides a model career system for which high-quality data are available.

The analysis relies on a new dataset derived from a systematic set of political biographies (Camp, 2011) that includes information on the educational and career histories of senior political officials active during a long historical period (1935–2009). This dataset is one of the most complete compilations of biographical data on political elites for any country (Camp, 2010); this paper is the first (to my knowledge) to maximize the quantitative leverage of these data by making use of the complete career histories. Drawing on longstanding observations among scholars of Mexican political elites, these data permit inferences about network ties based on education and career trajectory. I use measures of patron-client ties, brokerage position and other network variables as independent variables in logistic regression models predicting cabinet promotion. The analysis shows that both patron-client relations and brokerage positions are associated with promotion to the cabinet. Brokerage advantage seems to be strongest during periods of relative political consolidation and negligible (or actually negative) during periods of greater fragmentation and contention.

There are several important theoretical implications of these findings for both the state capacity and political networks literatures. First, the findings extend the range of brokerage theories of political influence beyond the realm of highly factionalized elites (Gould, 1989). Second, the fact that patronage appointment practices thrive in a moderately “Weberian” state undermines
the association of patronage appointments with state dysfunction. Third, while the paper does not test the link between brokerage advantage and elite cohesion, the findings suggest a plausible mechanism linking personalistic networks to elite cohesion, a consequence of elite networks not considered in the state structure literature.

The following section draws on the state structure and political networks literatures to sharpen and extend contrasting hypotheses regarding the sources of career advantage in political networks. Next, I introduce some key features of the Mexican political system and elite networks. After introducing the data and methodology, the subsequent section presents the results. The paper concludes returning to the broader theoretical implications.

1 Patronage, brokerage and power in political networks

As suggested in the introduction, prominent conceptions of state capacity contrast meritocratic, Weberian state institutions with those dominated by personalistic networks. In Evans’ description of the patrimonial or predatory state of Zaire (today’s Democratic Republic of the Congo), “control of the state apparatus is vested in a small group of personally interconnected individuals,” crowned by a “presidential clique” consisting of “trusted kinsmen,” surrounded by a more extended “brotherhood” dependent on “personal ties with the president, his clique, and each other” (Evans, 1995: 46). According to Evans, states dominated by such structures create a perverse
system of career incentives which limit state capacity and foster corruption. Though Evans does not use the term “patronage,” this description is consistent with many discussions of patron-client relations, and other scholars writing about African states make this connection explicit (Arriola, 2009; Van de Walle, 2007).

The patron-client imagery underlying the concept of patrimonial states is rooted in a much more general sociological analysis of patron-client structures. In a generic sense, patron-client ties are asymmetric relationships between a superior who offers valued resources in exchange for the compliance, loyalty and deference of a subordinate (Eisenstadt and Roniger, 1984; Martin et al., 2009). In the context of political promotions, the desired goods are appointments to positions in the state apparatus. Such exchanges are often ongoing, repeated tacit transactions based on mutual trust, rather than one-off compensation for political support. In a “pure” patronage system, horizontal ties are absent and clients are loyal to only one patron; thus, multiple patron-client ties concatenate into hierarchical, pyramidal (or tree-like) structures centered on a leading node (Martin et al., 2009: ch. 6), as illustrated in the first panel of figure 1. As the next section shows, this model is invoked in much previous work on the Mexican political elite.

The patronage model operates at two distinct levels of analysis: relational (dyadic) and structural. At the relational level, the core prediction of the model – as applied to elite promotions – is that senior political figures appoint their personal allies to desired positions in the state in return for loyalty, support, and cooperation. Empirically, a simple test (implemented below) of whether patron-client ties influence elite careers is whether direct
ties to a senior political leader (in this case, the president, who selects the cabinet) increase the likelihood of promotion. Versions of this hypothesis have been tested in some studies of elite political networks; for example, a study of elite hierarchies within the Chinese Communist Party (CCP) finds that geographical, educational and career ties to senior party leaders predict higher party rank (Shih et al., 2012).

However, the patronage model is not only a statement about the consequences of ties to political leaders: it is a structural model which predicts a hierarchical, asymmetric system of social relations. This model makes two additional predictions which can be used to assess the extent to which a patron-client logic dominates promotions. First, Martin et al. (2009: 211) argues that patron-client ties are generally antitransitive (such that the relations AB and BC imply A notC). Thus, a promotion advantage due to indirect ties is inconsistent with a pure patron-client logic. If both direct and indirect ties are associated with a promotion advantage, these indicators may reflect a general social proximity, rather than a patron-client system per se. Second, the patron-client model posits a highly hierarchical, pyramidal network structure with well-defined observable properties described below (Krackhardt, 1994). Assessing the extent to which network structures conform to these properties is therefore an additional check on whether the patron-client logic dominates the elite network. However, the structural assumptions of the patron-client model are highly demanding; divided loyalties and horizontal relationships (such as those illustrated by point A and line B, respectively, in panel 2 of figure 1) are excluded. A less demanding model is that of “big man” structures (Martin et al., 2009: 216–231). Unlike
pure patrons, “big men” compete for clients, because their power depends on flows of resources from clients to patrons. Unlike patronage relationships, which form pyramidal structures, “big man” systems take the form of multi-hub or web-like social structures, which exhibit only partial hierarchy. This model represents a variant on the patron-client model that may be more suited to political elites.

Relaxing the assumptions of the pure patronage model introduces additional elements of network structure that are relevant to promotion contests. Allowing for the possibility that subordinates respond to multiple patrons – have divided loyalties – introduces the possibility of brokerage positions in the elite network. In relational terms, brokers are bridging figures who span otherwise disconnected areas of a network. This is illustrated in the third panel of figure 1: point C is a “client” of two different patrons, and is therefore a bridging figure in their networks. Brokerage positions may also be created by horizontal ties which “short-circuit” the vertical hierarchy of the network (point D). Operationally, brokerage is closely related to the concept of betweenness centrality, the extent to which paths in a network depend on connection through a particular node (Freeman 1978).

Network theorists have long argued that brokerage positions are a source of advantage in social networks (Burt, 1992, 2007; Fernandez and Gould, 1994; Gould, 1989; Granovetter, 1973; Simmel, 1950; Small, 2009; Stovel and Shaw, 2012). Brokerage positions are advantageous for two distinct resources: information and control (Stovel and Shaw, 2012). Burt’s work emphasizing the “vision advantage” available to managers that occupy brokerage position because of their access to more diverse information (Burt,
1992, 2007) may not be applicable in this context. But network theorists have also emphasized that occupants of brokerage positions also benefit from the high dependency of surrounding actors. Marsden (1982) theorized that broker advantage may stem from the ability of intermediaries to charge exchange partners “commissions” based on their ability to intermediate. However, as Gould (1989) noted, conceptualizing the benefits of brokerage positions in terms of exchange may be excessively limited. Instead, drawing on a rich anthropological literature, he suggested that the role of brokers is less to engage in political exchanges than to “establish the situation in which exchanges or settlement of disputes can take place” (Gould, 1989: 535). From this standpoint, brokers are deal-makers who “[bring] persons with divergent interests together and [show] them how, in some setting or context, their interests coincide” (Stovel and Shaw, 2012: 149). However, (Gould, 1989: 535) also argued that brokers’ advantage was only relevant in situations of deep political cleavages between opposing factions; only in such situations is brokerage both necessary and possible.

Nevertheless, the proposition that brokerage advantage is limited to highly factionalized political elites is premature. Whether occupation of a brokerage advantage confers advantage depends on the aspect of political contestation for which advantage is sought. Gould suggested that brokers gain power from their control over the context of negotiation in bilateral political exchanges, rather than participation in exchanges themselves. He assumed that the relevant domain of political exchanges took place across “synapses” dividing opponents. But this reflects only one aspect of political contestation: within elites, political exchanges occur not only between op-
posing factions but also, and perhaps more importantly, among competing elites. Competing elites are neither strictly allies nor opponents; they cohabit political organizations while jockeying for influence and control. Elites who are allies with respect to competing organizations (other parties) may at the same elites time be rivals in internal promotion contests. In short, political contestation is more fluid than the dichotomy of “allies” and “opponents” assumed by Gould suggests, implying that brokerage advantage may extend well beyond highly factionalized contexts.

In the present context I suggest that brokerage advantage may arise in political promotion contests because of the cohesion effect of promoting brokers. Promotion of brokers may contribute to elite cohesion through two channels: a symbolic or signaling channel and an effective mediation channel. First, network ties are not only conduits for information or quid-pro-quo exchanges, but visible signs of alliance and affinity (Podolny and Baron, 1997). By promoting elites who are strategically situated in brokerage positions, senior leaders signal inclusiveness and compromise. Thus, brokers may benefit because their visible ties to diverse elites mark them as mediators capable of binding together the elite, before any such deal-making actually takes place. Appointment of brokers is therefore a signal to competitors and potential defectors of willingness to form a broad elite coalition. Second, in addition to signaling inclusiveness, brokers actually deliver mediation capacity. Elites strategically situated between diverse internal groupings are valuable allies in the president’s quest to ensure regime stability and elite compliance. Below, I test whether elites who occupy brokerage locations are more likely to achieve promotion to the cabinet.
Finally, an alternative perspective in network theory links distinct forms of centrality with political power. Intuitively, power and influence are related to being “well connected,” in the sense of having close connections not simply to a single decisive leader (as implied by the patron-client model) but to multiple important actors in an individual’s environment. It follows that political promotions may be related to having broad connections to “the right people.” In network-theoretic terms, such actors are “close” to the rest of the elite, that is, they are connected by short paths to a large number of actors. Betweenness and closeness are distinct forms of network centrality: betweenness captures the concept of brokerage positions by measuring the extent to which paths through alters rely on ego, while closeness reflects the proximity of ego to all alters. A variation on the closeness concept is eigenvector centrality, which suggests that power comes not simply from being well-connected, but from being well connected to others which are themselves well-connected (Bonacich, 1987; Mintz and Schwartz, 1985). In the present context, the closeness concept of power is important because it was used in the only previous systematic analysis of Mexican elite networks (Gil Mendieta and Schmidt, 1996), which measured centrality in the Mexican political elite but did not analyze promotions. Therefore, I also test whether elites who occupy more central positions (in the sense of both closeness and eigenvector centrality) are more likely to achieve promotion to the cabinet.
2 Elite networks and political promotion in Mexico

The Mexican political system was a stable, semi-authoritarian, one party regime for most of the 20th century. Between 1929 and 2000, the Mexican presidency, Congress (though 1997) and most other political institutions were controlled by the Institutional Revolutionary Party (PRI) and its predecessors; while presidential elections were held regularly, the PRI held control through a combination of clientalism and electoral manipulation (Greene, 2007). Internal governance of the regime was governed by strict norms of leadership competition and turnover (Camp, 2002; Schlefer, 2008; Smith, 1979); while Presidents enjoyed near-absolute power during their six-year mandates (sexenios), pursuit of re-election was constitutionally prohibited (and no president was reelected in practice). This system began to unravel during the 1980s due to economic crisis and growing support for the opposition. In 1997, the PRI lost its majority in the lower house of congress and in 2000, the right-wing National Action Party (PAN) won the presidency.

Importantly, one-party dominance did not imply an absence of contestation; rather, the party internalized political conflict. The PRI harbored both “left” and “right” wings; land reform and oil nationalization were adopted under the presidency of Lázaro Cárdenas (1934–1940), but subsequent presidents slowed land redistribution and implemented more pro-business economic policies (Hamilton, 1982; Middlebrook, 1995). During the 1950s and 60s, these policies produced relatively rapid economic growth but were as-
sociated with labor cooptation, inequality, and the absence of real electoral competition. The regime repressed also repressed demands for democratization such as the student movement. During the 1970s, economic policy shifted towards a “populist” increase in state investment intended to promote economic development (Babb, 2001). These policies were accompanied by increasing internal conflict in 1982, as competing groups of officials sometimes described as “nationalist” and “orthodox” struggled over the course of economic policy. After the 1982 economic crisis, influence within the regime shifted towards economic technocrats who promoted liberal economic policies (Babb, 2001; Centeno, 1997). Thus, the Mexican political regime combined one-party dominance with intra-party competition. While internal contestation was often fierce, the PRI was not divided into discrete factions. Rather, researchers have described Mexican politicians as members of local social structures referred to as groups (grupos), teams (equipos) and camarillas. According to Camp, camarillas “determine...who rises to the top of the political system, the path taken by successful politicians, and the designation of individuals to specific political posts” [85][Camp1990]. Cabinet appointments are often understood to be expressions of a President’s personal camarilla (Camp, 1990; Hernández Rodríguez, 1987). Scholars sometimes refer to these groups as “cliques,” and previous work on Mexican political networks has operationalized these political groups using the graph-theoretic concept of a clique (i.e. a densely connected subgroup) (Gil-Mendieta and Schmidt, 2005). However, camarillas are also described in the literature as patron-client structures based on relationships of trust and loyalty binding superiors and subordinates (Camp, 1990; Grindle, 1977). Cen-
tano (1997: 147) describes camarillas as “a series of vertically and horizontally interlocking, roughly pyramidal, groups. Prospective politicians and bureaucrats attach themselves to a patron or ‘godfather’ who will provide either a position or an introduction... The patron offers a job or increased influence, the client offers loyalty and trust.” This description closely echoes the network-theoretic view of patron-client structures discussed above.

However, specialists have also suggested several modifications and caveats to the basic model. First, as Centeno also notes, upwardly mobile politicians “acquire more patrons whose networks she serves to connect... The higher in the hierarchy the camarilla, the more interconnected it becomes” (Centeno, 1997: 147). Thus, patron-client relationships were not exclusive; rather, “collecting” patrons was part of a successful career. Similarly, hierarchically organized subgroups were interlinked and inter-mingled; as another scholar puts it, “Mexican grupos were fluid, defined by degrees of friendship, trust and mutual benefit, not a binary mathematical function. The leader had his equipo – his team of immediate subordinates – but over time he placed equipo members in other areas of the administration, creating a broader and somewhat less tight-knit grupo” (Schlefer, 2008: 46). These accounts are not consistent with the pure patronage model, suggesting that the modified “big man” model may be a better fit. More generally, the observation that local political groups interconnect and overlap implies that there are substantial brokerage opportunities available in the Mexican elite network.

In the Mexican context, recruitment patterns should be expected to change over time. The one-party dominant system consolidated slowly, not reaching its mature form until 1952 (Molina Horcasitas, 1991). Prior to
1952, individual elites had not yet developed the deference to party competitors that they would later exhibit; during the 1952 electoral cycle, President Áleman openly flirted with reelection or imposing a family member as his successor, sparking internal conflict and the emergence of an internal opposition candidate for the presidency (Schlefer, 2008). During this early period, personal loyalty to the President may have outweighed other concerns. Second, the policy shifts of the 1970s just discussed were associated with heightened elite competition and contestation within the PRI regime which may be associated with changing promotion patterns (Babb, 2001; Centeno, 1997; Schlefer, 2008). Finally, the pivotal 2000 elections can be expected to have transformed the dynamics of cabinet appointments. Though a few secretaries under the incoming PAN experience had prior experience in the federal government, most did not. Thus, the implication of occupying any particular position in the network fundamentally changed after 2000 because of the underlying position of the network itself.

Research on the Mexican political elite has discussed several sources and indicators of network ties. First, as in Japan and South Korea, higher education has historically been an important source of social ties among the Mexican political elite. For example, elites of the 1940s and 50s formed social networks at the law school of the National University (UNAM) which persisted throughout their political careers (Camp, 1975, 2002). In more recent years, as the professional center of gravity of the political elite shifted from law to economics, ties formed at the economics faculties of UNAM and the elite private university ITAM began to play a more prominent role in the formation of the political elite (Babb, 2001). In addition to ties among
students, relationships between students and professors have played a role in the formation of elite networks. In addition, Mexican political figures often maintained teaching appointments, either part-time while holding office or between government appointments; student-professor ties were an important channel of elite recruitment (Camp, 2002). Finally, professors teaching or conducting research in the same institution form relationships which persist when these elites later hold positions within the state.

In addition to ties associated with higher education, the literature has also frequently discussed elite career paths themselves as a source of network information. For example, work on the Mexican political elite often assumes that a promotion which occurs under the tenure of a specific leader (e.g. the secretary) reveals a tie between the pair. Although there are exceptions, secretaries generally select trusted allies as their subordinates (Grindle, 1977: 38). Second, as elites rise through the administrative ranks, they establish contact with peers which, over time, cohere into relationships of trust. For example, (Hernández Rodríguez, 1987) describes the relationships formed by future president Miguel de la Madrid (1982–88) during his long career in the Treasury and other state organizations. Previous research has identified these sources of network information, but with few exceptions, they have not been explored using systematic relational data.

3 Data and methods

Based on these observations, elite networks can be inferred from career history data; fortunately, a uniquely rich source of biographical data is available
for the Mexican political elite (Camp, 2011). The data source includes a census of all cabinet secretaries and assistant secretaries (as well as selected additional positions discussed below) over a period of more than seventy years (1935–2009). While research on the Mexican political elite has used these data (Camp, 2010) and early career history datasets (see Camp, 2002; Centeno, 1997; Smith, 1979) to describe trends in the composition of political elites, this paper is the first – to my knowledge – to systematically utilize the full career history data. Previous work on Mexican political networks (Gil Mendieta and Schmidt, 1996; Gil-Mendieta and Schmidt, 2005) focuses mainly on smaller-subsets of the political elite and does not test the relationship between network position and political promotion. As noted above, this paper focuses on a crucial threshold in the career of Mexican political elites: promotion to the position of cabinet secretary (henceforth “secretary” or “cabinet member”). In the hierarchy of the Mexican state, secretaries are the highest officials in the executive branch, following the president. During the period of one-party dominance, congress was relatively marginalized and the cabinet was the key locus of policy-making. Moreover, between 1940 and 2000, all presidents held a cabinet position in the administration preceding their own; the cabinet was thus a critical stepping-stone to the presidency. Thus, focusing on cabinet promotion is an important contribution to understanding the dynamics of political careers.

The goal of the analysis is to assess the determinants of promotion to the cabinet; analytically, this requires comparing observed secretaries to a pool of eligible “candidates” who failed to achieve promotion. Examining the career paths of observed secretaries shows that these candidates were
most often second-tier officials within the executive branch. As the first three columns of table 1 show, the modal career path to the cabinet – the highest appointed position held prior to cabinet promotion – is the position of assistant secretary, the second-highest position in the executive branch (32% of observed secretaries). An additional 16% of secretaries reached the position of oficial mayor (a senior administrative official) or that of director general of key state organizations (for example, the state-owned oil company PEMEX), or federal attorney general. Collectively, roughly half of secretaries had passed through one of these four positions prior to promotion to the cabinet. Importantly, the data source includes the near-complete population of occupants these second-tier positions during the 1935–2009 period. This enables comparison of observed secretaries with a set of eligible “candidates” who did not achieve promotion.

However, this “standard” career path accounts for only slightly less than half of cabinet secretaries. Table 1 illustrates that the remainder of secretaries followed more idiosyncratic career paths. 17% of cabinet members had only reached the position of secretariat director general (the third level of the administrative hierarchy) and an additional 7% from the position of director (fourth level). These secretaries “jumped the queue,” achieving promotion to the cabinet despite not having passed through intervening levels of the administrative hierarchy. Such leap-frogging might be evidence of a qualitatively different career path characterized by greater electoral experience (e.g. reaching the cabinet after serving in the congress or as governor). As the fourth column of table 1 reports, electoral experience is indeed somewhat over-represented among secretaries whose career paths are classified
as “other” – a heterogeneous group who had not reached the fourth tier prior to promotion – though the difference is not large. This group also consists disproportionately of secretaries appointed after the democratic shift of 2000. The main analysis reported here excludes this group because of its heterogeneity and idiosyncrasy, though some descriptive statistics will include all secretaries for completeness.

The composition of cabinet members’ career paths is an analytical challenge. While the comparison of promotion from the “second tier” is straightforward, the “queue jumpers” group raises issues of selection bias. The data source selects officials on the basis of having reached at least second-tier positions (assistant secretary, official mayor, or director general of a major agency); therefore, the data do not include a complete set (or a random sample) of those elites who reached only tiers three and four. This problem is endemic to studies of political elites: nearly any feasible data collection process necessarily starts by selecting those who “reached the top;” collection of systematic data on those who failed is difficult, costly and, in historical contexts such as this one, often impossible.

I address this challenge by analyzing three nested subsets that attempt to account for these selection issues. The first subset is restricted to secretaries and candidates on the “standard” career path – those who had reached the second tier of the administrative hierarchy. This subset compares candidates who were promoted to the position of secretary to candidates who did not achieve promotion. “Candidates” are defined as those officials who have reached a second-tier position in the bureaucratic hierarchy in the 12 years prior to the beginning of a presidential administration (the time at which
the majority of appointments occur). 12 years is the cutoff for inclusion in the sample because, given the six-year cycles of Mexican politics, most secretaries (84%) on the “standard” career path that achieved promotion did so within two administrations (i.e. two sexenios).\footnote{\par} 

I then analyze two broader subsets. The second adds to the previous subset all officials in the dataset who have reached the third level in the administrative hierarchy of the central government (director general). This adds the 17% of secretaries who “jumped” from this level directly to the cabinet. This broader subset includes officials who – by virtue of their inclusion of the data source – are known to subsequently reach the first or second tiers. The composition of the subsets is illustrated in figure 2. Solid lines indicate the aspects of the career trajectory that determine inclusion in each subset; dotted lines are implicit features that help illustrate the subset composition. Officials on career paths A and B are included in the first subset; they enter the data source on the basis of a complete census of occupants of these positions. The second subset adds group C: secretaries who reached the cabinet after having “jumped the queue” from tier three. In order to provide a comparison group, the second subset also incorporates groups A’ and B’: these are the same individuals as group A and B at an earlier point in their career. Similarly, the third subset adds group D (secretaries who “jumped the queue” from tier four, or the position of director) and, as a comparison group, the subset A’’, B” and C”.

The key assumption underlying the analysis of subsets two and three is that the “candidates” in each subset that did not achieve promotion are representative of the population of competitors for cabinet positions. While
it is difficult to verify this assumption, given the absence of data on the omitted officials, it is highly plausible. Secretaries who “jumped the queue” are anomalous not only in a statistical sense (insofar as they followed probabilistically unlikely career paths), but also in the practical sense that they skipped over the explicit hierarchy of state positions. Thus, assistant secretaries (and elites known to progress to the cabinet or assistant secretary level) represent the plausible pool of competitors. The third and fourth-tier officials omitted from the database – those who never advanced to at minimum tier two – are relatively minor players in the political elite. These officials are unlikely to have a tie to the president, and in most cases unlikely to occupy a brokerage position (because in order to occupy such a position, an elite must have at least two ties). In this sense, the bias of this analysis is probably conservative. The analysis maximizes the information available by using measurements of network and other attributes for those elites selected into the dataset before they achieved the job on the basis of which they were selected. Results for subsets two and three or more tentative than for subset one because of the impossibility of fully eliminating selection issues, but this strategy permits a more complete analysis by allowing the inclusion of a higher proportion of all secretaries.

The time period covered by the analysis (1940–2009)\(^6\) includes twelve six-year presidential administrations (sexenios).\(^7\) I conduct the analysis at the sexenio (rather than year) level because the majority (59\%) of appointments occur in the first year of the administration, and in many cases there are few or no appointments in other years. Thus, the data structure resembles a repeated cross section more closely than a panel; individual elites appear
in more than one period (mostly two periods due to the 12-year rule used
to determine candidacy for promotion), but in most cases not longer. Due
to the complexity of career trajectories, some elites remain candidates for
more periods. The number of periods any elite is retained in the subset
as a candidate is limited to the maximum number of periods any secretary
remained a candidate before promotion (six).  

Network ties are inferred from the career and educational histories of
elite officials. The dataset includes full career histories of individual elites,
including appointed and elected positions, jobs in the party, and educational
experience. In total, the networks are inferred from records of roughly 9900
appointed positions in federal and state governments, 5800 records of higher
education experience, 3300 party appointments, and 300 governorships and
presidencies. These histories cover elite’s entire educational and work ca-
reers, including positions and experiences before 1935, dating as early as
1900 in some cases.

Drawing on sources and indicators of network ties identified in previous
research on the Mexican political elite discussed above, I code six types of
network ties based on this career history data. First, co-educational ties are
present by between a pair of actors if they studied the same subject in at
the same university in the same year. Second, a relationship of student and
professor is present if actor i taught the subject studied by actor j at the
same university in the same year. Third, collegial ties are present in a dyad
if the actors both taught the same subject in the same university in the same
year. Fourth, recruitment ties are present between the head of secretariats
and state governments (i.e. secretaries and governors, respectively) when
actor j changes jobs under the tenure of actor i. Recruitment ties are also
defined as present between advisers and personal secretaries and the officials
they serve. Fifth, I code experience relations as present between actor i and
j in organization o if i and j previously worked together in a different organi-

\[ \neg o(t-1), \neg o(t-2), \text{etc.}. \]

This coding rule captures the insight that actors form relationships as they move through the
government apparatus, without making the overly broad assumption that all
actors in a given organization are connected by definition. Sixth and finally,
party ties are present between pairs of elites who held positions in either
national or state party organizations, including presidential campaigns.

These coding rules provide a reliable proxy for relationships of trust. Ties
do not necessarily connote friendship of affective bonds; rather, it is only
important to assume that shared experiences increase the sharing of infor-
mation, capacity for dialogue and compromise, and the likelihood of cooper-

ation. Strictly speaking, educational ties need not even imply acquaintance
(though they probably do in the overwhelming majority of cases); shared
education is simply a background trait of a dyad which has a probabilistic
influence on future behavior.

The full network specification includes information about both verti-
cal (directed) and horizontal (undirected) relationships. Student-professor,
recruitment and advice ties reflect intrinsically hierarchical (assymetric) re-

relationships: there is an observable relation of superior and subordinate that
can be inferred from the underlying career data. In contrast, co-educational,
collegial, experience and party ties are horizontal relationships; while the
overall structure in which these relations are embedded may reveal hier-
archy, the relationships themselves are not intrinsically hierarchical, but symmetric. The inclusion of these horizontal ties tends to undermine the degree of hierarchy observed in the networks, since inherently symmetric relationships are included by construction. Because of this, in descriptive analysis I present separate measures of the full network specification and its vertical component. This vertical component includes only the three types of intrinsically asymmetric ties just mentioned.

In order to compute the network positions of candidates for promotion, I first select an expanded subset of elites which includes the president, outgoing president and any politically active former presidents, as well as cabinet secretaries who held office in the previous period. Inclusion of these senior political figures is crucial to the measurement of network position, since these positions naturally depend on relations with the president, existing secretaries, and other senior elites. Network measures are calculated based on this expanded subset, but elites who have already served as secretary are excluded from the promotion analysis (in addition to presidents themselves). I focus solely on the first appointment to the cabinet, because re-appointment represents a substantively different process.

Each type of relationship is calculated for each year between 1900 and 2009 and carried forward into all subsequent years. Ties are removed only when nodes exit the subset. Measures of network position are calculated based on networks observed in the final year of the administration preceding the (potential) appointment period. In addition to being the moment immediately before the appointment process begins, calculating network position in this way eliminates one important potential source of endogeneity: be-
cause cabinet secretaries form ties with their subordinates by construction, using this information to calculate network positions that predict promotion to the cabinet entails obvious circularity. By calculating network positions prior to the appointment period and removing elites from the subset once they achieve promotion to the cabinet, this circularity is avoided.9

In order to test patronage theories of promotion, I first measure the shortest path (geodesic) between each “candidate” and the president (the political leader who selects the cabinet). Direct ties are captured by a dummy variable which equals one if the shortest path connecting a given node to the president has a length of one. A second dummy variable equal to one if the shortest path has two steps captures indirect ties. Nodes tied to the president by paths of three or more ties are treated as the comparison group. A separate dummy variable is included indicating whether the node is totally isolated from the president – which implies that the node is either an isolate or a member of a small isolated cluster.

To measure brokerage position, I use betweenness centrality (Freeman, 1978), an indicator which calculates for node i the proportion of paths between all actors j and k which depend on connection through i. Because the size of the network varies over time, this variable is normalized by the maximum possible betweenness in a network of the observed size. While Gould (1989) criticizes this simple betweenness measure because it includes long paths, the correlation between the simple (non-normalized) measure and a measure limited to 4-step paths (the shortest theoretically justified path in this context) is extremely high (.96). Thus, I prefer the simple betweenness measure because its size normalization is well-defined. The correlation be-

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tween size-normalized and non-normalized measures is .77, suggesting that accounting for the varying size of networks is important. In order to reduce skewness (and given the prevalence of zeros in the measure), I use a square root transformation. This transformation is favored by both the AIC and BIC criterion relative to a $1 + \log$ transformation. Finally, to test centrality-based theories of political power and influence, I use standard measures of (normalized) closeness (Freeman, 1978) and eigenvector centrality (Bonacich, 1987).

In addition to network measures, I include several additional covariates as control variables. First, I control for years of experience at the beginning of the appointment period. In the first subset, because the analysis compares relatively experienced actors, this variable is expected to have a negative association with the likelihood of promotion: a negative slope indicates that the likelihood of promotion to the cabinet declines as the potential candidates “age out” of political activity. In the broader subsets, I allow for a curvilinear association between experience and promotion probability. The probability of appointment rises as elites become more senior and then falls as they “age out.” Second, I include the number of positions held as an additional control for experience. Third, I include an indicator for holding an advanced degree. As the Mexican state became increasingly “technocratic” (particularly as highly-trained economic policy officials gained prominence), advanced credentials became more common among cabinet members (Babb, 2001; Centeno, 1997). In addition, these variables help control for the possibility that network measures might somehow capture career experience or diversity rather than network position per se. Finally, I include variables...
capturing whether the actor had either participated in party activity (including both party membership and positions in the PRI party bureaucracy) or held any electoral position. Subsets two and three include an additional control for the highest rank reached by the elite.

As argued above, appointment practices are likely to vary over time in Mexico. I test for time-varying associations by interacting the network predictors with dummy variables representing the periods prior to 1952 (before the consolidation of the PRI regime), 1970–1982 (a conflictive period, as noted above) and after the democratic transition over 2000. For parsimony, only interaction terms that substantively alter the interpretation of the model are included in the results presented below.

As a baseline model, I estimate logistic regression models of the odds of promotion to the cabinet. Promotion to the cabinet is a rare event, suggesting that an adjusted logistic model such as the Firth penalized maximum likelihood procedure (Firth, 1993); however, results from these two models are extremely similar, but the Firth model does not allow for clustering of standard errors at the period (sexenio) level. Clustered and unclustered standard errors from conventional logistic regression models differ, though generally leading to the same substantive conclusions. For one of the main predictors of interest (betweenness centrality), conventional (CRVE) clustered standard errors are smaller than conventional standard errors, possibly indicating that the within-group error correlation is negative, but also reflecting the small-sample bias of the CRVE adjustment (Angrist and Pischke, 2008: 319–323) because the number of period groups is small (twelve). Because of this, in the main results, I adjust the conventional standard
errors using a bias-reduced linearization correction (BRL) clustered at the sexenio level. For the betweenness results, BRL standard errors fall between the conventional standard errors and CRVE. In practice, all three standard errors lead to the same substantive conclusions for the main variables of interest, though significance levels are somewhat higher for these results with the reported standard errors than with conventional (unclustered) standard errors. Alternative models (with both clustered and unclustered standard errors and estimated with the Firth method) are reported in supplementary tables A1-A3.

4 Results

I begin by asking whether the network structure of the Mexican political elite, as defined by the coding rules described above, is consistent with the hierarchical patronage model. Figure 3 depicts the main network specification in 1958 (based on subset 1) as an illustration of these relational structures. (Representations of the networks in all twelve periods are available in the supplement; representations for subsequent periods are less informative because of the density of the network). The figures seem to support qualitative descriptions of the Mexican elite network as a complex web of interlocking relationships, rather than a strictly pyramidal hierarchy. This web-like or multihub appearance is more consistent with the concept of a “big man” quasi-patronage structures than a strict patronage hierarchy. However, it is difficult to assess network hierarchy by visual inspection alone, and the figures include horizontal relationships which by offset hierarchy by
construction. Therefore, the pyramidal character of the structure is assessed more systematically in table 2, which presents Krackhard’s (1994) measures of graph hierarchy for subset 1. A perfectly pyramidal structure would receive a score of one on each measure; scores below one reflect the deviation from strict hierarchy. Because the full network specification has a low degree of hierarchy on some dimensions by construction, I report separate measurements for the full network specification and the vertical (directed) component, which includes only intrinsically asymmetric relationships (for example, recruitment ties). These indicators show that the Mexican political network is hierarchical on some dimensions but not others. First, the network has a fairly high level of connectedness: in the full network, between 75% and 90% of nodes are connected in a single main component; as illustrated in figure 3, disconnectedness is due mainly to individual isolates and small isolated clusters. Second, the network is highly efficient; in all years, less than 5% of ties are redundant in the full network, and a negligible proportion in the vertical component. This implies a high level of hierarchy on this dimension. Third, in the network specification used in the main analysis, the level of hierarchy proper – the extent of antisymmetry of ties – does not support a pyramidal structure. In contrast, the vertical component shows a high level of hierarchy. Thus, the first three measures are consistent with the patronage model in the vertical component of the network, though not in the full specification.

The final dimension of hierarchy measures the extent to which dyads have a least upper bound (LUB). This dimension captures the extent to which nodes share a connection higher in the graph hierarchy (in essence,
whether they share a common direct or indirect superior). Loosely speaking, this condition is intuitively similar to having a common ancestor in a kinship network.\textsuperscript{11} Both the full network and its vertical component deviate from the LUB condition of hierarchy in most years. The exception to this rule is the full network after 1994, when the extent of “LUB-ness” suddenly jumps to one. This fails to occur, however, in the vertical component, in which the level remains low. The extreme shift in the full network specification seems to reflect the emergence of a central figure or “patron’s patron,” but because this fails to occur in the vertical component, it seems dubious that this represents a real change in the character of elite networks. Overall, these measures suggest that the Mexican elite network, and in particular its vertical dimension, have a strong pyramidal element, but that this structure does not amount to a full-blown patronage pyramid. Rather, there are multiple, interlinked hierarchies, which again is more consistent with the “big man” model than the pure patronage model.

In order to test whether ties to the president influence the likelihood of cabinet promotion – the core prediction of the patronage model at the dyadic level – I estimate logistic regression estimates of the odds of cabinet appointment for the three nested subsets, presented in table 3. Control variables behave as expected (though not significant in all models): years of government experience has a negative association with cabinet appointment in subset 1 (reflecting the “aging out” phenomenon) and a curvilinear association in subsets 2 and 3, reflecting the fact that these broader subsets include both officials not year sufficiently senior to achieve cabinet promotion and aging out of those past their prime. Notwithstanding the moderately
high correlation between experience measured in years and in the number of positions held, both variables have significant positive relationship with the likelihood of cabinet appointment in subsets one and three; this suggests that (holding years of experience constant) that those who occupy a greater number of positions are more likely to achieve appointment. Finally, officials holding an advanced degree are more likely to be appointed to the cabinet (only significant in the two broader samples), reflecting the high “technocratic” character of the Mexican state.

Turning to the network predictors of promotion, first, the results provide support for the core implication of the patronage model: direct connections to the president increase the likelihood of a cabinet appointment. In all three subsets, elites with a direct tie to the president have a statistically significant promotion advantage compared to those three or more steps from the president. The probability of promotion to the cabinet rises from .03 for those with no direct tie to .12 for those directly connected with the president, holding all other variables at their means, a four-fold increase. Though the probability of promotion conditional on direct connection may appear low, achieving a cabinet position is intrinsically rare, given the small number of available positions and the large number of competitors. In contrast, elites with indirect (two-step) tie to the president have no promotion advantage. Therefore, these results support the notion that direct ties as such, rather than general social proximity, are the key factor influencing promotion likelihood. Candidates disconnected from the rest of the elite are less likely to achieve promotion, though this association is not statistically significant. Inclusion of interaction effects between these path measures and dummies
representing the periods before 1952, 1970–1982, and after 2000 (models not shown) do not substantially change these results.\textsuperscript{12}

In the broadest terms, these results confirm a longstanding perception among scholars of the Mexican political elite: patronage appointments play a key role in political promotion to the cabinet. However, the positive coefficients for direct ties need to be interpreted in the context of the frequency of direct ties, reported in table 4. For completeness, this table includes all secretaries, including those excluded from all three subsets.\textsuperscript{13} While actors with direct connections enjoy a promotion advantage relative to those distant from the president, only about one-quarter of secretaries had such a tie.\textsuperscript{14} Table 4 also reveals some additional variation by classifying secretariats into four categories: economic, political, military and security, and other. Cabinet members with no direct tie or only distant ties to the president tend to be concentrated in the military and security secretariats and minor units such as fishing and tourism. The high concentration of unconnected secretaries in military secretariats reflects the fact that these officials are generally career military officers whose education and careers are unlikely to have intersected with most presidents since 1946.\textsuperscript{15} In contrast, the heads of key economic policy secretariats more commonly have direct ties to the president, while the heads of governance secretariats fall close to the average. The economic policy agencies are commonly considered among the highest capacity organs of the Mexican state; thus, patronage-based promotions are most common precisely where the Mexican state is strongest.

Table 5 adds additional insight by reporting the proportion of cabinet members (again including all cabinet members) with a direct tie to the pres-
ident in each sexenio (administration). There is substantial variability in the extent to which presidents appointed personal allies to the cabinet; two administrations, only two secretaries had a direct tie, while in others more than one-third of cabinet members had such a tie. Table 5 confirms earlier claims (Hernández Rodríguez, 1987) that the pre–1952 Alemán administration was the administration that relied on personal allies of the president to the greatest extent. The administration President Miguel Alemán is the classic case of the camarilla model and the use of elite patronage (Camp, 1990); in this sense table 5 lends credence to the coding strategy used in this paper. This also suggests that appointment strategies varied before and after the consolidation of the PRI regime around 1952, though the 1940–46 Ávila Camacho administration was a low point for direct connections to the president. Table 5 also implies that the strategy of appointing close allies resumed after 1970, a point I return to below.

Collectively, the results of the descriptive analysis of elite network structure, the logistic regression models predicting cabinet promotion, and the tables just described, show that patron-client ties play a key role in the cabinet selection process, but also cast doubt on the description of the elite network in exclusively patron-client terms. Despite the significance of direct ties for cabinet promotion, such ties explain at most one third of cabinet appointments in most years (with the exception of the 1946–52 sexenio). Moreover, the overall structure of the elite network suggests competing “big men” rather than a pure patronage structure. This structure suggests that the Mexican elite has many structural positions that may provide a source of advantage in promotion contests.
Table 3 also provides strong evidence of a brokerage advantage over much of Mexican political history. In all three subsets, the main effect for betweenness centrality has a significant association with the likelihood of cabinet promotion. During most of the period of consolidated PRI dominance (1952–2000, with the possible exception of 1970–82), elites with higher levels of betweenness enjoyed a substantially higher probability of appointment to the cabinet. For the first sample, elites at the bottom of the betweenness distribution (10th percentile = zero) have an appointment probability of .03, whereas those at the 90th percentile (.11) have an appointment probability of .06, roughly twice as high. In samples two and three, in which the betweenness coefficient is higher, the appointment probability at the 90th percentile rises to .07 and .08 respectively. Again, since promotion to the cabinet is an intrinsically rare phenomenon, low overall probabilities are unsurprising; increasing the probability of promotion by 100% or more represents a substantial advantage.

This advantage, however, is clearly time-dependent. First, the sizable negative interaction effect for the period before 1952 shows that rather than a broker advantage, during the early period of the formation of the PRI regime, elites located in brokerage positions were at a disadvantage for promotion. Before 1952, brokers in the Mexican political system seem to have been viewed as a liability, rather than an asset. Second, the interaction with the conflictual 1970–1982 period suggests that brokerage advantage was substantially eroded during this period: the interaction largely cancels the main effect, though this interaction is only significant in subset one. This finding is somewhat tentative, but subset one commands special attention, because
this is the best-specified subset. Third, in all three samples, the significant interaction with the post–2000 indicator shows that any brokerage advantage has disappeared since the end of PRI dominance. It is difficult to say whether this reflects a change in brokerage advantage per se or a change in the significance of the underlying network. The elite network measured in 2000 is a network of the PRI elite; though some officials tied to this elite managed to survive the transition, by and large the first PAN cabinet was composed of relative outsiders. Regardless, it is clear that the advantage of occupying positions in the elite network changed fundamentally during the transition.

These time-varying associations imply that brokers held the most consistent advantage in the cabinet promotion contests during relatively settled periods, as opposed to periods of greater internal contestation or fragmentation (i.e. prior to 1952 and during the turbulent 1970s). This pattern contrasts with Gould’s (1989) finding that brokers enjoyed greater influence only in strongly factionalized contexts. The difference between these two sets of findings may derive from the varying context of political competition. As noted above, cabinet promotions involve intra-party contests among ostensible allies jockeying for influence. Rather than brokering deals across political “synapses,” in the present context the goal of promoting brokers is a strategy for maintaining elite cohesion. If this interpretation is correct, then these findings imply that there is an association between the existence of brokerage advantage and periods of relative elite quiescence. Though the causality of this relationship is difficult to establish, it may be that prior to the consolidation of the PRI regime around 1952, presidential attempts
to maintain power privileged patronage appointments and precluded the strategy of appointing brokers. Similarly, a presidential decision to shift the PRI regime in a “populist” direction in the 1970s may have necessitated and increase in appointments of close allies and a reduction in brokerage appointments (though as noted, this finding is somewhat tentative). This is consistent with the increase in the appointment of direct allies reported in table 5. Regardless of the direction of causality, the findings show that brokerage advantage is not limited to highly factionalized contexts.

It is also helpful to interpret this finding in conjunction within the effects of party experience on cabinet promotions. During the pre–1952 period (but not afterwards), party experience – defined broadly as either membership or holding positions within the party bureaucracy – has a significant association with cabinet appointment. Thus, during the early period of consolidation of party dominance, direct ties to the president and party activism were the main means of reaching the cabinet. In this context, brokers were less likely to advance because of their uncertain loyalties. Following consolidation of PRI rule during the 1952–58 sexenio, party activism lost relevance as a predictor of cabinet appointment, while brokerage locations within the political elite gained.

Finally, while closeness centrality has no apparent relationship with the likelihood of cabinet promotion, eigenvector centrality has an unexpected negative relationship, though only significant at the .05 level in subset 3. These findings therefore fail to support theories that attribute political power and influence to being “well connected” in the sense have having a close connection to many elites or having well-connected allies. Upon re-
flection, this is somewhat unsurprising: In the case of cabinet promotion contests, it is not clear what the president might gain by appointing cabinet members who are “close” to the rest of the elite or whose allies are themselves well connected. In fact, these negative relationships imply that elites who have their own networks of well-connected allies may be seen as a threat to the president’s own control over his cabinet. This result underscores the importance of considering the question “power to do what” and “influence for what” for network theories of political action. In elite promotion contest of this kind, being well connected is less important than being strategically connected.

5 Discussion and conclusion

At the most basic level, these results illustrate network effects on political careers that go beyond most discussions of elite career paths in the state structure literature. The analysis shows that during most of the period of consolidated PRI dominance in Mexico, elite brokers enjoyed a substantial advantage in promotion to the cabinet. If the interpretation of broker advantage as providing a mechanism for elite cohesion is correct, this finding suggests that maintaining elite cohesion was a significant concern shaping the appointment practices of a one-party state. The fact that brokerage advantage is weaker or non-existent during more fluid or conflictual periods (before 1952 and during 1970–1982) is consistent with this interpretation. The findings also show that a modified patron-client logic coexists with this brokerage advantage. At the individual level, the core predictions of the
patron-client model are supported: direct ties (but not indirect ties) to a senior political figure convey a significant promotion advantage. However, this advantage is somewhat weaker than some previous research on Mexico has suggested: while direct ties significantly boost the probability of promotion, in practice only a minority of cabinet members have such ties. From a structural standpoint, the descriptive results reported above suggest that “big man” structures are a better model for partisan political elites than the pure brokerage model.

As outlined in the introduction, there are three important theoretical implications of these findings. First, brokerage advantage can exist even in the absence of severe factionalism, in contrast to the arguments of Gould (1989). Indeed, these findings point in the opposite direction: during the early years before the consolidation of the dominant party regime, brokerage positions were either not associated with a higher likelihood of promotion or actually negatively associated. This finding implies that network theorists need to be more specific about the character of the political processes for which advantage, influence or power are sought when theorizing about brokerage roles. Promotion contests within a political party at the national level are unlike the local community deal-making examined by Gould (1989) and other studies of community elites. Therefore, these two sets of findings are compatible, but there are reasons to believe that brokerage advantage is much more widespread than previous theory implies.

Second, patron-client logic is less antithetical to state capacity than a reading of the political sociology literature suggests. As noted in the introduction, while Mexico falls short of the Weberian ideal-type, it scores
above the mean on the “Weberianness” index of Evans and Rauch Evans and Rauch (1999), and research describes the Mexican state as “technocratic” (Babb, 2001; Centeno, 1997). The economic policy apparatus, in particular, oversaw a period of rapid economic growth in the 1950s and 60s and an extensive transformation of the Mexican economy in the 1980s and 1990s. While there have been many historic failures of state capacity (not least the recent failure to contain organized crime), areas of the Mexican federal bureaucracy have demonstrated substantial capacity to achieve their stated objectives. Table 4 above implies that patronage appointments are slightly more common precisely in the highest-capacity areas of the central state: the economic policy bureaucracy. The findings thus show that, at minimum, patronage appointment strategies at the cabinet level are compatible with relatively robust state capacity.

Third and finally, if the interpretation of brokerage advantage presented in this paper is correct, these results imply that elite networks play an important role in maintaining elite cohesion. Previous research in the state structure literature has suggested that internal networks are important for maintaining elite cohesion; for example, Evans argued that informal networks “give the bureaucracy an internal coherence and corporate identity that meritocracy alone could not provide” (Evans, 1995: 49,52). Drawing on Johnson’s description of the “old boys’ network” of the Japanese state (Johnson, 1982: 58), Evans suggested that networks formed within elite educational institutions create strong and lasting bonds within the state. However, the theoretical mechanisms linking elite educational networks to cohesion are unclear; unless the overwhelming majority of state officials are
recruited from a single institution, there is little reason to think that recruiting officials from elite institutions per se results in elite cohesion. If multiple institutions are represented, it is equally plausible that such recruitment practices foster factionalism and turf wars. Promotion of political brokers provides a more plausible link between elite networks and cohesion, one that is consistent with the over-time patterns in brokerage advantage in the Mexican case.

More generally, this paper shows that institutionalist theories of state capacity which take underlying career paths as constitutive features need to take elite networks more seriously. Even as an ideal type, the Weberian meritocratic model may be an impossible idealization. Descriptions have recognized the importance of elite networks, but empirical research has not kept pace. An inclusive typology of career systems within states – particularly one that can encompass the weakly institutionalized context of many developing countries – needs to go beyond a simple dichotomy between meritocracy and networked promotion. This paper has considered patronage, brokerage and other centrality-based sources of promotion advantage, but research on political networks can still do more to theorize and study empirically how individuals actually get jobs within states and the structural implications of these different career systems.

Notes

1Mexico scores slightly above the mean (8.5 relative to a mean of 7.2; standard deviation 3.2) in a sample of 35 developing countries) on an index of “Weberianess” (Evans and Rauch, 1999) and research emphasizes the state’s “technocratic” character (Babb 2001; Centeno 1997). The Mexican state is characterized by an uneven combination of relatively
effective organizations (such as the economic policy bureaucracy) and less effective units (e.g. the postal service and local law enforcement) (Portes and Smith, 2012; Sabet, 2012).

I thank Roderic Camp for generously making the source available in electronic format.

Strictly speaking attorneys general are cabinet members, but I omit them from those having reached the cabinet because they have historically followed less regular career paths; there is therefore no adequate comparison group of “candidate” attorneys general in the data source. However, because several attorneys general advanced to the rank of secretary, I include attorneys general as candidates in the analysis.

434% of secretaries whose career paths are classified as “other” were appointed after 2000, as opposed to 12% in the other groups.

I include the 11 secretaries who took more than 12 years between reaching tier 2 and the cabinet in this sample in the main analysis in order to maximize the amount of information about secretaries; omitting them does not alter the results.

I do not examine promotions in the 1935–1940 period because the analytical strategy requires a sample of individuals in the preceding administration; the first period of data is therefore not available for analysis. In fact, because of the twelve-year rule, a smaller set of candidates is available for the 1940–1946 period; results for this sexenio are therefore somewhat more tentative.

The final sexenio (2006–2012) is thus truncated; results for this period may therefore be less robust because of censoring. However, most cabinet appointments occur in the first year.

Limiting the sample to a maximum of twelve years (two periods) per individual does not substantively alter the results except as noted.

Another coding rule that might raise a related concern is party ties: because ties are assumed to be present connecting the president and his campaign staff, any secretaries who worked for the president’s campaign have a direct tie to the president by definition. However, party ties are in fact surprisingly sparse, and the particular case of appointment of a campaign chief to the cabinet is rare. Given this, ignoring an important piece of network information seems worse than any concern about endogeneity. Including party ties is particularly important in the case of the administration of President Vicente Fox (2000–2006); as the first non-PRI president and thus a relative outsider to the existing elite, Fox is connected to the broader political elite (including the secretaries in his own government) only by party ties. Inclusion of this party information reveals a number of direct connections between Fox and his cabinet.

Alternative measures of brokerage are not appropriate in this context. Burt’s constraint (1992, 2007) depends on the measurement of tie strength; in contrast to network data generated by sociometric surveys, with these historical network data strength is difficult to measure reliably. Attempting to infer tie strength from tie duration or other information would impose demanding assumptions on the data. Gould’s measure relies on indicators of group membership, which in some applications can be inferred from the network data themselves. However, these data do not lend themselves to classification into discrete groups, and as I argued above, there are theoretical reasons not to restrict the study of brokerage to networks divided into discrete groups.

This “unique common ancestor” analogy is imperfect because in this context relations can exist which would be proscribed in a kinship network.

The interaction between direct tie and the pre–1952 period is positive and significant, but the main effect capturing other periods also remains positive and significant; there is thus some evidence that the effect of direct presidential ties was stronger before 1952, but this does not substantially alter the main implications of these models.
An important reason to include all secretaries in tables 4 and 5 is to address the possibility that secretaries omitted from the regression results are closer to the president. In other words, secretaries that followed idiosyncratic career paths might be more likely to be close to the president.

This estimate is substantially lower than Hernández Rodríguez’s finding that an average of 59% of cabinet secretaries between 1946 and 1982 were appointed on the basis of their “closeness” with the president (Hernández Rodríguez 1987: 23; c.f. Centeno 1997). The difference seems due to the fact that these earlier findings included fairly substantial career overlaps as evidence of proximity, which are not counted in the network specification used here.

No president since 1946 has had military experience.

In models (not shown) restricted to the sexenios beginning in 1940 through 1952, betweenness centrality has a significant negative association with the likelihood of cabinet promotion for the first subsets, though this relationship is not significant in the second two subsets.

This interaction is also not significant with conventional standard errors.

References


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Figure 1: Patronage pyramids and brokerage positions

Figure 2: Career paths included in the data set
Figure 3: Mexican Political Elite, 1958

Key: Red: Promoted to cabinet; Blue: Not promoted; Brown: Outgoing secretary; Yellow: president; Green: former president
### Tables and figures

Table 1: Pathways to the cabinet of observed secretaries, 1940-2009

<table>
<thead>
<tr>
<th>Highest previous administrative position before promotion</th>
<th>N</th>
<th>%</th>
<th>Cumulative %</th>
<th>% electoral exp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistant secretary</td>
<td>82</td>
<td>32%</td>
<td>32%</td>
<td>18%</td>
</tr>
<tr>
<td>Oficial mayor, Director general (major agency), Attorney</td>
<td>41</td>
<td>16%</td>
<td>48%</td>
<td>41%</td>
</tr>
<tr>
<td>general</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Director general (secretariat)</td>
<td>44</td>
<td>17%</td>
<td>65%</td>
<td>36%</td>
</tr>
<tr>
<td>Director (secretariat)</td>
<td>17</td>
<td>7%</td>
<td>72%</td>
<td>41%</td>
</tr>
<tr>
<td>Other</td>
<td>73</td>
<td>28%</td>
<td>100%</td>
<td>47%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>257</td>
<td></td>
<td></td>
<td>35%</td>
</tr>
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Table 2: Measures of network hierarchy

<table>
<thead>
<tr>
<th>Sexenio</th>
<th>Connectedness</th>
<th>Efficiency</th>
<th>Hierarchy</th>
<th>LUB-ness</th>
<th>Connectedness</th>
<th>Efficiency</th>
<th>Hierarchy</th>
<th>LUB-ness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1940</td>
<td>0.74</td>
<td>0.98</td>
<td>0.62</td>
<td>0.32</td>
<td>0.63</td>
<td>0.99</td>
<td>0.96</td>
<td>0.17</td>
</tr>
<tr>
<td>1946</td>
<td>0.75</td>
<td>0.96</td>
<td>0.50</td>
<td>0.17</td>
<td>0.64</td>
<td>0.99</td>
<td>0.95</td>
<td>0.21</td>
</tr>
<tr>
<td>1952</td>
<td>0.85</td>
<td>0.95</td>
<td>0.40</td>
<td>0.16</td>
<td>0.71</td>
<td>0.99</td>
<td>0.90</td>
<td>0.21</td>
</tr>
<tr>
<td>1958</td>
<td>0.90</td>
<td>0.96</td>
<td>0.45</td>
<td>0.19</td>
<td>0.72</td>
<td>0.99</td>
<td>0.96</td>
<td>0.14</td>
</tr>
<tr>
<td>1964</td>
<td>0.90</td>
<td>0.96</td>
<td>0.38</td>
<td>0.17</td>
<td>0.73</td>
<td>0.99</td>
<td>0.95</td>
<td>0.12</td>
</tr>
<tr>
<td>1970</td>
<td>0.88</td>
<td>0.96</td>
<td>0.34</td>
<td>0.05</td>
<td>0.82</td>
<td>0.99</td>
<td>0.86</td>
<td>0.09</td>
</tr>
<tr>
<td>1976</td>
<td>0.87</td>
<td>0.96</td>
<td>0.35</td>
<td>0.02</td>
<td>0.78</td>
<td>0.99</td>
<td>0.84</td>
<td>0.18</td>
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<tr>
<td>1982</td>
<td>0.92</td>
<td>0.96</td>
<td>0.27</td>
<td>0.01</td>
<td>0.82</td>
<td>0.99</td>
<td>0.79</td>
<td>0.08</td>
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<td>1988</td>
<td>0.90</td>
<td>0.95</td>
<td>0.18</td>
<td>0.04</td>
<td>0.81</td>
<td>0.99</td>
<td>0.79</td>
<td>0.06</td>
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<tr>
<td>1994</td>
<td>0.92</td>
<td>0.95</td>
<td>0.17</td>
<td>1.00</td>
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<td>0.99</td>
<td>0.78</td>
<td>0.09</td>
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<tr>
<td>2000</td>
<td>0.89</td>
<td>0.97</td>
<td>0.20</td>
<td>0.95</td>
<td>0.76</td>
<td>0.99</td>
<td>0.81</td>
<td>0.12</td>
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<tr>
<td>2006</td>
<td>0.74</td>
<td>0.98</td>
<td>0.33</td>
<td>1.00</td>
<td>0.64</td>
<td>1.00</td>
<td>0.97</td>
<td>0.17</td>
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Table 3: Logistic regression models predicting the likelihood of cabinet promotion (BLR clustered standard errors in parentheses)

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<th>Subset 3</th>
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<tbody>
<tr>
<td>Years experience</td>
<td>-0.043***</td>
<td>0.038</td>
<td>0.069</td>
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<tr>
<td></td>
<td>(0.01)</td>
<td>(0.03)</td>
<td>(0.04)</td>
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<tr>
<td>Experience squared</td>
<td>-0.002</td>
<td>-0.002*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.00)</td>
<td>(0.00)</td>
<td></td>
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<tr>
<td>Advanced Degree</td>
<td>0.437</td>
<td>0.478**</td>
<td>0.483***</td>
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<tr>
<td></td>
<td>(0.26)</td>
<td>(0.15)</td>
<td>(0.13)</td>
</tr>
<tr>
<td>N jobs</td>
<td>0.104*</td>
<td>0.053</td>
<td>0.080*</td>
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<tr>
<td></td>
<td>(0.04)</td>
<td>(0.04)</td>
<td>(0.03)</td>
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<tr>
<td>No path to pres</td>
<td>-0.387</td>
<td>-0.682</td>
<td>-0.322</td>
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<tr>
<td></td>
<td>(0.58)</td>
<td>(0.38)</td>
<td>(0.54)</td>
</tr>
<tr>
<td>Distance to pres: 1</td>
<td>1.463***</td>
<td>1.434***</td>
<td>1.411***</td>
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<tr>
<td></td>
<td>(0.35)</td>
<td>(0.22)</td>
<td>(0.25)</td>
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<tr>
<td>Distance to pres: 2</td>
<td>0.499</td>
<td>0.480</td>
<td>0.408</td>
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<td></td>
<td>(0.35)</td>
<td>(0.28)</td>
<td>(0.34)</td>
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<tr>
<td>Closeness</td>
<td>6.909</td>
<td>2.438</td>
<td>19.013</td>
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<tr>
<td></td>
<td>(8.69)</td>
<td>(5.16)</td>
<td>(22.18)</td>
</tr>
<tr>
<td>Eigenvector centrality</td>
<td>-1.018</td>
<td>-1.106</td>
<td>-1.346*</td>
</tr>
<tr>
<td></td>
<td>(0.62)</td>
<td>(0.61)</td>
<td>(0.61)</td>
</tr>
<tr>
<td>Betweenness</td>
<td>8.149***</td>
<td>10.817***</td>
<td>16.456***</td>
</tr>
<tr>
<td></td>
<td>(2.26)</td>
<td>(2.72)</td>
<td>(2.82)</td>
</tr>
<tr>
<td></td>
<td>(3.89)</td>
<td>(3.36)</td>
<td>(3.60)</td>
</tr>
<tr>
<td></td>
<td>(2.49)</td>
<td>(2.88)</td>
<td>(2.96)</td>
</tr>
<tr>
<td>Betweenness x post-2000</td>
<td>-17.308***</td>
<td>-18.426***</td>
<td>-33.087***</td>
</tr>
<tr>
<td></td>
<td>(4.69)</td>
<td>(3.24)</td>
<td>(3.90)</td>
</tr>
<tr>
<td>Before 1952</td>
<td>1.503***</td>
<td>0.856**</td>
<td>1.068***</td>
</tr>
<tr>
<td></td>
<td>(0.38)</td>
<td>(0.26)</td>
<td>(0.25)</td>
</tr>
<tr>
<td>1970-1976</td>
<td>1.050***</td>
<td>0.609***</td>
<td>0.809***</td>
</tr>
<tr>
<td></td>
<td>(0.15)</td>
<td>(0.15)</td>
<td>(0.22)</td>
</tr>
<tr>
<td>Post 2000</td>
<td>0.594</td>
<td>0.798***</td>
<td>1.527***</td>
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<tr>
<td></td>
<td>(0.46)</td>
<td>(0.20)</td>
<td>(0.28)</td>
</tr>
<tr>
<td>Party experience</td>
<td>-0.118</td>
<td>-0.035</td>
<td>0.024</td>
</tr>
<tr>
<td></td>
<td>(0.37)</td>
<td>(0.34)</td>
<td>(0.33)</td>
</tr>
</tbody>
</table>

Continued on next page
<table>
<thead>
<tr>
<th></th>
<th>Subset 1</th>
<th>Subset 2</th>
<th>Subset 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Party experience x pre-1952</td>
<td>1.193**</td>
<td>0.928**</td>
<td>0.895***</td>
</tr>
<tr>
<td></td>
<td>(0.38)</td>
<td>(0.34)</td>
<td>(0.25)</td>
</tr>
<tr>
<td>Electoral Experience</td>
<td>-0.089</td>
<td>-0.124</td>
<td>-0.283</td>
</tr>
<tr>
<td></td>
<td>(0.32)</td>
<td>(0.24)</td>
<td>(0.30)</td>
</tr>
<tr>
<td>Reached Tier 2</td>
<td></td>
<td>1.070***</td>
<td>0.292</td>
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<tr>
<td></td>
<td></td>
<td>(0.29)</td>
<td>(0.20)</td>
</tr>
<tr>
<td>Reached Tier 3</td>
<td></td>
<td></td>
<td>-0.175</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>(0.13)</td>
</tr>
<tr>
<td>Constant</td>
<td>-3.684***</td>
<td>-4.893***</td>
<td>-5.504***</td>
</tr>
<tr>
<td></td>
<td>(0.74)</td>
<td>(0.57)</td>
<td>(0.65)</td>
</tr>
<tr>
<td>N</td>
<td>2045</td>
<td>3250</td>
<td>4159</td>
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Table 4: Network distance of cabinet members (all observed secretaries) to president, by area

<table>
<thead>
<tr>
<th>Distance to president</th>
<th>1 (25%)</th>
<th>2 (29%)</th>
<th>3 (37%)</th>
<th>No path (9%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All secretariats</strong></td>
<td>63</td>
<td>75</td>
<td>95</td>
<td>24</td>
<td>257</td>
</tr>
<tr>
<td>Economic</td>
<td>22</td>
<td>28</td>
<td>20</td>
<td>1</td>
<td>71</td>
</tr>
<tr>
<td>Political</td>
<td>35</td>
<td>37</td>
<td>50</td>
<td>10</td>
<td>132</td>
</tr>
<tr>
<td>Military/security</td>
<td>3</td>
<td>3</td>
<td>15</td>
<td>11</td>
<td>32</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>7</td>
<td>10</td>
<td>2</td>
<td>22</td>
</tr>
</tbody>
</table>


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Table 5: Network distance to of cabinet members to president (all observed secretaries), by sexenio

<table>
<thead>
<tr>
<th>Sexenio</th>
<th>N</th>
<th>%</th>
<th>Total appointments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1940-1946 (Álvila Camacho)</td>
<td>1</td>
<td>7%</td>
<td>14</td>
</tr>
<tr>
<td>1946-1952 (Alemán)</td>
<td>10</td>
<td>48%</td>
<td>21</td>
</tr>
<tr>
<td>1952-1958 (Ruiz Cortines)</td>
<td>4</td>
<td>25%</td>
<td>16</td>
</tr>
<tr>
<td>1958-1964 (López Mateos)</td>
<td>3</td>
<td>23%</td>
<td>13</td>
</tr>
<tr>
<td>1964-1970 (Díaz Ordaz)</td>
<td>1</td>
<td>7%</td>
<td>14</td>
</tr>
<tr>
<td>1970-1976 (Echeverría)</td>
<td>9</td>
<td>35%</td>
<td>26</td>
</tr>
<tr>
<td>1976-1982 (López Portillo)</td>
<td>10</td>
<td>36%</td>
<td>28</td>
</tr>
<tr>
<td>1982-1988 (de la Madrid)</td>
<td>9</td>
<td>33%</td>
<td>27</td>
</tr>
<tr>
<td>1988-1994 (Salinas)</td>
<td>8</td>
<td>32%</td>
<td>25</td>
</tr>
<tr>
<td>1994-2000 (Zedillo)</td>
<td>2</td>
<td>9%</td>
<td>23</td>
</tr>
<tr>
<td>2000-2006 (Fox)</td>
<td>3</td>
<td>10%</td>
<td>30</td>
</tr>
<tr>
<td>2006-2009* (Calderón)</td>
<td>3</td>
<td>15%</td>
<td>20</td>
</tr>
</tbody>
</table>

*2006-9 administration truncated