Residual State Factors, Policy Stability and Financial Performance Following Strategic Decisions by Privatizing Telecoms*

Paul M. Vaaler
University of Illinois at Urbana−Champaign, College of Business

Burkhard N. Schrage
Singapore Management University

Abstract

We question previous research assuming that privatizing firm performance benefits from decreasing state ownership and the passage of time, both of which purportedly align principle−agent incentives promoting organizational decision−making that increases shareholder value. In response, we develop and test an alternative "credible" privatization framework proposing that: 1) residual state ownership positively affects shareholder response to strategic decisions by privatizing firms as it signals state support for managerial initiatives; 2) the passage of time since initial privatization negatively affects shareholder response to strategic decisions by privatizing firms as initial undertakings in support of the privatizing firm are reversed; and 3) that institutional policy stability moderates these two affects −greater stability obviates the need for residual state ownership and slows policy reversals over time. We find empirical support for our framework in event study analyses of cumulative abnormal returns ("CARs") associated with 196 major investments announced from 1986−2001 by 15 privatizing telecoms from around the world. State ownership effects on CARs are positive at 5−25% state equity levels but turn negative at higher ownership levels. CARs turn sharply negative within 1−2 years from initial privatization date. Increasing policy stability decreases positive residual state ownership effects, and reverses the precipitous drop in CARs over time. Results suggest support for our alternative credible privatization framework and the potentially positive role that residual state ownership can play in enhancing strategic decision−making and financial performance by privatizing firms, particularly in institutionally unstable environments.

Residual State Factors, Policy Stability and Financial Performance
Following Strategic Decisions by Privatizing Telecoms*

Working Paper: Comments Welcome
This Draft: February 14, 2007

Paul M. Vaaler
Department of Business Administration
College of Business
University of Illinois at Urbana-Champaign
350 Wohlers Hall
1206 South Sixth Street
Champaign, IL 61820
Tel (217) 333-4504
Fax (217) 244-7969
Email pvaaler@uiuc.edu

&

Burkhard N. Schrage
Singapore Management University
50 Stamford Road
Singapore 178899
Tel + 65 6828 0755
Fax + 65 6828 0777
Email bschrage@smu.edu.sg

Residual State Factors, Policy Stability and Financial Performance
Following Strategic Decisions by Privatizing Telecoms

We question previous research assuming that privatizing firm performance benefits from decreasing state ownership and the passage of time, both of which purportedly align principle-agent incentives promoting organizational decision-making that increases shareholder value. In response, we develop and test an alternative "credible" privatization framework proposing that: 1) residual state ownership positively affects shareholder response to strategic decisions by privatizing firms as it signals state support for managerial initiatives; 2) the passage of time since initial privatization negatively affects shareholder response to strategic decisions by privatizing firms as initial undertakings in support of the privatizing firm are reversed; and 3) that institutional policy stability moderates these two affects –greater stability obviates the need for residual state ownership and slows policy reversals over time. We find empirical support for our framework in event study analyses of cumulative abnormal returns ("CARs") associated with 196 major investments announced from 1986-2001 by 15 privatizing telecoms from around the world. State ownership effects on CARs are positive at 5-25% state equity levels but turn negative at higher ownership levels. CARs turn sharply negative within 1-2 years from initial privatization date. Increasing policy stability decreases positive residual state ownership effects, and reverses the precipitous drop in CARs over time. Results suggest support for our alternative credible privatization framework and the potentially positive role that residual state ownership can play in enhancing strategic decision-making and financial performance by privatizing firms, particularly in institutionally unstable environments.

This study develops and tests a theoretical framework for understanding the impact of residual state factors on financial performance following strategic decisions by privatizing firms since the 1980s. The overall aim of the research is to understand whether and how minority state ownership explains over time differences in shareholder returns following strategic decisions by organizations in transition from political agencies to privately-owned, for-profit firms. As commentators since Ramamurti (1992) and Guislain (1997) have pointed out, firms described as "partially-privatized" or "public-private partnerships" have long represented a substantial percentage of all privatization policy efforts. Partial privatization policies have been especially popular in developing countries such as China (Steinfeld, 1999) and India (Gupta, 2005) and Vietnam, where early 2007 saw announcement of plans to partially privatize over the next three years 71 major state-owned enterprises, including the national air carrier, Vietnam Airlines (CNN.com International, 2007). Even fully-privatized firms may operate for a substantial time in a partially-privatized status, either because states prefer to sell-off enterprises gradually in tranches (Perotti and Guney, 1993) or because local capital market constraints require a gradual sell-off (Aggarwal and Harper, 2001; Schipke, 2001). In any case, partially-privatized firms are ubiquitous, and a gap in theoretical and empirical research on the behavior and performance of partially privatized firms merits bridging.

To bridge that gap, theoretical perspectives developed by Boycko, Shleifer and Vishny (1996), Dharwadkar, George and Brandes (2000) and others (*AMR*, 2000) have suggested that partially-privatized firm performance improves with decreasing state ownership and greater principal-agent alignment of private shareholder and management interests over time. A steady flow of empirical research published by William Megginson and his collaborators and others[1] have documented for a range of countries, industries and specific enterprises that shifts from state to private ownership are associated with superior long-term operating performance (*e.g.*, returns on assets), financial performance (*e.g.*, shareholder returns) and or economic performance (*e.g.*, employee productivity) over time.

But to our knowledge, this research has never examined the performance impact of state-related factors when the state moves from majority to a minority (< 50%) or what we call "residual" equity holdings. An important assumption in this past research has been that state ownership and its broader

public welfare rather than private profit goals interfere with principal-agent incentives alignment to the detriment of privatizing firm decision-making on behalf of private shareholders. But this assumption may be substantially undercut once the state is no longer in the majority owner. Indeed, an alternative "credible privatization" theoretical perspective first developed by Perotti (1995) suggests that, in the early years after privatization begins, residual state ownership may have positive rather than negative effects on shareholder returns following strategic decisions. A residual ownership stake signals to private shareholders the state's intent to intervene on their behalf and share in their economic fate. But such signals are credible only in the short-term, after which initial commitments favorable to the privatizing firm and its private shareholders unravel with complete state divestment and eventual changes in politicians and policies.

We build on this credible perspective to develop and test a novel theoretical framework for understanding financial performance by privatizing firms taking strategic decisions to merge with, acquire, be acquired, ally and or enter into joint ventures. In line with Perotti (1995) our framework assumes first that residual state ownership positively affects shareholder response to strategic decisions by privatizing firms as it credibly signals short-term support for important management initiatives. Second, our framework assumes that the passage of time since initial privatization negatively affects shareholder response to strategic decisions by privatizing firms as initial state undertakings in support of the privatizing firm unravel. Our third framework assumption elaborates on these first two credible privatization model assumptions by identifying and integrating new and important moderator effects based related to policy stability in the privatizing firm's home country. Here, we draw on Henisz's (2002) concept of political constraints and his POLCONIII measure of "veto points" in policy change (Henisz, 2006). Countries exhibit more (less) policy stability over time when policy decisions are subject to more (fewer) veto points and players with similar (dissimilar) policy preferences. Greater policy stability implies less need for residual state ownership to signal support for private shareholders. Greater policy stability implies slower unraveling over time of initially favorable state undertakings for private shareholders. Thus, our study contributes to theoretical research on enterprise privatization with the first integrative framework for

4

understanding the impact of residual state factors on the quality of strategic decisions by privatizing firms under differing conditions of political institutional development and stability.

Our study also contributes to empirical research on enterprise privatization. We investigate empirical support for predictions derived from our theoretical framework by assessing the impact of residual state factors on shareholder returns in the wake of 196 strategic decisions taken by partially privatized telecommunications firms ("telecoms") from 15 countries over 16 years, 1986-2001. Following event-study methodological precedents in finance (Brown and Warner, 1985; Doidge, 2004) and management (McWilliams and Siegel, 1997; Park, 2004; Eden, Juarez-Valdez and Li, 2005) we document the first cross-country evidence of shareholder returns following strategic decisions that are: 1) increasing as residual state ownership in privatizing telecoms increases; 2) decreasing as the time since initial privatization of privatizing telecoms increases; 3) increasing less due to residual state ownership as home-country policy stability increases; and 4) decreasing less over time as home-country policy stability increases. Overall, our findings provide statistically significant and practically substantial support for our theoretical framework proposing that residual state ownership enhances strategic decision-making, that these residual state ownership effects erode over time, and that home-country policy stability moderates residual state ownership and time effects in privatizing telecoms with a cumulative market value of more than $491 billion at the end of 2001.

To make these points in greater detail and discuss their implications for privatization research, practice and public policy, we divide the remainder of this study into five additional sections below. In Section 2 immediately below we summarize key background theoretical perspectives and empirical findings informing our broader research proposition, framework and methods. In Section 3, we develop our theoretical framework based on Perotti's (1995) credible privatization model, but extended with concepts and relationships related to the political constraints concept and POLCONIII (Henisz, 2002; 2006). We conclude Section 3 with four hypotheses derived from our theoretical framework. Section 4 details empirical methods used to test these hypotheses. Section 5 reports results from multivariate regression analyses as well as non-parametric bi-variate smoothed "running" analyses. Section 6 concludes the study

with review of key results and their implications for future research, practice and public policy related to strategic decision-making and performance by privatizing firms with residual state links.

2.   Background Literatures

Principal-Agent Perspectives on Privatizing Firm Decision-Making and Performance

Recent reviews of privatization research in Megginson and Netter (2001) and Megginson and Sutter (2006) chronicle state policies transferring state enterprises to the private sector reaching back to West Germany and its industry denationalization program of the early 1960s but with the closer coverage starting in the early 1980s and the UK privatization program under Margaret Thatcher. Since then, academic research has sought a deeper understanding of whether, how and why privatized firms performed differently from their state-owned counterparts. Early research by Caves and Christenson (1981) in Canada, Yarrow (1986) and Vickers and Yarrow (1988) in the UK, and Galal *et al.* (1994) in a range of industrialized and emerging-market countries suggested that privatized enterprises were not necessarily more efficient than their publicly-owned counterparts. But this work was followed in the 1990s and 2000s by the steady flow of empirical research published by William Megginson and his collaborators (*e.g*., Megginson, Nash and van Randenborgh 1994; Bortolloti, D'Souza, Fantini, Megginson, 2002) and others (*e.g*., Boubakri and Cosset, 2005) documenting long-term increases in operating, financial and economic performance after privatization.

Theoretical models explaining post-privatization enterprise performance enhancement generally draw on principal-agent perspectives. Boycko *et al.*'s (1996) theory of privatization is illustrative, and highlights causal links between changing firm ownership, governance, decision-making and performance. Drawing on principal-agent perspectives (Jensen and Meckling, 1976), they propose that privatization replaces state ownership with private shareholders (principals) who will implement oversight of and incentives for managers (agents) to take decisions enhancing financial returns rather than broader public welfare returns desired by politicians. Where managers fail to provide adequate financial returns, wealth-maximizing shareholders will replace them, or see themselves replaced by other investors bidding in the market for corporate control. Substantial post-privatization turnover in management and directors, as well

as enhanced employee productivity and firm performance are consistent with this principal-agent perspective. Megginson and his collaborators as well as others have documented such changes in a range of industries, including the industrial context for our study of privatizing firms, telecoms (Bortolotti, D'Souza, Fantini and Megginson, 2002; Comstock, Kish and Vasconcellos, 2003).

Theoretical analyses by management researchers such as Dharwadkar, George and Brandes (2000), Cuervo and Villalonga (2000) and others (*AMR*, 2000) elaborate on this principal-agent perspective. For example, Cuervo and Villalonga (2000) suggest that principal-agent issues in the privatizing firm performance are exacerbated by a second-order "public choice" issues. Privatizing firms will exhibit poor performance because politicians are likely to use their ownership rights to impose objectives consistent with their own political goals (Buchanan, 1972). The threat of removing such politicians at election time provides at best only a partial response to the public choice issue, particularly if conniving politicians are supported by other firm stakeholders, like trade unions, with their own rent-seeking designs and substantial electoral influence. A more effective response to the public choice issue is rapid reduction and elimination of all state ownership and attendant political influence, thus permitting development over time of firm oversight and incentives mechanisms consistent with the interests of wealth-maximizing private shareholders. Lieberman (1997) and Spicer, McDermott and Kogut (2000) use similar reasoning to explain mass privatization policies, which from 1991-1996 saw more than 30,000 medium- and large-sized enterprises in 14 emerging-market countries—many in Central and Eastern Europe—transferred in block to private owners. Approximately 15,000 of those enterprises were privatized in Russia alone, where Boycko, Shleifer and Vishny (1995) not only chronicled the process, but actually advised the Russian government on its implementation.

Credible Perspectives on Privatizing Firm Decision-Making and Performance

The alternative credible privatization model that informs our framework comprises different assumptions about the impact state ownership on privatizing firm decision-making and performance. Perotti and Guney (1993) first described this alternative perspective in research noting the tendency of emerging-market country governments to privatize state-owned financial institutions in sequential tranches

over time rather than in single block offerings. Perotti (1995) developed the formal model explaining why states might implement privatization policies fostering gradual decrease in state ownership and maintenance of substantial though non-majority state ownership in firms. From a credible perspective, once the state cedes majority ownership to private shareholders concerns of state meddling in principal-agent oversight and incentives mechanisms decrease. Remaining residual state ownership serves a different purpose. It signals state support for privatizing firm strategies and a willingness to share its economic fate. In countries without well-developed political, legal and financial institutions clearly laying out and enforcing what North (1990) might call "rules of the economic game" this signal has value to investors who might otherwise demand deep discounts in privatizing firm equity prices or not invest at all.

Even with residual state ownership, the credible privatization model holds that initial state undertakings in support of a privatizing firm are prone to reversal over time. This model assumption leads to inferences about time-trends in privatizing firm performance different from those based on principal-agent perspectives where time since initial privatization leads to better incentives alignment and improved performance. As Schmidt (1996) and Newberry (2001) note, privatization equity sales represent a particularly acute form of complex and, therefore, incomplete contractual arrangement. At the outset, states may confer several benefits on privatizing firms, including protection from competitive entry by rivals, product price supports, and preferred supplier contracts with the state. Yet, there is also substantial opportunity for states to re-negotiate these initial terms as time passes and the politicians originally promising these benefits are replaced in the next government re-shuffle, election or even extra-constitutional change in government (Schmidt, 1996; Newberry, 2001). Incentives to re-negotiate terms can be substantial given the state's unique position as both a party to initial privatization agreements, and frequently, the judge of agreement terms when disputes arise. Perotti (1995) notes that the longevity of initial agreement terms may decrease as the stock of state enterprises still waiting to be privatized dwindles and the cost to the state of re-interpreting terms favorable to investors lessens.

Recent management research indicates some concurrence with credible privatization model assumptions. Ramamurti (2001, 2003), for example, notes the tendency of initial privatization terms to

unravel over time, and characterizes this as a contemporary form of the obsolescing bargain phenomenon originally developed by Vernon (1971) to explain fluctuations in foreign direct investment by multinational corporations negotiating with host governments in the developing world. For Emmons (2000) tendencies to re-negotiate initial terms are central to understanding the "evolving bargain" between states and privatizing firms. Tendencies to pull back from initial undertakings may be more acute in non-industrialized countries with less-well developed institutions regarding the rule of law and respect for property rights (Lenway and Murtha, 1994), and voter preferences that may make re-negotiation attractive to an elected government official seeking to retain office during an election year (Schipke, 2001). In these and related contexts, state undertakings are less likely to be sustained to the eventual detriment of shareholder confidence and firm asset values (Perotti and Laeven, 2001).

Partial Privatization and Policy Stability

Thus, principal-agent and credible privatization perspectives build on different assumptions, and lead to different inferences about the role of state factors in privatizing firm decision-making over time. We adopt the credible privatization perspective because of our interest in understanding the impact of *residual* state ownership over time. Empirical research on the impact of partial privatization is sparse. With a sample of 40 firms from assorted industries sold off in 5 different countries during the 1980s and 1990s, Comstock *et al.* (2003) find indirect evidence of residual state ownership effects on long-term financial performance consistent with the principal-agent perspective. Long-term (5-year) cumulative abnormal shareholder returns are negative for privatized firms, but less so as the size of the initial share offering increases, thus implying that less state ownership improves financial performance. With a sample of more than 300 manufacturing and services firms partially privatized in India during from 1990-2002, Gupta (2005) finds that operating returns increase as the level of state ownership decreases from total to partial but still controlling blocs. Her findings again support the principal-agent perspective, but like Comstock *et al*. (2003), do not focus on performance effects when the state becomes a residual equity holder crucial to our research focus.

As we bridge the research gap on partial privatization and impact of residual state factors from a credible privatization perspective, we note recent management research suggesting that state ownership and state political institutional quality may be close substitutes. Doh, Teegen and Mundambi (2004), for example, investigate the level of host country state ownership in telecoms infrastructure projects in emerging-market countries during the 1990s. They find that host-country state ownership levels increase as host-country "investment policy hazards" threatening private investors increase from average to higher (*i.e.*, more risky) levels. Their findings inform credible privatization model assumptions by suggesting that partial state ownership in privatizing firms as a substitute for state policies that could imperil infrastructure investment and investors. Their findings also concur with a growing stream of research by Henisz and various colleagues (*e.g.*, Henisz and Williamson, 1999; Henisz, 2002; Delios and Henisz, 2000, 2003; Henisz and Delios, 2001) demonstrating that host countries with volatile policy institutions—ones where political actors can easily reverse existing policies on which firms rely—prompt the deferral and or reduction of investment levels, and investment risk sharing through joint ventures or alliances. In our research context, these insights suggest that host country institutions promoting policy stability decrease the need for alternatives such as residual state ownership. Increased policy stability may substitute for residual state ownership assuring otherwise skittish investors in privatizing firms.

3. **Theoretical Framework and Hypothesis Development**

Our review of recent privatization and related literatures lays the foundation for our theoretical framework explaining financial performance following strategic decisions by privatizing firms over time. That framework is summarized in Figure 1. The left-hand side of Figure 1 comprises two elements drawn directly from Perotti's (1995) credible privatization model: *Residual State Ownership* and *Time Since Initial Privatization*. Both framework elements are theorized to affect shareholder assessments in the form of shareholder returns following a privatizing firm's strategic decision such as an acquisition or entry into a joint venture. *Residual State Ownership* increases (+) and *Time Since Initial Privatization* decreases (-) *Financial Performance Associated with Strategic Decisions by Privatizing Firms*. The middle of the figure includes the moderating element of institutional *Policy Stability* in the privatizing firm's host country.

Including this moderator elaborates on credible privatization model, and reflects previous theoretical and empirical management research by Doh and his collaborators (Doh *et al*., 2004) and Henisz and his various collaborators (*e.g*., Henisz and Williamson, 1999; Henisz, 2000; Delios, and Henisz, 2000, 2003; Henisz and Delios, 2001) indicating that institutional arrangements constraining politicians from reversing initially favorable privatization deals may substitute for and render less substantial *Residual State Ownership* and *Time Since Initial Privatization* effects.

*** *Insert Figure 1 Approximately Here* ***

Relationships illustrated in our theoretical framework suggest four hypotheses for empirical study. Two are derived directly from the credible privatization model, while two others follow from our elaborations based on insights about the moderating impact of policy stability. Consistent with the credible privatization model assumptions, our framework predicts first that residual state ownership in privatizing firms improves shareholder response to strategic decision-making:

H_1: Shareholder returns following strategic decisions increase as residual state ownership increases.
Also following credible privatization model assumptions, our framework predicts that the passage of time since privatization of the firm began will see reversal of initially favorable privatization deal arrangements, thus prompting the following time trend in shareholder returns:

H_2: Shareholder returns following strategic decisions decrease as time since initial privatization increases.

Two other hypotheses derived from theoretical framework elements indicating moderating effects on residual state ownership and time effects on privatizing firm decision-making quality. Institutional arrangements limiting the discretion of policy-makers to change initially favorable privatization deal terms substitute for assurances to private shareholders signaled by residual state ownership. Greater policy stability in the privatizing firm's home country renders less important the signal sent by residual state ownership and renders less substantial the positive impact of residual state ownership on shareholder returns following strategic decisions:

H_3: Residual state ownership effects on shareholder returns following strategic decisions increase less as home country policy stability increases.

Similarly, greater policy stability slows the reversal of initially favorable privatization deal terms, and renders less substantial the negative time trend in shareholder assessments of privatizing firm decisions. Stronger, perhaps even constitutionally-enshrined, constraints on public policy-makers mean that the next cabinet re-shuffle or election are less likely to prompt re-negotiation or outright abandonment of initial privatization deal terms favorable to private shareholders. Thus, the rate of decrease in decision-making quality slows with greater policy stability in the privatizing firm's home country:

H_4: *Time effects on shareholder returns following strategic decisions decrease less as home country policy stability increases.*

4. Methodology

Empirical Context

We turn to privatizing telecoms and their strategic decisions in the 1980s, 1990s and early 2000s to test these four hypotheses and to evaluate support for our theoretical framework. Boutchkova and Megginson (2000), Bortolotti *et al*. (2002) and others (*e.g.*, Guislain, 1997; Molano, 1997) highlight the importance of telecoms in privatization policy, including their relative (to many other state-owned enterprises) operating inefficiency in public hands, and their tendency to generate substantial government revenues, deepen local equity markets, generate international trade in services, and promote international technology transfer early in a state privatization program. Their sheer size and transactional activity in international markets are also noteworthy. Adjusted for inflation, the world's largest share offering arose from the Japanese government's privatization of Nippon Telephone and Telegraph in the mid-1980s. The collective market value of the 18 privatizing telecoms in our sample exceeds $491 billion at the end of 2001. And by almost any measure, these privatizing telecoms have also been busily engaged in major investments, such as Deutsche Telekom's 2000 $46 billion acquisition of US mobile telephone service provider, VoiceStream (*Financial Times*, 2000). Thus, we have a single industry research context comprising substantial enterprise value and investment activity of strategic importance to investors, states and related stakeholders since the 1980s.

To go with these practical advantages, there are also research methodological advantages in choosing telecoms as the empirical context for our study. Previous empirical studies on telecoms privatization noted in Bortolotti *et al.* (2002) provide guidance on how to evaluate and control for both privatization-related and non-privatization-related factors shaping telecom behavior and performance at country, industry and organizational levels.[2] Their study indicates broad evidentiary support for long-term improvement in financial and operating performance following telecom privatization. Yet, their study and others have uncovered no significant links between telecom performance and specific (majority or minority) levels of state ownership, nor has previous research uncovered whether and how performance improvements may be tied to specific strategic decisions by privatizing telecoms rather than more subtle organizational processes associated with telecom privatization. Thus, our proposed study of residual state factors and financial returns following strategic decisions by privatizing telecoms is not only grounded in a novel theoretical framework, but also designed in empirical application to add important complementary insight on whether and how strategic decisions contribute to long-term organizational transformation.

Equation Terms

We use an event study methodology to assess the impact of residual state ownership, time since initial privatization, and home country policy stability on the short-term shareholder returns associated with important investments by privatizing telecoms. Though used more frequently in the finance field, event studies are becoming more common in recent management research (*e.g.*, Eden *et al.*, 2005) where the last decade has seen the enunciation of general criteria for evaluating event study rigor by McWilliams and Siegel (1997) as well as suggestions by Park (2004) tailored specifically to event studies in cross-country settings such as ours. Both studies guide our methodology and interpretation of results below.[3]

We specify an empirical equation explaining shareholder returns:

$$
\begin{aligned}
Y_{ijt} = \alpha \ & + \sum_{\gamma=1}^{\gamma=12} \gamma Controls_{ijt} + \sum_{\varphi=1}^{\varphi=14} \varphi Companies_i + \sum_{\lambda=1}^{\lambda=15} \lambda Years_t + \beta_1 Residual\ State\ Ownership_{it} \\
& + \beta_2 Residual\ State\ Ownership_i^2 + \beta_3 Ln(Months\ Since\ Initial\ Privatization)_{it} + \beta_4 Policy\ Stability_{it} \quad (1) \\
& + \beta_5 (Policy\ Stability * Residual\ State\ Ownership)_{it} + \beta_6 (Policy\ Stability * Residual\ State\ Ownership^2)_{it} \\
& + \beta_7 (Policy\ Stability * Ln(Months\ Since\ Initial\ Privatization))_{it} + \mu_{ijt}
\end{aligned}
$$

In Equation 1, subscript i indicates the privatizing telecom (and the telecom's home country since we have only one telecom per country) involved in the announced investment event. Subscript j indicates a type of announced investment event. Subscript t indicates the year of the announced investment event.

The dependent variable, Y_{ijt}, denotes shareholder returns associated with privatizing telecom investment events, and is measured as cumulative abnormal returns ("CARs") and standardized cumulative abnormal returns ("SCARs"). CARs associated with privatizing telecom investment events is calculated following standard event study methodology[4] while an alternative SCARs measure controls for volatility in firm returns by standardizing CARs using their respective standard deviations (Brown and Warner, 1985; Eden *et al.*, 2005). We use a three-day window (-1, +1), following Park's (2004) suggestion to use event windows in cross-country studies wide enough to capture event information diffusion rates that may vary due to differences in time zones and media coverage.

The right-hand side of Equation 1 includes seven terms related to residual state factors (β_{1-7}) and the four hypotheses derived from our framework. *Residual State Ownership* (β_1), measures the percentage of state-owned equity at the end of year t for telecom i. We also include the quadratic term, *Residual State Ownership*^{2} (β_2). Hypothesis 1 predicts a positive relationship between residual (but not higher majority) state ownership and shareholder returns in the immediate aftermath of strategic decisions by privatizing telecoms. In (1), this reduces to a prediction that the quadratic term, *Residual State Ownership*^{2} will exhibit a negative (inverted U-shaped) sign: $H_1 = \beta_2 < 0$. Indeed, the linear term, *Residual State Ownership* (β_1) may also exhibit a positive (negative) sign if the bulk of observed investment announcements take place in years t when the state is a non-controlling residual (controlling majority) shareholder.

For telecom i at the end of year t, *Ln(Months Since Privatization)* measures the natural log of the number of months since the state first sold any equity in the telecom to private investors. Hypothesis 2 predicts a negative relationship between the passage of time since initial privatization and shareholder

returns in the immediate aftermath of strategic decisions. In (1), this reduces to a prediction that

Ln(Months Since Initial Privatization) will exhibit a negative sign: $H_2 = \beta_3 < 0$.

Hypotheses 3 and 4 predict moderating effects linked to the privatizing telecom's home country policy stability. Accordingly, we first include *Policy Stability* (β_3), which measures at the end of year t for telecom i the extent to which a change in policy preferences between executive and legislative branches of government may lead to a change in government policy. The extent of prospective policy change decreases with the number of veto points in each branch and their respective partisan alignment. Thus, polities with many veto points and partisan misalignments are more likely to exhibit policy stability over time than polities with few veto points and close partisan alignment. Also referred to as a political hazards, or political constraints measure, Henisz's (2002) POLCONIII measure (Henisz, 2006) provides the basis for our *Policy Stability* measure, which runs continuously from 0 (low policy stability) to 1 (high policy stability). We make no explicit prediction about the individual impact of *Policy Stability*, though previous research documenting greater economic growth and MNC investment with more stability suggests that *Policy Stability* positively affects shareholder returns following strategic decisions. Interacting with *Residual State Ownership²*, Hypothesis 3 predicts that *Policy Stability* will have a positive moderating effect on shareholder returns: $H_3 = \beta_6 < 0$. Interacting with *Ln(Months Since Privatization),* Hypothesis 4 predicts that Policy Stability will also have a positive moderating effect on shareholder returns: $H_4 = \beta_7 < 0$.

In addition to these variables of central interest, we include in Equation 1 a constant (α), several investment event-, telecom-, telecom industry- and country-specific controls (*Controls γ_{1-12}*), and company dummies (*Companies$_{\varphi 1-14}$*) and year dummies (*Years$_{\lambda 1-15}$*) to control for unspecified effects tied to the privatizing telecom i and year t.[5] 12 *Controls γ_{1-12}* include three investment event dummies j representing three of four investment event types. We omit one event category, announcements of strategic alliances, and include the following event-related terms affecting CARs and SCARS:

- *JV Event Dummy(γ_1)*: A 0-1 dummy equaling 1 when an investment event j in year t for telecom i is a transaction creating a third-party entity.

- *M&A Event Dummy* (γ_2): A 0-1 dummy equaling 1 when an investment event j in year t for telecom i is an acquisition of equity in another firm by telecom i.

- *Target Event Dummy* (γ_3): A 0-1 dummy equaling 1 when an investment event j in year t for telecom i is an acquisition of equity in telecom i by another firm.

We make no predictions regarding signs on these four dummies as previous research has noted both positive shareholder wealth effects and negative effects related to joint venture announcements (Crutchley, Guo and Hansen, 1991; Chung, Koford and Lee, 1993) as well as positive and negative effects following mergers, acquisitions and secondary equity offerings (Denis, Denis and Sarin, 1997; Fuller, Stegemoller and Netter, 2002).

Next, we then include two telecom-related controls affecting CARS and SCARs:

- *Ln(Sales)* (γ_4): The natural log of $ millions of gross revenues of telecom i in year t.

- *Return on Assets* (γ_5): The operating income divided by net assets of telecom i in year t.

We predict negative signs on both *Ln(Sales)* and *Return on Assets*, following Grover and Wilcox (2001) and Fuller *et al.* (2002), who note that executives in larger and more profitable firms are more likely to undertake investments to increase the size of the firm and their own individual compensation rather than to increase shareholder wealth.

Next, we include four industry-related controls affecting CARS and SCARs:

- *Regulatory Agency Dummy* (γ_6): A 0-1 dummy equaling 1 when telecom i in year t is subject to an independent regulatory agency in its home country.

- *Third-Party Access Rules Dummy* (γ_7): A 0-1 dummy equaling 1 when telecom i in year t is subject to third-party access/interconnection regulations in its home country.

- *Pricing Regulation Dummy* (γ_8): A 0-1 dummy equaling 1 when telecom i in year t is subject to price regulation.

- *Number of Mobile Competitors* (γ_9): The number of mobile telephone operators not owned by the telecom i, but licensed to operate and allocated spectrum in year t.

Previous empirical research by Wallsten (2001) and Bortolloti *et al.* (2003) investigating industry factors explaining privatizing telecom operating returns yields conflicting results regarding the impact of regulated pricing, regulated interconnection and independent regulatory agency oversight of incumbent

telecoms. Thus, we make no predictions regarding sign on these terms in Equation 1. Both studies,

however, document a negative relationship between the number of mobile telecom operators and

incumbent telecom performance. Thus, we predict a negative sign on *Number of Mobile Competitors*.

 Finally, we include three country-related controls affecting CARS and SCARs:

- *Change in Public Expenditures* (γ_{10}): The change from year t-1 to t in percentage of GDP comprised by public (government) expenditure in telecom i's home country.

- *Ln(GDP)* (γ_{11}): The natural log of telecom i's home country GDP in year t.

- *High Block Premium* (γ_{12}): A 0-1 dummy equaling 1 when telecom i's home country is at least one standard deviation above the sample mean of average premium paid to acquire control of firms. A high block premium indicates little protection from appropriation of firm wealth—what Johnson, La Porta, Lopez-de-Silanes and Shleifer (2000) call "tunneling"—by firm insiders.

Ramamurti (2000) argues that shifts in public policy leading to less state involvement in the

economy promote the development of market-oriented institutions favorable to private enterprise ownership

generally. Faster institutional reform should be associated with greater telecom ability to complete

investment transactions efficiently and effectively, thus raising returns to shareholders following strategic

decisions. Accordingly, we expect *Change in Public Expenditure* to enter Equation 1 negatively. Larger

countries indicate larger domestic markets for incumbent telecoms to exploit. Thus *Ln(GDP)* will have a

positive impact on shareholder returns. Finally, we use a cross-country (but invariant to year t) measure of

shareholder protection from wealth appropriation by firm insiders (dominant shareholders and managers)

developed by Dyck and Zingales (2004). They compute the premium paid for control of firms across more

than 30 countries during the 1990s. Larger control premia are associated with greater opportunity for firm

insiders to appropriate firm wealth. Thus, we expect that *High Block Premium* will enter Equation 1 with a

negative sign.[6]

Estimation Strategy

We primarily estimate Equation 1 using a generalized least squares ("GLS") estimator. This

estimator permits the use of robust standard errors adjusted for cross-sectional (telecom) heteroskedasticity,

and event clustering on telecoms.[7] We also implement non-parametric bi-variate analyses based on a

smoothing algorithm. These "running" analyses create a smoothed line graphically illustrating the changing

relationship between CARs and key residual state factors at high and low levels of policy stability. Smoothing is performed around each CARs observation in the sample, based on an unweighted mean with a specified portion of the sample (40% in this case) around each point. Park (2004) notes that cross-country institutional differences in information diffusion may frustrate precise assessment of CARs. In response, he suggests an alternative estimator based on simpler categorical dependent variables related to shareholder returns. We, therefore, also employ an alternative probit estimation of the likelihood of 3-day positive CARs and SCARs. The probit estimation dependent variable is a 0-1 term taking the value of 1 when CARs or SCARs are positive. The GLS estimator ("reg") and smoothed running ("running") analyses of CARs and the probit estimation ("probit") of positive CARs are all implemented with Stata Version 9.0 (Stata Corp, 2005).

Data Sources and Sampling

We sample from several data sources. To obtain our sample of privatizing telecoms, we use data from the "Telecom/Data Networking" category of Bank of New York's Depository Directory (Bank of New York 2002). This directory lists all firms that have issued American Depository Receipts ("ADRs") in the US. We sample from sponsored telecom ADRs traded on regulated exchanges or over-the-counter by broker-dealers. This strategy again follows Park (2004), and permits us to assess shareholder returns associated with investment events announced by privatizing telecoms from different countries with a common instrument (ADR), a common regulatory framework (US SEC), a common currency to denominate returns ($) and a common share market index of returns to ascertain CARs (S&P 500).

From this data source, we sample telecoms operating in the fixed-line telecommunications services industry, with a history of state ownership or effective state control, and having experienced either the sale of former state-owned equity or the release from *de facto* control of such equity by the state since 1980. These sampling restrictions result in 18 privatizing telecoms, 15 of which were previously wholly-owned by the state, and three of which had *de jure* private owners but were under *de facto* state control (*i.e.*, Telecom Italia, Telefónica de España and Philippine Long-Distance Telephone Company). We note the date of initial equity sale, either through private placement, public offering of shares, material asset sale,

voucher distribution or related means as the date of initial privatization for the 15 previously state-owned

telecoms. For the remaining three telecoms, we note their date of initial privatization as the date of fixed-

line telecommunications operation deregulation, which, in each case also shifted *de facto* control to private

owners. From this group of 18 privatizing telecoms, we eliminate non-operating (corporate holding

company) firms and those for which there was no data on ADR prices from the Center for Research in

Security Prices ("CRSP") database (CRSP 2002). Our final sample reduces to 15 privatizing telecoms.

Dates of initial privatization range from 1984 for British Telecom to 1997 for France Telecom and

Rostelecom of Russian., Most of our telecoms were initially privatized in the early to mid-1990s.[8]

For data on investment event types, we use the Securities Data Corporation Mergers and

Acquisitions database (SDC, 2002) and SDC investment event designations (M&A acquirer, target,

secondary offering, JV participant, alliance participant). We then screen these investment events for their

strategic value to shareholders. If announcement of the investment event appears in subsequent US

Securities & Exchange Commission ("SEC") filings or is reported in the American editions of the *Wall

Street Journal*, the *Financial Times*, or the Reuters News Network, it is deemed strategic. Finally, we

screen remaining investment events to eliminate those occurring prior to the issuance of the privatizing

telecom's ADR, or if two investment events for the same privatizing telecom are reported within an interval

of five business days.

We also require additional data on telecoms and their respective home countries. 20-F filings from

the US SEC provide information on year-to-year telecom state ownership percentages and also permit

confirmation of all initial privatization dates.[9] Using Compustat (2002) corporate-level data, we obtain

information on telecom annual net assets, net sales and operating income. Wallsten (2001), Bortolloti *et al.*

(2002) and the International Telecommunications Union (ITU, 2002) provide data on home country telecom

industry structure and regulation. The World Bank's World Development Indicators database (World Bank

2006) provides data on home country GDP and aggregate yearly government spending as percentage of

home country GDP. Data on block premia paid for acquisition of control in the home country come from

Dyck and Zingales (2004), while home country policy stability data (POLCON III) come from Henisz

(2006). We have complete data for 207 investment events announced by the 15 privatizing telecoms from as many countries from 1986-2001.

5. Results

Preliminary Analyses and Descriptive Statistics

We begin our empirical analyses with a preliminary OLS regression of Equation 1, after which we obtain Cooks distance measures to identify potential outliers. We identify 11 observations—about 5% of our gross sample of 207—with Cooks distance values exceeding 0.01 and greater by an order of 10 or more than other Cooks distance values. We also note that these observations occur in 2000 or 2001, a period when share prices in many telecoms around the world increased in volatility as part of a broader telecoms-IT-Internet sector "crash." We exclude these observations and work with a net sample of 196 observations.

*** *Insert Table 1 Approximately Here* ***

Table 1 reports descriptive statistics and pair-wise correlations for this net sample. Sample means and correlations generally conform to intuition. Mean 3-day CARs and SCARs are approximately 0 (0.001) with 99 positive and 97 negative CARs events and Wilcoxon test results indicating no significant skewness.[10] We see a substantial spread across different event types. Approximately 35% of the events are joint venture announcements, 24% M&A transactions, 14% sales of equity, and 28% alliances. The telecoms in our sample average 4.2% ROA and post annual revenues between $850 million and $97 billion with an average of $35 billion. There is independent regulatory agency oversight for almost half of events (47.4%), while almost two thirds of the events involve telecoms subject to regulated pricing (63.3%) and third-party interconnection rates (64.3%). We observe a gradual decline in year-to-year change in expenditures by government as a percentage of GDP (-0.1%). 24.4% of the events are announced by telecoms domiciled in countries where investors pay a high premium to acquire control of firms, and presumably, to extract firm wealth for private benefit. Perhaps most importantly to our study, we observe a mean state ownership of 25.5% with a standard deviation of 23.08%. Approximately two thirds of the events in our sample involve minority state ownership. The average number of months since privatization is 111, and average policy stability is 0.43.

GLS Estimation Results

Table 2 reports results from GLS and probit estimations of Equation 1 based on CARs and SCARs calculated using 3-day (Columns 1-2, 5-6), and 5-day (Columns 3-4). We focus our discussion on results based on 3-day CARs in Column 1, and refer to other results for robustness purposes. We note at the outset that results in Column 1 explain approximately 32% of variation in shareholder returns associated with strategic decisions. This R^2 estimate exceeds any other reported in Table 2 and thus vindicates our principal focus on 3-day CARs.

*** *Insert Table 2 Approximately Here* ***

3-Day CARs Controls. Control variables generally exhibit predicted signs in Column 1. Recall that we made no prediction concerning the sign on the investment type dummies. Compared to strategic alliance announcements, joint venture announcements (γ_1) yield CARs that are 2.2 percentage points higher, while M&A announcements (γ_2) are 3.6 percentage points higher but equity offering announcements (γ_1) yield CARs lower by 3.2 percentage points. All three coefficients are significant at 10% or higher levels. Both telecom sales (γ_4) and operating returns (γ_5) exhibit predicted negative signs and in the case of operating returns are significant at the 5% level. An increase in ROA of one percentage point lowers investment event CARs by more than 33 percentage points. The quality of strategic decision-making by privatizing telecoms apparently decreases significantly as operating performance increases. These results suggest that privatizing firm performance may follow more from mundane day-to-day routines than from more public strategic decisions.

None of the four telecom industry controls enters the model significantly, though we observe a predicted negative sign on the number of mobile competitors (γ_9) significant at 13%. By contrast, all three country-level controls enter with predicted signs at commonly acceptable levels of significance. Increasing home-country public expenditure is correlated with lower shareholder returns following strategic decisions (γ_{10}) while higher GDP is linked to higher shareholder returns (γ_{11}). Both coefficients are significant at the 10% level. If the privatizing telecom's home country permits firm insiders to extract substantial private

21

benefits thus justifying high premia for firm control, then shareholder returns decrease by 5.5 percentage points, an estimate significant at the 1% level (γ_{12}). Strategic decision-making improves for privatizing telecoms from countries with larger economies, a larger private sector, and stronger investor protections against firm insiders.

3-Day CARs Key Terms. Our key terms relate to residual state factors shaping telecom decision-making. They include residual state ownership, time since initial privatization and interactions with home-country policy stability. Recall that Hypothesis 1 predicts that residual state ownership is correlated positively with the quality of strategic decisions reflected in shareholder returns. Consistent with this prediction, we observe both positive linear (β_1) and negative (inverted U) quadratic (β_2) effects on 3-day CARs. We identified *Residual State Ownership^2* (β_2) as the test statistic for Hypothesis 1 but noted that the linear term, *Residual State Ownership* (β_1), might also yield support if the dominant share of strategic decisions involved the state as a non-controlling, minority owner. With two thirds of our observations fitting this description, support in both linear and quadratic term coefficients is less surprising.

Hypothesis 2 predicts that shareholder returns following strategic decisions will erode over time as initial privatization deal terms unravel. Consistent with that prediction, we observe a negative sign on *Ln(Months Since Privatization)* (β_3) that is significant at the 10% level.

While *Policy Stability* exhibits no statistically significant effects individually, we find in Column 1 that it interacts with residual state factors significantly and consistently with Hypotheses 3 and 4. The positive sign and significance at the 5% level on the interaction term, *Policy Stability*Residual State Ownership^2* (β_6), indicates support for Hypothesis 3 and the moderating impact of *Policy Stability* on residual state ownership effects. As veto points and players increase the likelihood that today's privatization deal terms will also be tomorrow's, then privatizing telecoms benefit less from residual state ownership in the firm providing alternative assurances. The quality of strategic decision-making relies less on residual state ownership and more on the predictability of state institutions. Similarly, a positive sign and significance at the 10% level on the interaction term, *Policy Stability*Ln(Months Since Privatization)*

(β_7), indicates support for Hypothesis 4 and the moderating impact of *Policy Stability* on time and the durability of initial privatization terms. With greater policy stability, initial privatization terms unravel more slowly.

Smoothed Running Results

Bi-variate smoothed running analyses in Figures 1A and 1B illustrate these key findings from GLS estimation of Equation 1. In Figure 1A, we partition 3-day CARs based on whether they come from privatizing telecoms located in countries with above or below sample average *Policy Stability*. For telecoms from countries with below average *Policy Stability*, we observe increasingly positive 3-day CARs as state ownership increases from 0% to approximately 12% and then less positive effects as state ownership increases to almost 30%, after which 3-day CARs turn negative.   By contrast, for telecoms from countries with above average *Policy Stability*, residual state ownership links to 3-day CARs are consistently negative from 0-30%. Indeed, there are no deviations from that trend until residual state ownership levels reach 40-50%, at which point 3-day CARs increase.

*** *Insert Figures 1A and 1B Approximately Here* ***

Running analyses in Figure 1B also illustrate trends observed in our GLS estimations of Equation 1. We again partition 3-day CARs into above and below average *Policy Stability* and then examine smoothed relationships with months since initial privatization of telecoms. We find that telecoms in both high and low policy stability groups exhibit a sharp decline in 3-day CARs during the first 24-25 months after the initial transfer of equity from the state. After that period, however, telecoms announcing investment events in countries with high policy stability exhibit increasingly positive 3-day CARs, while telecoms from countries with low policy stability exhibit no discernible trends. These graphical analyses buttress earlier multivariate evidence that policy stability has important moderating effects on residual state factors. Policy stability moderates the positive effects of residual state ownership. It also moderates the negative effects of time since initial privatization.

Robustness Checks

These key results exhibit varying robust to reasonable changes in the way we measure CARs and

SCARs, and to reasonable changes in estimators. Consistent with Hypothesis 1, we obtain negative signs

and significance at 5% or higher levels on *Residual State Ownership²* when we re-estimate Equation 1

based on 3-day SCARs (Column 2) and 5-day CARs and SCARs (Columns 3-4), and when we implement a

probit estimation of Equation 1 based on 3-day positive CARs and SCARs (Columns 5-6).[11] Consistent

with Hypothesis 3, we obtain positive signs and significance at 5% or higher levels on *Policy*

Stability*Residual State Ownership². Support for Hypotheses 2 and 4 in Columns 2-6 do not exhibit the

same robustness to alternative windows and estimators. We observe no coefficient estimates commonly

acceptable levels of significance for *Ln(Months Since Privatization)* or *Policy Stability*Ln(Months Since*

Privatization), nor are predicted signs consistent across these columns. We maintain that GLS estimation

of Equation 1 using a 3-day CARs is most appropriate and provides the greatest overall explanation of

shareholder responses to strategic decisions by privatizing telecoms. Yet, these robustness checks indicate

that support for Hypotheses 2 and 4 and the impact of time since privatization exhibit sensitivity and should

be interpreted with caution.

6.   Discussion and Conclusion

Review of Key Study Aims and Results

Recall the principal motives for this study. Research on privatizing firms has established that the

shift from public to private ownership and influence enhances performance, but empirical evidence

indicating how residual state factors affect that process is curiously lacking. We responded by identifying

two state-related factors that might influence that transformation: the level of residual state ownership and

the temporal distance of the enterprise from its initial privatization date. We drew on Perotti's (1995)

credible privatization model to predict the impact of these two state-related factors: residual state

ownership acts as a signal of state support for privatizing firm decisions and shareholders, thus enhancing

firm performance; the passage of time renders that signal less credible as initial privatization deal terms

eventually unravel. We then elaborated on the credible privatization model with a theoretical framework

adding moderator effects related to the stability of home country public policies, and by implication, initial privatization deal terms (Henisz, 2002).

We documented support for this theoretical framework in an empirical study of shareholder returns immediately following strategic investment event announcements by privatizing telecoms with varying levels of state ownership and time since initial privatization. 3-day CARs related to these investment announcement events exhibited significant positive effects as the level of residual state ownership increased, consistent with Hypothesis 1. 3-day CARs exhibited significant negative effects with the passage of time since initial privatization, consistent with Hypothesis 2. Increasing levels of policy stability decreased the positive effects of residual state ownership, consistent with Hypothesis 3. Shareholders benefited less from the positive signal of residual state ownership if other institutions provided assurance that initial privatization deal terms would remain in force. Increasing levels of policy stability blunted negative time effects, consistent with Hypothesis 4. The tendency of initial privatization deal terms to unravel weakened or disappeared altogether as the number of political players needed to effect that policy change increased and their partisan orientations diverged. We documented robustness regarding residual state ownership effects (Hypotheses 1 and 3) but sensitivity in time effects (Hypotheses 2 and 4) indicating caution in interpreting such results.

Implications for Research, Practice and Public Policy

We draw several implications from these findings. First, they indicate that credible perspectives on the determinants of privatizing telecom behavior and performance have substantial explanatory power, and merit greater academic attention, particularly when assessing the performance of privatizing enterprises in country settings with less well-developed institutions and policy stability. The broad sweep of privatization research has assumed that divestment by the state and replacement with private shareholders enhances enterprise performance through closer alignment of principal-agent incentives and monitoring of managerial behavior (Boycko *et al.*, 1996; Megginson *et al.*, 2001; Bortolloti *et al.*, 2002; Gupta, 2005). But these research assumptions have overlooked the possibility that the role of state ownership in

privatizing firms can change after private investors have majority ownership. Whatever misalignment in incentives may persist due to the continued involvement of the state as an investor may be compensated by a valuable signal of support to privatizing investors and managers. We uncover evidence consistent with this dynamic in shareholder responses to strategic decisions by privatizing firm managers –in our case privatizing telecoms. Assessments of the strategic decision-making quality by shareholders increase with the extent of residual state ownership, that is, with the strength of the state's signal of support.

A second implication of our study is that residual state ownership and home country policy stability may be close substitutes. We saw that residual state ownership could have statistically significant and practically substantial effects on shareholder returns in low policy stability environments (*e.g.*, Philippines), but have relatively little impact in countries where policy stability is high (*e.g.*, France). For privatization research, this contrast suggests that predictions about the positive or negative impact of state support for privatizing firms are contingent on institutional factors in the national background. If not properly accounted for, those background factors can skew assessments of privatizing firm performance and lead to spurious relationships ultimately misdirecting research on partial privatization and the impact of residual state factors. For practice and public policy, an apparent trade-off between residual state ownership and policy stability represents an opportunity to "fine-tune" the ownership structure of privatizing firms. As traditions of self-restraint and policy stability increase over time, managers can encourage and politicians can accept speedier divestment of residual equity holdings. But such traditions and institutions are not established in a month or a year or perhaps even a decade, in which case, residual state ownership in privatizing firms may remain important for investors, managers and politicians for some substantial time.

Though more sensitive to changes in model specification and estimation approach, we find value in exploring a third implication of our results related to time since initial privatization. In both low and high policy stability contexts we noted a steep decrease in 3-day CARs during the first two years after the initial transfer of state equity to private investors. If some unraveling of initial privatization deal terms is unavoidable within two years, then managerial practices and telecom public policies might be sequenced with this trend in mind. Telecom managers and policy makers might speed up programs for major

investment in and modernization of their technology during the early days of privatization when share prices are higher and capital easier to acquire. Hesitation is likely to be punished by shareholders with increasingly negative responses, particularly in emerging-market institutional settings where the initial privatization bargain is especially prone to obsolescing (Ramamurti, 2001, 2003).

Limitations and Future Research

We think our study makes important contributions to theoretical and empirical research on partial privatization and strategic decision-making in different policy environments. It also has limitations. We investigate support for our theoretical framework using privatizing telecoms and shareholder returns following investment events announced in the 1980s, 1990s and early 2000s. The market capitalization of these telecoms exceeds $491 billion at the close of our study period in 2001, thus we are explaining behavior and performance by firms comprising a substantial portion of economic activity world-wide. Yet, it is still a single-industry study that awaits future studies confirming or challenging its findings in other industry settings (*e.g.*, transportation, energy, defense) touched by privatization policies since the 1980s.[12]

Another limitation of this study concerns how we operationalize key terms in our theoretical framework. For example, we assess residual state ownership by simply noting what percentage of total equity the state owns at the end of each year t in our study. But equity is not homogenous. Different types of equity shares may entail different voting rights. Equity owners of record are not always owners in fact. Faccio and Lang (2002) survey "ultimate" ownership structures in firms from throughout Europe, and uncover substantial differences between owners of record and those who effectively control such shares when key decisions are taken. The diffuseness or concentration private shareholding may also matter for whether and when state influence on firm strategy wanes. Future research on residual state ownership and privatizing firm performance will no doubt benefit from closer understanding of the type of shares, the state entity effecting controlling them, and the nature of private shareholding in partnership or in conflict with the state. We see similar opportunities to investigate the robustness of our results with alternative measures of time since privatization and policy stability.[13] These and other refinements should provide a broader basis for understanding the complex and, at times, contingent role of residual state factors shaping privatizing firm decisions and performance.

REFERENCES

Aggarwal, R. and Harper, J. (2001) 'Privatization and Business Valuation in Transition Economies', in L. Jacque and P. Vaaler (eds.) *Financial Innovations and the Welfare of Nations*, Boston, MA: Kluwer Academic Publishers, pp 175-196.

AMR (2000) 'Special Topic Forum on Privatization and Entrepreneurial Transformation', *Academy of Management Review* **25**: 508-669.

Bank of New York (2003) *Global DR Directory*, New York, NY: Bank of New York. Available electronically on January 15, 2007 at http://www.adrbny.com/dr_directory.jsp.

Boycko, M., Shleifer, A. and Vishny, R. (1995) *Privatizing Russia*, Cambridge, MA: MIT Press.

Boycko, M., Shleifer, A. and Vishny, R. (1996) 'A Theory of Privatization', *Economic Journal* **106**: 309-319.

Bortolotti, B., D'Souza, J., Fantini, M., Megginson, W. (2002) 'Privatization and the Sources of Performance Improvement in the Global Telecommunications Industry', *Telecommunications Policy* **26**: 243-268.

Boubakri, N., Cosset, J. and Guedhami, O. (2005) 'Postprivatization Corporate Governance: The Role of Ownership Structure and Investor Protection', *Journal of Financial Economics* **76**: 369-399.

Boutchkova, M. and Megginson, W. (2000) 'Privatization and the Rise in Global Capital Markets', *Financial Management* **29**: 31-76.

Brown, S., and Warner, J. (1985) 'Using Daily Stock Returns: The Case of Event Studies', *Journal of Financial Economics* **14**: 3–31.

Buchanan, J. (1972) *Theory of Public Choice*, Ann Arbor, MI: University of Michigan Press.

Chung, Y., Koford, K. and Lee, I. (1993) 'Stock Market Views of Corporate Multinationalism: Some Evidence From Announcements of International Joint Ventures', *Quarterly Review of Economics and Finance* **33**: 275-293.

Compustat. 2002. *S&P Compustat Database*. New York, NY: McGraw-Hill, 2002.

Comstock, A., Kish, R. and Vasconcellos, G. (2003) 'The Post-Privatization Financial Performance of Former State-Owned Enterprises', *Journal of International Financial Markets, Institutions and Money* **13**: 19-37.

CNN.com International (2007) 'Vietnam to Partially Privatize 71 Firms', January 2. Available electronically on January 15, 2007 at: http://edition.cnn.com/2007/WORLD/asiapcf/01/02/vietnam.economy.ap/.

Crutchley, C., Guo, E. and Hansen, R. (1991) 'Stockholder Benefits from Japanese-U.S. Joint Ventures', *Financial Management* Winter Volume: 22-30.

Doh, J., Teegen, H. and Mudambi, R. (2004) 'Balancing Private and State Ownership in Emerging Markets Telecommunications Infrastructure: Country, Industry, and Firm Influences', *Journal of International Business Studies* **35**: 233-250.

Delios, A. and Henisz, W. (2000) 'Japanese Firms' Investment Strategies in Emerging Economies', *Academy of Management Journal* **43**: 305-323.

Delios, A. and Henisz, W. (2003) 'Political Hazards, Experience and Sequential Entry Strategies: The International Expansion of Japanese Firms, 1980-1998', *Strategic Management Journal* **24**: 1153-1164.

Denis, D., Denis, D. and Sarin, A. (1997) 'Agency Problems, Equity Ownership and Corporate Diversification', *Journal of Finance* **52**: 135-160.

Doidge, C. (2004) 'US Cross-Listings and the Private Benefits of Control: Evidence from Dual Class Firms', *Journal of Financial Economics* **72**: 519-554.

Dyck, A., and Zingales, L. (2004) 'Private Benefits of Control: An International Comparison', *Journal of Finance* **59**: 537-600.

Eden, L., Juarez-Valdez, L. and Li, D. (2005) 'Talk Softly but Carry a Big Stick: Transfer Pricing Penalties and the Market Valuation of Japanese Multinationals in the United States', *Journal of International Business Studies* **36**: 398-414.

Emmons, W. (2000) *The Evolving Bargain: Strategic Implications of Deregulation and Privatization*, Boston: Harvard Business School Press.

Faccio, M. and Lang, L. (2002) 'The Ultimate Ownership of Western European Corporations', *Journal of Financial Economics* **65**: 365-395.

Financial Times (2000) 'Attacks Mount on Deutsche Telekoms $46 Bid', July 25, p. 19.

Froot, K. (1989) 'Consistent Covariance Matrix Estimation with Cross-Sectional Dependence and Heteroskedasticity in Financial Data', *Journal of Financial and Quantitative Analysis* **24**: 333–355

Fuller, K., Netter, J. and Stegemoller, M. (2002) 'What Do Returns to Acquiring Firms Tell Us? Evidence from Firms that Make Many Acquisitions', *Journal of Finance* **57**: 1763-1793.

Galal, A., Jones, L., Tandon, P. and Vogelsang, I. (1994) *Welfare Consequences of Selling Public Enterprises: An Empirical Analysis*, Oxford, UK: Oxford University Press.

Grover, V. and Wilcox, C. (2001) 'Valuation of Mergers and Acquisitions in the Telecommunications Industry: A Study on Diversification and Firm Size', *Information & Management* **38**: 459-471.

Guislan, P. (1997) *The Privatization Challenge. A Strategic, Legal, and Institutional Analysis of International Experience.* Washington, DC: The World Bank .

Gupta, N. (2005) 'Partial Privatization and Firm Performance', *Journal of Finance* **60**: 987-1015.

Henisz, W. (2002) 'The Institutional Environment for Infrastructure Investment', *Industrial and Corporate Change* **11**: 355-389.

Henisz, W. (2006) 'Political Constraint Index (POLCONIII) Dataset, Version 3', Available electronically on January 15, 2007 at http://www-management.wharton.upenn.edu/henisz/POLCON/ContactInfo.html.

Henisz, W. and Delios, A. (2001) 'Uncertainty, Imitation, and Plant Location: Japanese Multinational Corporations, 1990-1996', *Administrative Science Quarterly* **46**: 443-475.

Henisz, W. and Williamson, O. (1999) 'Comparative Economic Organization Within and Between Countries', *Business & Politics* **1:** 261-277.

Huber, P. (1967) 'The Behavior of Maximum Likelihood Estimates under Nonstandard Conditions,' in *Proceedings of the Fifth Berkeley Symposium on Mathematical Statistics and Probability*. Berkeley, CA: University of California Press, **1**: 221–223.

ITU (2003) Annual Telecommunications Data by Country (FDI and ICT-sector FDI), International Telecommunications Union, Geneva, Switzerland.

Jensen, M. and Meckling, W. (1976) 'Theory of the Firm: Managerial Behavior, Agency Costs and the Ownership Structure', *Journal of Financial Economics* **3**: 305-360.

Johnson, S., La Porta, R., Lopez-de-Silanes, F. and Shleifer, A. (2000) 'Tunneling', *American Economic Review Papers and Proceedings* **90**: 22-27.

Jones, S., Megginson, W., Nash, R., and Netter, J. 1999. 'Share Issue Privatizations as Financial Means to Political and Economic Ends', *Journal of Financial Economics* **53**: 217-253.

Lenway, S., and Murtha, T. (1994) 'The State as Strategist in International Business Research', *Journal of International Business Studies* **25**: 513-535.

Lieberman, I. (1997) 'Mass Privatization in Comparative Perspective', in I. Lieberman, S. Nestor and R. Desaid (eds.) *Between State and Market: Mass Privatization in Transition Economies*, Washington, DC: World Bank, pp 1-18.

McWilliams, A, and Siegel, D. (1997) 'Event Studies in Management Research: Theoretical and Empirical Issues', *Academy of Management Journal* **40**: 626-657.

Megginson, W., Nash, R. and van Randenborgh, M. (1994) 'The Financial and Operating Performance of Newly Privatized Firms: An International Empirical Analysis', *Journal of Finance* **49**: 403-452.

Megginson, W., and Netter, J. (2001) 'From State to Market: A Survey Of Empirical Studies On Privatization', *Journal of Economic Literature* **39**: 321-389.

Megginson, W. and Sutter, N. (2006) 'Privatisation in Developing Countries', *Corporate Governance: An International Review* **14**: 234-265.

Newberry, D. (2001) *Privatization, Restructuring, and Regulation of Network Utilities*, Cambridge, MA: MIT Press.

Park, N. (2004) 'A Guide to Using Event Study Methods in Multi-Country Settings', *Strategic Management Journal* **25**: 655-668.

Perotti, E. (1995) 'Credible Privatization', *American Economic Review* **85**: 847-859.

Perotti, E., and Guney, S. (1993) 'The Structure of Privatization Plans' *Financial Management* **22**: 84-98.

Perotti, E. and Laeven, L. (2001) 'Confidence Building in Emerging Stock Markets', William Davidson Institute Working Paper No. 366, Unversity of Michigan, Ann Arbor, MI.

Ramamurti, R. (1992) 'Why Are Developing Countries Privatizing?', *Journal of International Business Studies* **23**: 225-249.

Ramamurti, R. (1996) 'The New Frontier of Privatization', in R. Ramamurti (ed.) *Privatizing Monopolies: Lessons from the Telecommunications and Transport Sectors in Latin America*, Baltimore, MD: Johns Hopkins University Press, pp 1-45.

Ramamurti, R. (2000) 'A Multilevel Model of Privatization in Emerging Economies', *Academy of Management Review* **25**: 525-550.

Ramamurti, R. (2001) 'The Obsolescing 'Bargaining Model'? MNC-Host Developing Country Relations Revisited', *Journal of International Business Studies* **32**: 23-39.

Ramamurti, R. (2003) 'Can Governments Make Credible Promises? Insights from Infrastructure Projects in Emerging Economies', *Journal of International Management* **9**: 253-269.

Rogers, W. (1993) 'Regression Standard Errors in Clustered Samples', *Stata Technical Bulletin* 13:19–23.

Schmidt, K. (1996) 'The Costs and Benefits of Privatization: An Incomplete Contracts Approach', *Journal of Law, Economics, and Organization* **12**: 1-24.

SDC (2002) *Mergers & Acquisitions Database*. New York, NY: SDC-Thomson Financial.

Schipke, A. (2001) *Why Do Governments Divest? The Macroeconomics of Privatization*, Berlin, Germany: Springer-Verlag.

Shleifer, A. and Vishny, R. (1994) 'Politicians and Firms', *Quarterly Journal of Economics* **109**: 995-1025.

Spicer, A., McDermott, G. and Kogut, B. (2000) 'Entrepreneurship and Privatization in Central Europe: The Tenuous Balance Between Destruction and Creation', *Academy of Management Review* **25**: 630-649.

Stata Corp (2005) *Stata Statistical Software: Release 9.0*, College Station, TX: Stata Corporation.

Vernon, R. (1971) *Sovereignty at Bay: The Multinational Spread of US Enterprises*, New York, NY: Basic Books.

Wallsten, S. (2001) 'An Econometric Analysis of Telecommunications Competition, Privatization and Regulation in Africa and Latin America', *Journal of Industrial Economics* **40**: 1-19.

White, H. (1980) 'A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity', *Econometrica* **48**: 817–830.

World Bank (2006) *World Development Indicators*, Washington, DC: World Bank.

FIGURE 1

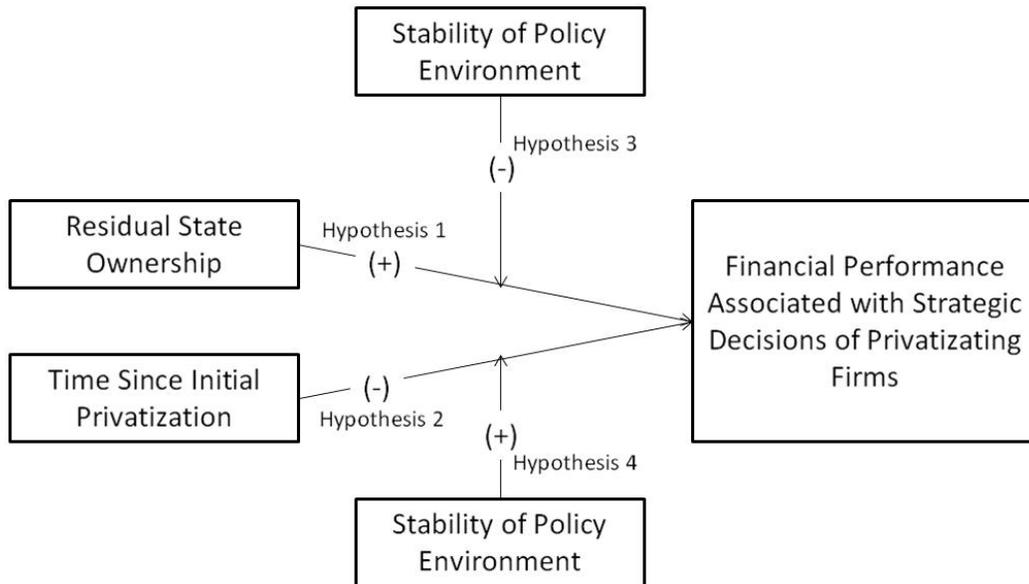**Theoretical Framework and Hypotheses**

TABLE 1

Descriptive Statistics and Pair-Wise Correlations

		Mean	Std. Dev.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Dep. Var.: 3-Day CARs	0.0009	0.0417																				
2	Dep. Var.: 3-Day SCARs	0.0009	0.0263	0.62																			
3	JV Dummy	0.3520	0.4788	0.16	0.05																		
4	M&A Dummy	0.2347	0.4249	0.11	0.10	-0.41																	
5	Target Dummy	0.1378	0.3455	0.00	0.08	-0.29	0.72																
6	Log (Sales)	10.1717	0.9655	-0.03	-0.11	0.20	-0.40	-0.33															
7	Return on Assets	0.0423	0.0379	-0.11	-0.15	0.01	-0.02	-0.03	-0.15														
8	Regulatory Agency Dummy	0.4745	0.5006	0.04	-0.02	0.03	-0.24	-0.23	0.03	0.39													
9	Third Party Access Rules Dummy	0.6429	0.4804	-0.05	-0.08	-0.03	-0.27	-0.26	-0.20	0.28	0.64												
10	Pricing Regulation Dummy	0.6327	0.4833	0.00	-0.02	0.01	-0.25	-0.25	-0.09	0.28	0.72	0.85											
11	Number of Mobile Competitors	1.5051	0.8382	0.01	-0.03	0.07	-0.32	-0.26	0.12	0.22	0.61	0.73	0.66										
12	Change in Public Expenditures	-0.0013	0.0297	-0.13	-0.02	0.02	-0.03	0.00	-0.12	-0.05	-0.10	-0.15	-0.13	-0.33									
13	Ln(GDP)	30.1600	2.9185	0.18	0.13	0.07	0.15	0.14	0.40	-0.35	-0.43	-0.70	-0.66	-0.25	-0.14								
14	High Block Premium Dummy	0.2449	0.4311	0.10	0.04	-0.12	0.27	0.25	-0.38	0.02	-0.23	0.13	0.09	0.18	-0.20	0.16							
15	Residual State Ownership	25.5510	23.8086	-0.02	0.02	0.16	-0.08	-0.06	0.33	-0.33	-0.49	-0.29	-0.27	-0.01	0.21	0.34	0.04						
16	Residual State Ownership^2	1216.8130	1436.6530	-0.06	-0.01	0.15	-0.11	-0.08	0.37	-0.27	-0.39	-0.21	-0.18	0.11	0.07	0.28	0.04	0.95					
17	Ln(Months Since Privatization)	4.5043	0.7589	0.08	-0.03	0.06	-0.29	-0.21	0.40	0.05	0.24	-0.16	-0.07	-0.11	-0.18	0.16	-0.34	-0.53	-0.53				
18	Policy Stability	0.4334	0.0853	0.03	0.01	0.13	0.00	-0.01	0.54	-0.36	-0.68	-0.69	-0.70	-0.39	-0.07	0.74	-0.04	0.53	0.48	0.10			
19	Policy Stability*Residual State Ownership	12.1515	12.0092	-0.02	0.00	0.18	-0.12	-0.09	0.46	-0.35	-0.55	-0.41	-0.39	-0.09	0.15	0.45	0.00	0.97	0.92	-0.36	0.70		
20	Policy Stability*Residual State Ownership^2	585.4362	709.7501	-0.06	-0.03	0.16	-0.14	-0.10	0.47	-0.29	-0.45	-0.31	-0.28	0.03	0.05	0.38	0.01	0.93	0.97	-0.39	0.62	0.96	
21	Policy Stability*Ln(Months Since Privatization)	1.9587	0.5412	0.08	0.00	0.14	-0.17	-0.11	0.63	-0.24	-0.38	-0.64	-0.59	-0.37	-0.14	0.67	-0.25	0.11	0.06	0.66	0.80	0.33	0.24

$N = 196$
Correlations greater than approximately 0.13 or less than -0.13 are significant at 10% level ($p < 0.10$) (one-tailed test).
Correlations greater than approximately 0.16 or less than -0.16 are significant at 5% level ($p < 0.05$) (one-tailed test).
Correlations greater than approximately 0.20 or less than -0.20 are significant at 1% level ($p < 0.01$) (one-tailed test).

TABLE 2

Results from Regression of Shareholder Returns Following Investment Announcements by Privatizing Telecoms, 1986-2001: Controls and Residual State Factors[a, b]

Equation Estimator and Dependent Variable → *Equation Independent Variables and Coefficients↓*	(1) GLS 3-Day CARs	(2) GLS 3-Day SCARs	(3) GLS 5-Day CARs	(4) GLS 5-Day SCARs	(5) Probit Positive 3-Day CARs	(6) Probit Positive 3-Day SCARs
Constant	0.4876 (0.5101)	0.0598 (0.3968)	0.0396 (0.4229)	-0.0049 (0.4259)	-786.400* (321.585)	-747.375* (322.628)
Event, Firm, Industry and Country Controls (γ_{1-12}):						
JV Dummy [γ_1]	0.0220* (0.0108)	0.0046 (0.0084)	0.0281* (0.0092)	-0.0057 (0.0209)	0.690** (0.228)	0.719** (0.229)
M&A Dummy [γ_2]	0.0363* (0.0144)	0.0086 (0.0054)	0.0224† (0.0118)	-0.0087 (0.0117)	0.958** (0.238)	0.965** (0.241)
Target Dummy [γ_3]	-0.0317* (0.0128)	-0.0059 (0.0053)	-0.0059 (0.0115)	-0.0051 (0.0092)	-0.916† (0.490)	-0.901† (0.492)
Log (Sales) [γ_4]	-0.0346 (0.0255)	0.0132 (0.0246)	-0.0128 (0.0175)	0.0288 (0.0292)	-7.787** (1.492)	-7.584** (1.566)
Return on Assets [γ_5]	-0.3329* (0.1254)	-0.1032 (0.0708)	-0.4538** (0.1375)	-0.5693** (0.1345)	-39.345** (12.029)	-37.624** (12.557)
Regulatory Agency Dummy [γ_6]	0.0458 (0.0850)	-0.0439 (0.0865)	0.0852 (0.0511)	-0.0716 (0.0803)	-235.831** (60.322)	-223.214** (60.769)
Third Party Access Rules Dummy [γ_7]	0.0146 (0.0244)	-0.0186 (0.0194)	-0.0149 (0.0205)	-0.0156 (0.0250)	-0.610 (1.734)	-0.633 (1.679)
Pricing Regulation Dummy [γ_8]	0.0367 (0.0850)	0.0637 (0.0864)	-0.0163 (0.0606)	0.0729 (0.0915)	391.333** (121.995)	370.256** (122.802)
Number of Mobile Competitors [γ_9]	-0.0170 (0.0105)	0.0118 (0.0069)	0.0412** (0.0103)	0.0159 (0.0121)	0.191 (0.685)	0.214 (0.648)
Change in Public Expenditures [γ_{10}]	-0.3722† (0.1781)	-0.1721 (0.1190)	0.1915 (0.1159)	0.1084 (0.1316)	-11.984 (13.779)	-11.791 (13.541)
Ln(GDP) [γ_{11}]	0.0067† (0.0037)	0.0001 (0.0032)	-0.0102** (0.0026)	-0.0042 (0.0036)	25.220** (9.635)	23.889** (9.686)
High Block Premium Dummy [γ_{12}]	-0.0552** (0.0129)	-0.0036 (0.0101)	-0.0024 (0.0108)	-0.0027 (0.0134)	-200.477** (75.339)	-190.022** (75.926)
Residual State Factors (β_{1-7}):						
Residual State Ownership [β_1]	0.0098* (0.0034)	0.0094* (0.0031)	0.0160** (0.0029)	0.0117** (0.0037)	1.074** (0.393)	1.060** (0.413)
Residual State Ownership^2 [β_2]	-0.0002** (0.0000)	-0.0002** (0.0000)	-0.0002** (0.0000)	-0.0002** (0.0001)	-0.012** (0.004)	-0.011** (0.004)
Ln(Months Since Privatization) [β_3]	-0.0952† (0.0459)	-0.0546 (0.0336)	-0.0280 (0.0540)	-0.0622 (0.0426)	1.304 (7.004)	2.067 (7.903)
Policy Stability [β_4]	-0.5733 (0.4559)	-0.2572 (0.3211)	0.7662 (0.5185)	0.0345 (0.4215)	68.225 (73.326)	73.599 (83.068)
Policy Stability*Residual State Ownership [β_5]	-0.0174* (0.0069)	-0.0205** (0.0065)	-0.0302** (0.0058)	-0.0268** (0.0080)	-2.344** (0.845)	-2.307** (0.894)
Policy Stability*Residual State Ownership^2 [β_6]	0.0003* (0.0001)	0.0003** (0.0001)	0.0003* (0.0001)	0.0004** (0.0001)	0.023** (0.009)	0.022* (0.009)
Policy Stability*Ln(Months Since Privatization) [β_7]	0.1730† (0.0954)	0.0838 (0.0652)	0.0538 (0.1001)	0.0787 (0.0783)	-5.072 (16.114)	-6.242 (17.857)
Country Dummies [φ]	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies [λ]	Yes	Yes	Yes	Yes	Yes	Yes
N	196	196	196	196	192	192
R^2	0.32	0.23	0.16	0.17	0.24[c]	0.24[c]

† significant at 10%; * significant at 5%; ** significant at 1%.
[a]Robust standard errors clustered on telecoms/countries in parentheses.
[b]Results for year and telecom dummies are not reported but available from authors.
[c] Pseudo R-squared

FIGURE 2A

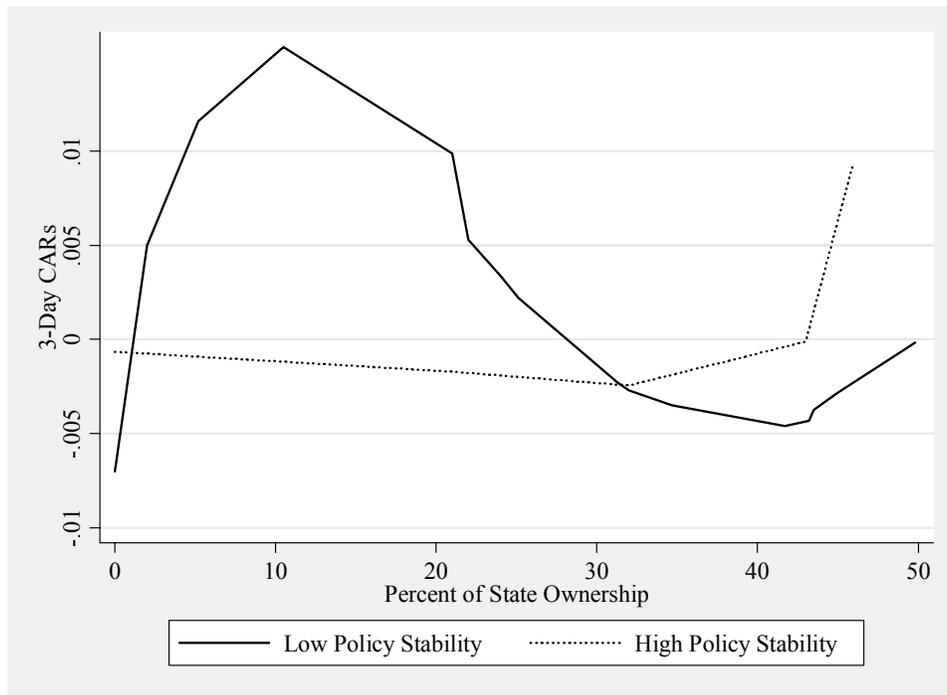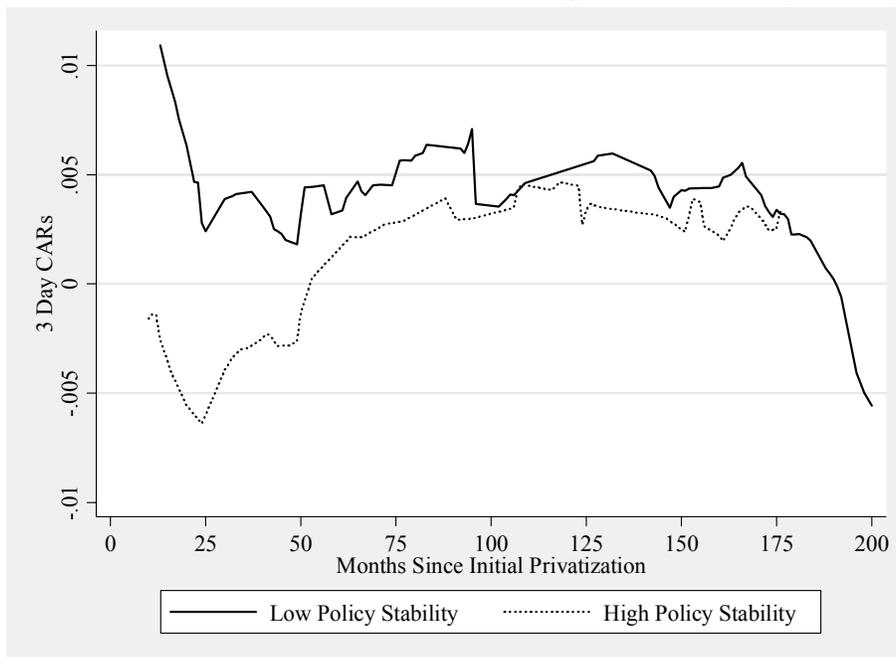**Residual State Ownership and CARs at High and Low Policy Stability Levels**

FIGURE 2B

Time Since Initial Privatization and CARs at High and Low Policy Stability Levels

[1] See Megginson and Netter (2001) and Megginson and Sutter (2006) for a review of this literature.

[2] Bortolotti *et al.* (2002) cite 13 empirical studies on the telecom privatization and performance since 1990. Only one published study by Ramamurti (1996) examines links between privatization and enterprise (rather than industry- or economy-wide) performance measures. He concludes that there are positive links between telecom privatization and subsequent telecom enterprise performance.

[3] We note in *italicized text* 10 prescriptive criteria enunciated in McWilliams and Siegel (1997) and respond in plain text regarding how they guide our event study methodology:

1. *Define an event that provides new information to the market.* We determine informational importance based on whether information about telecom investments were filed with the US Securities & Exchange Commission ("SEC") or reported in the American editions of the *Wall Street Journal*, the *Financial Times*, or the Reuters News Network. We determine informational newness based on when it is first reported in these outlets.

2. *Outline a theory that justifies a financial response to this new information.* Our credible privatization framework elaborating on Perotti (1995) justifies response to this new information based on residual state factors moderated by telecom home country policy stability.

3. *Identify a set of firms that experience this event and identify the event dates.* We identify privatizing telecoms with ADR listings in the US. We find event dates in SDC (2002) and manually check each one for accuracy.

4. *Choose an appropriate event window and justify its length, if it exceeds two days.* The appropriate event window length is three days (-1, +1), though key results are consistent in sign and significance at two (0, +1) and five days (-1, +3). We justify a slightly longer window based on leakage in information due to time-zone differences in an event study with global scope.

5. *Eliminate or adjust for firms that experience other relevant events during the event window.* We eliminate three events where there is overlap in event windows for a given telecom.

6. *Compute abnormal returns during the event window and test their significance.* We use a market model on an equally-weighted S&P 500 index to calculate expected returns, and then aggregate abnormal returns over the appropriate window length. We also standardize returns to calculate SCARs by dividing CARs by their standard deviation.

7. *Report the percentage of negative returns and the binomial Z or Wilcoxon test statistic.* Of the 196 events in our sample, 99 events have negative CARs and SCARs, while the other 97 have positive CARs and SCARs. CARs and SCARs are not apparently skewed in one direction, nor is a Wilcoxon test statistic indicative of skewness significant at commonly acceptable levels.

8. *For small samples, use bootstrap methods and discuss the impact of outliers.* With 196 events in our net sample, bootstrap techniques are not needed. We observe no apparent outlier effects based on evaluation of standard diagnostics such as Cooks D measures.

9. *Outline a theory that explains the cross-sectional variation in abnormal returns and test this theory econometrically.* We explain positive effects on CARs and SCARs for residual state ownership and negative effects on CARs and SCARs for time since initial privatization based on Perotti's (1995) credible privatization theory. We explain the negative (on residual state ownership) and positive (on time since initial privatization) moderator effects of home country policy stability based on our theoretical framework grounded in institutional theoretical perspectives.

10. *Report firm names and event dates in data appendix.* This information is available from the authors.

We also note *in italicized text* seven prescriptive criteria enunciated by Park (2004) for multi-country event studies and respond in plain text regarding how they guide our event study methodology:

1. *Select firms listed on exchanges from comparable institutional backgrounds.* We sample only from telecoms with American Depository Receipt ("ADR") programs in the US so that all telecoms and events are subject to US corporate governance and media scrutiny.

2. *Select events common to all firms.* We analyze CARs and SCARs associated with M&A, acquisition, alliance and joint venture announcements undertaken by all telecoms in the sample

3. *Control for impact of broader "world market" trends on CARs and SCARs.* By sampling from telecoms and their ADR returns, we compute CARs and SCARs based on the single largest and most globally-integrated model.

4. *Control for impact of foreign currency exchange rate trends on CARs and SCARs.* By sampling from telecoms and their US dollar-based ADR returns, we avoid possible foreign currency exchange rate distortions in CARs and SCARs.

5. *Adjust event window for cross-country differences in diffusion of event-related information.* We use a slightly longer 3-day event window based on leakage in information due to time-zone differences in an event study with global scope.

6. *Control for confounding-overlapping events.* We eliminate three events where there is overlap in event windows for a given telecom.

7. *Use alternative estimators less sensitive to cross-country differences in share-market sensitivity.* We re-estimate our equation using a binary (0-1) dependent variable where a 1 indicates positive CARs. Probit estimation yields signs and significance on key terms consistent with those obtained from generalized least squares ("GLS") estimations.

[4] We identify an investment announcement event *j* for privatizing telecom *i*, and record its date as $T = 0$. Share returns during the estimation window $T = -200$ to $T = -10$ are observed, and expected to follow the trend defined by: $E(r_{iT}) = \alpha_i + r_{mT}$. $E(r_{iT})$ is the expected shareholder return of privatizing telecom *i* on day *T*, while r_{mT} is the corresponding daily market return on the equal-weighted Standard & Poor's ("S&P") 500 index, and α_i is an intercept. For the privatizing telecom, abnormal returns on day *T* are calculated as: $AR_{iT} = r_{iT} - E(r_{iT})$. AR_{iT} is the difference between the actual shareholder returns, while r_{iT} is expected shareholder returns, $E(r_{iT})$, on the same day. *CAR* sums these daily abnormal returns over a three-day ($T = 0\text{-}2$) event window: $CAR = \Sigma AR_{iT}$.

[5] We omit one telecom *i*, British Telecom, and one year *t*, 2001.

[6] The block premium is defined by the equation: *Block Premium* $= \lambda B_b + (1 - \lambda)B_s - \alpha(1 - \lambda)(Y_b - Y_b)$. $B_{s,b}$ is the level of firm value extracted by the seller (buyer). $Y_{s,b}$ is the seller's or buyer's level of cash flow benefit per share. $\lambda \in [0,1]$ represents the bargaining power of the controlling shareholder (insider) selling his shares and $\alpha \in [0,1]$ are the cash-flow rights of the size of the controlling block. This number is the aggregate price differential that the buyer pays the seller. For the case where $\lambda = 1$, *i.e.*, the

seller has all of the bargaining power, the block premium reduces to B_b implying that the buyer pays the seller the entire value of the private benefits. Dyck and Zingales rely on this case, implicitly assuming $\lambda = 1$, and estimate a regression:

block premium$/Y_b = \alpha$(country dummy) $+ \beta$(deal characteristics) $+ \gamma$(buyer-seller characteristics) $+ \delta$(industry characteristics) $+ \varepsilon$. The coefficient on the country dummies, α, is the estimate of the value appropriability associated with a typical firm insider in that country. This coefficients, α vary from -0.01 to 0.47 with a mean value of 0.04. We collapse this continuous measure into a 0-1 dummy, λ_{12}, taking the value of 1 when α is more than one standard deviation above the mean value of 0.04.

[7] Robust standard error adjustment forgoes model-based variance estimates in favor of model-agnostic "robust" variances. Robust variances give accurate assessments of the sample-to-sample variability of the parameter estimates even when the model is mis-specified. The robust variance comes under various names. In Stata, it is known as the Huber/White/sandwich estimate of variance (Huber, 1967; White, 1980). The name "sandwich" refers to the mathematical form of the estimate, namely that it is calculated as the product of three matrices: the matrix formed by taking the outer product of the observation-level likelihood/pseudo likelihood score vectors is used as the middle of these matrices (the meat of the sandwich), and this matrix is in turn pre- and post-multiplied by the usual model-based variance matrix (the bread of the sandwich). With clustering, sample observations within a cluster may not be treated as independent, but the clusters themselves are independent. In this case, the robust calculation is straightforwardly generalized by substituting the meat of the sandwich with a matrix formed by taking the outer product of the *cluster-level* scores, where within each cluster the cluster-level score is obtained by summing the observation-level scores. Froot (1989) notes this method for adjustment in the context of financial data estimation, while Rogers (1993) provides details in command language familiar to Stata users.

[8] These 15 privatizing telecoms (and year of initial privatization) include: British Telecom (1984), Deutsche Telekom (1996), France Telecom (1997), Greece's Hellenic Telecom (1996), Korea Telecom (1993), Netherland's KPN (1994), New Zealand Telecom (1991), Nippon Telephone & Telegraph (1986), Philippine Long Distance Telephone Company (1995), Portugal Telecom (1995), Russia's Rostelecom (1997), Denmark's TDK (1994), Telecom Italia (1986), Telefónica de España (1989) Teléfonos de Mexico (1991).

[9] 20-F filings are required annually for the registration of securities by foreign private issuers pursuant to section 12(b) or (g) of the US Securities Exchange Act of 1934.

[10] Wilcoxon test results are available from the authors.

[11] Four Equation 1 terms (1986, 1991 and 1992 year dummies and Rostelecom company dummy) and four observations for those years and company are dropped leaving 192 observations in the probit estimations.

[12] Indeed, generalization may be further impaired due to sampling limited to privatizing telecoms with ADR listings in the US. This requirement almost certainly entails some sampling bias toward larger and better governed firms able to meet US corporate governance standards associated with cross-listing. On the other hand, such sampling requirements applied to other infrastructure industries would likely yield similarly-situated privatizing firms and investment events. Thus, future researchers have avenues to advance this work with practical implications for firms and states.

[13] We re-estimate Equation 1 with GLS and 3-day CARs and SCARs using time since privatization based on weeks quarters and years. Results are consistent with those reported in Columns 1-2 of Table 2. They are available from the authors.