**Online Appendix for “Enforcing Economic Sanctions by Tarnishing Corporate Reputations”**

*Business and Politics*

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1. Combined Figure 2

Figure A1 below replicates Figure 2 in the paper but combines both trend lines into the same figure. There appears to be some overlap of the confidence intervals visually, however we test whether there are overlapping confidence intervals in Section IV of the Online Appendix since visual overlapping is not always conclusive.

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**Figure A1**. Replication of Figure 2 in the main paper with 95% confidence intervals.

1. OLS Regression Results

We also replicate the results of our paper using ordinary least squares (OLS) with a logged dependent variable in Models 5-8. The results of these regressions can be found in Table A1 below:

**Table A1. Replication of Table 1 using OLS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
|  | Model 5 | Model 6 | Model 7 | Model 8 |
| Profile | 1.689\* | 1.461\* | 0.885\* | 0.542 |
|  | (0.478) | (0.411) | (0.403) | (0.419) |
|  |  |  |  |  |
| Foreign |  | 2.950\* | 1.875\* | 1.411\* |
|  |  | (0.420) | (0.417) | (0.538) |
|  |  |  |  |  |
| Profile \* Foreign |  |  |  | 1.320 |
|  |  |  |  | (1.134) |
|  |  |  |  |  |
| Financial Services |  |  | 0.464 | 0.464 |
|  |  |  | (0.342) | (0.349) |
|  |  |  |  |  |
| Voluntary Disc. |  |  | 0.391 | 0.445 |
|  |  |  | (0.287) | (0.291) |
|  |  |  |  |  |
| Egregious |  |  | 2.641\* | 2.648\* |
|  |  |  | (0.376) | (0.380) |
|  |  |  |  |  |
| Unknown |  |  | 0.386 | 0.374 |
|  |  |  | (0.593) | (0.613) |
|  |  |  |  |  |
| Trump Admin. |  |  | 0.309 | 0.359 |
|  |  |  | (0.308) | (0.320) |
|  |  |  |  |  |
| Biden Admin. |  |  | -0.0130 | -0.0334 |
|  |  |  | (0.553) | (0.542) |
|  |  |  |  |  |
| Profile \* Foreign |  |  |  | 1.320 |
|  |  |  |  | (1.134) |
|  |  |  |  |  |
| Constant | 12.44\* | 11.76\* | 11.13\* | 11.19\* |
|  | (0.191) | (0.179) | (0.220) | (0.211) |
| Observations | 207 | 207 | 207 | 207 |
| *R*2 | 0.063 | 0.306 | 0.480 | 0.487 |
| RMSE | 2.532 | 2.183 | 1.919 | 1.911 |

Robust standard errors in parentheses

\* *p* < 0.05

Using Model 7, for every 0.01 increase in a firm’s profile, the OFAC penalty creases 1.44%. The average profile score for a firm in the data is 0.31. “Average firms” in the data can expect to see their fines *increase* 44.64%.

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**Figure A2.** Replication of Figure 2 with 95% confidence intervals. The figures show the change in logged dependent variable as a firm’s profile increases.

1. Distribution of Firms Across Profile Components

**Table A2: Distribution of Firms Across Profile Variables**

|  |  |  |  |
| --- | --- | --- | --- |
| *Number of firms* | *Profile Rankings (Profile Score)* | | |
| 109 | Lowest profile: Private, non-Brand, and not a Fortune 500 firm (0.00) | | |
| 1 | Brand only (0.34) |  |  |
| 38 | Publicly traded (0.36) |  |  |
| 1 | Brand & Fortune 500 (0.69) | |  |
| 14 | Publicly traded & Brand (0.70) | |  |
| 16 | Publicly traded & Fortune 500 (0.71) | | |
| 28 | Highest profile: Publicly traded, Brand, & Fortune 500 (1.06) | | |
| 207 | *Total* |  |  |

1. Overlapping Confidence Intervals

There was some concern during the review process that the confidence intervals could be overlapping. Overlapping confidence intervals do not necessarily indicate a lack of statistical significance or differences between groups. The confidence intervals in Figure 2 are calculated for each group (*Foreign* and *Domestic* firms) in the sample, which does not take into the account the mean difference between those groups. The confidence intervals that are displayed in Figure 2 are calculated from the standard errors of each group.

To assess whether there is a lack of statistical significance due to overlapping confidence intervals, we must understand the relationship between the standard error of the difference and the individual standard errors of each of our data points (in this case, the 22 data points across the possible values of a firm’s profile). To check whether there are differences in the marginal effects between our two groups, *Foreign* and *Domestic* firms, we calculate the marginal effects after running our generalized linear model (GLM) with gamma-log link.

In Stata, we save the data from the marginal effects to run a *paired* t-test across the marginal effects for each of our two groups across 22 data points of the *Profile* variable after reshaping the data. The *paired t­*-test assess the difference in means across *Foreign* and *Domestic* firms across each of the 22 data points of the *Profile* variable. The results of the two-sided t-test -- the difference between the means do not equal zero – is statistically significant with a *p-*value of 0.001 and a *t* statistic of |5.47|. This indicates that the two groups are statistically differently.

The Stata output of the *t-*test can be seen below (Figure A2):



**Figure A3**. Results of paired t-test. Note that \_margin0 refers to *Domestic* firms, and \_margin1 refers to *Foreign* firms.

1. *Profile* two-sample t-tests

We also conduct a two-sample *t*-test for our Profile variable. One consideration of our study is whether there is a difference in the nature of a firm’s profile because it is a domestic or foreign firm.

The *t-*test allows us to test whether the difference in means is statistically significant. The results of our two tests are show below in the Stata output. The standard deviations of the two groups is quite similar with *N* of 207.

As the results indicate, there is no statistical difference between the means of the two groups, *Domestic* and *Foreign* firms. Why is this important? If the results were statistically significant, it might indicate that a firm’s *Domestic* or *Foreign* status plays a role in the determination of the firm’s profile.



**Figure A4**. Two-sample *t-*test of firm profile with equal variances across domestic and foreign firms with 95% confidence intervals.



**Figure A5**. Two-sample *t-*test of firm profile with unequal variances across domestic and foreign firms with 95% confidence intervals.

1. GLMs with gamma log link for individual components

Table A3-1 contains the results of six regressions. Models 1 and 2 in Table A3-1 refer to Brands; Models 3-4 to Fortune500 companies; Models 5-6 with Publicly Traded companies. Table A3-2 generates the marginal effects, and we report the results and the statistical significance of those results are indicated.

**Table A3-1. GLM Regression Results with Gamma Log Link Using Brand, Fortune500, and Publicly Traded Variables and Interactions**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
|  |  |  |  |  |  |  |
| Foreign | 2.687\* | 2.759\* | 2.500\* | 2.151\* | 2.778\* | 2.502\* |
|  | (0.419) | (0.443) | (0.372) | (0.392) | (0.349) | (0.393) |
|  |  |  |  |  |  |  |
| Brand | 0.201 | 0.306 |  |  |  |  |
|  | (0.365) | (0.396) |  |  |  |  |
|  |  |  |  |  |  |  |
| Foreign \* Brand |  | -0.507 |  |  |  |  |
|  |  | (0.716) |  |  |  |  |
|  |  |  |  |  |  |  |
| Fortune 500 |  |  | 1.108\* | 0.648 |  |  |
|  |  |  | (0.348) | (0.434) |  |  |
|  |  |  |  |  |  |  |
| Foreign \* Fortune 500 |  |  |  | 1.053 |  |  |
|  |  |  |  | (0.686) |  |  |
|  |  |  |  |  |  |  |
| Publicly Traded |  |  |  |  | 1.555\* | 1.439\* |
|  |  |  |  |  | (0.289) | (0.309) |
|  |  |  |  |  |  |  |
| Foreign \* Publicly Traded |  |  |  |  |  | 0.576 |
|  |  |  |  |  |  | (0.623) |
|  |  |  |  |  |  |  |
| Financial Svcs. | 0.399 | 0.395 | 0.0235 | 0.0133 | 0.0559 | -0.0160 |
|  | (0.353) | (0.350) | (0.303) | (0.310) | (0.318) | (0.321) |
|  |  |  |  |  |  |  |
| Voluntary Disc. | 0.482 | 0.447 | 0.243 | 0.326 | 0.265 | 0.276 |
|  | (0.343) | (0.335) | (0.279) | (0.282) | (0.259) | (0.256) |
|  |  |  |  |  |  |  |
| Egregious | 2.929\* | 2.943\* | 2.917\* | 2.963\* | 2.495\* | 2.443\* |
|  | (0.482) | (0.482) | (0.456) | (0.438) | (0.351) | (0.368) |
|  |  |  |  |  |  |  |
| Unknown | 0.0293 | 0.0565 | 0.0969 | -0.0129 | 0.520 | 0.471 |
|  | (0.690) | (0.698) | (0.635) | (0.617) | (0.697) | (0.676) |
|  |  |  |  |  |  |  |
| Trump Admin. | -0.283 | -0.312 | -0.260 | -0.136 | -0.126 | -0.131 |
|  | (0.307) | (0.313) | (0.283) | (0.272) | (0.249) | (0.247) |
|  |  |  |  |  |  |  |
| Biden Admin. | -0.745 | -0.742 | -0.403 | -0.477 | -0.433 | -0.470 |
|  | (0.438) | (0.433) | (0.453) | (0.455) | (0.378) | (0.374) |
|  |  |  |  |  |  |  |
| Constant | 12.91\* | 12.90\* | 12.88\* | 12.90\* | 12.22\* | 12.30\* |
|  | (0.338) | (0.338) | (0.325) | (0.323) | (0.217) | (0.227) |
| Observations | 207 | 207 | 207 | 207 | 207 | 207 |

Standard errors in parentheses; \* *p* < 0.05

**Table A3-2. Predicted Penalties**

Table A3-2 shows the predicted penalties for each of the regressions with interactions in Table A3-1. The standard errors of the marginal effects were calculated. Those values that are starred are statistically significant (alpha = 0.05). The sample size for each group is listed in parentheses after each penalty.

As Table A3-2 shows, firms that are brands, Fortune 500, or are publicly traded have higher fines on average. Of course, foreign firms face high penalties on average, but the pattern of higher fines when there is a higher profile is consistent across all three indicators. We do note that the marginal effects for foreign brands is not statistically significant, which may be the result of the very low sample size (there are only 7 foreign brands in the data).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Domestic Firms |  | Foreign Firms |  |
| Brand | 3,781,599\* (37) |  | **43,900,000 (7)** |  |
| Non-Brand | 2,783,760\* (117) |  | 36,000,000\* (46) |  |
| Fortune500 | 4,667,948\* (27) |  | 115,000,000\* (18) |  |
| Not Fortune 500 | 2,442,283\* (127) |  | 21,000,000\* (35) |  |
| Publicly Traded | 3,589,201\* (67) |  | 78,000,000\* (29) |  |
| Not Publicly Traded | 851,012\* (87) |  | 10,400,000\* (24) |  |

\* *p* < 0.05; In the data set, there are only 7 foreign brands in the data with penalties ranging from $69k to $727m with a mean of $173m.

1. Summary Statistics

**Table A4. Summary Statistics**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Variables* | *Obs* | *Mean* | *Std. Deviation* | *Minimum* | *Maximum* |
| ln Penalty (2021 USD) | 207 | 12.98 | 2.61 | 7.78 | 20.81 |
| Penalty (2021 USD) | 207 | 26,600,000 | 121,000,000 | 2393.55 | 1,090,000,000 |
| Profile | 207 | 0.32 | 0.39 | 0 | 1.06 |
|  |  |  |  |  |  |
| *Foreign* |  |  |  |  |  |
| Domestic (0) | 207 | 0.74 | 0.44 | 0 | 1 |
| Foreign (1) | 207 | 0.26 | 0.44 | 0 | 1 |
|  |  |  |  |  |  |
| *Voluntary Disclosure* |  |  |  |  |  |
| No Voluntary Disclosure (0) | 207 | 0.59 | 0.49 | 0 | 1 |
| Voluntary Disclosure (1) | 207 | 0.41 | 0.49 | 0 | 1 |
|  |  |  |  |  |  |
| *Egregiousness* |  |  |  |  |  |
| Non-egregious (0) | 207 | 0.71 | 0.45 | 0 | 1 |
| Egregious (1) | 207 | 0.26 | 0.44 | 0 | 1 |
| Unknown (2) | 207 | 0.03 | 0.18 | 0 | 1 |
|  |  |  |  |  |  |
| *Sector* |  |  |  |  |  |
| All Other (0) | 207 | 0.66 | 0.47 | 0 | 1 |
| Financial Services (1) | 207 | 0.34 | 0.47 | 0 | 1 |
|  |  |  |  |  |  |
| *Administration* |  |  |  |  |  |
| Obama (1) | 207 | 0.65 | 0.48 | 0 | 1 |
| Trump (2) | 207 | 0.28 | 0.45 | 0 | 1 |
| Biden (3) | 207 | 0.07 | 0.25 | 0 | 1 |

1. Distribution of Penalty in 2021 USD

Figure A4 is a histogram showing the distribution of OFAC penalties levied against the 207 firms in the data set. The mean penalty is $26.6m with a minimum penalty of $2,393.55 and a maximum penalty of $1,09b. The standard deviation is $121m.

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**Figure A6.** Histogram showing the distribution of OFAC Penalties in 2021 USD for 207 firms in the data.

1. Domestic and Foreign Firms Profiled in the Data

**Table A5. Domestic and Foreign Firms Profiled in Data Set (2010-2021)**

***Domestic Firms***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Entity | Brand | Publicly Traded | Fortune 500 | Profile |
| LD Telecommunications, Inc | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| 1 + Alliance for Responsible Cuba Policy Foundation | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Haverly Systems, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Apollo Aviation Group, LLC (dba Carlyle Aviation Partners Ltd.) | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Wilson Tool International, Inc | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| NewTek, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Park Strategies, LLC | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Epsilon Electronics Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Brasseler USA | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| ZAG IP, LLC | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| WATG Holdings, Inc and subsidary Wimberly Allisson Tong and Goo (UK), Limited | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Lanier Marine Liquidators | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Tung Tai Group | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| 1 + Cubasphere, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| BitGo, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| McGriff, Seibels & Williams of Texas, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| IPSA International Services Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| GAC Shipping (USA), Inc | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| BIOMIN America, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Hotelbeds USA, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Panamerican Seed Company | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Custom Polymers, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| American Optisurgical, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Indam International, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| SAN Corporation | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| United Medical Instruments Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Cobham Holdings, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| ATP Tour, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Ellman International, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Blue Robin, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Red Bull North America, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| The American Steamship Company | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| BitPay, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Epsilon Electronics, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Great Western Malting Co. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Great Plains Stainless Co. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Communications and Power Industries LLC | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Aegis Electronic Group, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Sunrise Technologies and Trading Corporation | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Zurigo Trading, Inc | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| HCC Insurance Holdings, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| United Nations Federal Credit Union | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Bupa Insurance Company | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| White Birch Investment LLC | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| National Bank of Abu Dhabi | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Robbins Instruments, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Natoli Engineering Company, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| CMA CGM (America) LLC | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Agar Corporation, Inc | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Whitford Worldwide Company, LLC | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Production Products, Inc | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Sandhill Scientific, Inc | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Procesadora Campofresco, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Offshore Marine Laboratories | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Tofasco of America, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Bank of Guam | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Sogda Limited, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| ASF, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Industrial Maritime Carriers Worldwide, L.L.C. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Alliance Steel, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Schlumberger Rod Lift, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| American Export Lines | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| EGL, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Heritage Turbines, Inc | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Online Micro, LLC | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Norton Lilly International | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Dal-Tech Devices, Inc | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Genesis Asset Managers, LLP | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Hydra-Tech Pumps, Inc | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Kollmorgen Corporation | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Atradius Trade Credit Insurance, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Grand Resources USA, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Trans Pacific National Bank | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Yokozuna Pearls & Gems, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Richland Trace Homeowners Association, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| World Class Technology Corporation | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Life for Relief and Development | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Stanley Drilling Equipment & Supply, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Sea Tel Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Maritech Commercial Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Generali Global Assistance, Inc. (GGA) | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Gil Tours Travel, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Pinnacle Aircraft Parts, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| ESCO Corporation | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| UniControl, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| HyperBranch Medical Technology, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| GEICO General Insurance Company | Brand | Not Publicly Traded | Not Fortune 500 | 0.34 |
| Comtech Telecommunications Corp. | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Banco do Brasil | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Alcon Laboratories, Inc., Alcon Pharmaceuticals Ltd., and Alcon Management, SA | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Teledyne Technologies Incorporated | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Keysight Technologies, Inc. | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Weatherford International Ltd | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Sumitomo Mitsui Banking Corporation | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Ameron International Corporation | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Garlock Sealing Tech, LLC | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| e.l.f. Cosmetics, Inc. | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| John Bean Technologies Corporation | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Payoneer Inc. | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Compass Bank | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| ​Eagle Shipping International (USA) LLC | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| World Fuel Services Corporation | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Flowserve Corporation (“Flowserve”) of Irving | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Maersk Line, Limited | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Innospec Inc | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| National Oilwell Varco, Inc. | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| National Bank of Pakistan | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Barracuda Networks, Inc. | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| MoneyGram Payment Systems, Inc. | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Ubiquiti Networks, Inc. | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Banco Colpatria | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| DENTSPLY SIRONA Inc. | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Commerzbank AG | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| PayPal, Inc. | Brand | Publicly Traded | Not Fortune 500 | 0.70 |
| American Honda Finance Corporation | Brand | Publicly Traded | Not Fortune 500 | 0.70 |
| Navigators Insurance Company | Brand | Publicly Traded | Not Fortune 500 | 0.70 |
| Cameron International Corporation | Brand | Publicly Traded | Not Fortune 500 | 0.70 |
| Aon International Energy, Inc | Brand | Publicly Traded | Not Fortune 500 | 0.70 |
| MID-SHIP Group LLC | Brand | Publicly Traded | Not Fortune 500 | 0.70 |
| Essie Cosmetics Ltd, and individual corporate officer | Brand | Publicly Traded | Not Fortune 500 | 0.70 |
| Richemont North America, Inc., d.b.a. Cartier | Brand | Publicly Traded | Not Fortune 500 | 0.70 |
| Branch Banking & Trust Co. | Brand | Publicly Traded | Not Fortune 500 | 0.70 |
| Hilton International Co | Brand | Publicly Traded | Not Fortune 500 | 0.70 |
| Western Union Financial Services, Inc. | Brand | Publicly Traded | Not Fortune 500 | 0.70 |
| Discover Financial Services | Brand | Publicly Traded | Not Fortune 500 | 0.70 |
| General Reinsurance Corporation | Brand | Publicly Traded | Not Fortune 500 | 0.70 |
| Expedia Group, Inc. | Brand | Publicly Traded | Not Fortune 500 | 0.70 |
| Deutsche Bank Trust Company Americas | Non-Brand | Publicly Traded | Fortune 500 | 0.71 |
| Société Générale New York Branch | Non-Brand | Publicly Traded | Fortune 500 | 0.71 |
| Compass Bank | Non-Brand | Publicly Traded | Fortune 500 | 0.71 |
| Allianz Global Risks US Insurance Company (“AGR | Non-Brand | Publicly Traded | Fortune 500 | 0.71 |
| Deutsche Bank Trust Company Americas | Non-Brand | Publicly Traded | Fortune 500 | 0.71 |
| Bank of America | Brand | Publicly Traded | Fortune 500 | 1.06 |
| Halliburton Atlantic Limited and Halliburton Overseas Limited | Brand | Publicly Traded | Fortune 500 | 1.06 |
| JP Morgan Chase, N.A. | Brand | Publicly Traded | Fortune 500 | 1.06 |
| JP Morgan Chase Bank | Brand | Publicly Traded | Fortune 500 | 1.06 |
| Stanley Black & Decker, Inc. | Brand | Publicly Traded | Fortune 500 | 1.06 |
| Citigroup Inc. | Brand | Publicly Traded | Fortune 500 | 1.06 |
| General Electric Company | Brand | Publicly Traded | Fortune 500 | 1.06 |
| Toyota Motor Credit Corporation | Brand | Publicly Traded | Fortune 500 | 1.06 |
| Wells Fargo Bank | Brand | Publicly Traded | Fortune 500 | 1.06 |
| Metropolitan Life Insurance Company | Brand | Publicly Traded | Fortune 500 | 1.06 |
| Amazon.com, Inc. | Brand | Publicly Traded | Fortune 500 | 1.06 |
| 3M Imtec Corporation | Brand | Publicly Traded | Fortune 500 | 1.06 |
| American International Group, Inc. | Brand | Publicly Traded | Fortune 500 | 1.06 |
| PACCAR Inc. | Brand | Publicly Traded | Fortune 500 | 1.06 |
| Exxon Mobile Corporation | Brand | Publicly Traded | Fortune 500 | 1.06 |
| Apple, Inc. | Brand | Publicly Traded | Fortune 500 | 1.06 |
| First Data Resources, LLC | Brand | Publicly Traded | Fortune 500 | 1.06 |
| HSBC Bank USA | Brand | Publicly Traded | Fortune 500 | 1.06 |
| Wells Fargo Bank | Brand | Publicly Traded | Fortune 500 | 1.06 |
| American International Group, Inc. | Brand | Publicly Traded | Fortune 500 | 1.06 |
| American Express Travel Related Services Company, Inc. | Brand | Publicly Traded | Fortune 500 | 1.06 |
| Berkshire Hathaway, Inc. | Brand | Publicly Traded | Fortune 500 | 1.06 |

***Foreign Firms***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Entity | Brand | Publicly Traded | Fortune 500 | Profile |
| Aviation Services International B.V. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Société Internationale de Télécommunications Aéronautiques SCRL | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Acteon Group Ltd. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Balli Group PLC and Balli Aviation, Ltd | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| CWT B.V. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Nordgas S.r.l. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Network Hardware Resale LLC | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| KMT Group AB | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Bank of Tokyo-Mitsubishi UFJ, Ltd. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Zulutrade, Inc. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Union de Banques Arabes et Francaises | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| British Arab Commercial Bank plc | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| AppliChem GmbH | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| COSL Singapore Ltd | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| PT Bukit Muria Jaya | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Finans Kiymetli Madenler Turizm Otomotiv Gida Tekstil San | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Fokker Services B.V. | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Essentra FZE Company Limited | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Joint-Stock Commercial Bank "Bank of Moscow" | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Alma Investment LLC | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| BCC Corporate SA | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Decolar.com, Inc | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| First Bank BA | Non-Brand | Not Publicly Traded | Not Fortune 500 | 0.00 |
| Alfa Laval Middle East Ltd. | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Aban Offshore Limited | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| National Commercial Bank | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Zoltek Companies, Inc. | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| CSE Global Limited and CSE Transtel Pte. Ltd. | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Yantai Jereh Oilfield Services Group Co., Ltd. | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Standard Chartered Bank | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Alfa Laval Inc. | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| KLM CARGO | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Commerzbank AG | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Zhongxing Telecommunications Equipment Corporation | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| Clearstream Banking S.A. | Non-Brand | Publicly Traded | Not Fortune 500 | 0.36 |
| The Royal Bank of Scotland plc | Brand | Not Publicly Traded | Fortune 500 | 0.70 |
| Crédit Agricole Corporate and Investment Bank | Non-Brand | Publicly Traded | Fortune 500 | 0.71 |
| Bank of China (UK) (BOC UK) | Non-Brand | Publicly Traded | Fortune 500 | 0.71 |
| Societe Generale S.A. | Non-Brand | Publicly Traded | Fortune 500 | 0.71 |
| CGG Services S.A. and its Affiliated Companies | Non-Brand | Publicly Traded | Fortune 500 | 0.71 |
| Intesa Sanpaolo | Non-Brand | Publicly Traded | Fortune 500 | 0.71 |
| Barclays Bank PLC | Non-Brand | Publicly Traded | Fortune 500 | 0.71 |
| BNP Paribas SA | Non-Brand | Publicly Traded | Fortune 500 | 0.71 |
| UniCredit Group | Non-Brand | Publicly Traded | Fortune 500 | 0.71 |
| TD Bank | Non-Brand | Publicly Traded | Fortune 500 | 0.71 |
| SAP SE | Non-Brand | Publicly Traded | Fortune 500 | 0.71 |
| Standard Chartered Bank | Non-Brand | Publicly Traded | Fortune 500 | 0.71 |
| HSBC Holdings plc | Brand | Publicly Traded | Fortune 500 | 1.06 |
| Ace Limited ("ACE") (now part of Chubb Limited) | Brand | Publicly Traded | Fortune 500 | 1.06 |
| UBS AG | Brand | Publicly Traded | Fortune 500 | 1.06 |
| Ericsson, Inc. and Ericsson AB | Brand | Publicly Traded | Fortune 500 | 1.06 |
| ING Bank N.V. | Brand | Publicly Traded | Fortune 500 | 1.06 |
| Barclays Bank PLC | Brand | Publicly Traded | Fortune 500 | 1.06 |

1. Exploratory Factor Analysis

The results of our exploratory factor analysis (EFA) is profiled below. We relied on guidance in Watkins (2022) for conducting our EFA.

*Step 1. Generating Summary Statistics of Key Components*

**Table A6. Compact Summary Statistics for Exploratory Factor Analysis**

|  |  |  |  |
| --- | --- | --- | --- |
| *Stats* | **Publicly Traded** | **Brand** | **Fortune 500** |
| *N* | 207 | 207 | 207 |
| Mean | .4637681 | .2125604 | .2173913 |
| SD | .4998945 | .4101109 | .4134709 |
| Min | 0 | 0 | 0 |
| Max | 1 | 1 | 1 |
| Skewness | .1453095 | 1.405163 | 1.37032 |
| Kurtosis | 1.021115 | 2.974484 | 2.877778 |

*Step 2. Testing for the Suitability of Exploratory Factor Analysis of the Data*

The tests below show that the data is suitable for exploratory factory analysis (EFA). Our variables are intercorrelated, and the KMO statistic is greater than 0.70 (values between 0.7 and 0.8 are considered sufficient for social science analyses).



**Figure A7.** Results of Bartlett’s test for sphericity and the Kaiser-Meyer-Olkin Measure of Sampling Adequacy.

*Step 3. Polychoric Matrix*

According to Watkins (2022), correlations greater than 0.30 are considered adequate for EFA. Polychoric correlation matrices are suggested for categorical variables.



**Figure A8.** Polychoric Matrix

*Step 4. Factor Analysis of Polychoric Matrix*



**Figure A9.** Factor analysis of Brand, Fortune500, and Publicly Traded companies.

We retain only those factors with Eigenvalues greater than 1.00. Our first factor accounts for nearly 90% of the variance. Each of the variables has a high level of communality; variables with a high value of unique tend to have lower relevance in the factor model; this is not the case here.

*Step 5. KMO Measure of Sampling Adequacy*

**An overall value between 0.70 and 0.80 is considered adequate**. Watkins advises computing the sampling adequacy for each variable and an overall sampling adequacy after conduct a factor analysis of the matrix.



**Figure A10.** Results of KMO Measure of Sampling Adequacy post-Factor Analysis.

*Step 6. Calculating Cronbach’s alpha*



**Figure A11.** Results of Cronbach’s alpha calculation.

A Cronbach’s alpha between 0.65 and 0.80 is the recommended range; our Cronbach alpha is 0.77.

*Step 8. Rotating Factors*



**Figure A12.** Factor rotation

*Step 9: Scoring Coefficients*

**

**Figure A13.** Scoring coefficients, which creates the *Profile* variable.

1. “By the Numbers” slide from OFAC Slide Deck Presentation, 2016

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