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# CEO TURNOVER AND FOREIGN MARKET PARTICIPATION

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Abstract: Anecdotal evidence suggests that new CEOs with foreign backgrounds direct their firms to become more international in their operations. We examine this hypothesis formally using data on U.S. S&P-500 manufacturing firms from1992 through 1997 and biographical information on CEOs' birth and education locations that allow us to identify changes from U.S.- to foreign-connected CEOs. Robust to a variety of specifications, we find that a U.S. firm's switch from a U.S. to a foreign CEO leads to substantial increases in the firm's proportion of its foreign assets and foreign affiliate sales. In fact, our preferred specification indicates that foreign asset and affiliate sales proportions increase 25 and 40%, respectively, for the five years after there is CEO turnover to one with a foreign background. This is in contrast to U.S.-to-U.S. CEO switches in our sample that show no evidence of changes in a firms' foreign market participation. These large effects contrast with previous literature that finds little evidence for changes in firm performance with CEO turnover.

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## 1. Introduction.

Anecdotal evidence suggests that companies who wish to become more international in their operations seek to hire or promote foreign-born persons to the position of CEO. One example is the appointment of Egyptian-born Samir Gibara at the helm of Goodyear Tire & Rubber Co. in January 1996. In the months leading up to the change of leadership, large institutional investors such as Alliance Capital and Travelers Group were aggressively buying Goodyear's stock. One reason for increasing their positions was "the confidence about Mr. Gibara's centerpiece strategy: overseas growth" (New York Times, March 3, 1996). Another high-profile example involved the appointment of German-born Michael H. Spindler as CEO of Apple Computer Inc. in 1986. Facing stiff competition from IBM at the time, Mr. Spindler's inauguration goal was to boost the company's foreign sales from 22% of revenues to 35% (Business Week, February 10, 1986).

The first question that naturally arises from such anecdotes is whether these strategies are truly successful or just the nature of press clippings that accompany these CEO changes. In general, there appears to be little evidence for significant changes in firms' operations after a CEO turnover. Murphy and Zimmerman (1993) examine U.S. CEO turnovers from 1971 through 1989 and find little evidence that CEO turnover systematically affects important firm performance and operations indicators, including sales, assets, accounting accruals, R&D expenditures and advertising expenditures. When evidence for significant effects from CEO turnover is found, it concerns financial variables that are easily manipulated through accepted accounting practices, such as write-offs of unprofitable investments and moves to reduce reported income (see e.g., Strong and Meyer, 1987, and Elliott and Shaw, 1988).[1]

[1] There is a much more extensive literature on how firm performance may affect the probability of CEO turnover. Representative papers include Parrino (1997) and Huson et al. (2001). Another strand of the literature considers compensation and selection of investment projects and include Barron and Waddell (2003) and Smith and Watts (1993).

The main contribution of this paper is to document a surprisingly large increase in U.S. firms' foreign operations after a CEO turnover from a U.S.-born and -educated CEO to a foreign-born and -educated CEO. Using a sample of 211 U.S. firms that were part of the manufacturing section of the Standard and Poor's 500 over the period 1992-97, we examine whether changes to CEOs with foreign backgrounds leads these firms to subsequently have higher proportions of foreign assets or foreign-affiliate sales. Our primary measure of foreign CEOs is whether these individuals have been either foreign-born or -educated, though we also examine other observable indicators of CEO backgrounds to measure "foreignness." Our empirical results show that, holding other factors constant, the proportion of a firm's assets and affiliate sales that are in foreign countries (foreign affiliate asset and sales intensities) increase when companies change from U.S. CEOs to foreign CEOs. In fact, our preferred estimates show that foreign-affiliate assets as a proportion of the firm's total assets rises from an average of 24% to over 31% for the five years after the CEO change, with the majority of this increase occurring 2-3 years after switch. In similar manner, foreign-affiliate sales as a proportion of a firm's total sales rise from 28% to approximately 42% for the five years after the CEO change. In contrast, foreign affiliate asset and sales intensities for firms experiencing CEO changes that involve only U.S. born and educated individuals see no such effects.

The substantial increase in foreign operations accompanying firms' shift to foreign CEOs has a number of potential explanations. One explanation is network connections. Recent papers have explored the role of personal, social, and business connections ("networks") in overcoming informal barriers to trade such as inadequate information or poor contract enforceability.[2] As evidence for this, Gould (1994), Head and Ries (1998), and Rauch and Trindade (2002) document that immigrant stocks substantially increase trade flows between the immigrant's

[2] Rauch (2001) provides a literature review of the role of transnational networks in trade flows.

home and host countries.[3] Such network effects allow individuals to exploit trading opportunities that non-networked individuals may not have observed or were unwilling to undertake.[4] A similar explanation may be offered for why foreign CEOs lead to substantial expansion of firms' foreign operations.[5] Personal, social, and business connections that a foreign CEO has to foreign markets may provide more profitable opportunities for a firm in these markets than would have otherwise been available.

Alternatively, a firm may have a wide variety of potential expansion strategies at any given moment, but a foreign CEO may simply have a preference for expansion into foreign markets. For example, in a candid remark about heritage as a strategy, Gordon Kreh, CEO of Hartford Steam Boiler Inspection and Insurance Co. says: "Your experience gives you insight.... Coming from abroad, I have more of a global perspective" (The Hartford Courant, March 10, 1997). Another alternative is that firms that plan to undertake significant expansions into foreign markets appoint foreign CEOs as a signal to the market of the profitability of such expansion strategies.

While finding evidence to distinguish between these alternative explanations is difficult, we undertake a few alternative analyses to explore the issue further. First, we examine whether the increase in foreign market participation for the firms that switch to a foreign CEO are disproportionately in regions from where the CEO was born and/or educated. We find no

[3] Rauch and Trindade (2002) further show that such effects of immigrant stocks on trade are larger for trade in differentiated products, where the value of information is arguably more important, than homogeneous commodities.
[4] This issue has become of interest recently in the international trade literature, where substantial evidence has been found that international trade flows are vastly lower than those predicted by theory (see, e.g., McCallum, 1995).
[5] A related literature has found evidence that Japanese business groups (or networks) may promote greater FDI activity. These include Belderbos and Sleuwaegen (1996), Head, Ries, and Swenson (1995), and Blonigen, Ellis and Fausten (2000). The evidence primarily shows network effects for business groups that have vertical linkages, making it difficult to identify whether such FDI-promoting effects are due to informational advantages of networking or agglomeration externalities. Tong (2001) provides evidence that FDI is greater between countries with common Chinese immigrant stocks, suggesting such network connections amongst ethnic groups can increase FDI activity. Greaney (forthcoming) presents a theoretical model of networks and FDI activity.

evidence for this which argues against a networks explanation. On the other hand, we find that foreign market participation by firms does not decline after a reverse switch from a foreign CEO to a U.S. CEO. This may be more consistent with a networks explanation, which remain after established, than with an alternative explanation that suggests firms' investment strategies are simply influenced by the CEO's preferences (global or domestic). Finally, we examine whether U.S. CEOs with substantial experience heading international operations for major firms elicit similar foreign market expansion effects when succeeding U.S. CEOs with no such experience. In other words, do we find similar effects on foreign market participation as those we see when a company switches to a foreign-born or -educated CEO? We find no such evidence, suggesting that foreign experiences do not lead to equally strong networks and/or a global perspective as does heritage and education.

The rest of the paper is structured as follows. The next section describes our empirical framework. Section three describes the data sample construction and briefly provides descriptive statistics. Section four discusses the empirical results and section five concludes.

**2. Empirical Methodology.**

In previous literature, the determinants of FDI have been traditionally examined within the ownership-location-internalization (OLI) framework developed by Dunning (1977). Most empirical studies of firms' FDI activities have found that firms that are larger and have greater firm-specific intangible assets (typically proxied by R&D and advertising intensity) are also more likely to have multinational production and sales activities.[6] If foreign CEOs have unique network connections to foreign regions, such connections can be viewed as another type of

[6] For example, see Morck and Yeung (1992), Pugel et al. (1996), Kogut and Chang (1996), and Belderbos (1997).

intangible asset that reduces search costs (and perhaps other costs) and therefore encourages the company to increase its foreign market position, everything else equal.

Given available data (described more below) we focus on two measures of foreign market position by a firm: foreign asset intensity and foreign sales intensity. Foreign asset intensity is defined as a firm's foreign assets as a proportion of its total assets, while foreign sales intensity is foreign affiliate sales to total firm sales. We use these intensity measures, rather than levels of foreign assets and sales, since a firm's size can greatly influence the level of these foreign-market activities. Our testing equation is then the following:

$$F_INT_{it} = \alpha + \beta_1 RDINT_{it} + \beta_2 ADINT_{it} + \sum_{j=0}^{n} \lambda_{i,t-j+1} USFOR_{i,t-j} + \sum_{j=0}^{n} \theta_{i,t-j+1} CEOSWITCH_{i,t-j} + \varepsilon_{it}, \quad \textbf{(1)}$$

where *i* indexes firms, *t* indexes years, *n* denotes the number of period lags, and $\varepsilon_{it}$ is an assumed zero-mean error term. F_INT represents our foreign intensity variables: foreign-asset intensity, which we label as FAINT in our tables below, and foreign-sales intensity, which we label FSINT. As control variables we include R&D intensity ($RDINT_{it}$) and advertising intensity ($ADINT_{it}$), which are proxy variables for firm-specific intangible assets that other studies have found to increase FDI activity.[7]

The next set of variables is comprised of indicator variables for various changes in firms' CEOs, allowing for the possibility of lagged responses. USFOR is our main focus variable which takes the value of "1" when the firm has changed from a U.S. CEO to a foreign CEO. Our hypothesis is that the estimated coefficients ($\lambda$s) on this variable are positive due to anecdotal evidence that new CEOs with foreign backgrounds direct the firms they lead to become more

[7] RDINT is constructed as R&D expenditures divided by total assets and ADINT is advertising expenditures divided by the firm's total sales.

international in their operations. As a control we also include indicator variables for any CEO changes that occur, which we label CEOSWITCH. It's not clear what expected signs should be for the coefficients on the CEOSWITCH variables, particularly given mixed evidence for any changes following CEO turnovers in previous academic literature. Given this setup, the coefficients on the USFOR variables will give us the extra effect of a CEO switch from U.S. to foreign on our dependent variable beyond any changes that occur for all CEO switches.

We note that a contemporaneous correlation between a new foreign CEO and foreign-asset and -sales intensities may be difficult to interpret due to endogeneity concerns. Is the new CEO leading to greater foreign market participation or is the firm's growth in these areas leading the firm to have a foreign CEO?[8] As our results reveal below, the significant correlations take place in a lagged fashion, not contemporaneously, largely alleviating this concern over causation.[9]

Another issue is that data on firms' exports sales are unavailable for many firms and, thus, are not separately analyzed. This certainly may affect our estimates with respect to our "foreign sales" intensity variable which is defined as the percent of foreign affiliate sales to the firm's total sales, the latter of which includes export sales. If a foreign CEO leads a firm to increase its export sales more than its foreign affiliate sales, our foreign sales measure may go down, not up. Because of this issue, we will be clearly testing for whether a foreign CEO leads to greater foreign presence through increased foreign affiliate activity, not export sales activity.

[8] A few of our firms have a foreign CEO throughout our sample of years. We do not exploit this variation in our data, given our concern about endogeneity.

[9] The market signal hypothesis mentioned in the introduction may imply that a lagged effect would not resolve an endogeneity bias. Suppose a firm's managers decide to simultaneously expand into foreign markets and hire a foreign CEO, but the expansion naturally takes a longer time to come to fruition. In this case, the foreign CEO is not the reason the firm became more foreign-oriented. But this naturally begs the question of why such a firm deciding to expand into foreign markets would also want to hire a foreign CEO as part of this same strategy, if the foreign CEO did not somehow aid such a strategy. The length of the lagged effect also seems long enough to rule out such a story.

On a final note, we also include yearly dummies in our regressions to control for macroeconomic factors, such as exchange rate movements, and will also examine the inclusion of firm-fixed effects to control for time-invariant unobserved firm heterogeneity.[10]

**3. Data.**

To estimate equation (1) we construct a sample of the 211 firms that were listed in the manufacturing section of the S&P 500 during the 1992-1997 period. We focus on manufacturing firms since the bulk of U.S. FDI is by manufacturing firms, with a myriad of foreign regulatory restrictions facing firms in such sectors as services and telecommunications. Construction of the sample began with 269 manufacturing firms that were in the S&P 500 throughout our sample years. Out of this group, 211 companies had complete data for our variables of interest for the 6 years that span the period 1992 through 1997. The choice of timeframe is restricted by the availability of useable data in the S&P's Compustat database from which most of the data were collected. Specifically, information on CEO characteristics in the *ExecuComp* file of Compustat begins in 1992. Data for years beyond 1997 were excluded due to regulatory changes in accounting practices that make comparisons of figures in 1997 with subsequent years less reliable.[11]

The Industrial Annual Segment of the S&P's Compustat database was the source for annual data on firms' assets, sales, R&D expenditures, and advertising expenditures. Data on

[10] Firms in our sample have varying fiscal years and all variables that vary over time, except the time dummies, are measured over the associated firm's fiscal years. This means though that there is not a one-to-one correspondence with our time dummies and the other time-varying covariates unless the firm's fiscal year corresponds perfectly with the calendar year. This occurs in about half our sample of firms. Despite this issue, tests for joint significance of the year dummies support their inclusion in our regressions below.

[11] On June 30, 1997, the Financial Accounting Standards Board (FASB) issued the pronouncement for the Statement of Financial Accounting Standards No. 131, Disclosure about Segments of an Enterprise and Related Information (SAFS 131). The statement establishes the standards for the way companies will report information related to operating segments in their annual and interim financial reports. SFAS 131 has elected to make the new reporting more relevant than consistent or reliable.

firms' foreign assets and foreign sales were obtained using the Geographic Segment file of the same database.

As noted in the discussion above, there are two sets of dummy variables capturing information about CEO switches within firms. USFOR is an indicator that the previous CEO was U.S. and the incoming CEO is "foreign." CEO switches can be discerned through information recorded in the *ExecuComp* file of the Compustat database, which records the names and positions of firms' officers on annual basis, as well as other information on executives and their compensation at publicly traded firms. To classify switches as ones that led to a foreign CEO we gathered data on whether the company's previous and new CEOs were foreign-born or foreign-educated through searches of newspaper articles announcing CEO changes from the Academic Universe (Lexus-Nexus) searchable database and biographical information contained in the S&P's *Register of Corporations, Directors and Executives*.[12] Information on CEO heritage revealed that with a few exceptions, foreign-born executives are also foreign educated, and there are no instances of U.S.-born executives that earned their degrees abroad. Thus, we classify a CEO as "foreign-connected" if either one of the two criteria is satisfied.

Within our sample, 19 firms have a switch at some point from a U.S. to a foreign CEO out of 138 (or 13% of) total CEO switches. Table 1 lists information for the 19 cases of foreign CEO switches in our sample. Some of these relevant switches occurred in years before our sample starts in 1992 since we examine and find evidence of foreign CEO switch effects up to 5 years after a CEO switch occurs. While U.S.-to-foreign switches represent a relatively small share of switches, our results are not driven by any outlier, as our results are robust to excluding observations for any one of the firms that experienced a U.S.-to-foreign switch.

[12] Newspaper announcements of CEO changes at large firms are surprisingly consistent at giving fairly detailed biographical information about the incoming and outgoing CEOs.

In general, U.S. firms with foreign CEOs have greater foreign affiliate sales and foreign assets. As shown in Table 2, foreign-CEO companies also have higher foreign sales and foreign asset intensities. Once again, the minimum and maximum intensity measures suggest significant variation. Foreign sales intensity averages 37% for firms with foreign CEOs versus 27% for firms with U.S. CEOs. Comparable numbers for foreign asset intensity are 32% and 23%, respectively. Such results may obtain because foreign-oriented firms naturally promote and hire foreign managers and CEOs, not that foreign CEOs lead to greater foreign orientation. Our empirical analysis below will explore more explicitly the direction of the causality.

## 4. Empirical Results.

### *4.1. Preliminary Estimates: OLS*

Equation (1) was estimated for both of our foreign market intensity variables for the 1266 observations in our sample (211 companies over six years) and the results are presented in Table 3. For our CEO switching variables we begin by including both one- and two-period lags. Robust standard errors are presented in parentheses below our coefficient estimates.

Both regressions have statistically significant F-statistics for overall joint significance of the regressors, with most of the regressors statistically significant and of expected sign. F-tests suggest that year effects are not jointly significant, though they are significant when we include firm fixed-effects, discussed below. The coefficients on R&D and advertising intensity are positive, as expected, and statistically significant. This is consistent with the FDI internalization hypothesis that firms with greater intangible assets are more likely to internalize transactions by establishing plants in foreign markets.

We next turn to our variables of interest, the CEO switching variables. In the foreign-asset intensity regression, two of the three coefficients on the CEO switch variables are statistically negative. In fact, the cumulative effect of the CEO switch variables is a 10.5 percentage point drop in a firm's foreign-asset intensity over the first three years of the new CEOs tenure. This translates into a very substantial decrease, given our sample foreign-asset intensity average of 24%, and is statistically significant at the 99% confidence level. This suggests that CEO switches generally lead to a firm reducing its foreign-asset intensity. One explanation is that CEO switches occur when firms are not performing well, and such changes cause firms to focus more on domestic operations. The decline in foreign-sales intensity is also large (7.4 percentage point cumulative decline) relative to the sample average foreign-sales intensity of 28%.

In contrast, all three coefficients on our USFOR variables are positive in both regression equations, with both the contemporaneous and two-year lagged variables statistically significant. Our estimates imply that a company experiencing a switch from a U.S. CEO to a foreign connected one leads the firm to increase their foreign-asset intensity approximately 22.5 percentage points higher than firms with other CEO switches. Likewise, the coefficients suggest foreign-sales intensity increases 20.4 percentage points over the first three years of a U.S.-to-foreign CEO switch compared to other CEO switches. Combined, the coefficients suggest that a firm switching from a U.S. to a foreign-connected CEO increases its foreign-asset intensity by 12 percentage points and its foreign-sales intensity by 13 percentage points compared to a firm that has no CEO switch.[13] If we exclude the contemporaneous switching variables due to endogeneity concerns, the increase in foreign-asset and foreign-sales intensities for a switch to a

[13] Given our setup, this marginal effect is calculated as $USFOR + USFOR_{t-1} + USFOR_{t-2} + CEOSWITCH + CEOSWITCH_{t-1} + CEOSWITCH_{t-2}$. These marginal effects are statistically significant at the 95% confidence level for both regressions.

foreign-connected CEO yields 7-8 percentage point increases over firms with no such switch. In related fashion, we tried a specification that included a one-year lead for USFOR variable to examine whether foreign market participation was increasing before the CEO turnover. The coefficient on this one-year lead term is approximately -0.50 and statistically insignificant for both the foreign-asset and foreign-sales intensity equations. Thus, the change in foreign market participation clearly lags the CEO turnover.

### *4.2. Firm Fixed-Effects Estimates*

While our F-statistic for both regressions in Table 3 is statistically significant, the $R^2$s are relatively low. One possibility is that foreign market participation by firms may be due to a variety of unobserved firm characteristics that are not captured by our advertising and R&D intensity variables. Assuming these unobserved firm-specific features are invariant over our sample time period, we control for such factors with firm-level fixed effects and present these estimates in Table 4.

$R^2$s for both equations go up substantially and F-tests strongly support the inclusion of firm-level fixed effects. The estimates of the other regressors in both equations change substantially. The coefficients on our CEOSWITCH variables are no longer statistically negative, suggesting no general effect of a CEO switch on foreign market participation by a firm. This is more in line with evidence found by Murphy and Zimmerman (1993) regarding changes in other firm activities following a CEO turnover. The coefficients on the U.S.-to-foreign CEO switch variables are still positive, as expected, though only the second annual lag coefficient is statistically significant. The marginal effect of a U.S.-to-foreign switch is much reduced, suggesting approximately a three percentage point (or roughly 10-15%) increase in both the foreign asset- and sales-intensity of the firm relative to other firms in the sample. R&D intensity

continues to have the correct sign with firm fixed-effects included, but is no longer statistically significant. Advertising intensity reverses sign and is statistically significant. The poor performance of these control variables is clearly due to the inclusion of firm fixed effects, since inclusion of such effects means that the other coefficient estimates are identified solely from the time series dimension of the data. Annual changes in R&D intensity and advertising intensity may not be very informative for understanding changes in foreign market participation, whereas levels of these variables, which proxy for a firm's stock of intangible assets, are obviously correlated with a firm's long-run foreign market participation.

While we expected a lag effect in our CEO switch variables due to the time for a new CEO to change the direction of the relatively large firms in our sample, the results in Table 4 suggest that we may not have included enough lags and may be missing the full effect of such switches. In Table 5 we include five years of lags for our CEO switch variables and present estimates from a firm fixed-effects specification. The inclusion of further lags is important, as the positive effects from a U.S.-to-foreign CEO switch primarily occur in the second through fourth year after the CEO switch for both the foreign asset- and sales-intensity variables. The combined effect on foreign-asset intensity for the six years following a U.S.-to-foreign CEO switch is 18.3 percentage points (or 75% of the mean) increase and statistically significant at the 95% confidence level. Similarly, the combined effect on foreign-sales intensity for the five years following a U.S.-to-foreign CEO switch is 21.1 percentage points (or 74% of the mean) increase. The coefficients on the general CEOSWITCH variables are small and statistically insignificant, indicating that these marginal effects of the U.S.-to-foreign switch are relative to all other firms in the sample, regardless of whether they had a CEO switch or not.

Another concern with our specification and sample used in Table 5 is that it includes a handful of firms that changed CEOs due to a merger of two large firms, including the merger of

Pharmacia and Upjohn, which is recorded as a U.S.-to-foreign switch in our data. Mergers can obviously lead to large discrete changes in the firm's balance sheet and may provide spurious results in our regressions. Table 6 presents estimates using the same specification as Table 5, but dropping the seven firms in our sample that experienced CEO switches due to mergers. While the coefficients on the USFOR variables continue to be positive and show a similar pattern, dropping the merged firms does lead to smaller marginal effects. Our coefficients indicate that the foreign-asset and -sales intensities for the six years after a firm has a U.S.-to-foreign CEO switch are now 6.1 and 11.5 percentage points, respectively.[14] These effects are still substantial relative to the sample averages, which are not significantly changed by the dropping of the seven merged firms. Another feature of the USFOR coefficients is that the majority of the increase in foreign-sales intensity from a U.S.-to-foreign switch lags (by a year or two) the primary increase in foreign-asset intensity. This accords with the intuition that new sales in a region may lag the establishment of new production assets in a foreign region. While the switch variables are sensitive to dropping merged firms, our results are not driven by any of the remaining firms that experienced a U.S.-foreign switch in our sample. We can exclude any of these firms individually and generate qualitatively identical results.[15]

Table 6 results represent our preferred estimates. We also tried including a lagged dependent variable to control for remaining persistence in foreign market participation not identified by the firm fixed-effects. While the coefficients on the lagged dependent variables are statistically significant (around 0.4 for both regressions) the coefficients on the other control variables are hardly changed.

[14] The p-values for these foreign-asset and foreign-sales intensity effects are 0.15 and 0.02. Combining effects for years one through four after the turnover (where the effects are clearly the most significant), yields a 6.0 percentage increase in foreign asset intensity with a p-value of 0.01, and a 9.8 percentage point increase in foreign-sales intensity with a p-value of 0.00.

[15] We get somewhat stronger results for our U.S.-foreign CEO effects when we exclude the companies that switched from a U.S. CEO to a Canadian CEO from our sample.

### *4.3. Network Effects as an Explanation*

As discussed in the introduction, there are alternative explanations for the significant increases in foreign market participation we find after a firm switches from a U.S. to a foreign CEO. One possibility is networks effects, whereby the foreign CEOs personal and business connections provide new opportunities for expansion into foreign markets. In this section, we explore the evidence for network effects as much as the data allow.

One possibility for uncovering whether network effects are a factor is to examine whether the foreign market growth occurs disproportionately more in the region where the foreign CEO was born and/or educated – what we term as his/her heritage region. Unfortunately, accounting practices do not specify a standardized method of categorizing foreign regions across countries, with firms creating region categories as they wish. In addition, firms often report all foreign transactions as only one category. Nevertheless, we examined the data with respect to the 19 firms that experienced a U.S.-foreign CEO turnover to see if the growth in foreign market participation in the reported region category that includes the heritage region is greater than the other foreign regions reported by the firm.

Table 7 shows the 11 firms for which we have relevant data and reports the 3-year growth rate in assets and sales for the "heritage" region versus other foreign regions. The other 8 firms were excluded primarily because they did not have their foreign operations broken into more than one category. Also, one can see that for some of the firms, the reported region that comes closest to matching the CEO's heritage is not that close. For example, the new foreign CEO's for Kellogg Co. and 3M Co. are Canadian, but these companies report their Canadian operations in an "Other, Foreign" category. With these limitations in mind, the evidence in table 7 shows no support for a networks explanation. Sales growth is slower (or declines faster) for the heritage region in 9 of the 11 firms, while asset growth is slower for the heritage region in 6 of

the 11 firms. Assuming a foreign CEO would have the strongest connections in the regions where he was born and/or educated, we would expect the growth in these variables to be strongest in the heritage regions.

In Table 8, we try another experiment that potentially yields information on whether network effects may be behind our results. We have a number of instances where a firm experiences the reverse switch -- a CEO switch from a foreign CEO to a U.S. CEO. One hypothesis is that we should expect negative effects on foreign-market participation from such a switch. This expectation may be most applicable if we believe the U.S.-to-foreign CEO switch effects are simply driven by foreign CEOs preferences to expand into foreign markets, not network connections. A new U.S. CEO would presumably not have such a global preference and reverse the firms' investment trends. On the other hand, if the U.S.-to-foreign results are due to additional foreign networking that the foreign-connected CEO has established for the firm, it is not clear that these connections will necessarily dissipate. If establishing a foreign connection is primarily a fixed sunk cost, then there may be a beachhead effect such that a change back to a U.S. CEO does not significantly impact a firm's foreign market participation. Table 8 presents results when we run the same sample and specification as in Table 6, but now include contemporaneous and lagged dummy variables to capture effects from a foreign-to-U.S. CEO switch. The first four years of a foreign-to-U.S. CEO switch indicate negative effects on both foreign-asset and -sales intensities. However, the combined effects are not as large as the coefficients on the U.S.-to-foreign CEO switch variables and also not statistically significant. Thus, the evidence for a reversal effect is weak, perhaps due to beachhead effects that come from establishing network connections.

To this point we have used foreign birth or education as the sole indication of foreign connections for an individual. But there may be other ways in which U.S.-born and -educated

individuals may establish important network connections. To explore this we examined biographical information on U.S. CEO's previous experiences to see if they had either run an "international" section of a firm's operations and/or lived abroad for a significant amount of time. Using this definition of "foreign" connections we created alternative variables for U.S.-to-foreign CEO switches (ALT USFOR) and include these in our specification in Table 9 with five year lags to be consistent with the other CEO switch variables. Interestingly, there is no consistent effect seen in these U.S.-to-foreign switches using the alternative, more-inclusive definition of a foreign-connected CEO. Other variables, including our standard U.S.-to-foreign CEO switch variables are essentially unchanged. This evidence would argue against network effects to the extent one believes that U.S. CEOs heading international operations of foreign firms (or living abroad) gain valuable connection in foreign markets.

**5. Conclusion.**

This paper documents a striking increase in U.S. firms' FDI activity after a switch to a CEO that is foreign-born and/or foreign-educated. Our preferred estimates show that a U.S. firm's switch from a U.S.- to foreign-connected CEO leads to 30% and 50% increases in that firm's proportion of its foreign affiliates' assets and sales, respectively, over the 5 years following the switch. This is in contrast to other CEO switches in our sample that show no evidence of changes in these proportions after the switch. The effect also comes through as a response that lags the turnover by a number of years, suggesting that the foreign CEO is leading to the foreign market participation change, not the other way around. This significant increase in foreign market activity from a foreign CEO turnover is consistent with anecdotal evidence (mainly press releases), but is surprising in light of previous studies that find little evidence of changes in other measures of firm performance after CEO turnover.

The economic forces behind such effects are more difficult to identify. One possibility is network effects – personal and business connections of foreign CEOs allow them to exploit opportunities in foreign markets that would be unavailable to the firm without such connections. However, our evidence shows that foreign-market participation by firms experiencing U.S.-to-foreign CEO turnovers is not disproportionately in the regions where one would expect the foreign CEO's connections to be strongest. In addition, when we examine CEO switches to individuals that have previous experience running the international operations of a firm, experience that would presumably lead to development of international network connections, we find no effect of such CEO switches on the firm's FDI activities.

Ruling out network effects leaves us with alternative explanations that have less traditional economic explanations. One alternative explanation is that a firm may have a wide variety of potential expansion strategies at any given moment, but a foreign CEO may have a global perspective that gives him/her a preference for expansion into foreign markets. A second alternative is that there is a market signaling advantage to naming a foreign CEO when a firm decides to make a significant expansion into a foreign market. The lagged response of the foreign market expansion would be consistent with this story if there are significant adjustment costs to implementing the firm's expansion abroad plans. The lengthy lags in our estimates may make this alternative explanation less likely, however. We leave these issues for future research efforts.

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TABLE 1. CEO Switches from U.S. to Foreign in Sample.

| Company | Foreign CEO | Switch Year | Country of Foreign CEO Birth | Country of Foreign CEO Undergraduate Degree |
|---|---|---|---|---|
| 3Com Corp. | Eric Benhamou | 1990 | Algeria | France |
| Alberto-Culver Co. | Howard Bernick | 1994 | Canada | Canada |
| American Greetings | Morry Weiss | 1987 | Czechoslovakia | U.S. |
| Apple Computer | Michael Spindler | 1993 | Germany | Germany |
| Becton Dickinson & Co. | Clateo Castellini | 1994 | Italy | Italy |
| Campbell Soup Co. | David Willis Johnson | 1990 | Australia | Australia |
| Compaq Computer Corp. | Eckhard Pfeiffer | 1991 | Germany | Germany |
| Ford Motor Co. | Alexander Trotman | 1993 | U.K. | U.S. |
| General Dynamics Corp. | William Anders | 1991 | Hong Kong | U.S. |
| Goodyear Tire & Rubber | Samir Gibara | 1996 | Egypt | Egypt |
| Intel Corp. | Andrew Grove | 1987 | Hungary | U.S. |
| Kellogg Co. | Arnold Langbo | 1992 | Canada | Canada |
| Mead Corp. | Steven Mason | 1992 | Canada | U.S. |
| 3M Co. | Livio DeSimone | 1991 | Canada | Canada |
| National Service Ind. | Sidney Kirschner | 1987 | Canada | U.S. |
| Pharmacia & Upjohn | Ley Smith | 1993 | Canada | Canada |
| Philip Morris Cos. Inc. | Geoffrey Bible | 1994 | Australia | Australia |
| Rubbermaid Inc. | Wolfgang Schmitt | 1992 | Germany | U.S. |
| Warner Lambert Co. | Melvin Goodes | 1991 | Canada | Canada |

TABLE 2. Foreign-Asset and Foreign-Sales Intensities for Sample Companies over the Period, 1992-97.

| | Average Foreign-Sales Intensity (Percent of Total Sales) | | | Average Foreign-Asset Intensity (Percent of Total Assets) | | |
|---|---|---|---|---|---|---|
| | Companies with U.S.-born CEOs (N = 183) | Companies with Foreign-born CEOs (N = 28) | All Companies (N = 211) | Companies with U.S.-born CEOs (N = 183) | Companies with foreign-born CEOs (N = 28) | All Companies (N = 211) |
| Mean | 27 | 37 | 28 | 23 | 32 | 24 |
| Median | 26 | 42 | 27 | 23 | 36 | 25 |
| Maximum | 104 | 67 | 104 | 65 | 56 | 65 |
| Minimum | 0 | 5 | 0 | 0 | 0 | 0 |

Notes: Foreign sales exceed total sales in one instance where the company (Fortune Brands Inc.) was engaged in the production of commodities (such as tobacco, liquor, oil, etc.) that are subject to excises taxes. Such taxes are included in the computation of foreign sales but netted out of total company sales.

TABLE 3. OLS Estimates of Foreign CEO Switch Effects on Foreign-Sales and Foreign-Asset Intensities.

| Explanatory Variables | Foreign-Asset Intensity (N = 1266) | Foreign-Sales Intensity (N = 1266) |
|---|---|---|
| USFOR | 8.59** | 7.85* |
| | (3.71) | (4.21) |
| $USFOR_{(t-1)}$ | 4.45 | 4.52 |
| | (3.32) | (4.16) |
| $USFOR_{(t-2)}$ | 9.43** | 8.02* |
| | (3.71) | (4.16) |
| CEOSWITCH | - 4.31*** | - 2.75 |
| | (1.50) | (1.92) |
| $CEOSWITCH_{(t-1)}$ | - 2.21 | - 1.47 |
| | (1.55) | (1.90) |
| $CEOSWITCH_{(t-2)}$ | - 3.97** | - 3.22* |
| | (1.60) | (1.78) |
| RDINT | 1.14*** | 1.68*** |
| | (0.12) | (0.14) |
| ADINT | 0.77*** | 0.90*** |
| | (0.15) | (0.17) |
| Year Dummies | YES | YES |
| R-squared | 0.11 | 0.15 |

TABLE 6. Firm Fixed-Effects Estimates of Foreign CEO Switch Effects on Foreign-Sales and Foreign-Asset Intensities: Dropping Merged Firms.

| Explanatory Variables | Foreign-Asset Intensity (N = 1224) | Foreign-Sales Intensity (N = 1224) |
|---|---|---|
| USFOR | 1.72 | 1.56 |
| | (1.12) | (1.23) |
| $USFOR_{(t-1)}$ | 1.92* | 1.90* |
| | (1.03) | (0.97) |
| $USFOR_{(t-2)}$ | 3.02** | 4.02*** |
| | (1.19) | (1.33) |
| $USFOR_{(t-3)}$ | 1.74 | 3.54*** |
| | (1.12) | (1.24) |
| $USFOR_{(t-4)}$ | 1.18 | 3.47*** |
| | (1.31) | (1.23) |
| $USFOR_{(t-5)}$ | - 0.51 | 1.04 |
| | (1.63) | (1.49) |
| CEOSWITCH | - 0.77 | - 0.42 |
| | (0.69) | (0.64) |
| $CEOSWITCH_{(t-1)}$ | 0.09 | - 0.40 |
| | (0.62) | (0.62) |
| $CEOSWITCH_{(t-2)}$ | - 0.92 | - 1.50 |
| | (0.76) | (1.02) |
| $CEOSWITCH_{(t-3)}$ | - 0.61 | - 0.61 |
| | (0.68) | (0.63) |
| $CEOSWITCH_{(t-4)}$ | - 0.38 | - 0.58 |
| | (0.67) | (0.62) |
| $CEOSWITCH_{(t-5)}$ | - 0.42 | - 0.51 |
| | (0.79) | (0.80) |
| RDINT | 0.37 | 0.24 |
| | (0.24) | (0.16) |
| ADINT | - 0.57*** | - 0.07 |
| | (0.17) | (0.15) |
| Year Dummies | YES | YES |
| Firm Dummies | YES | YES |
| R-squared | 0.92 | 0.95 |
| F-Statistic | 3.13 | 4.26 |
| Prob. (F-Statistic) | 0.000 | 0.000 |

Notes: Robust standard errors in parentheses. ***, **, and *, denote significance at the 1%, 5%, and 10% levels respectively.

TABLE 7: Three-Year Growth in Foreign Affiliate Sales and Assets in Foreign-CEO Heritage Region and Other Foreign Regions After CEO Turnover.

| Company | CEO's birth place/ education place | Reported Region That Most Closely Corresponds to CEO Heritage | 3-Year Growth Rates After CEO Turnover | | | |
|---|---|---|---|---|---|---|
| | | | Sales Growth | | Asset Growth | |
| | | | Heritage Region | Other Foreign Regions | Heritage Region | Other Foreign Regions |
| Apple Computer | Germany/Germany | Africa, Middle East, Europe | -20.5% | -9.6% | -31.5% | -33.2% |
| Becton Dickinson & Co. | Italy/Italy | Europe | 10.2% | 15.0% | 67.5% | 42.7% |
| Campbell Soup Co. | Australia/Australia | Australia | 3.1% | 26.8% | 4.4% | 55.8% |
| Compaq Computer Corp. | Germany/Germany | Europe | 184.7% | 459.8% | 97.4% | 360.6% |
| Ford Motor Co. | U.K./U.S. | Europe | 14.5% | 46.4% | 23.8% | 15.7% |
| Goodyear Tire & Rubber | Egypt/Egypt | Eastern Europe, Africa, Middle East | -12.3% | 16.3% | 36.3% | 53.7% |
| Intel Corp. | Hungary/U.S. | Europe | 55.8% | 51.1% | 124.1% | 10.9% |
| Kellogg Co. | Canada/Canada | Other, Foreign | 14.1% | 16.2% | 16.8% | 21.4% |
| 3M Co. | Canada/Canada | Other, Foreign | -13.3% | 35.6% | -1.5% | 33.3% |
| Philip Morris Cos. Inc. | Australia/Australia | Asia, Australia, Canada, Other | 69.4% | 9.1% | 17.6% | -4.6% |
| Warner Lambert Co. | Canada/Canada | Asia, S. America, N. America | 41.0% | 47.9% | 55.4% | 129.4% |

Notes: Three-year growth rates calculated from Compustat data and corporate 10-K reports. Growth figures for Goodyear Tire and Rubber concern only tire operations, which represented 85% of firm's total sales in 2000.

TABLE 8. Firm Fixed-Effects Estimates of Foreign CEO Switch Effects on Foreign-Sales and Foreign-Asset Intensities: Examining Foreign to U.S. CEO Switches.

| Explanatory Variables | Foreign-Asset Intensity (N = 1224) | Foreign-Sales Intensity (N = 1224) |
|---|---|---|
| USFOR | 1.64 | 1.49 |
| | (1.14) | (1.21) |
| $USFOR_{(t-1)}$ | 1.67 | 1.82* |
| | (1.07) | (0.99) |
| $USFOR_{(t-2)}$ | 2.74** | 4.05*** |
| | (1.21) | (1.40) |
| $USFOR_{(t-3)}$ | 1.47 | 3.42*** |
| | (1.13) | (1.18) |
| $USFOR_{(t-4)}$ | 1.27 | 3.57*** |
| | (1.38) | (1.27) |
| $USFOR_{(t-5)}$ | - 0.01 | 1.37 |
| | (1.64) | (1.54) |
| CEOSWITCH | - 0.60 | - 0.30 |
| | (0.71) | (0.67) |
| $CEOSWITCH_{(t-1)}$ | 0.39 | - 0.30 |
| | (0.63) | (0.65) |
| $CEOSWITCH_{(t-2)}$ | - 0.59 | - 1.41 |
| | (0.77) | (1.08) |
| $CEOSWITCH_{(t-3)}$ | - 0.28 | - 0.50 |
| | (0.71) | (0.66) |
| $CEOSWITCH_{(t-4)}$ | - 0.42 | - 0.67 |
| | (0.70) | (0.66) |
| $CEOSWITCH_{(t-5)}$ | - 0.75 | - 0.69 |
| | (0.80) | (0.82) |
| FORUS | - 1.09 | - 1.35 |
| | (1.92) | (1.56) |
| $FORUS_{(t-1)}$ | - 2.13 | - 0.76 |
| | (2.34) | (1.39) |
| $FORUS_{(t-2)}$ | - 1.60 | - 0.54 |
| | (2.29) | (1.64) |
| $FORUS_{(t-3)}$ | - 1.83 | - 0.69 |
| | (1.79) | (1.62) |
| $FORUS_{(t-4)}$ | 0.53 | 0.50 |
| | (1.43) | (1.37) |
| $FORUS_{(t-5)}$ | 3.44 | 1.72 |
| | (2.87) | (3.63) |
| RDINT | 0.35 | 0.23 |
| | (0.24) | (0.16) |
| ADINT | - 0.58*** | - 0.07 |
| | (0.17) | (0.14) |
| Year Dummies | YES | YES |
| Firm Dummies | YES | YES |
| R-squared | 0.92 | 0.95 |
| F-Statistic | 2.55 | 3.33 |
| Prob. (F-Statistic) | 0.000 | 0.000 |

Notes: Robust standard errors in parentheses. ***, **, and *, denote significance at the 1%, 5%, and 10% levels respectively.

TABLE 9. Firm Fixed-Effects Estimates of Foreign CEO Switch Effects on Foreign-Sales and Foreign-Asset Intensities: Alternative Definition of Foreign Connections.

| Explanatory Variables | Foreign-Asset Intensity (N = 1224) | Foreign-Sales Intensity (N = 1224) |
|---|---|---|
| USFOR | 1.37 | 1.42 |
| | (1.25) | (1.30) |
| $USFOR_{(t-1)}$ | 1.72 | 1.93* |
| | (1.09) | (1.07) |
| $USFOR_{(t-2)}$ | 2.34* | 3.59** |
| | (1.20) | (1.42) |
| $USFOR_{(t-3)}$ | 1.59 | 3.39*** |
| | (1.16) | (1.26) |
| $USFOR_{(t-4)}$ | 1.31 | 3.42*** |
| | (1.34) | (1.26) |
| $USFOR_{(t-5)}$ | - 0.59 | 0.83 |
| | (1.65) | (1.47) |
| CEOSWITCH | - 0.81 | - 0.37 |
| | (0.77) | (0.71) |
| $CEOSWITCH_{(t-1)}$ | 0.19 | - 0.33 |
| | (0.65) | (0.66) |
| $CEOSWITCH_{(t-2)}$ | - 0.28 | - 1.03 |
| | (0.74) | (1.13) |
| $CEOSWITCH_{(t-3)}$ | - 0.54 | - 0.45 |
| | (0.71) | (0.66) |
| $CEOSWITCH_{(t-4)}$ | - 0.59 | - 0.55 |
| | (0.68) | (0.65) |
| $CEOSWITCH_{(t-5)}$ | - 0.39 | - 0.33 |
| | (0.79) | (0.74) |
| ALT USFOR | 0.46 | - 0.55 |
| | (1.03) | (1.24) |
| ALT $USFOR_{(t-1)}$ | - 0.06 | - 0.47 |
| | (1.36) | (1.42) |
| ALT $USFOR_{(t-2)}$ | - 2.92 | - 2.78 |
| | (1.79) | (1.80) |
| ALT $USFOR_{(t-3)}$ | 0.98 | - 0.92 |
| | (1.34) | (1.31) |
| ALT $USFOR_{(t-4)}$ | 2.76** | - 0.18 |
| | (1.36) | (1.44) |
| ALT $USFOR_{(t-5)}$ | 0.42 | - 1.76 |
| | (2.10) | (3.30) |
| RDINT | 0.37 | 0.23 |
| | (0.24) | (0.16) |
| ADINT | - 0.57*** | - 0.08 |
| | (0.17) | (0.14) |
| Year Dummies | YES | YES |
| Firm Dummies | YES | YES |
| R-squared | 0.92 | 0.95 |
| F-Statistic | 3.45 | 3.53 |
| Prob. (F-Statistic) | 0.000 | 0.000 |

Note: Robust standard errors in parentheses. ***, **, and *, denote significance at the 1%, 5%, and 10% levels respectively.