**BOARD REPRESENTATION IN INTERNATIONAL JOINT VENTURES**

**ONLINE SUPPLEMENTS**

**APPENDIX S1: SUPPLEMENTARY ANALYSES AND ROBUSTNESS CHECKS**

The analysis we report in the main text provides evidence that is consistent with foreign partners converting their equity into more (less) board representation when the internal role of the board becomes more (less) important. We also found evidence that is in line with foreign partners having less (more) incentives to convert their equity into board representation when the external role of the board becomes more (less) important, where it becomes more (less) preferable for the foreign partner to allow the local partner to have more board representation. In addition to this, it would also be interesting to explore whether foreign partners would be able to convert a minority equity stake into majority board representation, or conversely whether they would be willing to settle for a minority board representation when they have a majority equity stake.[[1]](#footnote-1) As exploring such disparities might offer additional insights, we constructed an alternative dependent variable that is categorical and which captures both whether there is a disparity between board representation and equity as well as the direction of any such disparity. This categorical variable is calculated based on whether the foreign partner has a minority, majority, or 50% equity stake, and whether the foreign partner has a minority, majority, or 50% board representation.[[2]](#footnote-2) Specifically, this alternative dependent variable is set to zero when there is no disparity between ownership levels and the level of board representation (i.e. cases 1, 5 and 9), set to 1 when the foreign partner has more board representation than one would expect given the level of equity (i.e. cases 4, 7 and 8), and set to -1 when the foreign partner has less board representation than one would expect given the level of equity (i.e. cases 2, 3 and 6). Using an ordered logistic regression we find support for Hypothesis 1 (*p-value* = 0.027), and Hypothesis 2 (*p-value* = 0.027), while we do not find support for Hypotheses 3 and 4 (results available upon request). Combined with our earlier findings, this suggests that while foreign partners are willing to leave board representation to the local partner when the external role of the board is more important, they are not willing to do this to the extent of giving up control by taking a minority position on the board when they have a majority equity stake. In contrast, when the internal role of the board becomes more important, foreign partners seem to be motivated and able to convert even minority equity stakes into majority board representation. Similarly, when the internal role becomes less important, they are willing to settle with minority board representation even if they have a majority equity stake.

To check the robustness of our results we performed several additional analyses. First, we found that our results are robust to alternative clustering approaches. In our main analysis we presented clustered robust standard errors, which accounted for possible non-independence of observations within the same host country. In addition, we also clustered to adjust for possible non-independence within the foreign partner’s home country. The results were consistent with those we report in the main models and all hypotheses remain supported.

Second, we checked the robustness of our results using random effects for host countries or partners’ home countries, and the interpretations were consistent with our hypotheses. Similarly, we also tested our baseline prediction and Hypotheses 2 and 4 using host country fixed-effects in the model. This yielded results consistent with the baseline relationship between equity and board representation and also with Hypothesis 2 (*p* < 0.01 in each specification) but Hypothesis 4 did not receive significant statistical support in this alternative model. We are not able to replicate this particular robustness approach to test our other hypotheses that use time invariant measures at the host country level. Finally, we also tested all of our hypotheses using fixed effects for the home country of the foreign partner, which yielded support for all hypotheses.

Third, every observation in our sample comes from a different key informant who is associated with only one IJV. However, a small number of IJVs and thereby key informants in our sample belong to the same ultimate parent. We do not have any theoretical reason to expect that informants belonging to the same parent company but to different IJVs are related in a way that would influence their survey responses and assessments. Nevertheless, we re-estimated our coefficients by clustering by parent company, which yielded similar results to those reported in our main models.

Fourth, since our data consist of two levels, i.e. the country level and the IJV level, we considered multilevel models to test the determinants of foreign partners’ board representation. Namely, we used multilevel mixed-effects linear regression (also referred to as hierarchical models or multilevel models), which yielded results that are consistent with our original findings and hypotheses. Specifically, we explored multilevel mixed-effects linear regression models using random intercepts for IJV host countries. However, the likelihood-ratio test comparing the mixed model to ordinary regression indicates that ordinary regression models are to be preferred since the variance component that would be predicted in addition by the multilevel model is not significant (*p* > 0.70). In addition, we explored models that also included random-slopes for foreign equity. Again this yielded results consistent with our original findings, and the likelihood-ratio test comparing the mixed model to ordinary regression suggests that ordinary regression models are to be preferred (*p* > 0.65).

Fifth, we checked whether endogeneity might be a problem for our estimations and interpretations. In particular, we tested whether foreign equity might be an endogenous variable in our sample. Using the difficulty and level of formalization of the contract as an identifier, with an instrumental variable estimation, we tested whether foreign equity might indeed be endogenous, thus possibly necessitating 3SLS for proper estimation, instead of the OLS estimator we employ. However, the Durbin-Wu-Hausman test for the endogeneity of foreign equity failed to reject the null hypothesis of exogeneity (*p* > 0.30).

Sixth, the IJVs in our sample were located in 10 different host countries spread across Asia, covering both developed and developing nations. At the time when our survey was conducted ownership restrictions for foreign investors were largely lifted. Nevertheless, we checked the robustness of our results by separately removing the set of observations from host countries that historically had ownership restrictions. In all models our hypotheses remain supported, confirming that our results are not driven by any particular ownership restrictions in specific countries in our sample.

Finally, we assessed the stability of our results by using a bootstrapping procedure, which confirms that the results are not driven by outliers or specific IJVs or partners. In particular, we re-calculated our coefficients using 10,000 random samples drawn with replacement from the original data. The confidence intervals for the coefficients derived from this bootstrapping approach are consistent with the results of our main models and our hypotheses (results available upon request).

**APPENDIX S2: COMMON METHOD AND SINGLE RESPONDENT BIAS**

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| **Remedies** |  | **Implementation** |
| **Ex Ante Procedural Approaches** |
| *Anonymity & confidentiality:* This reduces the respondent's tendency to answer the questions in a more socially desirable or acquiescent way (Podsakoff et al., 2003). |  | Our cover page assured the respondents of complete anonymity. Furthermore, we mention on each page that the survey is confidential. |
| *Item ambiguity:* This reduces problems in the comprehension stage of the response process (Chang et al., 2010). |  | We phrased all our questions in a concise and simple way, avoiding ambiguous, vague, unfamiliar terms or double barreled questions. We piloted the survey with managers to ensure our questions were easy to comprehend. |
| *Fact-based items:* This reduces the respondent's tendency to answer the questions in a more socially desirable, lenient, acquiescent and/or a way that is more consistent with how the researcher wants them to respond (Podsakoff et al., 2003). |  | We used fact-based items wherever possible, reducing the likelihood that the respondents would respond in a socially desirable way.  |
| **Ex Post Statistical Approaches** |
| *Harman’s one factor test:* An exploratory factor analysis to evaluate whether all items from each of the constructs load on a single factor and/or whether the variance in the data can largely be attributed to one factor. The emergence of a single factor or one that explains the majority of the variance would indicate the existence of a substantial amount of common method bias in the data (Podsakoff et al., 2003). |  | An unrotated factor analysis on all the items from the survey that are used in the variables in our models revealed 3 factors with eigenvalues greater than 1, which together accounted for 80% of the variance. The one factor with the largest eigenvalue accounted for only 27% of the variance. These suggest that no substantial amount of common method bias exist in the data (Podsakoff et al., 2003). |
| *Partial correlation adjustments:* Identifying and using a marker variable that is theoretically unrelated to at least one other variable in the study and preferably the dependent variable can help control for Common Method Bias (Lindell and Whitney, 2001). |  | The marker variable we use captures how the local parent uses its profits. After the partial correlation adjustment, all of our significant zero-order correlations remain significant. This suggests that our results do not suffer from common-method bias problems. |
| *Triangulation using archival sources:* Triangulating survey data with data from secondary sources can be used to check the convergent validity of a construct (e.g., Dhanaraj et al, 2004). |  | We compared two of our measures, the equity distribution between the parents and the age of the JV, with secondary data from Thompson Financial’s Security Data Corporation (SDC) wherever we could match the IJVs in our sample with SDC. We found the data to be fully (100%) consistent with the survey data (for 27 data points). |
| *Complex model:* The likelihood of common method bias is reduced by specifying complex relationships that are unlikely to be a part of the respondents’ mental maps (e.g., Chang et al, 2010). |  | We use interaction effects which reduces the possibility that our results are an artifact of the respondents theorizing the relationship between these variables and our dependent variable. |

**APPENDIX S3: INTERACTION PLOTS**

**FIGURE 1: Interaction Effect with Environmental Volatility**

The interaction effect between equity and environmental volatility does not reverse and remains significant across the range of observed values in our sample.

**FIGURE 2: Interaction Effect with Competitive Overlap**

The interaction effect between equity and competitive overlap does not reverse and remains significant across the range of observed values in our sample.

**FIGURE 3: Interaction Effect with Board Monitoring Effectiveness**

The interaction effect between equity and board monitoring effectiveness does not reverse and remains significant across the range of observed values in our sample.

**FIGURE 4: Interaction Effect with Market Growth**

The interaction effect between equity and market growth does not reverse and remains significant across the range of observed values in our sample.

**APPENDIX S4: SURVEY ITEMS FOR THE PERCEPTUAL INDEPENDENT VARIABLES**

In contrast to the other survey items we used to construct our variables, which were all factual, two of our measures are perceptual: *Competitive overlap* and *Market Growth.*

Our measure of *Competitive overlap* captures the respondents’ perception of the degree of competitive overlap between the partners was measured by the following item where the response was based on a 7-point scale (anchored by “not at all” and “direct competitors”): *How much overlap is there between the two parents’ served markets?*

For our measure of *Market Growth,* we used the following item (anchored by “declining market” and “growing market”): *What is your general evaluation of the market in which this joint venture operates?*

**REFERENCES**

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1. We thank an anonymous reviewer for suggesting this analysis. [↑](#footnote-ref-1)
2. There are 9 different possible cases. Case 1: majority equity and majority board; Case 2: majority equity and 50-50 board; Case 3: majority equity and minority board; Case 4:50-50 equity and majority board; Case 5: 50-50 equity and 50-50 board; Case 6: 50-50 equity and minority board; Case 7: minority equity and majority board; Case 8: minority equity and 50-50 board; Case 9: minority equity and minority board. [↑](#footnote-ref-2)