Staff paper

Agenda reference: 18C

IASB Meeting

Date	**April 2025**
Project	**Business Combinations—Disclosures, Goodwill and Impairment**
Topic	**Performance information subset—evidence-based feedback**
Contacts	Vikash Kalidas (vkalidas@ifrs.org)

Purpose and structure

1. As Agenda Paper 18 explains, this paper summarises and analyses evidence-based feedback on the proportion of business combinations that would be captured applying the proposed thresholds. This paper recaps evidence the IASB look has considered before (in developing the Exposure Draft and feedback on the Exposure Draft). This paper also summarises and makes observations about a recent academic study. The academic study (see Appendix A) analyses the relative sizes of acquirers and acquirees (sometimes referred to as targets) and considers the International Accounting Standards Board's (IASB) proposed quantitative thresholds for identifying strategic business combinations in the Exposure Draft *Business Combinations—Disclosures, Goodwill and Impairment* (Exposure Draft).

2. This paper covers:

   (a) background (paragraphs 3–4);

   (b) evidence based findings (paragraphs 5–29);

   (c) staff observations and next steps (paragraphs 30–31); and

   (d) Appendix A—Academic study.

Background

3. As Agenda Paper 18B explains, the Exposure Draft proposes:

   (a) three quantitative thresholds for identifying strategic business combinations.1 A business combination would be a strategic business combination if:

      (i) in the most recent annual reporting period before the acquisition date:

         (ii) the absolute amount of the acquiree's operating profit or loss is 10 per cent or more of the absolute amount of the acquirer's consolidated operating profit or loss (operating profit threshold); or

         (iii) the acquiree's revenue is 10 per cent or more of the acquirer's consolidated revenue (revenue threshold); or

      (iv) the amount recognised as of the acquisition date for all assets acquired (including goodwill) is 10 per cent or more of the carrying amount of the total assets recognised in the acquirer's consolidated statement of financial position as at the acquirer's most recent reporting period date before the acquisition date (asset threshold).

   (b) two qualitative thresholds for identifying strategic business combinations. A business combination would be a strategic business combination if the business combination resulted in the acquirer entering a new major line of business or geographical area of operations.

4. Paragraph BC67 of the Basis for Conclusions to the Exposure Draft (Basis for Conclusions)—reproduced in paragraph 23 of Agenda Paper 18B—explains, why the IASB set each quantitative threshold at 10%. The IASB considered regulatory thresholds for additional disclosures about business combinations (which range from 5%–30%), feedback that 5% might be too low and capture too many business combinations, and alignment with the 10% threshold used in IFRS 8 *Operating*

[1] The Exposure Draft referred to the subset of business combinations for which an entity would be required to disclose performance information as 'strategic' business combinations. However, as paragraphs 51–53 of Agenda Paper 18B explain, we acknowledge and will consider respondents' concerns about the use of the term 'strategic'. This paper uses the term 'strategic' for simplicity.

Segments for identifying operating segments about which an entity is required to disclose information separately.

Evidence-based findings

5. This section discusses findings from:

   (a) prior staff research (paragraphs 6–8);

   (b) outreach with preparers (paragraphs 9–10);

   (c) evidence-based feedback from comment letters (paragraph 11); and

   (d) a recent academic study including:

      (i) key messages (paragraphs 13–15); and

      (ii) limitations and analysis (paragraphs 16–29).

Prior staff research

6. Paragraphs 29–31 of Agenda Paper 18A of the IASB's July 2022 summarised our research on the proportion of business combinations that would be captured by thresholds of 5% or 25% in Europe, Asia-Oceania and the Americas.[2] Appendix B of that agenda paper provides more information about the process and notes some of the limitations of the research.

7. The table below is from paragraph B8 of Appendix B of that agenda paper and shows results if business combinations with incomplete data were excluded:

[2] The criteria we used were revenue, profit, total assets and net assets of the acquired and acquiring entities prior to the acquisition. By comparison, the Exposure Draft proposed that the profit threshold would be 'operating profit' and did not propose a threshold for net assets.

Region	Proportion of transactions captured by a 25% threshold	Proportion of transactions captured by a 5% threshold
Europe	34%	80%
Asia Oceania	33%	90%
Americas	21%	61%

8. The paper also analysed the proportion of discontinued operations reported by entities to the total population of disposals by entities (as an example of the application of the qualitative threshold). As the table in paragraph 31 of that paper noted (and subject to the limitations of that research), 39% of the disposals by entities were discontinued operations.

Outreach with preparers

9. As paragraphs 14–15 of Agenda Paper 18C for the IASB's December 2024 meeting (December agenda paper) explain, we performed outreach with 41 preparers across various regions to understand how the IASB's proposals, if implemented, would affect them. Among other things, we asked these preparers what proportion of their past business combinations would be captured by the proposed thresholds.

10. During the outreach:

   (a) most preparers said they did not have any business combinations that would have met the quantitative thresholds in the last three years.

   (b) many preparers said they have one to two strategic business combinations in the last ten years. These preparers would have more business combinations that met the qualitative thresholds than those that met the quantitative thresholds.

   (c) some of these preparers said given the entity's size, it would be unlikely for them to have business combinations that meet the quantitative thresholds.

(d) some preparers say they have immaterial business combinations that would have met the qualitative thresholds.

Evidence-based feedback from comment letters

11. As paragraph 16 of the December agenda paper notes, two accounting standard-setters quantified the proportion of business combinations in their jurisdictions that would meet the proposed thresholds:

(a) one says its research shows that 20% of business combinations undertaken by listed entities in South Korea in 2023 would meet the proposed asset threshold (see paragraph 3(a)(iv) for the threshold). The respondent says including revenue and operating profit criteria could potentially identify more than 20% as strategic business combinations.

(b) a researcher from the team whose work was cited by United Kingdom (UK) Endorsement Board suggests that where data exists:

(i) about half of the business combinations in the UK between 1997-2021 would meet either the proposed asset or revenue threshold.

(ii) the acquiree in approximately 40% and 10 % of business combinations in the UK belong to an industry or a country different from the acquirer respectively. The respondent did not specify if the acquisition would constitute a new *major* line of business or geographical location.

Recent academic study

12. Although the IASB did not set thresholds to capture a specific proportion of business combinations, feedback in paragraph 11(b) about the proportion of business combinations in the UK that would meet the proposed thresholds indicated a higher proportion could be captured than indicated by preparer feedback. One of the academics whose work was used in assessing this proportion kindly volunteered to do further research to quantify the proportion of business combinations from the UK and

other jurisdictions[3] that would be captured applying the thresholds. Appendix A reproduces the academic study.[4] The sections below set out:

(a) key messages from the academic study (paragraphs 13–15); and

(b) limitations and analysis (paragraphs 16–29).

Key messages from the academic study

13. The research analysed 145,685 merger and acquisition transactions (transactions) of listed entities from 1997-2024 using data from Orbis M&A database (Orbis)[5].

14. Subject to the limitations of the study (discussed in paragraphs 16–29), figures 2A–2C of the academic study show that for transactions for which the relevant information was available:

(a) the carrying value of the acquiree's assets are greater than 10% of the carrying value of the acquirer's assets for approximately 30% of transactions;

(b) the acquiree's revenue is greater than 10% of the acquirer's revenue for between 45% and 50% of the transactions; and

(c) the market value (approximating assets at fair value) of the acquiree is greater than 10% of the market value of the acquirer for between 50% and 55% of the transactions.[6]

15. As paragraph 28 explains, the ratios on which the study is based attempts to approximate the quantitative thresholds proposed in the Exposure Draft, but for data availability and practical reasons they are not fully aligned. Further, the proportion of transactions captured, using this data, might appear high. We note that information to

[3] Information reported by country reflects country of the acquirer.

[4] Urzia, F., (2025). 'Relative Sizes in Mergers and Acquisitions: Quantitative Thresholds for the Implementation of Business Combinations – Disclosures, Goodwill and Impairment', Working paper.

[5] A database from Moody's that provides information about transactions worldwide. The study builds on the researcher's previous work: Cespa, G, A. Keswani, F Urzúa I. 2024. Can Stock Market Noise promote Economic Efficiency? Evidence from Industry Mispricings. Working paper.

[6] The academic study uses centiles to present some of the data. For example, in Table 3 the 70th centile of the assets ratio is 0.10. This means that 70% of the transactions are below the 10% threshold and 30% (100-70) of transactions would be captured by a 10% threshold for that set of transactions using that ratio.

calculate these ratios was not available for all transactions. As paragraph 22 explains, it is likely that data that is not available relates to business combinations for which the size of the acquiree is small (or immaterial) in relation to the acquirer, because larger (or material) business combinations are usually subject to more stringent regulations and disclosure requirements.

Limitations and analysis

16. This section covers:

    (a) population of transactions (paragraphs 17–20);

    (b) data availability (paragraphs 21–25);

    (c) comparison to transactions in scope of IFRS 3 *Business Combinations* (paragraphs 26–27);

    (d) comparison to proposed thresholds (paragraph 28); and

    (e) jurisdictional variation (paragraph 29).

Population of transactions

17. Orbis had 783,090 transactions[7] covering the period from 1997–2024.

18. The database includes a field for whether the acquirer applies IFRS Accounting Standards. Ideally, we would filter to only include those acquirers. However, as the academic study explains, the low number of transactions tagged as being by acquirers applying IFRS Accounting Standards suggests that the field might not be accurate. Therefore, the research focuses on transactions by listed acquirers. We think this is a reasonable proxy to use for companies that typically apply IFRS Accounting Standards.

19. The researcher excluded:

[7] Orbis provides information on all types of deals (M&As, IPOs, etc.) for private and public companies around the world.

(a) US acquirers as they typically apply US Generally Accepted Accounting Principles (GAAP) rather than IFRS Accounting Standards and including transactions by US acquirers could have affected the results; and

(b) transactions that would not likely not result in a transfer of control (see paragraphs 26–27).

20. Of the total 783,090 transactions 145,685 were undertaken by listed acquirers not in the US.

Data availability

21. Information to calculate the ratios in the study was not available for all transactions. The necessary financial data to calculate each of the ratios[8] is only available:

(a) for 51,125 transactions—the asset ratio;

(b) for 42,535 transactions—the revenue ratio; and

(c) for 21,298 transactions—the deal value ratio.

22. The proportion of business combinations shown in paragraph 14 is based only on the transactions for which the data was available. Those transactions might not be representative of the total population of transactions by listed companies, because of limitations with the research. It is likely that data that is not available relates to business combinations for which the size of the acquiree is small (or immaterial) in relation to the acquirer, because larger (or material) business combinations are usually subject to more stringent regulations and disclosure requirements. Therefore, the proportion of transactions captured, using this data, might appear high. This might also explain why evidence from other sources (for example, outreach with preparers—see paragraphs 9–10) suggests the thresholds could capture a smaller proportion of business combinations than suggested by this academic study.

[8] See paragraph 28 comparing the ratios used in the study to the thresholds proposed in the Exposure Draft.

23. We therefore consider how the proportion of business combinations calculated for each of the ratios might change if we assume that the ratio for all of the transactions without data would be below 10%:

Ratio	**Proportion of transactions exceeding 10% ratio in figures 2A–2C [A]**	**Proportion of sample with data [B]**	**Proportion of transactions exceeding 10% ratio out of the total sample [C = A x B]**
Carrying value	30%	36%	11%
Revenue	48%	29%	14%
Deal value	52%	15%	8%

24. We think the actual proportion of business combinations exceeding a 10% threshold would fall somewhere between the numbers reported in the study (column A of the table above) and the number calculated assuming the ratio for all deals for which data is unavailable are below 10% (column C above).

25. Further, the study suggests approximately 7% to 19% of transactions (see figures 2A to 2C in Appendix A) are combinations in which the acquiree is the same size as or larger than the acquirer. The proportion of these transactions is higher than expected. We think this may be caused by the exclusion of transactions for which data is unavailable (which, as paragraph 22 explains, likely relates to smaller business combinations), or it could be caused by problems with the underlying data.

Comparison to transactions in scope of IFRS 3

26. As noted previously, the Orbis M&A database captures information about mergers and acquisitions worldwide. The database does not identify whether a transaction

would be a business combination applying IFRS 3 or would be excluded from the scope of IFRS 3—for example, if it is:

(a) an asset acquisition (see paragraph 3 of IFRS 3); or

(b) a business combination under common control (see paragraph B1 of IFRS 3).

27. In order to limit the study to transactions that approximate transactions that meet the definition of a business combination in IFRS 3, the research methodology makes assumptions about what might constitute a transfer of control. IFRS 10 *Consolidated Financial Statements* requires an assessment of control considering factors such as voting rights, which the database does not contain information about. However, to approximate control transfers, the research applies share ownership thresholds, for example:

(a) for private company targets a change from less than 50% ownership before the transaction to more than 50% after;

(b) for listed targets a change from less than 20% ownership before the transaction to more than 50% after; and

(c) as paragraph 28(a)(ii) explains, for the market value ratio calculation, the research considers only transactions in which the acquirer obtained 100% of the shares of the acquiree.

Comparison to proposed thresholds

28. The ratios on which the research is based attempts to approximate the quantitative thresholds proposed in the Exposure Draft, but for data availability and practical reasons they are not fully aligned. In particular:

(a) the proposed asset threshold compares the amount recognised as of the acquisition date for all assets acquired (including goodwill) to the carrying amount of the total assets recognised in the acquirer's consolidated statement of financial position as at the acquirer's most recent reporting period date before the acquisition date. The study calculated:

(i) the ratio of carrying amounts of the acquiree to the carrying amount of the acquirer as at the most recent reporting period date before the acquisition date (carrying value ratio). This means the acquiree's assets will be measured at carrying value, which is typically below fair value used in the Exposure Draft, and might make the ratio appear lower than if the fair value of the acquiree's assets was used.

(ii) the ratio of deal value to the carrying value of the of the acquirer's assets as at the most recent reporting period date (deal value ratio). This ratio takes the transaction value and adds back debt to approximate the fair value of total assets. However, this ratio only adds back debt (as identified in the data) so other assumed liabilities would still be included in the numerator which might make the ratio appear low. Further, the transaction value reflects only the value of shares acquired in the transaction, whereas the Exposure Draft's asset threshold uses 100% of the assets acquired. The research therefore only considers 100% share acquisitions for the deal value ratio.

(b) the proposed revenue threshold compares the acquiree's revenue with acquirer's consolidated revenue. The study calculated the ratio of the acquiree's revenue with the acquirer's revenue (revenue ratio) which is consistent with the proposed revenue threshold.

(c) the proposed operating profit threshold compares the absolute amount of the acquiree's operating profit or loss to the absolute amount of the acquirer's consolidated operating profit or loss. The study does not calculate a similar ratio because data needed to determine this threshold cannot be reliably identified from the database. Operating profit was defined in IFRS 18 *Presentation and Disclosure in Financial Statements*, published in 2024.

Jurisdictional variation

29. The results show jurisdictional variations. For example, Table 5 Panel B of the study (see Appendix A) shows the median revenue ratio (that is, the midpoint a sorted list of

the values) ranged from 3% in India to 73% in Sweden. This might reflect differences in:

(a) the magnitude of transactions in jurisdictions—for example, because of business practice, competition regulation or the availability of finance; or

(b) availability of data—for example, some jurisdictions might require reporting for all transactions whereas others only require reporting for large transactions.

Staff observations and next steps

30. While findings from the different evidence-based sources show some variation:

(a) the proposed thresholds would result in capturing only a 'subset' of all business combinations—that is, the proposed thresholds would not result in entities being required to disclose performance information for all or almost all of their business combinations; and

(b) despite the limitations of the academic study discussed in this paper, the results of the study are within the range the IASB previously considered (see paragraph 6).

31. As Agenda Paper 18B explains:

(a) we consider the evidence-based feedback in this agenda paper as part of our overall assessment of the thresholds; and

(b) we will present our view on the percentage at which to set the threshold at a future IASB meeting.

Question for the IASB
Does the IASB have any questions about the evidence-based findings (including the academic study) discussed in this paper?

Appendix A—Academic study

A1. The following pages of this appendix contain the study: Relative Sizes in Mergers and Acquisitions: Quantitative Thresholds for the Implementation of Business Combinations – Disclosures, Goodwill and Impairment.

Relative Sizes in Mergers and Acquisitions: Quantitative Thresholds for the Implementation of Business Combinations – Disclosures, Goodwill and Impairment

March 2025

Francisco Urzúa I.[9]

Abstract

In this paper I assemble a database covering all non-US mergers and acquisitions for the period 1997-2024. I then construct three variables that aim to capture the relative importance of the target to the acquirer based on their assets, sales and deal value. The paper shows summary statistics for these variables for the whole sample and for those deals with listed (or previously listed) acquirers. I also show detailed statistics for the countries with the most mergers and acquisitions.

[9] Bayes Business School, City St George's, University of London. Francisco.urzua@city.ac.uk

1. Introduction

Since the implementation of IFRS 3 Business Combinations there has been a discussion about users needing better information to assess the performance of acquisitions. For this purpose, new requirements are being drafted, Business Combinations – Disclosures, Goodwill and Impairment, with proposed amendments to IFRS 3 – Business combinations and IAS 36 – Impairment of Assets. Yet given the potential costs of disclosure and the sensitive nature of some of the information being required by users, it seems natural to limit the number of affected firms either via quantitative and/or qualitative thresholds. Understanding who would be affected is therefore crucial. I try to fill this gap by assembling a database that covers all non-US mergers and acquisitions and constructing a set of variables that measure the relative importance of targets to acquirers.

Following my recent work on European mergers and acquisitions (Larrain et al 2017, Ortiz et al 2023 and Cespa et al 2024), I build a sample of mergers and acquisitions using Orbis M&A, a database from Moody's that provides information about deals worldwide. I restrict the sample to control transfers by non-US acquirers between 1997 and 2024, ending with a database covering 466,337 deals. Orbis also provides financial information about targets and acquirers (assets, debt, equity) as well as firm and deal's characteristics (listed status, deal value, etc.). With this data I construct three variables that aim to capture the relative importance of targets to acquirers: target to acquirer's assets ratio, target to acquirer's sales ratio, and for those acquisitions where deal values are available and involve 100% of shares being acquired, I calculate the market value of the target as deal value plus debt, which I then divide over acquirer's assets.

Using these three variables I show summary statistics for the whole sample and for those deals with a listed (or previously listed) acquirer. As expected, there are significant differences between variables as sales and deal values are available only for the largest targets.

For instance, when looking at listed acquirers, the target to acquirer's assets median value is 0.03. That is, the median target has assets worth 3% of those of the acquirer. Yet this figure is 0.09 for target to acquirer's sales, and 0.11 when using target's deal value plus debt.

Lastly, since M&A activity varies significantly between countries (Rossi and Volpin 2000), I show summary statistics for the countries with the most deals with listed acquirers. The UK is the country with the most deals for which data is available (7,843) and the median target to acquirer's assets ratio is 0.01. Yet this figure varies significantly between countries, with Germany being close to the UK (0.02) but Canada and China having significantly higher values (0.08 and 0.11, respectively).

In what follows I describe the data sources and variables in section two, show summary statistics for the three variables in section three, and show detailed statistics for the countries with the most deals in section four.

2. Data:

a. Data sources:

I collect data on all completed mergers and acquisitions from Orbis M&A, a database from Moody's (formerly Bureau van Dijk) that provides information on all types of deals (M&As, IPOs, etc.) for private and public companies around the world. I restrict my attention to completed deals by non-US acquirers where there is a transfer of control, meaning that, for private companies, the acquirer has less than 50% of the target's shares before the deal and more than 50% afterwards (Rossi and Volpin 2004, Larrain et al 2017, and Ortiz et al 2023). For listed targets, I consider control transfers as deals where the acquirer has less than 20% of target's shares before the deal and ends up with more than 50%[10]. Along with deal characteristics such as the stake acquired, deal value, type of payment, and date, the database also provides information on targets and acquirers' characteristics before the deal: financials like assets, debt, and equity, and listed status and country, among others. Details on the sampling criteria and how the final database is assembled are in the Appendix, which shows how from a universe of 783,090 mergers and acquisitions in Orbis M&A I arrive to the final sample of 466,337.

Table 1 shows that there are 466,337 deals, with most being done by UK acquirers (63,791), followed by Chinese (40,476) and Japanese firms (27,919). Things look differently, however, when I restrict the sample to deals where I have targets and acquirers' financials (i.e., assets) before the deal. In this case, the sample decreases by about two thirds, to 150,418 deals. Again, the country with the most deals is the UK (28,369), followed by Spain and France. In the third column I focus on deals where the acquirer is either listed or was previously listed (referred to as listed acquirers). As expected, the sample size drops when compared to the first column, including 145,685 deals. Column four looks at deals by listed acquirers for which I have financials. Most deals are still being initiated by UK companies (7,843), followed by Swedish, French, Chinese, and Japanese firms.

Figure 1A shows the time series for the number of deals, and the number of deals for which I have financial data for targets and acquirers. There are not many deals before 2000 and there is a steep increase afterwards, which stops with the financial crisis in 2008-2009. Deal activity recovers only to stop again with covid in 2020. Figure 1B shows the time series for the number of deals with listed acquirers, and those for which I have financials. The figure shows

[10] The literature uses a slightly different approach, classifying control transfers as deals where the acquirer has less than 20%, acquires more than 10%, and ends up with more than 20% after the deal (Dyck and Zingales 2004). Given that there are few acquisitions of listed firms, both approaches render similar results.

a similar pattern, with M&A activity peaking before the financial crisis, slowly recovering afterwards and dropping for covid.

b. Variables:

Since Orbis M&A provides information on targets and acquirers' financials before the deal, I construct ratios that proxy for the relative importance of the target to the acquirer. I construct three ratios: first, targets to acquirers' assets; second, targets to acquirers' sales; and third, since the value of targets' equity is better reflected by deal value rather than by the book value of equity in targets' financial statements, I calculate the market value of targets' assets as deal value plus debt, which I then divide over acquirers' assets. There is a problem with this approach, as deal values reflect the number of shares being acquired. For this reason, I restrict this variable to deals where 100% of the shares are acquired.

Targets and acquirers are often based in different countries, using different currencies. Orbis M&A provides the option to convert the financials of both targets and acquirers to different currencies, ensuring that the comparisons are valid. For the purposes of this analysis, I download all financials in €, although this is mostly irrelevant as I am using ratios.

3. Summary Statistics:

a. Complete sample:

Table 2 shows summary statistics for the three variables for the complete sample. The Table shows that the number of observations varies significantly between variables, with target to acquirers' assets having the most, followed by target to acquirer's sales and finally target's deal value plus debt to acquirer's assets. The reason behind this variation is that assets is available for many of the smallest firms, which is not the case for sales and deal values, available only for larger ones. This variation in data availability also means that comparisons of thresholds between variables are not meaningful, as they compare firms of different sizes.

When looking at medians, that of target to acquirer's assets is 0.07, and the 60th percentile is 0.14. For sales ratios, the median is 0.14 and the 60th percentile is 0.26. Finally, for target's market value to acquirer's assets the median is 0.17.

b. Deals by listed acquirers

Whereas Table 2 shows summary statistics for all deals for which there is data, it is important to remember that it might well be the case that most of these acquirers do not report their financials using IFRS. This is why in Table 3 I focus on deals with listed acquirers, as they are likely to use IFRS and provide a better understanding of the underlying distribution of relative sizes.

Table 3 shows summary statistics for this sample. There are significant differences with Table 2, as there are obviously less observations for all three variables, there are fewer extreme values, and all values are smaller, as acquirers are larger. The median value for target to acquirer's assets is now 0.03, less than half of what was before. The 70^{th} percentile is 0.10, suggesting that only 30% of targets bought by listed acquirers have assets larger than 10% of those of acquirers.

Figure 2 plots the distribution of the three variables that capture targets' relative size for the sample of deals with listed acquirers. In particular, the figures show the complementary cumulative distribution, which is the proportion of deals that have values larger than a certain target to acquirer's ratio. Given that many deals have ratios larger than one, for purposes of the figures I set all values larger than one (>1) to one (1). As can be readily seen in Figure 2A, most deals involve targets that represent a very small proportion of acquirers' assets/sales. The Figure also shows that approximately 8% of all deals have values larger than one, that is, the target has more assets than the acquirer. Figures 2B and 2C show similar patterns when looking at the distribution of targets to acquirers' sales and target's deal value plus debt to acquirers' assets.

4. Detailed Statistics for Selected Countries:

Knowing that the amendments being proposed would apply to users of IFRS worldwide, it is important to understand that there are differences in M&A activity between countries (Rossi and Volpin 2000), potentially leading to significant differences in the distribution of relative sizes. For this reason, I show some statistics (number of deals with data, median, 25th and 70th percentiles) for the sample of deals with listed acquirers in the countries with the most M&A activity.

Table 4, Panels A, B and C show these statistics. Panel A looks at target to acquirer's assets, noting that there is significant variation in the number of deals and median values between countries. For instance, in China there are 3,573 deals with data and the median is 0.11. France, on the contrary, has as many deals (3,611) but the median is significantly lower (0.01). This variation can come from several sources like country characteristics (capital market development, legal institutions, etc.), differences in firm-size distributions, and from the quality of original data providers, which are typically local. Panels B and C show similar patterns when looking at target to acquirer's sales and target's market value to acquirer's assets.

5. References

Cespa, G, A. Keswani, F Urzúa I. 2024. Can Stock Market Noise promote Economic Efficiency? Evidence from Industry Mispricings. Working paper

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Ortiz, M., Peter, C. D., Urzúa I, F., & Volpin, P. F. (2023). Mandatory Financial Disclosure and M&A Activity. *Review of Financial Studies* 36:4788–4823. https://doi.org/10.1093/rfs/hhad052.

Rossi, S., and P. Volpin. 2004. Cross-country determinants of mergers and acquisitions. *Journal of Financial Economics* 74:277–304.

Figure 1: Mergers and acquisitions across time

The Figures show the yearly evolution of the number of deals. Figure 1A shows the number of deals, and the number of deals for which there are financials for targets and acquirers before the deal, across time. Figure 1B shows the number of deals with listed acquirers and the number of deals with listed acquirers for which there are financials for targets and acquirers before the deal. Data includes all completed mergers and acquisitions from Orbis M&A for which there is deal data (initial, acquired, and final stake), involve a transfer of control, where the acquirer is based outside of the US, and takes place after 1997. Control is defined, for private firms, as having more than 50% of targets shares after the deal having less than 50% before. For listed targets, control takes place when the acquirer has less than 20% of target's shares before the deal and ends with more than 50% after.

Figure 1A: Time Series of Number of Deals

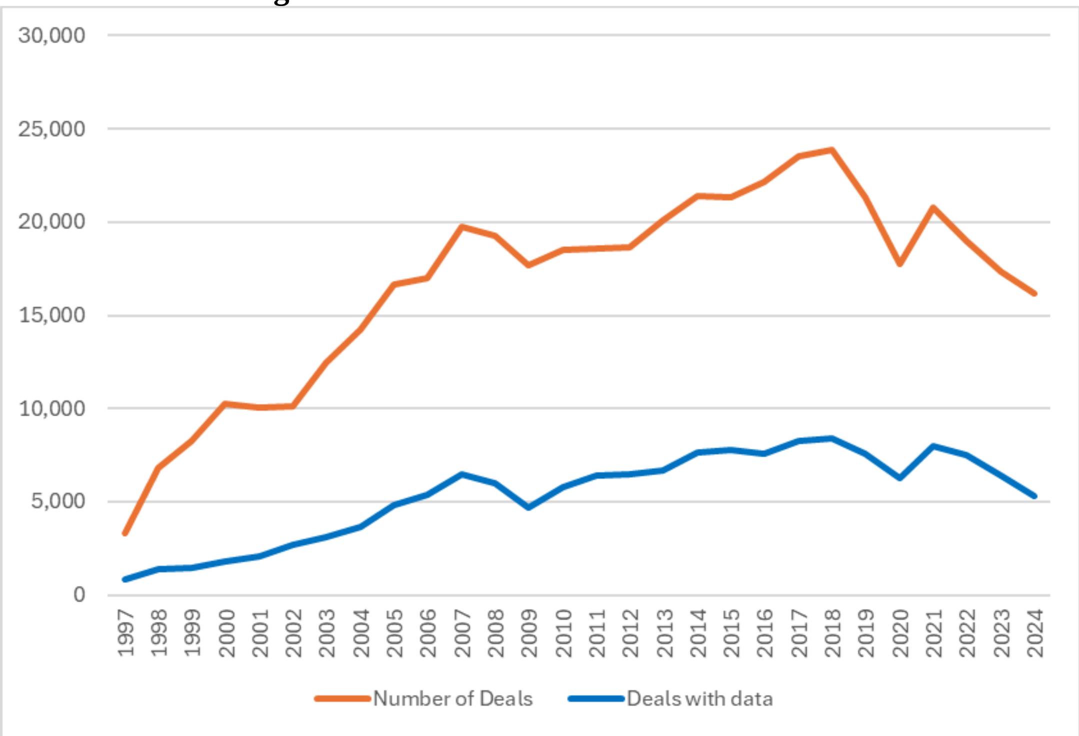


Figure 1B: Time Series of Deals with Listed Acquirers

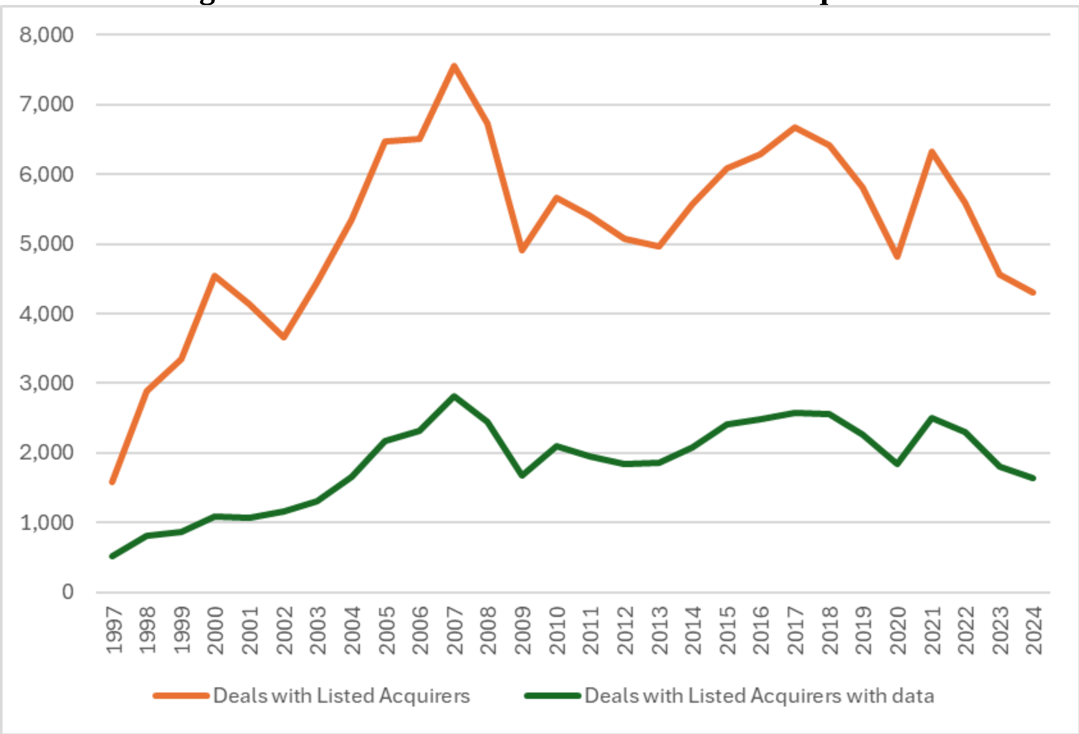


Figure 2: Distribution of Target to Acquirer's Ratios

The Figures show the distribution of target to acquirers' ratios for deals with listed acquirers: targets to acquirers' assets ratio in Figure 2A, targets to acquirers' sales ratio in Figure 2B, and targets deal value plus debt to acquirers' assets ratio in Figure 2C. More specifically, the figures show the complementary cumulative distribution, which is the proportion of deals that take values larger than a certain target to acquirer's ratio. All ratios larger than one (>1) are set to one (1). Data includes all completed mergers and acquisitions from Orbis M&A for which there is deal data (initial, acquired, and final stake), involve a transfer of control, where the acquirer is listed (or was previously listed) and based outside of the US, and takes place after 1997. Control as defined in Figure 1.

Figure 2A: Distribution of Target to Acquirer's Assets

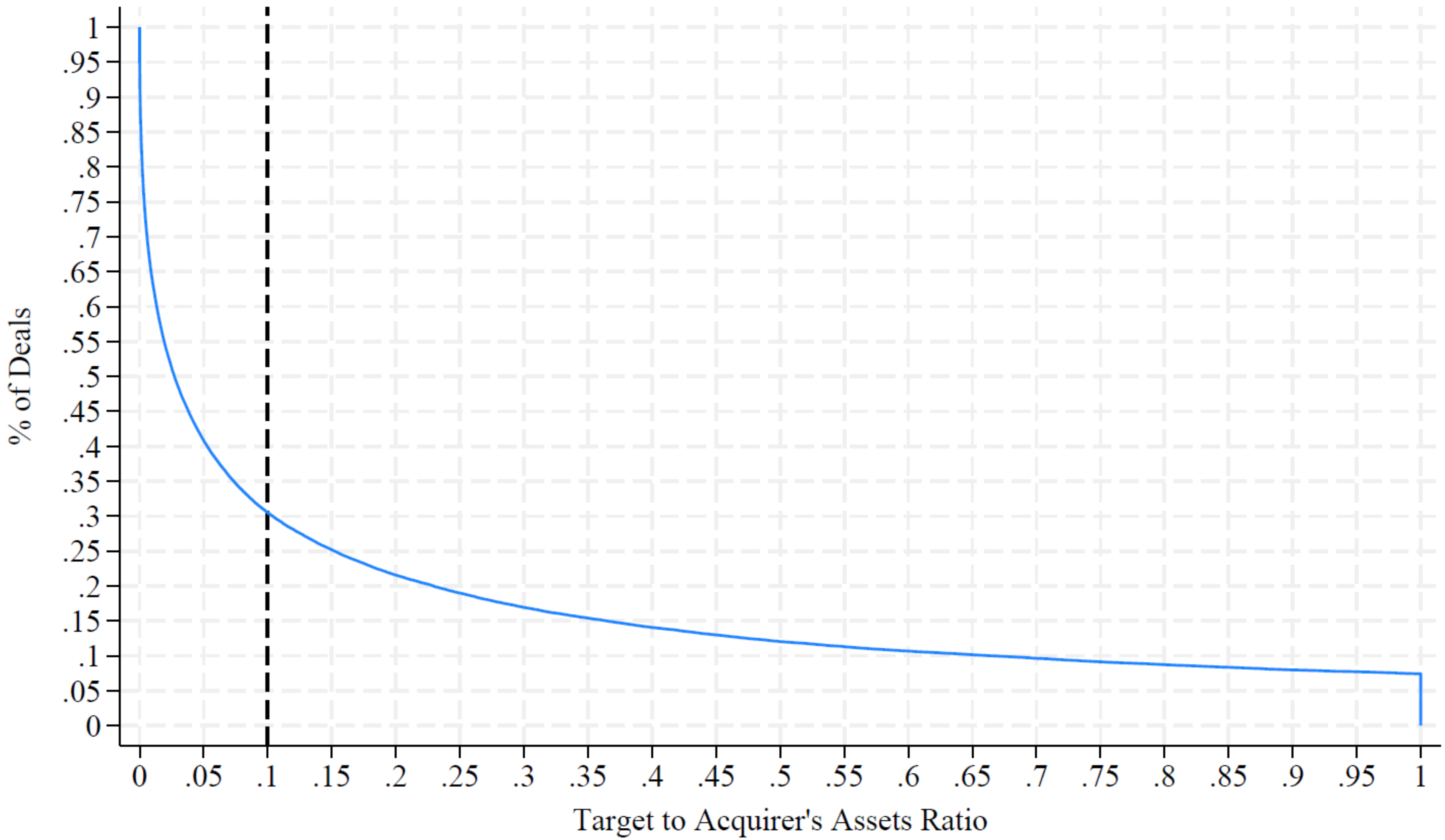
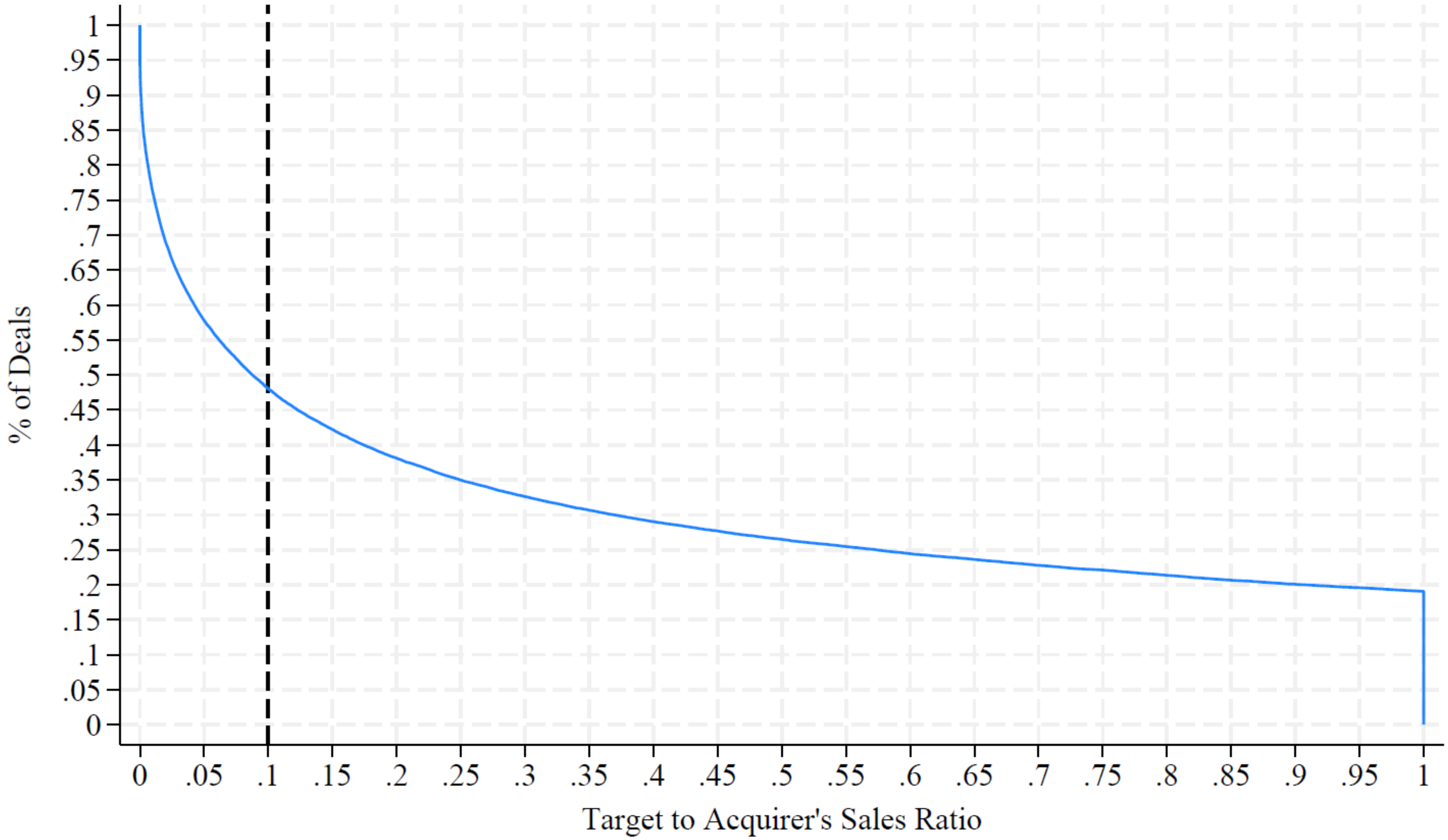


Figure 2B: Distribution of Target to Acquirer's Sales


% of Deals
1
.95
.9
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0 .05 .1 .15 .2 .25 .3 .35 .4 .45 .5 .55 .6 .65 .7 .75 .8 .85 .9 .95 1
Target to Acquirer's Sales Ratio

Figure 2C: Distribution of Targets Deal Value plus Debt to Acquirers' Assets

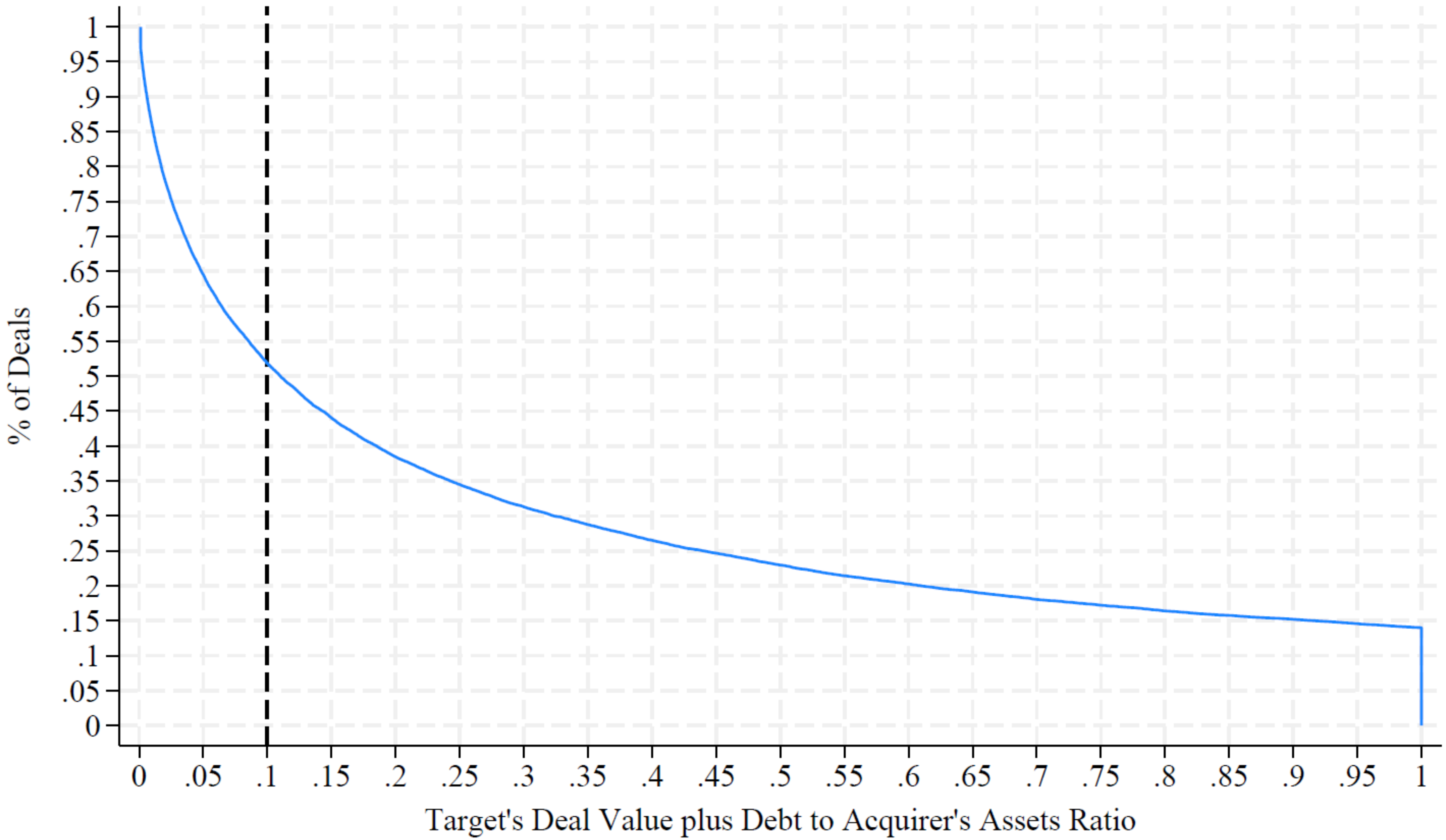

Table 1: Mergers and acquisitions across countries

The Table shows the number of deals, the number of deals for which there are financials for targets and acquirers before the deal, the number of deals with listed acquirers, and the number of deals with listed acquirers for which there are financials for targets and acquirers before the deal. Data includes all completed mergers and acquisitions from Orbis M&A for which there is deal data (initial, acquired, and final stake), involve a transfer of control, where the acquirer is based outside of the US, and takes place after 1997. Control as defined in Figure 1.

Country	Number of Deals	Deals with data	Listed Acquirers: All Deals	Listed Acquirers: Deals with data
Australia	17,192	1,855	9,409	1,328
Austria	3,580	1,367	805	296
Belgium	5,736	2,933	1,487	737
Brazil	4,325	620	1,461	314
Bulgaria	3,895	1,451	250	155
Canada	23,653	2,095	12,258	2,077
China	40,476	6,043	13,912	3,573
Czech Republic	4,880	1,685	142	89
Denmark	6,031	2,549	1,390	576
Estonia	2,877	1,545	109	70
Finland	13,999	5,357	2,522	1,217
France	22,413	11,146	7,017	3,611
Germany	23,844	6,673	5,780	1,996
Hong Kong, SAR	4,190	67	429	62
India	9,672	3,155	4,777	2,027
Ireland	3,464	1,097	1,480	397
Italy	11,003	5,380	2,534	1,482
Japan	27,919	4,565	13,069	3,604
Malaysia	9,725	3,160	4,427	1,911
Netherlands	17,634	7,127	2,988	1,103
Norway	6,805	4,087	1,898	1,214
Poland	10,940	3,575	1,910	1,302
Republic of Korea	5,577	2,838	3,120	1,989
Russian Federation	14,819	5,322	3,334	1,837
Singapore	5,840	1,948	1,839	802
South Africa	3,851	140	1,420	124
Spain	21,985	14,174	1,811	1,005
Sweden	15,220	8,803	6,762	4,203
Switzerland	8,300	773	2,709	715
Ukraine	2,805	987	216	122
United Kingdom	63,791	28,369	18,763	7,843
Virgin Islands (British)	5,452	61	243	61
Rest	44,444	9,471	15,414	4,283
Total	466,337	150,418	145,685	52,125

Table 2: Distribution of Target to Acquirers' Ratios for all acquirers

The Table shows the number of observations, the median and selected centiles (25^{th}, 40^{th}, 60^{th}, 70^{th}, and 90^{th}) for targets to acquirers' ratios (targets to acquirers' assets, targets to acquirers' sales, and targets deal value plus debt to acquirers' assets). Data includes all completed mergers and acquisitions from Orbis M&A for which there is deal data (initial, acquired, and final stake), involve a transfer of control, where the acquirer is based outside of the US, and takes place after 1997. Control as defined in Figure 1.

Ratio	Observations	P25	P40	P50	P60	P70	P90
Target to Acquirer's Assets	150,418	0.01	0.04	0.07	0.14	0.27	1.62
Target to Acquirer's Sales	106,136	0.02	0.07	0.14	0.26	0.53	5.80
Target's Deal Value plus Debt to Acquirer's Assets	32,667	0.04	0.10	0.17	0.29	0.52	3.50

Table 3: Distribution of Target to Acquirers' Ratios for Deals with Listed Acquirers

The Table shows the number of observations, the median and selected centiles (25^{th}, 40^{th}, 60^{th}, 70^{th}, and 90^{th}) for targets to acquirers' ratios (targets to acquirers' assets, targets to acquirers' sales, and targets deal value plus debt to acquirers' assets) for mergers and acquisitions with listed acquirers. Data includes all completed mergers and acquisitions from Orbis M&A for which there is deal data (initial, acquired, and final stake), involve a transfer of control, where the acquirer is listed (or was previously listed) and based outside of the US, and takes place after 1997. Control as defined in Figure 1.

Ratio	Observations	P25	P40	P50	P60	P70	P90
Target to Acquirer's Assets	52,125	0.00	0.01	0.03	0.05	0.10	0.66
Target to Acquirer's Sales	42,535	0.01	0.04	0.09	0.17	0.37	3.32
Target's Deal Value plus Debt to Acquirer's Assets	21,398	0.03	0.06	0.11	0.19	0.32	1.64

Table 4: Summary Statistics for Selected Countries

The Table shows the number of observations and the median and selected centiles (25th, and 70th) for targets to acquirers' ratios for deals with listed acquirers in selected countries. Rest encompasses the statistics for all non-selected countries. Panel A shows statistics for targets to acquirers' assets. Panel B shows statistics for targets to acquirers' sales. Panel C shows statistics for targets deal value plus debt to acquirers' assets. Data includes all completed mergers and acquisitions from Orbis M&A for which there is deal data (initial, acquired, and final stake), involve a transfer of control, where the acquirer is listed (or was previously listed) and based outside of the US, and takes place after 1997. Control as defined in Figure 1.

Panel A: Target to Acquirers' Assets Ratio

Country	Deals with data	P25	P50	P70
Australia	1,328	0.010	0.069	0.274
Canada	2,077	0.011	0.080	0.351
China	3,573	0.025	0.113	0.344
Finland	1,217	0.002	0.009	0.029
France	3,611	0.002	0.013	0.048
Germany	1,996	0.002	0.017	0.060
India	2,027	0.004	0.036	0.130
Italy	1,482	0.006	0.032	0.094
Japan	3,604	0.010	0.041	0.105
Malaysia	1,911	0.005	0.038	0.131
Netherlands	1,103	0.001	0.006	0.023
Norway	1,214	0.002	0.021	0.073
Poland	1,302	0.012	0.061	0.181
Republic of Korea	1,989	0.025	0.101	0.252
Russian Federation	1,837	0.001	0.008	0.038
Spain	1,005	0.005	0.030	0.094
Sweden	4,203	0.003	0.012	0.042
United Kingdom	7,843	0.001	0.012	0.063
Rest	8,803	0.004	0.031	0.124
Total	52,125	0.00	0.03	0.10

Panel B: Target to Acquirers' Sales Ratio

Country	Deals with data	P25	P50	P70
Australia	1,678	0.007	0.042	0.176
Canada	1,441	0.005	0.061	0.263
China	3,372	0.026	0.128	0.391
Finland	1,078	0.016	0.098	0.396
France	3,145	0.015	0.110	0.506
Germany	1,502	0.022	0.162	0.687
India	1,849	0.001	0.030	0.124
Italy	1,436	0.014	0.093	0.351
Japan	6,524	0.020	0.081	0.255
Malaysia	1,433	0.005	0.062	0.224
Poland	1,122	0.021	0.138	0.439
Republic of Korea	1,883	0.038	0.203	0.605
Russian Federation	1,779	0.000	0.008	0.051
Sweden	3,005	0.046	0.726	2.540
United Kingdom	2,468	0.004	0.032	0.173
Rest	8,820	0.009	0.087	0.415
Total	42,535	0.011	0.088	0.370

Panel C: Targets' Deal Value plus Debt to Acquirers' Assets Ratio

Country	Deals with data	P25	P50	P70
Australia	913	0.058	0.236	0.577
Canada	1,463	0.059	0.215	0.561
China	1,524	0.059	0.237	0.654
France	746	0.017	0.068	0.206
India	878	0.007	0.058	0.185
Italy	516	0.019	0.070	0.205
Japan	997	0.040	0.108	0.228
Malaysia	851	0.021	0.102	0.249
Republic of Korea	1,027	0.061	0.188	0.452
Sweden	1,543	0.022	0.093	0.265
United Kingdom	5,420	0.020	0.092	0.312
Rest	5,520	0.022	0.090	0.261
Total	21,398	0.026	0.110	0.323

Appendix:

Table A1: Sample Construction

The Table shows the number of deals and the criteria being used to arrive to the final sample. The Table also shows the number of deals for which there is financial data (assets, sales, and market value of equity in deals where 100% of targets' shares are acquired) for targets and acquirers before the deal, both for all deals and for those with listed acquirers. Data includes all completed mergers and acquisitions from Orbis M&A for which there is deal data (initial, acquired, and final stake), involve a transfer of control, where the acquirer is based outside of the US, and take place after 1997. Control as defined in Table 1.

All Mergers and Acquisitions from Orbis M&A	783,090
Drop deals without takeover information / which are not control transfers	153,422
Drop US based acquirers	163,315
Drop Deals Pre-1997	16
All Deals	466,337
With target and acquirers' assets	150,418
With target and acquirers' sales	106,136
With target's deal value of equity and acquirers' assets	32,667
Deals with Listed Acquirers	145,685
With target and acquirers' assets	52,125
With target and acquirers' sales	42,535
With target's deal value of equity and acquirers' assets	21,398