# Why Are Serial Acquirers Different in the US?

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**Abstract**

Over 70% of the $15 trillion in cumulative acquisition value around the world in the past two decades accrue to firms that engage in serial acquisitions. Golubov, Yawson, and Zhang (2015) find that serial acquirers domiciled in the U.S. experience persistent returns up to five years into their streams of acquisition activity. The same, however, is not true for non-U.S. firms, which account for two thirds of all serial acquirers. We find the differences are concentrated among the highest quintiles of serial acquirers by returns – the "extraordinary" acquirers – and among those serial acquisition deals in the high-technology industry in the U.S.

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In the past several decades, over 70% of the $15 trillion in cumulative acquisition value around the world was driven by firms that are serial acquirers. Serial acquirers are firms that successfully acquire multiple target companies over a period of time.[2] Some firms (such as IBM, Microsoft, Google, Cisco, Park Hannifin) have acquired more than 50 targets over decades, amounting to tens of billions of dollars spent on acquisitions by each. With most deals - both in the U.S. and globally – increasingly led by serial acquirers, solo acquirers are becoming the rarer kind. However, the majority of merger and acquisition studies do not separately consider serial acquirers from solo acquirers. Exceptions are Jaffe, Pedersen, and Voetmann (2013) and Golubov, Yawson, and Zhang (2015) which uncover an important fact about serial acquirers in the U.S. – namely, there is a wide cross-firm variation in their announcement-day returns among their streams of deals and there is persistence of those returns over time in subsequent acquisitions. Some serial acquirers are "extraordinary" (a term coined by Golubov, Yawson, and Zhang) as they deliver for their shareholders large, positive acquisition returns that can persist across subsequent deals for up to five years into their acquisition programs. There are also "ordinary" and even "bad" serial acquirers that continue to assemble deals over time notwithstanding their persistently poor average acquisition-day returns. Theories abound as to why some serial acquirers are so successful across deals. But no firm conclusions have been drawn to date.

In this study, we investigate whether serial acquirers outside the U.S. experience the kind of persistent returns over a stream of deals their U.S. counterparts do. By exploiting the rich variation in firm- and industry-level characteristics among serial acquirers across countries, we seek a better understanding of the economic sources of these differences in persistence over time between extraordinary and ordinary ones within *and* outside the U.S. Our first task is to build a comprehensive global sample of 19,243 public firms involved in 49,239 domestic and cross-border acquisitions from 2000 to 2018. Of this global sample of acquirers, 7,799, or 41%, are serial acquirers (more than two deals within a three-year window) and, of the

[2] Our definition of serial acquirers in this paper considers companies that acquired more than two targets over a three-year rolling window, following Golubuv, Yawson, and Zhang (2015). We find similar patterns and results across our study using two alternative definitions of serial acquirers, such as those that acquired more than five targets or more than two targets over a five-year rolling window.

global sample of acquisition deals, 33,254, or 68%, involve a serial acquirer. Not surprisingly, we find that serial acquirers are prevalent around the world -- about 60% (41% deal value) of serial acquisitions involve an acquirer or target from *outside* the U.S.

What is a more surprising finding from our paper is that the U.S. is unique in its unusually high proportion of deals that are done by serial acquirers compared to the rest of the world. Serial acquirers in the U.S. constitute between 75% to 80% of all acquisition deals, whether judged by deal count or cumulative deal value. In contrast, only 50% of all acquisitions are by serial acquirers in Japan. In countries such as Malaysia, Turkey, and Egypt, only 10% to 40% of the acquisitions are by serial acquirers. The most surprising new finding we offer is that the persistence in acquisition returns, robustly affirmed for the U.S. firms, disappears for non-U.S. firms. The most pronounced difference is that there are very few serially acquiring firms outside the U.S. that earn persistently poor or even negative announcement returns. The main contribution of our study then is a new fact about serial acquirers - the U.S. is unique in the significant persistence of their returns.[3]

Several economic reasons can help explain the difference in the persistence of serial acquirer returns between the U.S. and non-U.S. acquirers. We first examine *country*-level factors. Erel, Liao, and Weisbach (2012) find that cross-country differences in economic and financial development (Chari, Ouimet, and Tesar, 2010), corporate governance/investor protection (Ferreira, Massa, and Matos 2010; Aggarwal et al., 2011), and other institutional characteristics (Moeller and Schlingemann, 2005; Chakrabarti, Gupta-Mukherjee, and Jayaraman, 2009; and Ahern, Daminelli, and Fracassi, 2015) all matter for acquisition outcomes. We draw on the World Governance Indicators (WGI) of the World Bank to proxy for investor protection and the quality of governance systems and link them to the aggregate level of serial M&A activities. As M&A deals are more common in the U.S. compared to other countries, weaker serial acquirers may be able to pursue M&A deals, despite their poor performance, unlike firms outside the U.S. where only

[3] We are not the first study that suggests the U.S. is unique. For example, Eckbo and Lithell (2023) state that the U.S. is an extraordinarily active market for corporate control, with public-to-public mergers being almost 10 times more frequent than those in 60 non-U.S. countries in the past several decades. Anarkulova, Cederburg, and O'Doherty (2022) show that the U.S. equity premium is much larger than other developed countries.

strong acquirers can pursue future deals. Of all the *country*-level characteristics, economic development, M&A activities, and investor protection are important, however they do not fully explain the economic magnitude of the return persistence that U.S. serial acquirers experience.

We then turn to *acquirer*-level factors that may be associated with U.S. and non-U.S. serial acquirer return persistence. Traditional explanations for the motives of serial acquisitions involve acquirer characteristics such as partial anticipation, overconfidence, or agency costs. Indeed, earlier literature on serial acquisitions shows that serial acquirers typically experience lower returns in later deals in their acquisition program due to partial anticipation by shareholders of those deals (Schipper and Thompson, 1983; Malatesta and Thompson,1985; Loderer and Martin, 1990), overconfident acquisitive managers buoyed by higher valuations (Moeller, Schlingemann, and Stulz, 2005; Aktas, De Bodt, and Roll, 2009), and better-quality information environments (Adra and Barbopoulos, 2023).[4]

Another important characteristic of serial acquisitions in the U.S. is its popularity within the high-tech industry (see Eckbo, Makaew, and Thorburn, 2018).[5] We proxy for overvaluation/over-confidence with pre-acquisition run-ups in returns and in market-to-book ratios (see Dong et al., 2006). We also examine whether acquirers are in the high-tech industry or in the information technology (IT) sector. We find that while there is little evidence supporting partial anticipation or overconfidence explanations, our findings do support the notion of the uniqueness of the U.S. market in its active high-tech industry. Specifically, we find that non-U.S. serial acquirers experience similar levels of return persistence as the U.S. serial acquirers in the high-tech industry but not beyond, suggesting that non-U.S. serial acquirers in the high-tech industry continue making acquisitions even when returns are low, just like their U.S. counterparts. One possible reason for the activeness of the high-tech industry in the market of corporate control is the accounting asset recognition method as documented in Kepler, McClure, and Stewart (2024). They find that intangible

[4] Other studies, such as Fuller, Netter, and Stegemoller (2002) and Billett and Qian (2008) find that overconfident managers often engage in multiple acquisitions and themselves often become targets in acquisitions (Phalippou, Xu, and Zhao, 2015).

[5] Bena and Li (2014), Phillips and Zhdanov (2013), and Ahmad et al. (2020) show that acquirers are more likely to have larger patent portfolios, earn higher returns when they pursue innovation-driven acquisitions, and attempt to maintain a competitive position in the high-tech sector with serial acquisitions despite negative value consequences (Cunningham et al., 2021). Also, Emery and Woeppel (2022) show that M&A deals are increasingly used over time as a strategy to acquire innovations.

capital-intensive target firms in the U.S. are often not subject to scrutiny from regulators because the accounting standards do not recognize intangible capital as assets in the M&A, which often lead to higher acquirer returns and exacerbate market power of acquiring firms.

Finally, we also examine *target*-level characteristics. One agency-based explanation stems from the unbalanced bargaining power of publicly listed acquirers and private targets. Research shows there exist "listing effects" where acquirers earn significant higher returns when purchasing private or "unlisted" targets (Fuller, Netter, and Stegemoller, 2002; Moeller, Schlingemann, and Stulz, 2004; Faccio, McConnell, and Stolin, 2006), which could be driven by weak bargaining power of private firms due to either lack of access to external finance (Mantecon, 2008 and Greene, 2016) or lack of competition (Eckbo and Langohr, 1989). It is possible that since there are more public targets available in the U.S. (Doidge, Karolyi, and Stulz, 2017; Eckbo and Lithell, 2023), poor or weak acquirers are more likely those that have pursued public targets in the past, resulting in their poor performance due to complexity to integrate, unlike firms outside the U.S. where public targets are rare. Relatedly, acquisitions of listed/public targets are more likely to be paid in stock, which further amplifies lower returns (Fuller, Netter, and Stegemoller, 2002). Stock payments are also more commonly used in environments with high levels of shareholder protection (Martynova and Renneboog, 2006). Eckbo (2009) reviews a separate literature that examines on how the method of payment is determined - stock payments are a more favored method when risk-sharing goal rather than loss of insider control takes priority. We test for, and do find, evidence that non-U.S. serial acquirers experience similar persistent returns when targeting a public firm, especially when the target is from the U.S. The evidence is consistent with the notion that the U.S. capital market is unique in its market for corporate control, given the active high-tech sector acquisition activity, and given more publicly listed firms available as potential targets.

Our paper offers an important caution to the existing literature on serial acquisitions that focuses exclusively on the U.S.[6] Our comprehensive study of a global sample of serial acquirers does find that serial acquirers outside the U.S. do not experience persistent returns to the same extent of their U.S. counterparts. Just as importantly, we uncover target, acquirer, and country factors that contribute to understanding the unique state of play in the U.S. market for corporate control, such as the active high-tech sectors with many research and development (R&D) intensive, innovation-linked targets. This is an important contribution of our paper. In a broader sense, our paper joins a recent paper by Schneider and Spalt (2022) illustrating the pitfalls of accepting general economic explanations for mergers and acquisition phenomena without having more granular tests on different samples to guide them.

## 2. Data and Preliminary Results.

### *2.1. A global sample of serial acquirer deals.*

We use several sources to construct our global sample of deals. First, we start with controlling acquisitions made by non-financial public acquirers between 2000 and 2018 provided by Refinitiv *Securities Data Corporation* (*SDC*). We then match the public acquirers with Refinitiv's *Worldscope/Datastream* databases to collect accounting and stock return information. Appendix A provides details about the steps taken to integrate these two datasets. We use the full sample of acquisition deals involving public acquirers from *SDC* and present our empirical results using three different definitions of "serial acquirers" to provide a more complete picture of acquisition patterns around the world. Serial acquirers are defined as: (a) those that acquired two or more targets over a three-year rolling window; (b) those that acquired five or more targets in the sample period; and (c) those that acquired two or more targets over a five-year rolling window.

[6] It is important to note that there are indeed many important findings in this literature we do not challenge. Macias, Rau and Stouraitis (2025) provide a comprehensive review on various factors and emphasize the cross-sectional differences of U.S. serial acquirers and how they might matter to the acquisition returns.

Table 1 provides an overview of the home/host countries of serial acquirers and non-serial acquirers for the three alternative definitions. We exhibit deal counts in the table but deal count and deal value by country for the full sample and separately for the sub-sample of serial acquirers are provided in detail in the internet appendix, notably Table IA.1. Regardless of the definitions, serial acquirers are more likely to be from the U.S. than non-serial acquirers. U.S. serial acquirers comprise between 40% and 45% of serial acquirers around the world. For example, of the 33,254 deals identified with the definition of two or more targets over a three-year rolling window (in Panel A), 13,110 are initiated by U.S. acquirers. U.S. non-serial acquirers represent between 25% to 28% of non-serial acquirers around the world. For that same definition in Panel A, there are 4,531 non-serial acquirer deals out of the 15,985 around the world. Another fact in Table 1 is that U.S. targets are more common among serial acquirers. They range from 40% to 45% of serial acquirer targets around the world. Using Panel A's definition, there are 13,205 U.S. targets of global serial acquirers among the 33,254 such deals. U.S. targets are less common among non-serial acquirers ranging from 28% to 30%.[7] Serial acquirers are disproportionately more likely to target U.S. firms.

[Insert Table 1 about here]

Figure 1 presents the proportion of deal counts (deal value) by each country for serial acquirers and non-serial acquirers separately. The most active markets by country for serial acquirers include the U.S., U.K., Canada, China, Australia, Japan, South Korea, Sweden, and France, which also tend to have the highest number of non-serial acquisitions. Figure 2 presents the time series of acquisitions by serial acquirers and non-serial acquirers in the U.S. and outside the U.S. In every year of our sample period, serial acquirers engage in more acquisitions than non-serial acquirers, both in the U.S. and outside the US. In the U.S., there is a peak in the number of deals around the year 2000 (around 1,000 deals involve serial acquirers which is about twice as much as non-serial acquirers), decreasing after that to a total of 329 (192) deals

[7] We test the statistical significance of the difference in the frequency of deals that are done by serial acquirers in the US versus those outside the U.S. each year. Using Panel A's definition, on average 75% of deals are done by serial acquirers in the U.S., but only 63% of the deals are done by serial acquirers outside the U.S. The 12% average yearly difference is significant at 1% level. We find quantitatively similar statistically significant differences using other definitions.

involving serial (non-serial) acquirers in 2018. Outside the U.S., the peak occurred in 2007 with about 1,500 deals performed by serial acquirers versus 700 by non-serial acquirers.

[Insert Figure 1 about here]

[Insert Figure 2 about here]

As for the aggregate value of those acquisitions, serial acquirers account for the largest fraction. The difference in total acquisition value by year between serial and non-serial acquirers is considerably larger in the U.S. than outside the U.S. in most years of the sample period. The peak was reached in 2000 when the aggregate acquisition value of U.S. serial (non-serial) was $876 ($137) billion versus $578 ($144) billion outside the U.S. Interestingly, in 2004, outside the U.S., non-serial acquirers engaged in fewer but more valuable deals than serial acquirers.

*2.2. Understanding serial acquirer returns around the world.*

We follow Brown and Warner's (1985) standard event study methodology to calculate cumulative market-adjusted returns (CMARs) for the 11-day event window (*t-5*, *t+5*) around the announcement date supplied by SDC. We estimate the cumulative market-adjusted buy-and-hold returns instead of utilizing a market model since our sample of serial acquirers are frequent buyers and there is a high probability that previous takeover attempts will be included in the estimation period thus making beta estimation less meaningful (see Fuller, Netter, and Stegemoller, 2002).[8] The market indexes are defined as the national index returns from Refinitiv's *Datastream International*.

Panel A of Table 2 presents summary statistics of CMARs for the full sample and subsamples of serial acquirers in the U.S. and outside the U.S. The average CMARs of serial acquirers are lower than the average CMARs of the full sample of acquirers. This is the case using any of the three definitions of serial acquirers. The differences are larger for serial acquirers in the U.S. than outside the U.S. Taking columns (1) – (2a) and (3) – (4a) as an example, the average CMARs for the full sample of deals in the U.S. is 3.2% versus 2.1% for deals involving serial acquirers. By contrast, outside the U.S., the full sample average of CMARs

[8] The downside of not utilizing a market model to adjust for risk is that it is tricky to compare across sub-samples of acquirer returns that are derived from differences in time-series and cross-sectional variation, especially statistically.

is 3.9% versus 3.2% for serial acquirers.[9] Note that the differences are more notable when comparing the medians or especially the 75th percentiles of the respective distributions than when comparing the 25th percentiles. These different reference points affirm the importance of studying the extremes of the distributions, a point also noted by Golubov, Yawson, and Zhang (2015).

[Insert Table 2 about here]

Panel B of Table 2 presents benchmark regression results on CMARs for the full sample and subsamples of serial acquirers in the U.S. and outside the U.S. We provide detailed definitions of all variables in Appendix A. Descriptive statistics of all variables are shown in the internet appendix, specifically Table IA.2. Our findings on the coefficients for the control variables are mostly in line with earlier studies in the U.S., especially Section 2.2. in Golubov, Yawson, and Zhang (2015), and most are the expected signs and magnitudes. Firm size, acquirer's relative size, method of payment, and target listing status are all empirically relevant deal attributes that explain acquirer returns and need to be incorporated into our specifications. The most reliably significant variables across the eight specifications for U.S. and non-U.S. serial acquirer firms are acquirer size (negative) and the interaction term of public targets and stock payments, also negatively associated with acquirer CMARs. The relative size variable is only positively associated with U.S. serial acquirer CMARs; the positive coefficient is only weakly so for one of the three definitions of non-U.S. serial acquirers. Importantly, the $R^2$ (adjusted $R^2$) of these regressions range from 4% to 9% and are like Golubov, Yawson, and Zhang (2015) and earlier studies (Moeller, Schlingemann, and Stulz, 2004; Harford, Humphery-Jenner, and Powell, 2012).

Following Golubov, Yawson, and Zhang (2015), we also compare the regression results that account for deal and firm characteristics along with year, industry, and country dummies, with regression models that *only* include firm fixed effects (Panel C of Table 2). We report *F*-statistics for tests of the joint significance of the different sets of fixed effects for each of the three definitions of serial acquirers. We find

[9] The descriptive statistics for the CMARs in our sample are slightly higher than 1.8% reported in Fuller, Netter, and Stegemoller(2002), which also includes deals involving private and subsidiary targets like our sample, because we use a 11-day window instead of a 5-day window. Further, acquirers experience much higher returns when targeting private firms compared to public ones (see Betton, Eckbo, and Thorburn, 2008).

a striking pattern for the U.S. serial acquirers: including firm fixed effects resulted in an $R^2$ (adjusted $R^2$) of 36% (20%), a finding in line with the 46% (20%) in Golubov, Yawson, and Zhang (2015) for their earlier sample of U.S. serial acquirers. In addition, the firm fixed effects are jointly significant as evidenced by the *F*-statistics. For non-U.S. serial acquirers, we find that including firm fixed effects resulted in an $R^2$ (adjusted $R^2$) of 37% (15%) with similarly significant *F*-statistic for the joint firm fixed effects. Moving from one row to the next, we add year fixed effects (Row 2), then deal characteristics such as method of payment and target listing status, relative deal size, and same-industry (i.e., horizontal acquisition) identifier (Row 3), and lastly acquirer characteristics such as size, leverage, and market-to-book ratio (Row 4). Changes in $R^2$ (adjusted $R^2$) when we move from Row 1 to Row 4 are not as dramatic as when including firm fixed effects. However, there is about a 9% (4%) increase in $R^2$ (adjusted $R^2$) among U.S. serial acquirers and a 12% (4%) increase among non-U.S. serial acquirers.

So far, the global evidence suggests that there are strong acquirer firm fixed effects among serial acquirer CMARs, as evidenced by the *F*-statistics for the joint significance test of acquirer fixed effects. Our overall result for the non-U.S. sample is consistent with what Golubov, Yawson, and Zhang (2015) find among the U.S. serial acquirers. Specifically, the fixed effects alone, with an adjusted $R^2$ of 15%, seem to explain nearly as much of the variation in acquirer returns as when many of the important variables are included with an adjusted $R^2$ of 19%. The only difference to note is that the explanatory power of fixed effects is lower for non-U.S. serial acquirers (15%) compared to U.S. serial acquirers (20%). Interestingly, the minor increase in explanatory power from including many of the important variables is quite similar between U.S. serial acquirers (from 20% to 23%) and non-U.S. serial acquirers (from 15% to 19%).

In the next section, we formally examine the economic magnitude of the persistence of serial acquirer returns since the presence of strong acquirer fixed effects implies that acquirer returns are persistent over time. It is here that we uncover the fact that extraordinary serial acquirers are uniquely a U.S. phenomenon.

### 3. Are Extraordinary Serial Acquirers Uniquely a U.S. Phenomenon?

We have seen in the previous section that there are strong fixed effects among serial acquirers around the world, but also that the statistical significance of acquirer fixed effects is notably larger among the U.S. serial acquirers. Given the lack of evidence on serial acquirers outside the U.S., our first attempt is to fill an important void by formally testing for the persistence in serial acquirer returns among non-U.S. firms. We first focus on identifying whether there are extraordinary serial acquirers not just in the U.S. but also outside the U.S. We perform a conventional analysis of potential *persistence across time* in acquirer returns following similar methodologies as Golubov, Yawson, and Zhang (2015) for serial acquirers, Jegadeesh and Titman (1993) for momentum analysis in stocks, Carhart (1997) for the same among mutual funds, and Bao and Edmans (2011) for returns among acquisition deals involving investment bank advisors.

Table 3 presents our findings. We sort serial acquirers into quintiles based on their average CMARs among deals within the three-year rolling windows in which they are so classified.[10] These firms are classified into quintiles defined by cutoffs for the global sample of serial acquirer CMARs over time. The highest quintile (*Q5*) are the serial acquirers with the highest average CMARs computed within the window, and the lowest quintile (*Q1*), are those with the lowest average CMARs in the same window. We then calculate the average CMARs of future acquisitions made by all the acquirers classified within a quintile and these future acquisitions are assigned to horizons over the next *(0, k)* calendar years, where $k = (1, 2, 3, 4, 5)$. That is, "*CMAR(0,+1y)*" is the average of CMAR returns within the first year following the three-year window within which the firm is classified as *Q5* or *Q1*. We then test for the differences in mean CMARs between the top quintile (*Q*5) and the bottom quintile (*Q*1), which is denoted "*Q5 – Q1*." We report

[10] In the Internet Appendix Table IA.3, we present similar findings for the two alternative ways to classify acquirers. In Panel A, we sort serial acquirers using residual CMARs, following Golubov, Yawson, and Zhang (2015), to remove potential persistence in firm- or deal- characteristics. In Panel B, we sort U.S. and non-U.S. serial acquirers into quintiles within each group separately using the same three-year rolling windows. We use this sorting when focusing on U.S. and non-U.S. subsamples separately, to alleviate concerns that acquirers in different countries may experience different levels of CMAR returns simply because of institutional differences (Ellis et al., 2017).

results for the global serial acquirer sample (top third of the panel), for the U.S. serial acquirer sample only (middle third panel), and for the non-US serial acquirer sample only (bottom third panel).

[Insert Table 3 about here]

Below the reported average CMARs by quintile and firm groupings are the actual numbers of such deals. Over the next five years, both *Q*1 and *Q*5 serial acquirers continue actively making acquisitions. For example, in the global sample (top third of panel), *Q5* firms made 3,163 deals in the next calendar year (*0,+1y*). By the fifth year following the three-year classification window, *Q5* firms have completed 9,220 deals. Surprisingly, *Q*1 firms – those that have the lowest average CMARs among deals within the classifying three-year window – made 2,848 deals in the next calendar year. Notwithstanding the lower CMARs experienced by *Q1* firms, there are still a good number of deals pursued, cumulating to be 8,623 deals by the fifth year. The pattern is strikingly similar as that for *Q5* firms. We find no discernible differences in the decay in their overall acquisitiveness over time between U.S. serial acquirers and non-U.S. serial acquirers. We formally test the likelihood of future acquisitions in Table 4.

There are, however, some important differences in the persistence of average CMARs between U.S. serial acquirers and non-U.S. serial acquirers. For the U.S. serial acquirers, *Q*5 firms earn significantly higher future returns than *Q1* firms and across all subsequent five calendar years following the initial three-year classification period. The economic magnitudes of the spreads in *Q5 – Q1* CMARs range between 2% in Year 3 and 2.5% in Year 1. These magnitudes are only slightly larger than those documented in Golubov, Yawson, and Zhang (2015, their Table IV), which could arise from that study's 5-day event window instead of our 10-day window. For the non-U.S. serial acquirers (bottom third of the panel), *Q*5 firms also earn significantly higher future returns than *Q1* firms, but with a much smaller economic magnitude for the spread, ranging between 0.7% in Year 5 and 1.06% in Year 1.

What is notable about the lower *Q5 – Q1* spreads is that they arise from one leg of the spread in CMARs. That is, *Q*5 non-U.S. serial acquirers are similar in magnitude to *Q*5 U.S. serial acquirers in their future CMARs and across all five years after the three-year classification period. In fact, we find no statistically significant difference between the U.S. and non-U.S. *Q5* serial acquirers. But it is the *Q*1 non-U.S. serial

acquirers that significantly outperform the *Q*1 U.S. serial acquirers across all five years after the three-year classification period. For example, in Year 1, the average CMARs among *Q1* non-U.S. serial acquirers is 3.04%, compared to just 0.99% for *Q1* U.S. serial acquirers. In other words, *Q1* non-U.S. serial acquirers outperform *Q1* U.S. serial acquirers by 2 percentage points. The average CMAR of *Q1* non-U.S. serial acquirers more than doubles that of *Q1* U.S. serial acquirers in each of the five years following the classification window. This striking finding leads us to ask why *Q*1 U.S. serial acquirers continue to pursue acquisitions as aggressively as *Q5* U.S. serial acquirers, despite significantly lower returns.[11] Overall, the findings in this table imply that extraordinary serial acquirers, defined by persistence in acquirer returns, appear to be uniquely a U.S. phenomenon.

To further compare how acquisitive *Q1* acquirers are in the U.S. and outside of the U.S., we test whether *Q1* acquirers are equally likely to make future acquisitions as *Q5* acquirers, i.e., at levels comparable to *Q5* acquisitiveness. Table 4 presents our findings. The dependent variable is the natural logarithm of the number of acquisition deals in the next *(0, k)* calendar years, where $k = (1, 2, 3, 4, 5)$. That is, *"Log (Deals) (0, +1y)"* is the log of the total number of deals within the first year following the three-year window within which the firm is classified as *Q5* or *Q1*. To compare potential differences in acquisitiveness between the U.S. and the non-U.S. samples, we also include a dummy variable for the U.S. and an interaction term between the U.S. dummy and *Q5*. We find that *Q1* serial acquirers are no different from *Q5* serial acquirers in their levels of acquisitiveness despite the significantly lower returns. Interestingly, U.S. *Q1* serial acquirers are more likely to make future acquisitions compared to *Q1* serial acquirers outside the U.S., again despite the significantly lower returns. Finally, *Q5* serial acquirers are just as likely to engage in a future acquisition in the U.S. as *Q5* serial acquirers outside the U.S.

[Insert Table 4 about here]

[11] Interestingly, Moeller, Schlingemann, and Stulz (2005) examined acquirer performance in the merger wave of 1998- 2001 and found that in the two years after a large loss deal, firms continue to make value destroying deals. Our evidence on *Q1* acquirers in the last two decades suggests that this phenomenon is not unique to the merger wave of 1998 -2001.

We have followed Golubov, Yawson, and Zhang (2015) closely to present the analysis of acquirer return persistence by grouping acquirers into quintiles and testing differences between top and bottom quintiles in subsequent acquisition returns. However, it is possible that the distribution of the acquirer returns is not uniform across quintiles. To pursue this robustness concern, in Figure 3, we provide another perspective and arguably a more comprehensive look at the differences in the distribution of CMARs for the U.S. and the non-U.S. samples. The distribution of CMARs in the U.S. and non-U.S. samples is measured by the relative frequency of acquirer returns within a certain range (domain) for acquisitions led by serial acquirers from the U.S. and outside the U.S. On the right side of the figure is the full histogram with a domain range for CMARs from –0.30 to 0.80 and on the left side of the figure is a magnification of the left tail with only a domain range for CMARs from –0.30 to –0.15. What the figure shows is that lower return ranges (such as those involving acquirers in the *Q1* group) are much more likely in the U.S. (blue shading) than outside the U.S. (red shading). In the right side of the figure with the wider domain and near the right tail of that histogram, there is a similarly higher likelihood for U.S. serial acquirers in the highest returns range. This dominance in the extreme ranges by U.S. serial acquirers is made up by greater peakedness in the center domain of the histogram among non-U.S. serial acquirers (red shading). Overall, this pattern is consistent with the findings above that the CMARs have much higher dispersion for the U.S. serial acquirers.

[Insert Figure 3 about here]

**4. Why Are U.S. Serial Acquirer Returns Uniquely Persistent?**

Our analysis so far shows that persistence in serial acquirer returns seems to be a unique U.S. phenomenon and that it stems from the persistent low returns among the poor U.S. serial acquirers that continue to be acquisitive. Non-U.S. serial acquirers do not seem to experience similar persistence in their announcement returns across deals beyond the window in which they are classified as such. While there is research on acquirer returns, no studies - except for Golubov, Yawson, and Zhang (2015) - examine factors that might explain why some serial acquirers perform persistently well or poorly over time. In fact, it is not

easy to justify why some serial acquirers earn consistently low returns and keep making acquisitions. We conjecture that certain M&A deals taking place in certain markets must possess special characteristics that justify the persistence of U.S. serial acquirer returns, particularly those with poor performance, over the absence of it for non-U.S. acquirers.

*4.1 Serial Acquirer Returns across Countries, Industries, and Years.*

To gain a more granular look at the cross-firm variation among serial acquirer returns, we next examine the average CMARs over the three-year rolling window across countries, industries, and years in Figure 4. Earlier studies have shown that firms engage in acquisitions because of industry-wide factors such as deregulation or merger waves (Andrade et al., 2001) and country-level characteristics linked to the quality of national accounting disclosure mandates and legal protections for shareholders (Rossi and Volpin, 2004). Research shows that among acquirers, those that have unique characteristics – characteristics that are distinct from the common components of other peer bidders – experience higher returns over the past four decades in the U.S. (Dessaint, Eckbo, and Golubov, 2024).

[Insert Figure 4 about here]

We find there is indeed a large variation across countries in serial acquirer returns. Serial acquirers from Indonesia, Hong Kong, Philippines, Australia experience the highest CMARs ranging between 6% and 14%, whereas those from Cyprus, Portugal, Hungary, South Africa experience the lowest CMARs between –2% and 1%. At the industry level, Mining and Minerals as well as Textiles have seen the highest CMARs among serial acquirers whereas Drugs and Utilities as well as Transportation, Business Equipment, High-tech and Fabricated Products the lowest in the U.S., well below 2%. Interestingly, outside the U.S., these industries, except for Utilities, experienced much higher CMARs, averaging about 3%. When we examine the CMARs over time, it is evident that non-U.S. serial acquirers experience higher average CMARs compared to those in the U.S., especially in the most recent decade.

To gain a better understanding of serial acquirer return persistence, we separately examine the top quintile (Q5) and the bottom quintile (Q1) by country in Figure 5. There is indeed a large variation across countries in both the top quintile and the bottom quintile. The average extraordinary acquires (Q5) earn less

than 10% returns in countries such as Greece, Turkey, and Luxembourg, but higher than 20% returns in countries such as Argentina, Australia, Canada, Hong Kong, Indonesia, New Zealand, and South Korea. For the poor performing serial acquirers (Q1), most do not lose more than 10% unless they are from countries such as Cyprus, Indonesia, or Luxembourg.

[Insert Figure 5 about here]

*4.2 Explaining the Persistence of Serial Acquirer Returns.*

There are three main dimensions that we examine that may help explain the persistence of serial acquirer returns. First, we follow studies in a large international finance literature that investigate country characteristics and shareholder returns from acquisitions. There are several key findings here. Erel, Liao, and Weisbach (2012) first pointed out that one in three mergers and acquisitions involve firms outside the U.S. and cross-country differences in economic and financial development, tax, culture, corporate governance, investor protection, and others all impact acquisition outcomes. Chari, Ouimet, and Tesar (2010) show that acquirers from more economically developed countries can earn higher announcement returns when they pursue targets from less developed countries, while Moeller and Schlingemann (2005) show that U.S. acquirers earn significantly higher returns when they acquirer domestic targets compared to cross-border targets. Rossi and Volpin (2004), Bris and Cabolis (2008), and Ellis et al. (2017) show that acquirers are much more likely to come from countries with better investor protection and governance than targets and, when they do, they also pay higher premiums and have greater potential to create value. Other studies have focused on acquisitions of U.S. targets made by non-U.S. acquirers. For instance, Kuipers, Miller, and Patel (2009) demonstrate that non-U.S. acquirers earn higher announcement returns and pay lower premiums for U.S. targets when their domestic levels of shareholder protection are higher. However, this effect is mitigated in countries where the rule of law is strong. Similarly, Starks and Wei (2013) find that takeover premiums paid to U.S. targets are higher when the acquirer is domiciled in a country with weaker governance quality, indicating that target shareholders require additional compensation for being exposed to a less protective environment. We draw on several World Governance Indicators (WGI) of the

World Bank to proxy for investor protection and governance[12]. We also examine the aggregate level of M&A activities. As M&A deals are more common in the U.S. compared to other countries, weaker acquirers may be able to pursue M&A deals, despite their poor performance, unlike firms outside of the U.S. where only strong acquirers can pursue future deals.

Second, we examine acquirer characteristics that have been shown by earlier research on serial acquisitions to be associated with higher or lower shareholder returns. Jensen (2005) argues that managers of overvalued companies may be motivated to pursue poor acquisitions to create an "illusion of growth", which can result in value-destroying investments when the market realizes it has been deceived. Other studies on serial acquisitions show that bidding firms continue to engage in additional acquisitions, even when they seem not to add value to the acquirer's shareholders (Asquith, Bruner, and Mullins, 1983; Schipper and Thompson, 1983). Moeller, Schlingemann, and Stulz (2005) study the merger wave at the end of 1990s and find that mergers that are associated with large losses ($1 billion or more) are usually preceded by value-enhancing acquisitions. Indeed, Billiet and Qian (2008) and Bharath et al. (2019) find supporting evidence that early successful acquisitions can cause managers to become overconfident, leading them to make value-destroying deals in the future.

Another important characteristic of serial acquisitions in the U.S. is its popularity within the high-tech industry (see Eckbo, Makaew, and Thorburn, 2018) that creates patents and growth options (Aghion et al., 2010, 2012). Bena and Li (2014), Phillips and Zhdanov (2013), and Ahmad et al. (2020) show that acquirers are more likely to have larger patent portfolios, earn higher returns when they pursue innovation-driven acquisitions, and attempt to maintain a competitive position in the high-tech sector with serial acquisitions despite negative value consequences (Cunningham et al., 2021). We proxy for overvaluation/over-confidence with run-up and market-to-book ratios (see Dong et al., 2006). We also examine whether acquirers are in the high-tech industry, as defined by the OECD Directorate for Science, Technology, and

[12] As in Kaufmann, Kraay, and Mastruzzi (2009), we use the World Governance Indicators from the World Bank Database, which include Political Stability, Rule of Law, Control of Corruption, Government Effectiveness, Voice and Accountability, and Regulatory Quality.

Industry, or alternatively in the IT sector, as defined by the Global Industry Classification Standard (GICS) – MSCI (Morgan Stanley Capital International). We hypothesize that as M&A deals are more common in the high-tech sector compared to other industries, weaker acquirers may be able to pursue M&A deals, despite their poor performance, unlike firms from other sectors where only strong acquirers can pursue future deals.

Finally, given the persistence of serial acquirer returns had been first documented in the U.S. and given the surge in volume of cross-border mergers and acquisitions involving acquirers domiciled outside the U.S. pursuing target opportunities in the U.S., we turn to the U.S. market for corporate control to search for salient target-characteristics. An extensive empirical literature analyses the impact of target listing effects where acquirers earn significantly higher returns when purchasing private or "unlisted" targets (Fuller, Netter, and Stegemoller, 2002; Moeller, Schlingemann, and Stulz, 2004; Faccio, McConnell, and Stolin, 2006), either due to lack of access to external finance (Mantecon, 2008; Greene, 2016) or lack of competition (Eckbo and Langohr, 1989). It is possible that since there are more public targets available in the U.S. (Doidge, Karolyi, and Stulz, 2017, and Eckbo and Lithell, 2022), weaker acquirers are more likely those that have pursued public targets in the past, resulting in their poor performance due to complexity of integration, unlike firms outside the U.S. where public targets are rare.

Relatedly, acquisitions of listed/public targets are more likely to be paid in stock, which further amplifies lower returns according to Fuller, Netter, and Stegemoller (2002). Stock payments are also more commonly used in environments with high levels of shareholder protection (Martynova and Renneboog, 2006). It is worth noting that while stock payments have substantially decreased in popularity in the U.S. (32% of deals were *fully* paid in stocks in 2000 to 2.5% by 2018), we do not observe as significant a trend outside of the U.S. (19% of deals were *fully* paid in stocks in 2000 to 4.4% by 2018).[13]

[13] De Bodt, Cousin, and Roll (2018) is the first study to systematically document those M&A transactions fully in stock declined sharply in the U.S. after 2001. They find that it is due to a change in the accounting rule in the U.S. that abolished pooling and goodwill amortization.

In Panel A of Table 5, we separate acquirers based on their country's characteristics such as economic and financial development, M&A activity, and governance. In Columns 1 to 4, we examine whether non-U.S. serial acquirers earn persistent returns in economically developed countries (higher GDP per capita) and countries with more advanced financial markets (higher stock market capitalization per capita). In Columns (5) – (8), we test whether other country characteristics such as M&A activities and institutional environments, measured by the average score of the World Governance Indicators (WGI) of the World Bank, matter to the persistence of serial acquirer returns. High and low groups are divided by the annual median scores among the countries in our sample that year. Interestingly, when the non-U.S. serial acquirers are from more economically and financially developed countries, as well as countries with high M&A activities and better institutional environments, *Q5* earn significantly higher future returns than *Q*1. Interestingly, unlike in the U.S., the lowest-quintile (*Q*1) non-U.S. serial acquirers still perform well. The economic magnitudes of the spreads in *Q5 – Q1* CMARs for non-US serial acquirers in more economically and financially developed, or countries with high M&A activities and better institutional environments are hovering around 1%, in contrast to 2% for U.S. serial acquirers.

[Insert Table 5 about here]

An important question arises from this intriguing finding that return persistence exists for countries with a higher-quality governance regime that is more similar to that of the U.S. Specifically, one might wonder whether Q1 serial acquirers in similar high-quality governance regimes continue to pursue acquisitions as aggressively as Q5 serial acquirers despite continuing to produce lower returns, as we see for the U.S. in Table 3. In an unreported table, we test this conjecture by replicating Table 4's tests but including non-U.S. Q1/Q5 serial acquirers from only high World Governance Indicator to be tested against Q1/Q5 U.S. serial acquirers. While a better governance regime does seem to be associated with more *Q1* firms with low acquirer returns continuing to pursue more deals, we still see *Q1* serial acquirers in the US pursue more deals at a disproportionately higher rate and in a statistically significant way. This additional finding is consistent with the notion that the US firms might allow management a lot more discretion on acquisitions than firms in other countries with similar governance regime do.

We next examine acquirer characteristics in Panel B of Table 5. First, we separate the acquisitions into those with high run-up and low run-up (Columns 1 and 2) and those with high and low market-to-book ratios (Columns 3 and 4). Run-up is defined as the buy-and-hold market-adjusted return over a 60-day window (from –70 to –11) days prior to the acquisition (like Golubov, Yawson, and Zhang, 2015). Market-to-book is the market value of equity divided by the book value of equity as of the fiscal year prior to the acquisition. We define high versus low groups if above or below the annual median, respectively. Following Dong et al. (2006), we consider that firms that have higher market-to-book ratio or that experience higher return run-ups are more likely to have over-valued equity/overconfident CEOs. Since overconfident CEOs tend to make worse acquisitions (Billett and Qian, 2008), we would expect that the return persistence should be concentrated among deals with lower run-up/market-to-book ratio. We find that return persistence is mostly among deals with higher run-up/market-to-book ratio, but the economic magnitude is a little below that of the U.S. serial acquirers. These findings for non-U.S. acquirers are also consistent with the idea that stock return run-up or market-to-book ratio could proxy for their unusual ability to acquire and/or combine with other firms, unusual growth opportunities or other unobservable factors that strongly relate to their superior performance over time. Further, it could be that a firm engages in more subsequent acquisitions precisely because its valuation is high and can justify these efforts more easily, regardless of its performance in the previous acquisitions.

Eckbo, Makaew, and Thorburn (2017) show that the largest sample of U.S. acquisitions in the past two decades is in the high-tech industry. In the last four columns of Panel B, we separate the acquisitions into high-tech versus low-tech target industries. High-tech industry is defined as in the OECD's Directorate for Science, Technology, and Industry.[14] As an alternative proxy, we also include the information technology (IT) sector, as defined by the Global Industry Classification Standard (GICS) - MSCI. We again examine separately *Q1, Q5* and the differences between them among the non-U.S. serial acquirers when they are in

[14] OECD defines High-tech industries as follows: Aircraft and spacecraft; Pharmaceuticals; Office, Accounting and Computing Machinery; Radio, TV and Communications Equipment; Medical, Precision and Optical instruments - see *OECD Directorate for Science, Technology and Industry - Economic Analysis and Statistics Division* (2011) available at https://www.oecd.org/sti/ind/48350231.pdf

high-tech industries *vs* non-high-tech industries. Interestingly, when the non-U.S. serial acquirers are in high-tech industries, *Q5* earn significantly higher future returns than *Q*1. Further, *Q*1 non-U.S. serial acquirers perform similarly to those *Q*1 U.S. serial acquirers when they are in high-tech industries, suggesting that *Q*1 non-U.S. serial acquirers continue making acquisitions even when returns are low in the high-tech industry. The economic magnitudes of the spreads in *Q5 – Q1* CMARs for non-US serial acquirers in the high-tech industry range between 2.2% and 3.1%.

In Panel C of Table 5, we examine target/deal characteristics by first separating the acquisitions into subsamples depending on the method of payment and target listing status in Columns (1) to (4). We define acquisitions paid in stock if more than 50% of the total payment is made in stock; otherwise, we classify the acquisition as being paid in cash. There is little return persistence three years ahead among deals where stock is the primary method of payment. We find that return persistence is mostly among deals paid in cash, but the economic magnitude is a little below that of the U.S. serial acquirers. Both extraordinary serial acquirers (*Q5*) and poor acquirers (*Q1*) experience higher returns among private targets and lower returns among public targets. However, poor acquirers (*Q1*) experience significant lower returns (0.2%) when targeting public firms compared to extraordinary serial acquirers (*Q5*) that earn 2.3% even when targeting public firms. As a result, we do find return persistence when targets are public firms, bringing out an interesting twist to the general perception that public targets are often associated with lower returns. Indeed, some serial acquirers can be extraordinary to the extent that, even when they purchase public targets, they experience persistently higher returns.

Finally, in the last four columns of Panel C, we explicitly test whether non-U.S. serial acquirers experience more persistent returns when their targets are foreign or more specifically U.S. firms. We examine separately *Q1, Q5* and the differences between them among the non-U.S. serial acquirers when they target U.S. *vs* non-U.S. firms. Interestingly, when the non-U.S. serial acquirers target U.S. firms, *Q5* earn significantly higher future returns (4.43%) than *Q*1 (1.84%). The magnitude of this *Q5 – Q1* spread in CMARs is as large as what we see among U.S. serial acquirers, the vast majority of which pursue U.S. targets. Of special interest, it is the *Q*1 non-U.S. serial acquirers that perform more similarly to those *Q*1

U.S. serial acquirers when they target U.S. firms. This finding suggests that *Q*1 non-U.S. serial acquirers continue making acquisitions paradoxically even when returns are low in the U.S. just as the U.S. *Q1* serial acquirers do. The evidence that non-U.S. serial acquirers experience persistent returns when they target U.S. firms is consistent with recent studies that find the U.S. capital market being quite unique (Eckbo and Litchell, 2023; Skinner, 2008; and Bartram et al., 2012).

Overall, when we examine country, acquirer, and target characteristics to help explain the persistence of serial acquirer returns, we find that only a few factors seem to matter for the persistence of serial acquirer returns. First, of all the *country* characteristics, economic development, financial development, M&A activities, and institutional environment are important, however they do not fully explain the economic magnitude of the return persistence that U.S. serial acquirers experience. Second, among *acquirer* characteristics, whether they are from innovative or high-tech industries matters. They experience a similar economic magnitude of return persistence as the U.S. serial acquirers, suggesting that *Q*1 non-U.S. serial acquirers continue making acquisitions even when returns are low in the high-tech industry, just like their U.S. counterparts. Third, among *target* characteristics, target listing status and their U.S. location are particularly salient. The evidence so far is consistent with the notion that the U.S. capital market is unique in its market for corporate control, active high-tech sectors with many innovative targets, and more publicly listed firms as potential targets. In the next section, we investigate an extensive array of country, acquirer, and target characteristics that may vary between extraordinary and poor acquirers in the U.S. and outside of the U.S. to shed further light on what drives the persistence of serial acquirer returns.

*4.3. Country, Acquirer, and Target Characteristics of Extraordinary and Poor Serial Acquirers.*

In this subsection, we examine an extensive array of country, acquirer, and target characteristics to understand which are associated with a U.S. acquiring firm's classification as an extraordinary (*Q5*) firm versus a non-U.S. acquiring firm's *Q5* classification. Further, we seek to understand which characteristics are associated with a U.S. acquiring firm's classification as a poor (*Q1*) firm and a non-U.S. acquiring firm's *Q1* classification. We explore these differences by means of two different logistic regressions, which we report in Table 6.

In Columns (1) to (3) of Table 6, we compare poor serial acquirers (*Q1*) for which the dependent variable is assigned a 1 against extraordinary (*Q5*) serial acquirers for which the dependent variable is assigned a 0 in the U.S. subsample. We start with a baseline regression and add acquirer characteristics in Column (2) and target characteristics in Column (3). In Columns (4) to (6), we examine the non-U.S. subsample where poor (*Q1*) serial acquirers are assigned a 1 against extraordinary (*Q5*) serial acquirers for which the dependent variable is assigned a 0. We start with the addition of country characteristics in Column (4) and then add acquirer characteristics in Column (5) and target characteristics in Column (6).

We find similarities but also stark differences in the explanatory power of the covariates for these *Q5* and *Q1* classifications between the samples of U.S. and non-U.S. extraordinary serial acquirers. Taking two of the more extensive specifications as an example – Models (2) and (3), in particular – we observe that both U.S. and non-U.S. poor serial acquirers (*Q1*) tend to be larger (3.7 times more likely for a one-standard deviation higher market cap) and they are more likely to target public firms (more than 4 times as likely) compared to the extraordinary serial acquirers (*Q5*).[15] What sets the U.S. serial acquirers apart from their non-U.S. counterparts is that the extraordinary serial acquirers (*Q5*) in the U.S. tend to experience higher run-ups and market-to-book ratios than poor serial acquirers (*Q1*), as indicated by the log odds coefficients significantly below one. Outside the U.S., there is no observable difference between extraordinary serial acquirers (*Q5*) and poor serial acquirers (*Q1*) in their run-ups and market-to-book ratios. Interestingly, outside of the U.S., poor serial acquirers (*Q1*) tend to target firms in unrelated industries, compared to the extraordinary serial acquirers (*Q5*) which favor same-industry targets.

[Insert Table 6 about here]

Overall, we examine country, acquirer, and target characteristics that may help explain the persistence of serial acquirer returns. We find that by far the most important characteristic that is shared by both the U.S. and non-U.S. serial acquirers in explaining return persistence is the target public listing status. Both

[15] As the coefficients in logistic regressions represent the change in the log odds of the response variable for a one-unit increase in the predictor variable, we exponentiate the coefficient to give the change in odds of the response variable for a one unit increase in the predictor. Say, the coefficient 1.3077 in Model (2) for Acquirer Size implies an exp(1.3077) or 3.70 times for a one standard deviation larger acquirer by market capitalization.

U.S. poor serial acquirers (*Q1)* and non-U.S. poor serial acquirers (*Q1*) are more likely to target public firms, which are often associated with lower returns both at announcement and likely in the long run because of deal complexity and poor integration. As the U.S. has more publicly listed firms as potential targets (Doidge, Karolyi, and Stulz, 2017; Eckbo and Lithell, 2023), it is not surprising that return persistence is more of a U.S. phenomenon. Interestingly, we find no significant difference between US and non-US *Q1* firms in their choices of public compared to private targets.

What then sets the U.S. serial acquirers apart from their non-U.S. counterparts seems to lie in the measures of valuations. U.S. extraordinary serial acquirers (*Q5*) tend to experience higher run-ups and market-to-book ratios than poor serial acquirers (*Q1*). It is not the case for non-U.S. serial acquirers. While firms that have higher valuation can certainly be more likely to have over-valued equity, overconfident CEOs (Dong et al., 2006), and to make worse acquisitions (Billett and Qian, 2008), our findings seem more consistent with the idea that stock return/market-to-book ratio could proxy for whether they have unusual ability to acquire and/or combine with other firms, unusual growth opportunities or other unobservable factors that strongly relate to their superior performance over time. It could well be that a firm engages in more subsequent acquisitions precisely because its valuation is high and can justify these efforts.

**5. Conclusions.**

Serial acquisitions around the world have become more commonplace in the past two decades. One in every five public acquirers is a serial acquirer and two-thirds of the marketplace arises outside the U.S. A McKinsey Quarterly report by Rudnicki, Siegel, and West (2019) finds that the world's top 1,000 nonfinancial companies completed more than 15,000 deals over the decade of 1999 to 2010 and those that engaged in multiple acquisitions outperform in the subsequent decade those that did not. These serial acquirers not only purchase assets in their own industry and country, but they also engage in cross-border and inter-industry acquisitions. With most deals - both in the U.S. and globally – being conducted by serial acquirers, the solo acquirers are becoming the rarer type of acquirer. Despite the significant role played by these serial acquirers in the world market for mergers and acquisitions, the literature on their motives for

and performance following these deals is limited, and especially in the global environment.[16] The recent surge in acquisitions in the U.S. by foreign acquirers, many of which engage in such deals serially over time, motivates our paper to take an important first step in understanding what drives performance of global serial acquisition activity.

What is the main takeaway from our study? We find that while U.S. extraordinary acquirers earn persistently higher announcement-day returns for subsequent deals up to five years later relative to the bottom quintile of U.S. serial acquirers, as discovered by Golubov, Yawson, and Zhang (2015), serial acquirers outside the U.S. do not experience such persistence in announcement-day returns. The top non-U.S. serial acquirers by announcement-day returns – the extraordinary acquirers - do not distinguish themselves relative to their non-U.S. counterparts in any special way over sustained periods. What we find is that the poor U.S. serial acquirers – those with the lowest announcement-day returns – earn average low returns that are significantly below those of the poorest non-U.S. serial acquirers. The U.S. serial acquisition market is special in this way.

This puzzling new finding challenges our working understanding as to what explains the persistence in acquirer returns in the first place. Indeed, why are U.S. serial acquirers special in their persistence of acquirer returns over time? To help move toward a new understanding, we uncover several additional facts and potential explanations. First, when non-U.S. serial acquirers engage target firms in the U.S., they experience similar persistent returns as their U.S. counterparts, regardless of the regions they come from. Second, the persistence in serial acquirer returns is concentrated among high-tech industries, suggesting that technology-driven mergers may persist even if it is costly to the acquirers (Jovanovic and Rousseau, 2002). Together, this additional evidence leads us to conclude that the unique phenomenon of persistence in U.S. serial acquirer announcement-day returns stems from the large number of such deals involving intangible assets that are so present among firms in the high-technology sector. Thus, while Golubov,

[16] A Bloomberg report in 2019 outlined how European companies announced takeovers worth $60 billion in the single month of November 2019 alone. Two-thirds of those takeovers involve U.S. targets. See "Europe Inc. splurges on U.S acquisitions amid economic uncertainty" *Deutsche Welle* (December 12, 2019, https://www.dw.com/en/europe-inc-splurges-on-us-acquisitions-amid-economic-uncertainty/a-51514073).

Yawson, and Zhang (2015) focused on firm fixed effects that affect the persistence of serial acquirer returns in the U.S., our study reveals that country, acquirer, and target factors, particularly those associated with innovation-driven high-tech industries, impact the persistence of serial acquirer returns outside the U.S.

While taking an important step forward, there is more to do. To link these findings on serial acquirers around the world to a coherent theory, we recommend that future research on serial acquirers should further explore the specific mechanisms through which these industries and acquirer/target factors work and other potential factors that are still unexplored in the literature, especially in a global setting. Some researchers have started exploring these dimensions. For example, Aktas et al. (2021) exploit survey evidence in Europe to shed new insights into the inner workings of internal M&A teams. More research in this vein is welcome. Of course, we caution that due to the limitation of a short two-decades-long sample period, the differences in return persistence between the U.S. and non-U.S. countries that we uncover may change in the future as governance and technology breakthroughs change the landscape of mergers and acquisitions around the world. What we do know is that traditional theories cannot explain why non-U.S. serial acquirers pursue the opportunities they do. This, we believe, is another opportunity for new research ideas to come forward as the vibrant global acquisition marketplace does not appear to be disappearing anytime soon.

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**Appendix A. Description of Data and Variable Definitions.**

Our sample includes all controlling acquisitions in which the acquirer owns less than 50% deals before the announcement between 01/01/2000 and 12/31/2018. The steps taken in the Refinitiv Securities Data Company (SDC) Platinum database to download the data are:

(1) All completed controlling acquisitions between 01/01/2000 and 12/31/2018. Controlling acquisitions are acquisitions where the bidder owned less than 50% of the target's equity before the deal and more than 50% after the deal. To guarantee that acquisitions are relevant, we require that in each deal the bidder acquirers at least 20% of the target. About 87% of the deals in the sample are acquisitions of 100% stakes of the target.
(2) The acquirer must be a publicly listed company.
(3) The target can be a public, private, or subsidiary firm.
(4) The transaction must exceed $1 million.
(5) Multiple deals by the same firms on the same day are excluded.
(6) We exclude deals where acquirers or targets are from the financial industry (SIC 6000-6999) or utilities (SIC 4900-4949).

These requirements result in 49,239 transactions, used to identify serial and non-serial acquirers, made by a total of 19, 243 public firms; 7,799 of those firms were identified as serial acquirers (more than two deals within a three-year window). We then require acquirers to have available stock price data around the announcement date from Refinitiv *Datastream International*, resulting in a sample of 43,244 transactions involving 16,605 unique firms, totaling $12.3 trillion in 2018 constant dollars. We obtain the accounting and ownership information for all firms from Refinitiv *Worldscope Fundamentals* (Worldscope) and *Factset* and daily returns for all publicly traded securities from *Datastream*. We follow Brown and Warner's (1985) standard event study methodology to calculate cumulative market-adjusted returns (CMARs) for the 11-day event window ($t-5, t+5$) around the announcement date supplied by SDC. We estimate the cumulative market-adjusted buy-and-hold returns instead of utilizing a market model since our sample of serial acquirers are frequent buyers and there is a high probability that previous takeover attempts will be included in the estimation period thus making beta estimations less meaningful (see Fuller, Netter, and Stegemoller, 2002).

**Appendix A. Description of Data and Variable Definitions.** (continued)

Key variable definitions follow.

| Variables | Description | Source |
|---|---|---|
| *Serial Acquirer* | Dummy variable that equals one if the company is classified as a "serial acquirer" and zero otherwise. We use three definitions of serial acquirers: *SA_2 deals_3 years* identifies firms that acquired two or more targets over three-year rolling window, *SA_5 deals* identifies firms that acquired five or more targets in the sample period, and *SA_2 deals_5 years* identifies those that acquired two or more targets over five-year rolling window. | *SDC* |
| *CMAR* | Cumulative market-adjusted buy-and-hold returns (return on the stock minus return on the domestic market) around acquisition announcement dates. CMARs are calculated for the event window of (-5, +5) days around the announcement date. | *SDC & DataStream* |
| *Acquirer Size* | Logarithm of acquirer's market capitalization the year prior to the acquisition, measured in $million (2018 constant prices). | *DataStream* |
| *Market-to-book* | Acquirer's market-to-book ratio as of the year prior to the acquisition. | *DataStream & WorldScope* |
| *Leverage* | Acquirer's total debt-to-total assets as of the year prior to the acquisition. | *WorldScope* |
| *Relative Size* | Value of the deal divided by the one-year lagged total assets of the acquirer. | *SDC & WorldScope* |
| *Same Industry* | Dummy variable that equals one if both acquirer and target are from the same Fama-French 48 industry classification. | *SDC* |
| *Private* | Indicator variable equal to 1 if the target is a private firm.. | *SDC* |
| *Public* | Indicator variable equal to 1 if the target is a publicly listed firm.. | *SDC* |
| *Stock* | Indicator variable equal to 1 if more than 50% of the acquisition was paid in stock. | *SDC* |
| *Cash* | Indicator variable equal to 1 if less than 50% of the acquisition was paid in stock. | *SDC* |
| *Run-up* | Buy-and-hold market adjusted return over a 60-day window (-70 ,-11) days prior to the acquisition. | |
| *Extraordinary Acquirers* | Acquirers in the top quintile of the average CMARs from three-year rolling windows. | *SDC & DataStream* |
| *Ordinary (Poor) Acquirers* | Acquirers in quintiles Q4 to Q2 (Q1) of the average CMARs from three-year rolling windows. | *SDC & DataStream* |

**Appendix A. Description of Data and Variable Definitions.** (continued)

| Variables | Description | Source |
|---|---|---|
| *Log(Deals)* | The natural log of number of acquisition deals in the next (0, *k*) calendar years, *k* = (1, 2, 3, 4, 5). | *SDC* |
| *High-tech* | OECD definition of High-tech industries: Aircraft and spacecraft; Pharmaceuticals; Office, Accounting and Computing Machinery; Radio, TV, and Communications Equipment; Medical, Precision and Optical instruments. | *SDC*/OECD *Directorate for Science, Technology and Industry - Economic Analysis and Statistics Division* (2011) |
| *IT (Information Technology)* | Information Technology sector: GICS-MSCI sector 45. | Global Industry Classification Standard - MSCI |
| *High (Low) Global Innovation* | Firm is from a country with Global Innovation Index above (below) the median. Global innovation index is based on research and development (R&D), intellectual property (IP) filings and venture capital. | World Intellectual Property Organization |
| *WGI* | Average of World Governance Indicators: Political Stability, Rule of Law, Control of Corruption, Gov. Effectiveness, Voice and Accountability, and Regulatory Quality. | World Bank Database |
| *High (Low) GDP* | Indicator variable equal to 1(0) is the acquirer's country GDP per capita is above (below) the annual median. | World Bank Database |
| *Large (Small) stock market* | Indicator variable equal to 1(0) if the acquirer's stock market capitalization per capita is above (below) the annual median. | World Bank Database |
| *High (Low) M&A Activity* | Indicator variable equal to 1(0) if the acquirer's merger and acquisition activity in terms of value relative stock market capitalization is above (below) the annual median. | World Bank Database and *SDC* |

Table 1. Deal Counts by Serial Acquirers and Non-Serial Acquirers.

*Panel A. Serial Acquirers are firms that acquire two or more targets over three-year rolling windows*

| | Serial Acquirers | | | | | | Non-Serial Acquirers | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Target region | U.S. | Canada | Europe | Developed Asia | Emerging Markets | Total | U.S. | Canada | Europe | Developed Asia | Emerging Markets | Total |
| U.S. | 10,514 | 788 | 1,335 | 287 | 281 | 13,205 | 3,423 | 400 | 347 | 156 | 205 | 4,531 |
| Canada | 456 | 2,036 | 155 | 47 | 43 | 2,737 | 195 | 1,120 | 47 | 39 | 20 | 1,421 |
| Europe | 1,396 | 224 | 5,870 | 227 | 231 | 7,948 | 356 | 92 | 1,885 | 133 | 178 | 2,644 |
| Developed Asia | 236 | 71 | 231 | 3,047 | 121 | 3,706 | 72 | 44 | 67 | 2,344 | 113 | 2,640 |
| Emerging Markets | 508 | 216 | 750 | 288 | 3,896 | 5,658 | 215 | 260 | 237 | 308 | 3,729 | 4,749 |
| Total | 13,110 | 3,335 | 8,341 | 3,896 | 4,572 | 33,254 | 4,261 | 1,916 | 2,583 | 2,980 | 4,245 | 15,985 |

*Panel B. Serial Acquirers are firms that acquire five or more targets over the entire sample period*

| | Serial Acquirers | | | | | | Non-Serial Acquirers | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Target region | U.S. | Canada | Europe | Developed Asia | Emerging Markets | Total | U.S. | Canada | Europe | Developed Asia | Emerging Markets | Total |
| U.S. | 7,876 | 486 | 1,094 | 175 | 151 | 9,782 | 6,061 | 702 | 588 | 268 | 335 | 7,954 |
| Canada | 317 | 1,107 | 115 | 18 | 20 | 1,577 | 334 | 2,049 | 87 | 68 | 43 | 2,581 |
| Europe | 1,111 | 143 | 4,258 | 160 | 115 | 5,787 | 641 | 173 | 3,497 | 200 | 294 | 4,805 |
| Developed Asia | 178 | 41 | 184 | 1,561 | 55 | 2,019 | 130 | 74 | 114 | 3,830 | 179 | 4,327 |
| Emerging Markets | 397 | 106 | 556 | 139 | 1,410 | 2,608 | 326 | 370 | 431 | 457 | 6,215 | 7,799 |
| Total | 9,879 | 1,883 | 6,207 | 2,053 | 1,751 | 21,773 | 7,492 | 3,368 | 4,717 | 4,823 | 7,066 | 27,466 |

*Panel C. Serial Acquirers are firms that acquire two or more targets over five-year rolling windows*

| | Serial Acquirers | | | | | | Non-Serial Acquirers | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Target region | U.S. | Canada | Europe | Developed Asia | Emerging Markets | Total | U.S. | Canada | Europe | Developed Asia | Emerging Markets | Total |
| U.S. | 11,368 | 865 | 1,433 | 321 | 314 | 14,301 | 2,569 | 323 | 249 | 122 | 172 | 3,435 |
| Canada | 505 | 2,227 | 163 | 55 | 47 | 2,997 | 146 | 929 | 39 | 31 | 16 | 1,161 |
| Europe | 1,500 | 246 | 6,298 | 257 | 260 | 8,561 | 252 | 70 | 1,457 | 103 | 149 | 2,031 |
| Developed Asia | 246 | 80 | 246 | 3,443 | 143 | 4,158 | 62 | 35 | 52 | 1,948 | 91 | 2,188 |
| Emerging Markets | 551 | 248 | 807 | 321 | 4,446 | 6,373 | 172 | 228 | 180 | 275 | 3,179 | 4,034 |
| Total | 14,170 | 3,666 | 8,947 | 4,397 | 5,210 | 36,390 | 3,201 | 1,585 | 1,977 | 2,479 | 3,607 | 12,849 |

**Description**: This table presents deal counts by country pair. The columns represent the countries/regions of the acquiring companies, while the rows represent those of the target companies. Our sample period is from 2000 to 2018. Developed Asia refers to the developed Asia-Pacific region (Hong Kong, Singapore, Japan,

Australia, New Zealand); Europe refers to Western Europe. Emerging Markets refers to countries outside the U.S., Canada, Western Europe, and Developed Asia-Pacific. Three different definitions of serial acquirers from the literature are featured in the three panels.

**Interpretation**: In the U.S., an acquirer is more likely to be a serial acquirer than a non-serial acquirer. U.S. serial acquirers account for 40% to 45% of all serial acquirers worldwide, while U.S. non-serial acquirers make up only 25% to 28% of their global counterparts. The U.S. is also the most common location for serial acquirer targets, ranging from 40% to 45% of all serial acquirer targets around the world. By contrast, U.S. targets are less common among non-serial acquirers, ranging from 28% to 30%. Serial acquirers are disproportionately more likely to target U.S. firms.

Table 2. Benchmark Panel Regressions of Acquirer Returns.

*Panel A: Summary Statistics on Acquirer CMARs (-5, +5)*

| | U.S. firms | | | | Non-U.S. firms | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2a) | (2b) | (2c) | (3) | (4a) | (4b) | (4c) |
| | | Serial Acquirers Only | | | | Serial Acquirers Only | | |
| | Full Sample | Two or more in 3 years | Five or more in sample | Two or more in 5 years | Full Sample | Two or more in 3 years | Five or more in sample | Two or more in 5 years |
| N | 15,516 | 11,891 | 9,046 | 12,844 | 27,728 | 18,124 | 10,980 | 19,932 |
| mean | 0.032 | 0.021 | 0.015 | 0.022 | 0.039 | 0.032 | 0.024 | 0.033 |
| p25 | –0.036 | –0.035 | –0.033 | –0.035 | –0.032 | –0.032 | –0.028 | –0.032 |
| p50 | 0.012 | 0.011 | 0.009 | 0.011 | 0.015 | 0.014 | 0.013 | 0.014 |
| p75 | 0.071 | 0.064 | 0.058 | 0.065 | 0.076 | 0.071 | 0.062 | 0.072 |
| s.d. | 0.160 | 0.129 | 0.106 | 0.132 | 0.151 | 0.134 | 0.109 | 0.137 |

*Panel B: Panel Regressions of Acquirer Returns (CMARs)*

| | U.S. firms | | | | Non-U.S. firms | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2a) | (2b) | (2c) | (3) | (4a) | (4b) | (4c) |
| | | Serial Acquirers Only | | | | Serial Acquirers Only | | |
| | Full Sample | Two or more in 3 years | Five or more in sample | Two or more in 5 years | Full Sample | Two or more in 3 years | Five or more in sample | Two or more in 5 years |
| Acquirer Size | –0.0144*** | –0.0108*** | –0.0079*** | –0.0113*** | –0.0116*** | –0.0112*** | –0.0105*** | –0.0118*** |
| | (–14.77) | (–10.84) | (–7.92) | (–11.68) | (–16.61) | (–13.59) | (–10.67) | (–14.59) |
| Market-to-Book | 0.0002 | 0.0001 | 0.0006* | 0.0002 | –0.0006** | –0.0004 | 0.0002 | –0.0003 |
| | (0.85) | (0.30) | (1.82) | (0.66) | (–2.54) | (–1.44) | (0.74) | (–1.36) |
| Leverage | 0.0268** | 0.0240** | 0.0189** | 0.0245** | 0.0056 | 0.0159 | 0.0041 | 0.0163 |
| | (2.50) | (2.31) | (2.01) | (2.38) | (0.64) | (1.49) | (0.38) | (1.58) |
| Relative Size | 0.0021*** | 0.0024*** | 0.0026** | 0.0025*** | 0.0014*** | 0.0009* | 0.0010 | 0.0008 |
| | (3.84) | (2.81) | (2.12) | (3.30) | (3.91) | (1.68) | (0.73) | (1.60) |
| Same Industry | –0.0078** | –0.0034 | –0.0015 | –0.0051 | –0.0024 | 0.0003 | 0.0023 | 0.0008 |
| | (–2.29) | (–1.03) | (–0.45) | (–1.60) | (–0.91) | (0.09) | (0.69) | (0.26) |
| Private × Stock | 0.0082 | 0.0013 | 0.0024 | 0.0051 | 0.0212*** | 0.0172*** | 0.0094 | 0.0196*** |
| | (1.47) | (0.22) | (0.39) | (0.89) | (4.76) | (3.39) | (1.60) | (3.92) |
| Private × Cash | –0.0068** | –0.0028 | –0.0003 | –0.0019 | –0.0004 | –0.0001 | –0.0004 | 0.0009 |
| | (–1.98) | (–0.77) | (–0.07) | (–0.54) | (–0.12) | (–0.04) | (–0.11) | (0.25) |
| Public × Stock | –0.0419*** | –0.0430*** | –0.0401*** | –0.0435*** | –0.0251*** | –0.0282*** | –0.0239*** | –0.0270*** |
| | (–6.00) | (–5.67) | (–5.33) | (–6.02) | (–4.84) | (–4.68) | (–3.53) | (–4.64) |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Country FE | No | No | No | No | Yes | Yes | Yes | Yes |
| Observations | 10,197 | 7,927 | 6,083 | 8,592 | 15,569 | 10,417 | 6,517 | 11,474 |
| R-squared | 0.091 | 0.062 | 0.042 | 0.068 | 0.078 | 0.075 | 0.068 | 0.075 |

Table 2. Continued

*Panel C: Fixed Effects from Panel Regressions of Serial Acquirer Returns (CMARs)*

| *Serial Acquirer: Two or more in 3 years* | U.S. | | | | | | Non-U.S. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***F*-test** | ***p*-value** | **Firms** | ***N*** | **$R^2$** | **Adj. $R^2$** | ***F*-test** | ***p*-value** | **Firms** | ***N*** | **$R^2$** | **Adj. $R^2$** |
| (1) Firm FE | 2.196 | <0.001 | 2,406 | 11,891 | 0.358 | 0.195 | 1.637 | <0.001 | 4,852 | 18,124 | 0.374 | 0.146 |
| (2) Firm FE, Year FE | 2.204 | <0.001 | 2,406 | 11,891 | 0.360 | 0.197 | 1.633 | <0.001 | 4,852 | 18,124 | 0.380 | 0.152 |
| (3) Firm FE, Deal char. and Year FE | 1.949 | <0.001 | 2,186 | 8,131 | 0.437 | 0.227 | 1.407 | <0.001 | 3,961 | 10,797 | 0.469 | 0.159 |
| (4) Firm FE, Acq and deal char. and Year FE | 1.870 | <0.001 | 2,147 | 7,927 | 0.444 | 0.234 | 1.419 | <0.001 | 3,852 | 10,417 | 0.489 | 0.185 |
| *Serial Acquirer: Five or more in sample* | U.S. | | | | | | Non-U.S. | | | | | |
| | ***F*-test** | ***p*-value** | **Firms** | ***N*** | **$R^2$** | **Adj. $R^2$** | ***F*-test** | ***p*-value** | **Firms** | ***N*** | **$R^2$** | **Adj. $R^2$** |
| (1) Firm FE | 1.563 | <0.001 | 1,044 | 9,046 | 0.169 | 0.061 | 1.444 | <0.001 | 1,485 | 10,980 | 0.184 | 0.057 |
| (2) Firm FE, Year FE | 1.571 | <0.001 | 1,044 | 9,046 | 0.173 | 0.063 | 1.448 | <0.001 | 1,485 | 10,980 | 0.190 | 0.062 |
| (3) Firm FE, Deal char. and Year FE | 1.446 | <0.001 | 1,019 | 6,184 | 0.237 | 0.082 | 1.249 | <0.001 | 1,420 | 6,679 | 0.267 | 0.065 |
| (4) Firm FE, Acq and deal char. and Year FE | 1.468 | <0.001 | 1,018 | 6,083 | 0.255 | 0.101 | 1.317 | <0.001 | 1,407 | 6,515 | 0.302 | 0.105 |
| *Serial Acquirer: Two or more in 5 years* | U.S. | | | | | | Non-U.S. | | | | | |
| | ***F*-test** | ***p*-value** | **Firms** | ***N*** | **$R^2$** | **Adj. $R^2$** | ***F*-test** | ***p*-value** | **Firms** | ***N*** | **$R^2$** | **Adj. $R^2$** |
| (1) Firm FE | 2.221 | <0.001 | 2,609 | 12,844 | 0.361 | 0.199 | 1.659 | <0.001 | 5,389 | 19,932 | 0.381 | 0.151 |
| (2) Firm FE, Year FE | 2.231 | <0.001 | 2,609 | 12,844 | 0.364 | 0.201 | 1.657 | <0.001 | 5,389 | 19,932 | 0.386 | 0.157 |
| (3) Firm FE, Deal char. and Year FE | 1.938 | <0.001 | 24,376 | 8,807 | 0.440 | 0.231 | 1.339 | <0.001 | 4,432 | 11,877 | 0.474 | 0.158 |
| (4) Firm FE, Acq and deal char. and Year FE | 1.845 | <0.001 | 2,338 | 8,592 | 0.446 | 0.236 | 1.424 | <0.001 | 4,327 | 11,474 | 0.497 | 0.189 |

**Description**: This table presents the results of multivariate regressions of acquirer CMARs on acquirer and deal characteristics for the full and serial acquirer sample, in the U.S. and outside the U.S. Dependent variables are the cumulative market-adjusted buy-and-hold returns (CMARs) estimated for the event windows (-5, +5) days around the acquisition announcement date. Panel A presents summary statistics of CMARs. Panel B presents regressions of CMARs. Constants are not reported. All variables are defined in Appendix A. All regressions include acquirer country (except for columns 1 to 2c), industry (Fama and French (1997) 48 industry codes), and year fixed effects with robust standard errors clustered by country and year. T-stats are shown in parentheses. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels. Panel C reports the joint significance of acquirer firm fixed effects in the regression model of acquirer CMARs for the US and the non-US sample. Our sample acquisition deals involve all public acquirers over the period from 2000 to 2018. Acquirer CMARs are regressed on acquirer fixed effects ("Firm FE") and the controls include (1) deal characteristics ("Deal char.") including relative size, relatedness, and a full set of target listing status or method of payment as in Golubov, Yawson, and Zhang (2015) (2) acquirer characteristics ("Acq char.") including the natural log of acquirer size, market-to-book, leverage.

**Interpretation:** In Panel A, we find a significant and economically meaningful difference in CMARs between serial and non-serial acquirers, as well as within quartiles of serial acquirers in the U.S., similar to Golubov, Yawson, and Zhang (2015). By contrast, outside the U.S., the difference in CMARs between serial and non-serial acquirers is small. In Panel B, the coefficients on the control variables in both U.S. and non-U.S. sample, such as firm size, acquirer's relative size,

method of payment, and target listing, are mostly in line with earlier studies in the U.S. In Panel C, we find strong acquirer firm fixed effects among serial acquirer CMARs in both the U.S. and non-U.S. samples, again in line with what Golubov, Yawson, and Zhang (2015) find among the U.S. serial acquirers. The fixed effects alone, with an adjusted $R^2$ of 15%, seem to explain nearly as much of the variation in non-U.S. acquirer returns as when many of the important variables are included (adjusted $R^2$ of 19%). The only difference to note is that the explanatory power of fixed effects is lower for non-U.S. serial acquirers (15%) compared to U.S. serial acquirers (20%).

Table 3. Serial Acquirers: Persistence of Acquirer Returns

| | CMAR(0, +1y) | CMAR(0, +2y) | CMAR(0, +3y) | CMAR(0, +4y) | CMAR(0, +5y) |
|---|---|---|---|---|---|
| | | | All | | |
| Q1 | 2.17% | 2.24% | 2.10% | 1.99% | 1.98% |
| N | 2,848 | 4,998 | 6,490 | 7,638 | 8,623 |
| Q5 | 3.90% | 3.70% | 3.50% | 3.44% | 3.35% |
| N | 3,163 | 5,449 | 7,057 | 8,243 | 9,220 |
| Q5-Q1 | 1.73% | 1.46% | 1.40% | 1.44% | 1.36% |
| | (5.06***) | (5.72***) | (6.44***) | (7.31***) | (7.42***) |
| | | | U.S. Firms Only | | |
| Q1 | 0.99%[a] | 1.27%[a] | 1.20%[a] | 1.10%[a] | 1.12%[a] |
| N | 1,209 | 2,164 | 2,853 | 3,420 | 3,882 |
| Q5 | 3.50% | 3.32% | 3.22% | 3.23% | 3.17% |
| N | 1,086 | 1,881 | 2,455 | 2,895 | 3,290 |
| Q5-Q1 | 2.51% | 2.05% | 2.02% | 2.13% | 2.06% |
| | (4.68***) | (5.21***) | (6.01***) | (7.01***) | (7.23***) |
| | | | Non-U.S. Firms Only | | |
| Q1 | 3.04%[a] | 2.98%[a] | 2.81%[a] | 2.72%[a] | 2.70%[a] |
| N | 1,639 | 2,834 | 3,637 | 4,218 | 4,741 |
| Q5 | 4.11% | 3.90% | 3.65% | 3.55% | 3.44% |
| N | 2,077 | 3,568 | 4,602 | 5,348 | 5,930 |
| Q5-Q1 | 1.06% | 0.91% | 0.84% | 0.83% | 0.75% |
| | (2.40***) | (2.74***) | (2.94***) | (3.18***) | (3.094***) |

**Description**: This table reports univariate tests of persistence in acquirer returns for the US and the non-US sample. Serial acquirers are defined as those that acquired two or more targets over a three-year rolling window. Serial acquirers are sorted into quintiles based on their average CMARs over the last three calendar years based on the overall world sample. *Q1* and *Q5* represent serial acquirers with the lowest and highest past average CMARs, respectively. Then the average CMARs to acquisitions made by all the acquirers in *Q1* and *Q5* over the next 5 calendar years are computed and presented as CMAR (+0 y, +*k* y) where *k*= (1,2,3,4,5). The T-statistics for the differences in means between Q5 and Q1 are reported in parentheses. Symbols ***, **, and * denote significance at the 1%, 5%, and 10% level respectively for the test in means between Q5 and Q1. Symbols [a], [b], and [c] denote significance at the 1%, 5%, and 10% level respectively for the test in means between US firms and Non-US firms.

**Interpretation**: Both *Q1* serial acquirers (those with the lowest average CMARs) and *Q5* serial acquirers (those with the highest average CMARs) continue actively making acquisitions, with no discernible differences in the decline of their overall acquisitiveness over time. There are, however, important differences in the persistence of average CMARs between U.S. and non-U.S. serial acquirers. Non-U.S. serial acquirers exhibit a much smaller spread between *Q5* and *Q1* than their U.S. counterparts. While *Q5* non-U.S. serial acquirers appear comparable in magnitude to *Q5* U.S. serial acquirers in terms of future CMARs, *Q1* non-U.S. serial acquirers significantly outperform the *Q1* U.S. serial acquirers across all five years after the three-year classification period.

Table 4. Serial Acquirers: Persistence of Acquisition Deals

| | (1) *Log (Deals) (0, +1y)* | (2) *Log (Deals) (0, +2y)* | (3) *Log (Deals) (0, +3y)* | (4) *Log (Deals) (0, +4y)* | (5) *Log (Deals) (0, +5y)* |
|---|---|---|---|---|---|
| *Q5* | 0.0027 | 0.0188 | 0.0237 | 0.0279 | 0.0228 |
| | (0.16) | (1.10) | (1.37) | (1.53) | (1.20) |
| *U.S.* | 0.0176 | 0.0464** | 0.0746*** | 0.0956*** | 0.1097*** |
| | (0.91) | (2.49) | (3.89) | (4.67) | (5.11) |
| *Q5×U.S.* | 0.0325 | 0.0272 | 0.0145 | 0.0160 | 0.0110 |
| | (1.16) | (0.96) | (0.51) | (0.53) | (0.35) |
| Observations | 4,183 | 6,263 | 7,429 | 7,759 | 7,968 |
| R-squared | 0.002 | 0.004 | 0.005 | 0.007 | 0.007 |

**Description**: This table compares how acquisitive *Q1* acquirers are in the U.S. and outside of the U.S. Serial acquirers are companies that acquired two or more targets over a three-year window –Serial Acquirer Definition (a) above. Serial acquirers are sorted into quintiles, within each group (U.S./non-U.S.) based on their average CMARs over the last three calendar years. Extraordinary acquirers in our sample are denoted by *Q5* (top performance quintile); Poor acquirers are denoted by *Q1* (bottom performance quintile). Performance is measured by cumulative market-adjusted buy-and-hold returns (CMARs) around the announcement dates of acquisitions. The dependent variable is the natural log of the number of acquisition deals in the next (0, *k*) calendar years, where *k* = (1, 2, 3, 4, 5). That is, "*Log (Deals) (0, +1y)*" is the total number of deals within the first year following the three-year window within which the firm is classified as *Q5* or *Q1*. All variables are defined in Appendix A. T-stats are in parentheses. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels.

**Interpretation**: *Q1* serial acquirers are just as acquisitive as *Q5* serial acquirers, despite earning significantly lower returns. Interestingly, U.S. *Q1* serial acquirers are more likely to make future acquisitions compared to *Q1* serial acquirers outside the U.S., again despite the significantly lower returns. Finally, *Q5* serial acquirers are just as likely to engage in a future acquisition in the U.S. as *Q5* serial acquirers outside the U.S.

Table 5. Testing Country, Acquirer, and Target factors for Persistence in Serial Acquirer Returns

*Panel A: Country Characteristics of Serial Acquirer*

| | **High GDP per Capita** | **Low GDP per Capita** | **Large Stock Market** | **Small Stock Market** | **High M&A Activity** | **Low M&A Activity** | **High World Governance Indicator** | **Low World Governance Indicator** |
|---|---|---|---|---|---|---|---|---|
| Q1 | 2.54% | 3.16% | 2.65% | 2.97% | 2.73% | 1.97% | 2.56% | 3.06% |
| N | 2,853 | 920 | 2,731 | 746 | 3,605 | 167 | 2,806 | 967 |
| Q5 | 3.58% | 3.86% | 3.63% | 4.03% | 3.67% | 3.32% | 3.59% | 3.84% |
| N | 3,341 | 885 | 3,043 | 772 | 4,043 | 181 | 3,293 | 933 |
| Q5-Q1 | 1.05% | 0.70% | 0.98% | 1.07% | 0.94% | 1.36% | 1.03% | 0.78% |
| | (3.25***) | (1.07) | (2.81***) | (1.56) | (3.17***) | (1.13) | (3.16***) | (1.24) |

*Panel B: Acquirer Characteristics*

| | **High Run-up Acquirer** | **Low Run-up Acquirer** | **High Market-to-book Acquirer** | **Low Market-to-book Acquirer** | **High-Tech Acquirer** | **Non-High-Tech Acquirer** | **High-Tech or IT Acquirer** | **Non-High-Tech nor IT Acquirer** |
|---|---|---|---|---|---|---|---|---|
| Q1 | 2.51% | 2.92% | 2.09%[a] | 3.28%[a] | 2.45% | 2.72% | 1.83%[b] | 3.10%[b] |
| N | 1,834 | 1,942 | 1,780 | 1,996 | 302 | 3,470 | 1,213 | 2,560 |
| Q5 | 3.58% | 3.74% | 3.76% | 3.49% | 5.57%[a] | 3.45%[a] | 4.05% | 3.45% |
| N | 2,105 | 2,122 | 2,347 | 1,879 | 393 | 3,832 | 1,417 | 2,812 |
| Q5-Q1 | 1.07% | 0.82% | 1.67% | 0.20% | 3.12% | 0.74% | 2.22% | 0.38% |
| | (2.72***) | (1.90*) | (4.24***) | (0.47) | (3.66***) | (2.40**) | (4.86***) | (1.03) |

*Panel C: Target Characteristics*

| | **Paid in Cash Target** | **Paid in Stock Target** | **Private Target** | **Public Target** | **Non-US Target** | **US Target** | **Domestic Target** | **Cross-border Target** |
|---|---|---|---|---|---|---|---|---|
| Q1 | 2.13%[a] | 4.57%[a] | 3.03%[a] | 0.20%[a] | 2.84% | 1.84% | 3.02%[a] | 1.68%[a] |
| N | 3,002 | 775 | 3,312 | 465 | 3,313 | 460 | 2,894 | 880 |
| Q5 | 3.25%[a] | 5.10%[a] | 3.80%[b] | 2.32%[b] | 3.60% | 4.43% | 3.78% | 3.35% |
| N | 3,285 | 939 | 3,823 | 401 | 3,729 | 497 | 3,330 | 897 |
| Q5-Q1 | 1.12% | 0.13% | 0.77% | 2.12% | 0.76% | 2.59% | 0.76% | 1.67% |
| | (3.97***) | (0.15) | (2.52**) | (2.32**) | (2.42***) | (3.33***) | (2.21**) | (3.11***) |

Table 5. Continued

**Description**: This table reports univariate tests of persistence in acquirer returns for the *non-U.S.* acquirers in various subsamples, proxied by the average CMARs to acquisitions made by all the acquirers in *Q1* and *Q5* over the next 3 calendar years CMAR (0, +3y). *Non-U.S.* Serial acquirers are sorted into quintiles based on their average CMARs over the last three calendar years. CMARs are estimated for the event windows (-5, +5) days around the acquisition announcement date. Serial acquirers are companies that have acquired two or more targets over a three-year window. High-Tech refers to the OECD definition of high-tech industries. IT refers to the information technology sector defined by the Global Industry Classification Standard (GICS) – MSCI. *Q5* represent acquirers in the highest quintile (*Extraordinary acquirers*); and *Q1* represents the bottom quintile acquirers (*Poor acquirers*). All variables are defined in Appendix A. T-stats are shown in parentheses. Symbols $^{***}$, $^{**}$, and $^{*}$ denote significance at the 1%, 5%, and 10% level respectively for the test in means between *Q5* and *Q1*. Symbols $^{a}$, $^{b}$, and $^{c}$ denote significance at the 1%, 5%, and 10% level respectively for the test in means between factor categories (e.g., High vs Low; Large vs Small).

**Interpretation**: Of all the country, acquirer, and target characteristics proposed in the prior literature to explain the persistence of serial acquirer returns, we find that only a few factors seem to matter for the persistence of serial acquirer returns. In terms of country characteristics, presented in Panel A, economic and financial development, M&A activity, and the institutional environment are important, however they do not fully explain the economic magnitude of the return persistence experienced by U.S. serial acquirers. Regarding acquirer characteristics (Panel B), whether acquirers are from innovative or high-tech industries matter. They experience a persistence in returns of similar economic magnitude to U.S. serial acquirers, suggesting that *Q1* non-U.S. serial acquirers in high-tech industries continue making acquisitions even when returns are low, just like their U.S. counterparts. Among target characteristics, presented in Panel C, target listing status and their U.S. location are particularly salient. Our evidence is consistent with the notion that the U.S. capital market is unique in its market for corporate control, its active high-tech sectors with many innovative targets, and its greater number of publicly listed firms available as potential targets.

Table 6. Country, Acquirer, and Target Characteristics of Extraordinary vs Poor Serial Acquirers

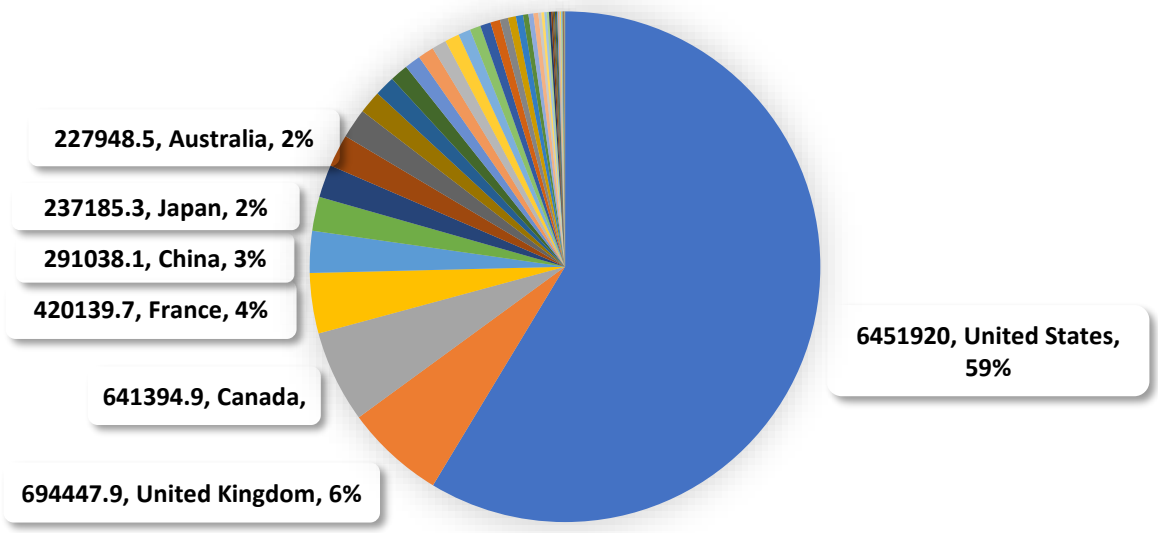
| | **U.S. subsample; Dep =1 if *Q1*; 0 if *Q5*** | | | **Non-U.S. subsample; Dep =1 if *Q1*; 0 if *Q5*** | | |
|---|---|---|---|---|---|---|
| | **(1) Baseline** | **(2) Add Acquirer Characteristics** | **(3) Add Target Characteristics** | **(4) Add Country Characteristics** | **(5) Add Acquirer Characteristics** | **(6) Add Target Characteristics** |
| Acquirer Size | 1.2890*** | 1.3077*** | 1.2946*** | 1.2898*** | 1.2976*** | 1.2608*** |
| | (13.59) | (13.80) | (11.06) | (16.60) | (16.46) | (11.61) |
| Leverage | 0.9084 | 0.8852 | 0.9092 | 1.0435 | 1.0220 | 0.9716 |
| | (–0.62) | (–0.78) | (–0.52) | (0.29) | (0.15) | (–0.16) |
| Relative Size | 1.0082 | 1.0085 | 0.9997 | 0.9976 | 0.9984 | 0.9961 |
| | (1.32) | (1.38) | (–0.04) | (–0.44) | (–0.30) | (–0.63) |
| Same Industry | 0.9453 | 0.9384 | 1.0174 | 0.8862** | 0.8852** | 0.8210*** |
| | (–0.74) | (–0.83) | (0.19) | (–1.97) | (–1.99) | (–2.60) |
| High Run-up | | 0.8502** | 0.8367** | | 0.9605 | 1.0355 |
| | | (–2.38) | (–2.23) | | (–0.72) | (0.51) |
| High MB | | 0.8262** | 0.8718 | | 0.9083 | 0.9665 |
| | | (–2.56) | (–1.57) | | (–1.53) | (–0.44) |
| High-tech | | 1.2336 | 1.1648 | | 0.9486 | 0.9712 |
| | | (1.62) | (1.04) | | (–0.38) | (–0.17) |
| Cash | | | 0.8776 | | | 1.0708 |
| | | | (–1.35) | | | (0.91) |
| Public Target | | | 1.4125*** | | | 1.5339*** |
| | | | (2.96) | | | (4.02) |
| Domestic Target | | | 0.9567 | | | 0.9983 |
| | | | (–0.36) | | | (–0.02) |
| High GDP | | | | 0.7699** | 0.7712** | 0.7410** |
| | | | | (–2.24) | (–2.23) | (–1.97) |
| Large Stock Market | | | | 1.5104*** | 1.4824*** | 1.8409*** |
| | | | | (3.45) | (3.28) | (3.78) |
| High M&A Activity | | | | 0.9654 | 0.9758 | 1.0008 |
| | | | | (–0.24) | (–0.17) | (0.00) |
| Observations | 3,879 | 3,879 | 2,888 | 5,636 | 5,636 | 3,796 |
| Pseudo_R2 | 0.0635 | 0.0663 | 0.0775 | 0.0574 | 0.0578 | 0.0657 |
| Log Likelihood | –2,515 | –2,508 | –1,844 | –3,679 | –3,678 | –2,458 |

**Description**: This table reports logit regressions of (*Q1:* bottom performance quintile) poor serial acquirers against (*Q5:* top performance quintile) extraordinary serial acquirers in the U.S. and outside the U.S. Serial acquirers are sorted into quintiles, within each group (U.S./non-U.S.) based on their average CMARs over the last three calendar years. Serial acquirers are companies that acquired two or more targets over a three-year window – Serial Acquirer Definition (a) above. Performance is measured by cumulative market-adjusted buy-and-hold returns (CMARs) around the announcement dates of acquisitions. All variables are defined in Appendix A. The table reports odds ratios from the logit regressions; z-stats are in parentheses. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels.

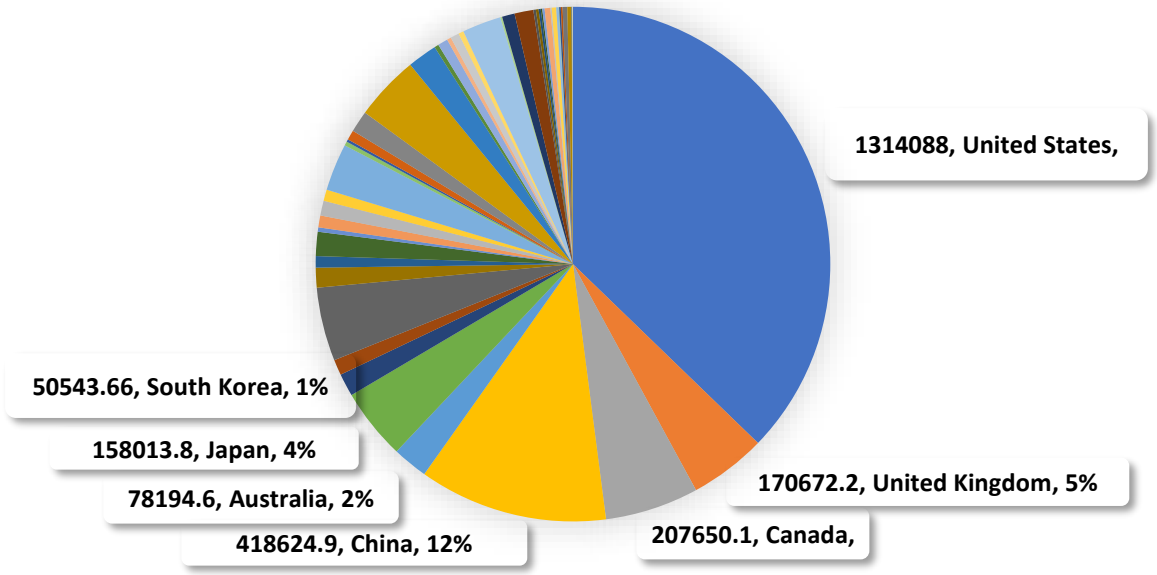
**Interpretation**: We find both similarities and stark differences in the explanatory power of country, acquirer, and target characteristics for the *Q5* and *Q1* classifications between the samples of U.S. and non-U.S. serial acquirers. In both groups, poor serial acquirers (*Q1*) tend to be larger and are more likely to target public firms compared to extraordinary serial acquirers (*Q5*). What sets the U.S. serial acquirers apart from their non-U.S. counterparts lies in the measures of valuations. The extraordinary serial acquirers (*Q5*) in the U.S. experiencing higher run-ups and market-to-book ratios than poor serial acquirers (*Q1*), consistent with the idea that *Q5* have unusual ability and/or growth opportunities to acquire and/or combine with other firms that strongly relate to their superior performance over time.

Figure 1. The Global Sample of Serial and Non-Serial Acquirers.

Cumulative Serial Acquirer Deal Value (US$ millions, %)

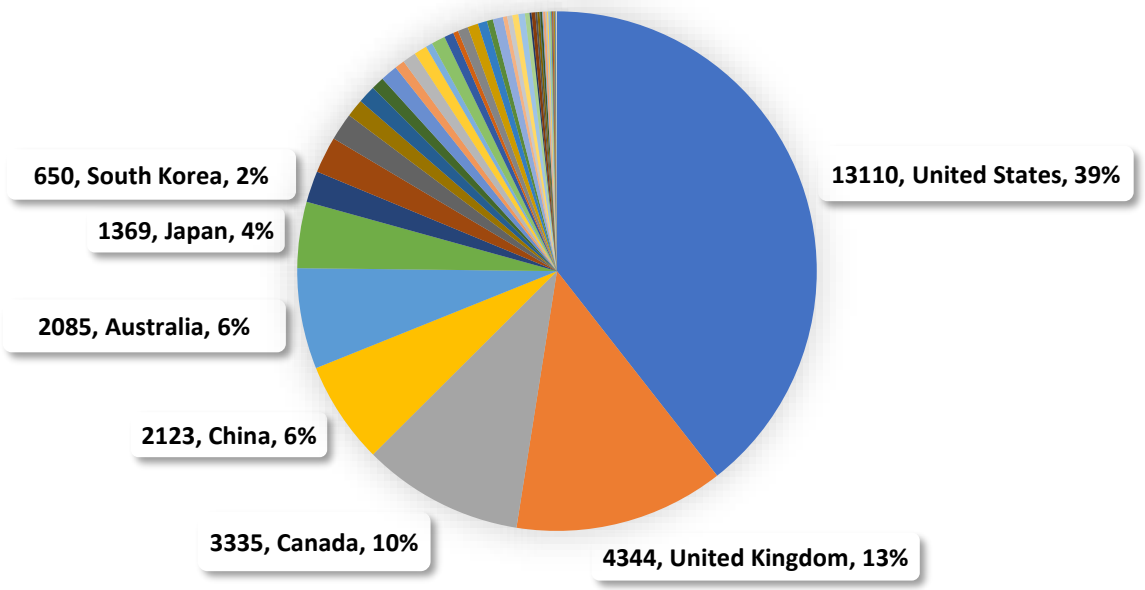



Cumulative Non-serial Acquirer Deal Value (US$ millions, %)

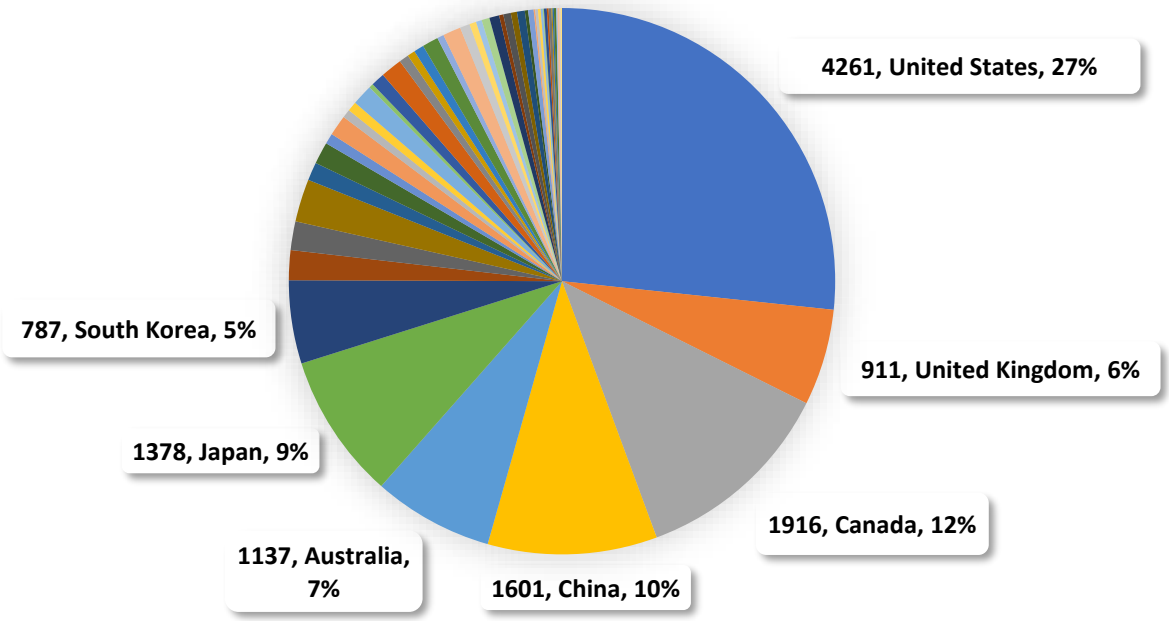



Serial Acquirer (By Number of Deals, %)

Figure 1. The Global Sample of Serial and Non-Serial Acquirers. (continued)



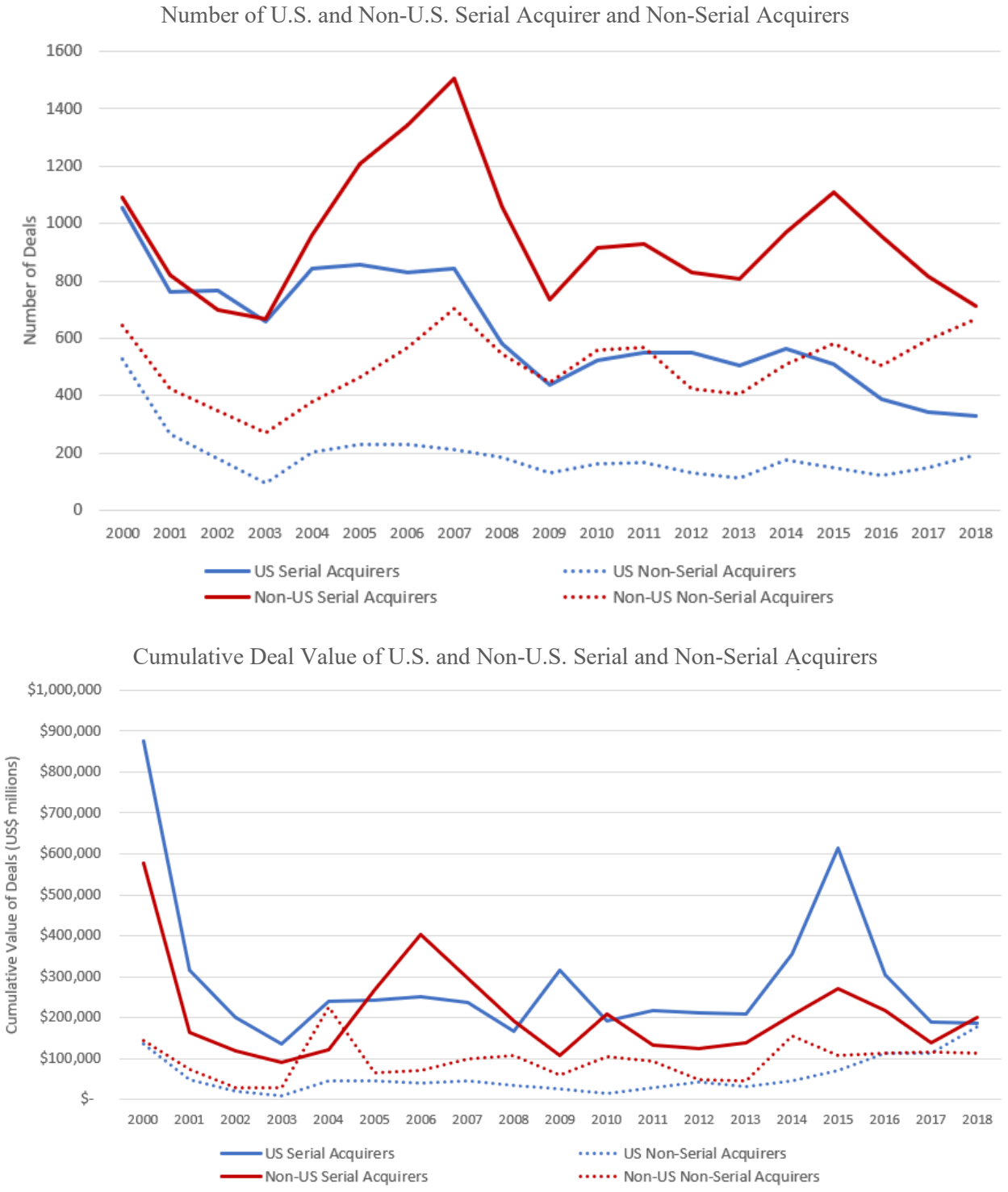

Non-Serial Acquirer (By Number of Deals %)




**Description**: The figures exhibit U.S.$ amount (in millions, 2018 prices) and number of deals led by serial acquirers and non-serial acquirers from the U.S. and outside the U.S. Serial acquirers are defined as those that acquired two or more targets over a 3-year window.

**Interpretation**: The most active markets for serial acquirers include the U.S., U.K., Canada, China, Australia, Japan, South Korea, Sweden, and France, which also tend to have the highest number of non-serial acquisitions.

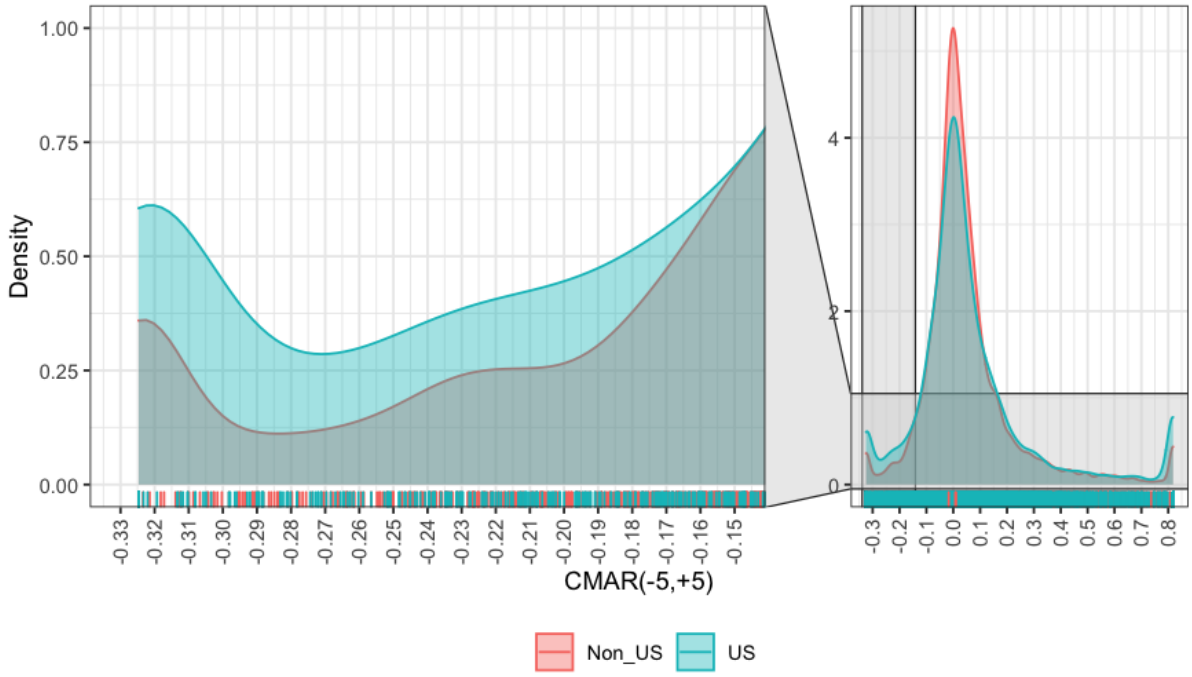
Figure 2. Acquisitions Led by Serial Acquirers and Non-serial Acquirers.




**Description**: The figures exhibit the number and $ amount (in billions) of all acquisitions led by serial acquirers and non-serial acquirers from the U.S. and outside the U.S. by year. Serial acquirers are defined as those that acquired two or more targets over a 3-year window.

**Interpretation**: In most years, serial acquirers engage in more acquisitions than non-serial acquirers, both in terms of deal count and deal value. In the U.S., the number of deals peaked around the year 2000, before declining to a total of 329 (192) deals involving serial (non-serial) acquirers in 2018. The peak in acquisition value for U.S. serial acquirers was $876 billion in 2000, compared to $137 billion for non-serial acquirers. Outside the U.S., the peak occurred in 2007 with about 1,500 deals performed by serial acquirers versus 700 by non-serial acquirers. However, the difference in total acquisition value between serial and non-serial acquirers is considerably smaller outside the U.S.

Figure 3. Relative Frequency of Acquirer Returns

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**Description**: The figures exhibit the relative frequency of acquirer returns for acquisitions led by serial acquirers from the U.S. and outside the U.S. Serial acquirers are defined as those that acquired two or more targets over a 3-year window.

**Interpretation:** CMARs exhibit much higher dispersion for U.S. serial acquirers compared to non-U.S. serial acquirers. Lower return ranges (such as those involving acquirers in the *Q1* group) are far more likely in the U.S. (blue shading) than outside the U.S. (red shading). On the right side of the figure, with the wider domain and near the right tail of that histogram, U.S. serial acquirers also show a higher likelihood of falling within the highest return ranges. This dominance at the extremes by U.S. serial acquirers is made up by the greater peakedness in the center domain of the histogram among non-U.S. serial acquirers (red shading).

Figure 4. Serial Acquirer Cumulative Market-Adjusted Returns (CMARs) by Country, Industry and Year.

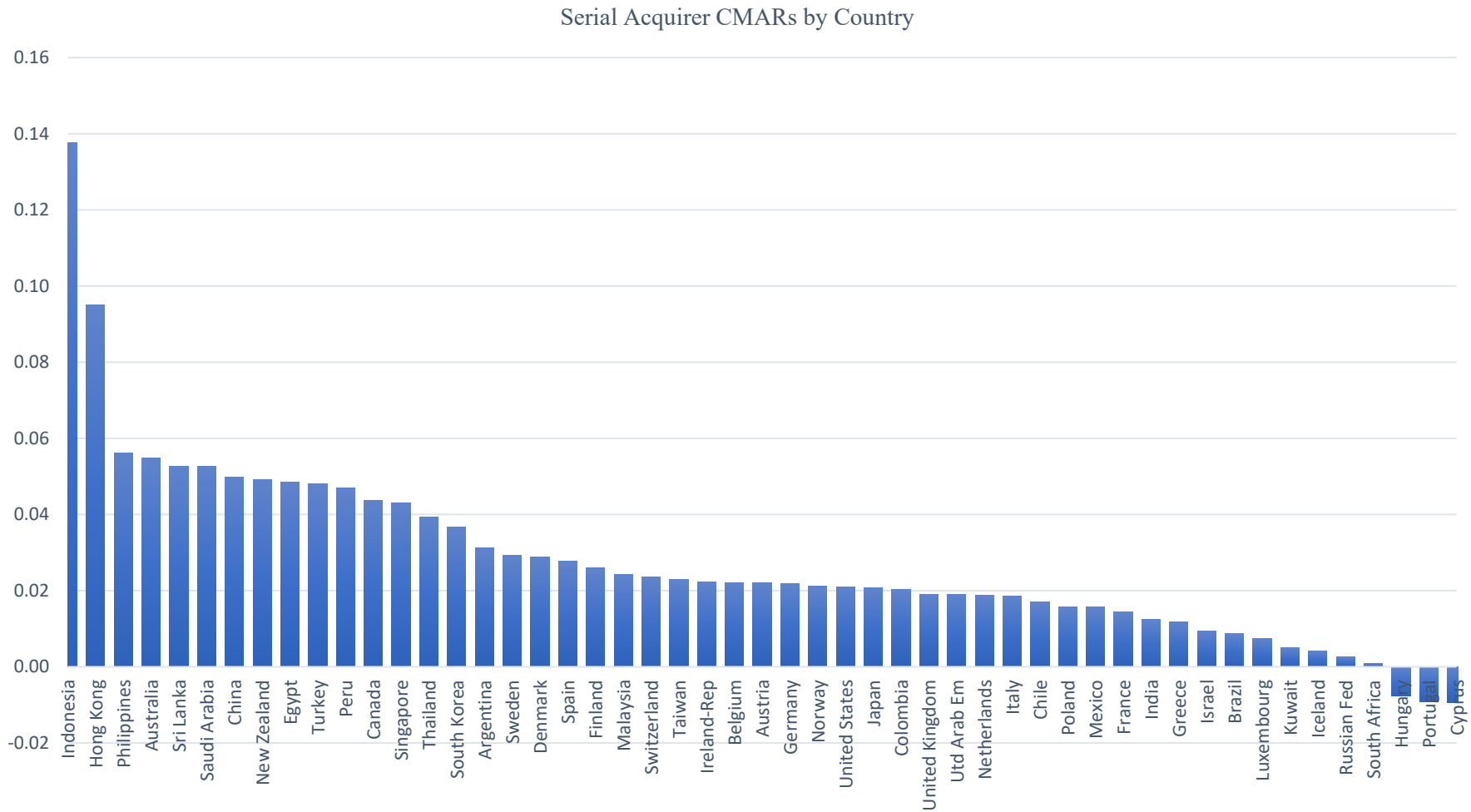
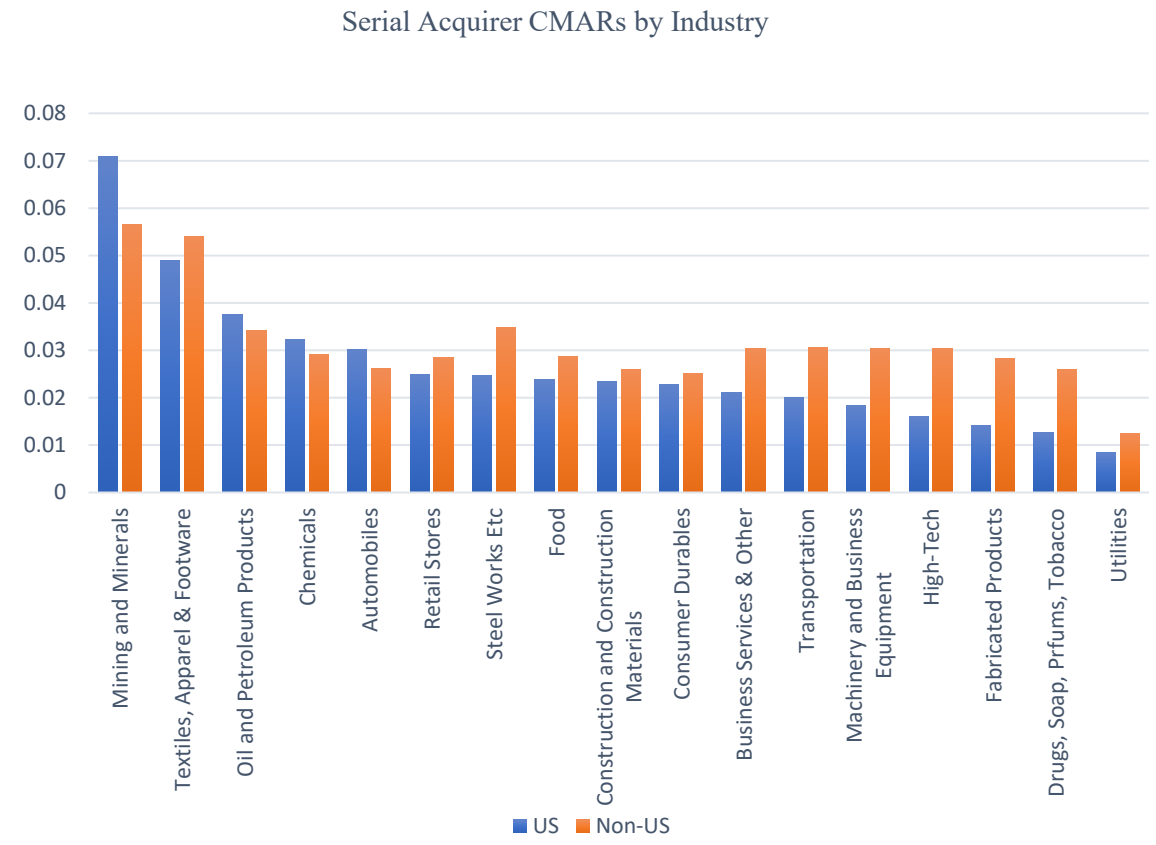
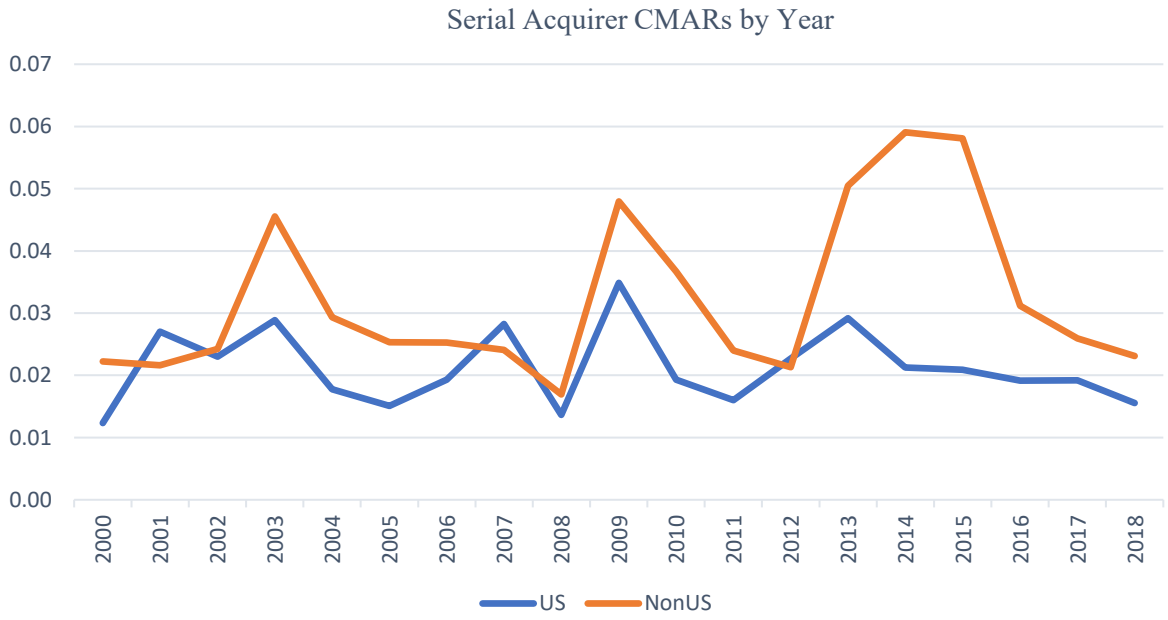


Figure 4. Serial Acquirer Cumulative Market-Adjusted Returns (CMARs) by Country, Industry and Year. (continued)

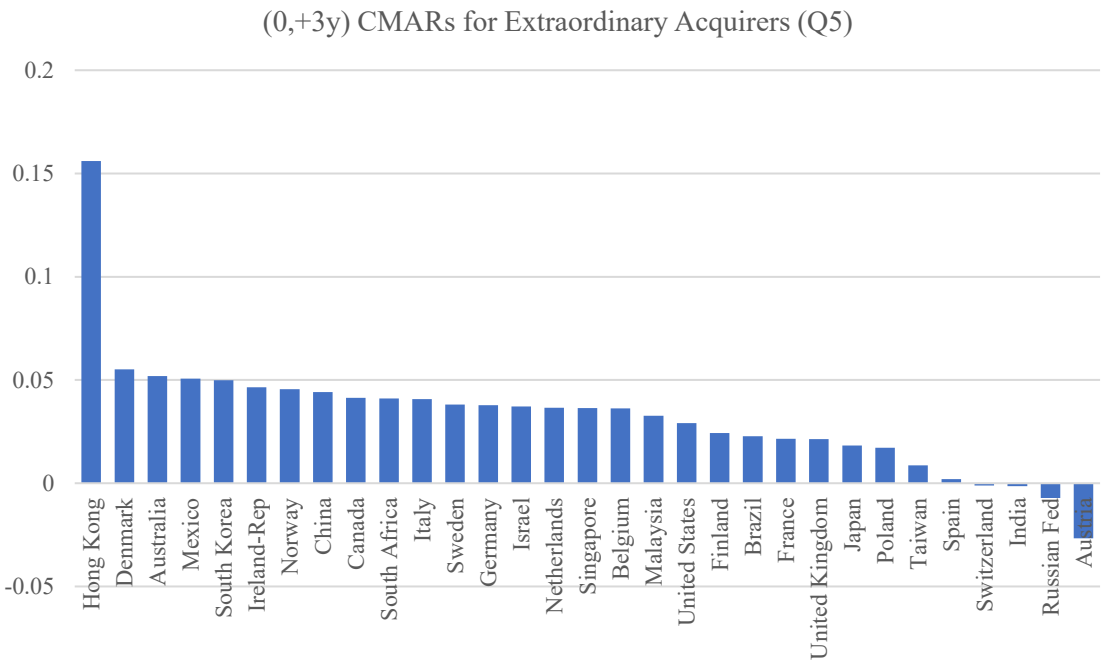


**Description**: The figures exhibit the average CMARs of all acquisitions led by serial acquirers from the U.S. and outside the U.S. Serial acquirers are defined as those that acquired two or more targets over a 3-year window.

**Interpretation**: There is a large variation in serial acquirer returns across countries, industries, and time. Interestingly, U.S. serial acquirers in industries such as Drugs, Transportation, High-tech and Business Equipment experience CMARs well below 2%. Outside the U.S., most industries, except for Utilities, experienced much higher CMARs, averaging around 3%. When we examine the CMARs over time, it is evident that non-U.S. serial acquirers earn higher average CMARs than their U.S. counterparts, especially in the most recent decade.

Figure 5. Persistence in Acquirer Returns Cumulative Market-Adjusted Returns (CMARs) by Extraordinary (Quintile Q5) and Poor Serial Acquirers (Quintile Q1) by Country



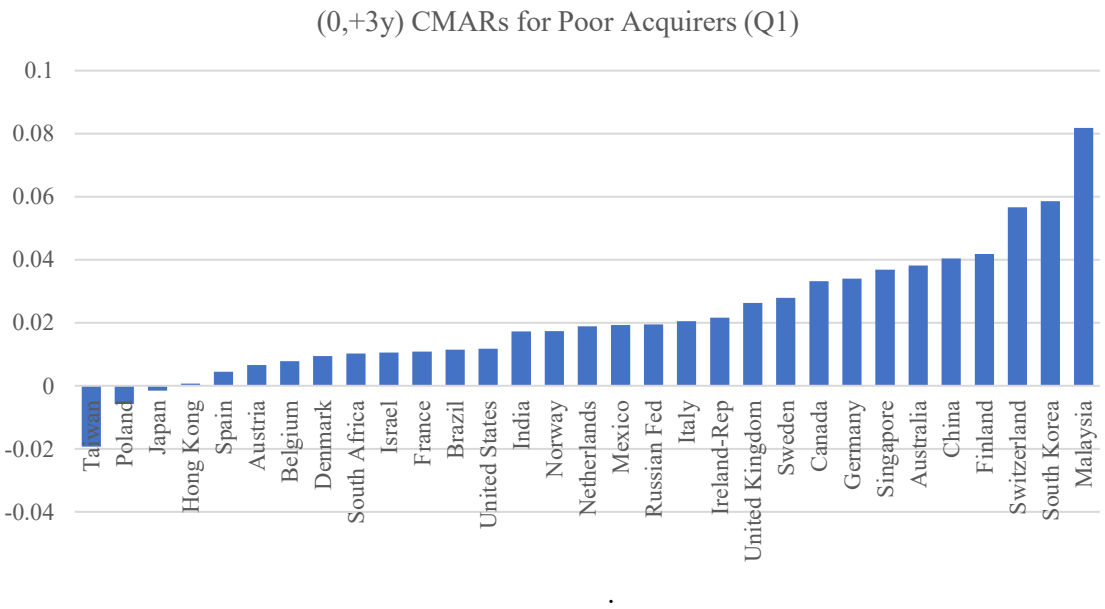




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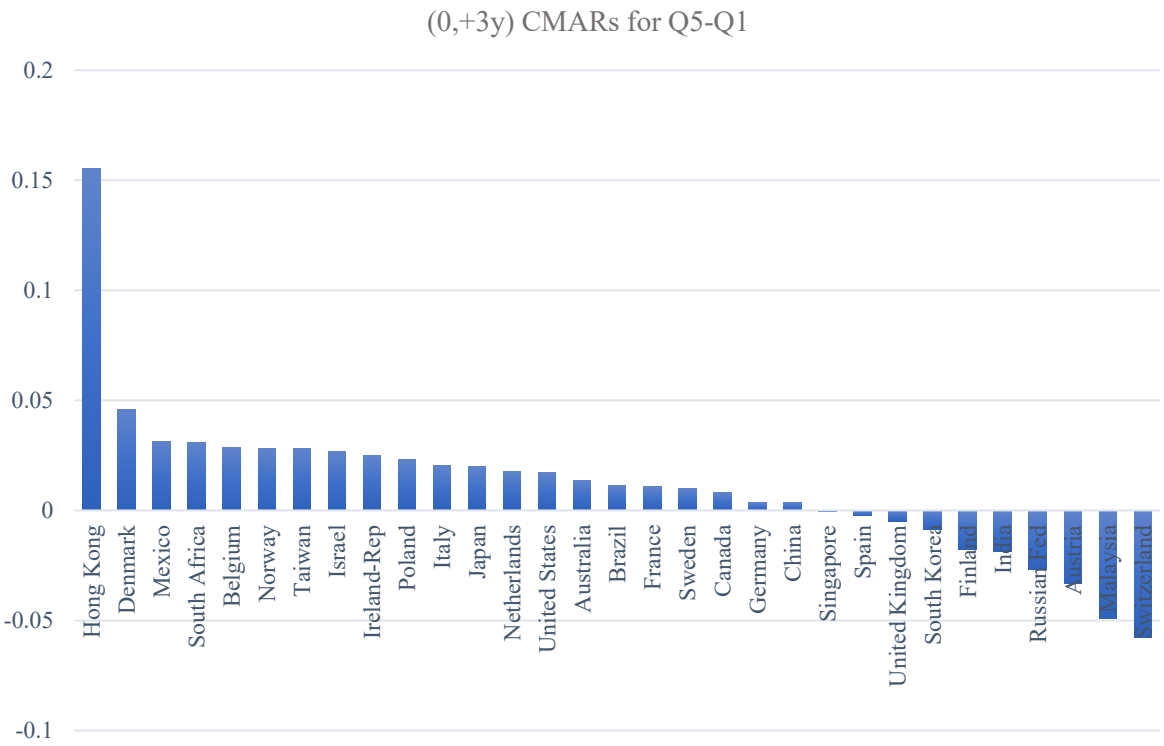
Figure 5. Persistence in Acquirer Returns Cumulative Market-Adjusted Returns (CMARs) by Extraordinary (Quintile Q5) and Poor Serial Acquirers (Quintile Q1) by Country (continued)




**Description**: This figure exhibits the average CMARs to acquisitions over the next 3 calendar years CMAR (0, +3 y) for extraordinary serial acquirers (Q5) and poor serial acquirers (Q1) by country in descending order of CMARs for Q5 and ascending order of CMARs for Q1. Serial acquirers are companies that have acquired two or more targets over a 3-year window.

**Interpretation**: There is a large variation across countries in both the top quintile (*Q5*) and the bottom quintile (*Q1*). On average, extraordinary acquires (*Q5*) earn less than 10% returns in countries such as Greece, Turkey, and Luxembourg, but more than 20% in countries such as Argentina, Australia, Canada, Hong Kong, Indonesia, New Zealand, and South Korea. For the poorly performing serial acquirers (*Q1*), most do not lose more than 10% unless they are from countries such as Cyprus, Indonesia, or Luxembourg.

**Internet Appendix**
**For**
**"Why Are Serial Acquirers Different in the US?"**

Table IA.1 Deal Count and Value by Country

| | Full Sample | | Serial Acquirers Only | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Two or more in 3 years | | Five or more in sample | | Two or more in 5 years | |
| | Value | Count | Value | Count | Value | Count | Value | Count |
| United States | 7,766,00 | 17,371 | 6,451,920 | 13,110 | 6,103,726 | 9,879 | 6,948,615 | 14,170 |
| United Kingdom | 865,120 | 5,255 | 694,448 | 4,344 | 691,062 | 3,376 | 740,461 | 4,540 |
| Canada | 849,045 | 5,251 | 641,395 | 3,335 | 556,485 | 1,883 | 724,286 | 3,666 |
| China | 709,663 | 3,724 | 291,038 | 2,123 | 81,715 | 614 | 396,818 | 2,396 |
| Australia | 306,143 | 3,222 | 227,949 | 2,085 | 179,838 | 1,205 | 257,803 | 2,283 |
| Japan | 395,199 | 2,747 | 237,185 | 1,369 | 208,686 | 707 | 285,531 | 1,608 |
| South Korea | 117,746 | 1,437 | 67,203 | 650 | 37,275 | 213 | 75,468 | 750 |
| Sweden | 135,209 | 1,037 | 100,680 | 755 | 86,013 | 545 | 107,703 | 813 |
| France | 583,301 | 839 | 420,140 | 568 | 390,576 | 377 | 543,943 | 636 |
| India | 93,679 | 776 | 49,750 | 372 | 35,654 | 195 | 53,747 | 430 |
| Italy | 80,630 | 542 | 55,266 | 370 | 47,790 | 264 | 59,525 | 408 |
| Germany | 260,679 | 475 | 207,286 | 268 | 160,810 | 153 | 227,199 | 304 |
| Norway | 121,269 | 453 | 111,527 | 353 | 88,685 | 234 | 115,015 | 381 |
| Singapore | 47,431 | 398 | 21,168 | 204 | 13,055 | 71 | 22,258 | 228 |
| Spain | 159,372 | 359 | 126,595 | 279 | 109,030 | 226 | 139,237 | 304 |
| Finland | 62,591 | 358 | 37,483 | 267 | 52,603 | 230 | 53,912 | 291 |
| Hong Kong | 190,069 | 337 | 85,469 | 141 | 12,898 | 33 | 116,811 | 164 |
| Ireland-Rep | 120,173 | 326 | 111,069 | 285 | 103,288 | 249 | 118,266 | 295 |
| Israel | 105,989 | 325 | 100,321 | 196 | 94,027 | 99 | 101,225 | 215 |
| Taiwan | 55,571 | 308 | 33,952 | 105 | 9,005 | 36 | 41,547 | 128 |
| Brazil | 189,444 | 304 | 141,825 | 213 | 123,413 | 150 | 166,179 | 231 |
| Netherlands | 303,655 | 292 | 159,270 | 219 | 148,729 | 152 | 164,535 | 238 |
| Switzerland | 291,677 | 286 | 226,069 | 191 | 235,857 | 149 | 264,159 | 229 |
| Poland | 20,877 | 277 | 11,308 | 125 | 1,922 | 46 | 14,340 | 147 |
| Russian Fed | 97,519 | 274 | 75,259 | 211 | 67,057 | 167 | 79,361 | 222 |
| Malaysia | 16,034 | 257 | 6,773 | 87 | 956 | 32 | 7,916 | 105 |
| South Africa | 34,323 | 199 | 15,291 | 106 | 13,058 | 53 | 18,792 | 123 |
| Denmark | 46,049 | 191 | 34,472 | 127 | 14,237 | 80 | 41,074 | 149 |
| Belgium | 143,334 | 187 | 57,025 | 132 | 113,575 | 83 | 124,660 | 149 |
| New Zealand | 10,324 | 172 | 6,259 | 97 | 4,300 | 37 | 7,232 | 114 |
| Thailand | 32,498 | 133 | 4,512 | 40 | 652 | 13 | 9,084 | 44 |
| Mexico | 114,697 | 116 | 72,961 | 76 | 87,858 | 51 | 101,562 | 86 |
| Greece | 13,158 | 113 | 7,566 | 42 | 1,931 | 12 | 9,454 | 50 |
| Indonesia | 13,170 | 104 | 7,147 | 46 | 129 | 7 | 7,147 | 46 |
| Turkey | 5,120 | 86 | 308 | 12 | 1,388 | 8 | 1,983 | 21 |
| Chile | 11,219 | 73 | 7,964 | 42 | 575 | 8 | 8,169 | 47 |
| Philippines | 7,459 | 73 | 2,283 | 21 | | | 2,589 | 32 |
| Luxembourg | 32,544 | 61 | 20,050 | 46 | 16,374 | 35 | 30,778 | 51 |
| Austria | 9,642 | 58 | 6,584 | 33 | 5,763 | 11 | 7,287 | 39 |
| Argentina | 13,854 | 52 | 3,913 | 26 | 1,407 | 14 | 5,352 | 33 |
| Portugal | 12,281 | 48 | 6,895 | 28 | 2,190 | 13 | 10,516 | 33 |
| Iceland | 7,617 | 44 | 6,568 | 34 | 3,437 | 18 | 6,897 | 37 |
| Peru | 5,328 | 42 | 1,778 | 15 | 727 | 8 | 2,219 | 19 |

Table IA.1 Deal Count and Value by Country (continued)

| | Full Sample | | Serial Acquirers Only | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Two or more in 3 years | | Five or more in sample | | Two or more in 5 years | |
| | Value | Count | Value | Count | Value | Count | Value | Count |
| Colombia | 11,523 | 41 | 7,472 | 24 | 4,933 | 12 | 9,450 | 32 |
| Saudi Arabia | 26,906 | 39 | 16,746 | 13 | | | 21,661 | 21 |
| Utd Arab Em | 24,121 | 29 | 14,698 | 19 | 4,515 | 6 | 21,040 | 21 |
| Cyprus | 1,943 | 27 | 896 | 14 | 83 | 5 | 1,359 | 17 |
| Vietnam | 351 | 26 | 50 | 4 | | | 78 | 6 |
| Kuwait | 6,401 | 23 | 5,926 | 11 | 157 | 6 | 6,027 | 12 |
| Sri Lanka | 107 | 21 | 21 | 2 | | | 27 | 4 |
| Hungary | 1,702 | 19 | 1,034 | 10 | 116 | 8 | 1,201 | 12 |
| Egypt | 693 | 17 | 147 | 3 | | | 147 | 3 |

**Description**: This table presents deal counts and deal value (in millions of 2018 constant dollars) by country for the full sample and subsamples of serial acquirers, ordered by deal counts for the full sample.

**Interpretation**: The U.S. accounts for the largest number of acquisitions over the sample period, as well as the largest aggregate value, followed by the United Kingdom and Canada, each with less than half the number of acquisitions recorded in the U.S. Regardless of the definition used, serial acquirers are more likely to be from the U.S., comprising between 40% and 45% of all serial acquirers worldwide.

Table IA.2 Descriptive Statistics

| | Full sample | | | U.S. | | | Non-U.S. | | |
|---|---|---|---|---|---|---|---|---|---|
| | Obs | Mean | Median | Obs | Mean | Median | Obs | Mean | Median |
| CMAR(-10_+10) | 30,015 | 0.0346 | 0.0169 | 11,891 | 0.0277 | 0.0147 | 18,124 | 0.0392 | 0.0183 |
| CMAR(-5_+5) | 30,015 | 0.0274 | 0.0128 | 11,891 | 0.0209 | 0.0105 | 18,124 | 0.0317 | 0.0142 |
| Acquirer Size | 29,013 | 6.4829 | 6.5641 | 11,576 | 7.1209 | 7.1643 | 17,437 | 6.0593 | 6.1388 |
| MTB | 28,031 | 3.9214 | 2.4768 | 11,312 | 3.9938 | 2.5657 | 16,719 | 3.8723 | 2.4059 |
| Leverage | 28,732 | 0.2077 | 0.1769 | 11,565 | 0.2208 | 0.1850 | 17,167 | 0.1989 | 0.1713 |
| Relative Size | 28,834 | 0.7498 | 0.0731 | 11,580 | 0.6724 | 0.0734 | 17,254 | 0.8017 | 0.0731 |
| Same Industry Dummy | 30,015 | 0.5852 | 1.0000 | 11,891 | 0.5994 | 1.0000 | 18,124 | 0.5759 | 1.0000 |
| Private x Stock | 19,768 | 0.2166 | 0.0000 | 8,342 | 0.1829 | 0.0000 | 11,426 | 0.2412 | 0.0000 |
| Private x Cash | 19,768 | 0.6275 | 1.0000 | 8,342 | 0.6513 | 1.0000 | 11,426 | 0.6101 | 1.0000 |
| Public x Stock | 19,768 | 0.2166 | 0.0000 | 8,342 | 0.1829 | 0.0000 | 11,426 | 0.2412 | 0.0000 |
| Stock | 19,768 | 0.2864 | 0.0000 | 8,342 | 0.2438 | 0.0000 | 11,426 | 0.3175 | 0.0000 |
| Cash | 19,768 | 0.7136 | 1.0000 | 8,342 | 0.7562 | 1.0000 | 11,426 | 0.6825 | 1.0000 |
| Public | 30,015 | 0.1102 | 0.0000 | 11,891 | 0.1214 | 0.0000 | 18,124 | 0.1029 | 0.0000 |
| Private | 30,015 | 0.8898 | 1.0000 | 11,891 | 0.8786 | 1.0000 | 18,124 | 0.8971 | 1.0000 |

**Description**: The table shows descriptive statistics of a sample of acquisition deals involving public serial acquirers over the period from 2000 to 2018 for the full sample, U.S., and Non-U.S. serial acquirers, respectively. Serial acquirers are companies that acquired two or more targets over a three-year window. All variables are defined in Appendix A.

**Interpretation**: The table presents summary statistics.

Table IA.3 Persistence of Acquirer Returns: Alternative Sorting

*Panel A: Sorting on the Residual CMAR*

| | CMAR(0, +1y) | CMAR(0, +2y) | CMAR(0, +3y) | CMAR(0, +4y) | CMAR(0, +5y) |
|---|---|---|---|---|---|
| | | | All | | |
| Q1 | –1.27%% | –0.92% | –0.97% | –1.10% | –1.12% |
| N | 1,473 | 2,464 | 3,152 | 3,621 | 4,003 |
| Q5 | 0.13% | 0.82% | 0.87% | 1.09% | 1.07% |
| N | 1,645 | 2,887 | 3,758 | 4,377 | 4,870 |
| Q5-Q1 | 1.14% | 0.82% | 0.87% | 1.09% | 1.07% |
| | (2.48**) | (2.38**) | (2.98***) | (4.06***) | (4.28***) |
| | | | US Firms Only | | |
| Q1 | –0.97% | –0.54% | –0.61% | –0.74% | –0.81% |
| N | 664 | 1,130 | 1,472 | 1,704 | 1,906 |
| Q5 | 0.34% | 0.36% | 0.43% | 0.47% | 0.37% |
| N | 741 | 1,304 | 1,726 | 2,049 | 2,321 |
| Q5-Q1 | 1.31% | 0.90% | 1.04% | 1.21% | 1.19% |
| | (2.03**) | (1.89*) | (2.58**) | (3.31***) | (3.49***) |
| | | | Non-US Firms Only | | |
| Q1 | –1.34% | –1.19% | –1.25% | –1.39% | –0.97% |
| N | 815 | 1,336 | 1,680 | 1,920 | 2,105 |
| Q5 | –0.44% | –0.46% | –0.54% | –0.42% | –0.44% |
| N | 906 | 1,591 | 2,038 | 2,345 | 2,569 |
| Q5-Q1 | 0.90% | 0.91% | 0.84% | 0.83% | 0.75% |
| | (1.40) | (1.52) | (1.70 *) | (2.52**) | (2.67***) |

*Panel B: Sorting on the US & Non-US Serial Acquirers by Individual Samples*

| | CMAR(0, +1y) | CMAR(0, +2y) | CMAR(0, +3y) | CMAR(0, +4y) | CMAR(0, +5y) |
|---|---|---|---|---|---|
| | | | US Firms Only | | |
| Q1 | 0.93% | 1.20% | 1.18% | 1.11% | 1.12% |
| N | 1,156 | 2,061 | 2,723 | 3,255 | 3,717 |
| Q5 | 3.22% | 3.05% | 2.91% | 2.92% | 2.92% |
| N | 1,270 | 2,199 | 2,873 | 3,388 | 3,819 |
| Q5-Q1 | 2.29% | 1.86% | 1.74% | 1.82% | 1.79% |
| | (4.44***) | (4.92***) | (5.40***) | (6.23***) | (6.59***) |
| | | | Non-US Firms Only | | |
| Q1 | 2.94% | 2.86% | 2.70% | 2.62% | 2.61% |
| N | 1,692 | 2,934 | 3,772 | 4,374 | 4,910 |
| Q5 | 4.11% | 3.91% | 3.66% | 3.56% | 3.44% |
| N | 1,881 | 3,257 | 4,224 | 4,946 | 5,505 |
| Q5-Q1 | 1.17% | 1.05% | 0.96% | 0.94% | 0.84% |
| | (2.60**) | (3.09***) | (3.32***) | (3.55***) | (3.42***) |

**Description**: This table reports univariate tests of persistence in acquirer returns for the US and the non-US sample. Serial acquirers are defined as those that acquired two or more targets over a three-year rolling window. In Panel A, serial acquirers are sorted into quintiles based on their average *residual* CMARs over the last three calendar years. In Panel B, serial acquirers are sorted into quintiles based on their average CMARs over the last three calendar years quintiles within the US and non-US subsamples, S separately. *Q1* and *Q5* represent serial acquirers with the lowest and highest past average CMARs, respectively. Then the average CMARs to acquisitions made by all the acquirers in *Q1* and *Q5* over the next 5 calendar years are computed and presented as CMAR (+0 y, +*k* y) where *k*= (1,2,3,4,5).

**Interpretation**: The interpretation of this table is similar to that of Table 3 in the paper. Here, we provide two additional robustness checks. First, in Panel A, we sort serial acquirers using residual CMARs, following Golubov, Yawson, and Zhang (2015), to remove potential persistence in firm- or deal-level characteristics. Second, in Panel B, we sort U.S. and non-U.S. serial acquirers into quintiles within each group separately, using the same three-year rolling windows, to address concerns that acquirers in different countries may exhibit different levels of CMAR returns simply due to institutional differences (Ellis et al., 2017).