Non-HSR Reported Acquisitions by Select Technology Platforms, 2010–2019: An FTC Study



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Secretary of the Commission

Chief Privacy Officer

Bilal Sayyed Former Director, Office of Policy Planning*

Report Drafters and Contributors

Liad Wagman, Office of Policy Planning

Katherine Ambrogi, Office of Policy Planning

Jacob Hamburger, Bureau of Competition

Robin Moore, Acting Chief of Staff, Bureau of Consumer Protection

William Adkinson, Office of Policy Planning

Elizabeth Gillen, Bureau of Competition

Elizabeth Jex, Office of Policy Planning

Jaime Taronji, Office of Policy Planning

Casey Triggs, Office of Policy Planning (detail from Consumer Financial Protection Bureau)

Ruth Yodaiken, Office of Policy Planning

Jin-Hyuk Kim, Office of Policy Planning (contractor)

Adrian Cabrera, Office of Policy Planning (intern)

Henry Nolan, Office of Policy Planning (intern)

^{*}Mr. Sayyed was director during parts of the report period.

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1. Introduction

In February 2020, the Federal Trade Commission ("FTC" or "Commission") issued Special Orders to five large technology firms that have made numerous acquisitions in recent years, requiring them to provide information about prior acquisitions not reported to the federal U.S. antitrust agencies under the Hart-Scott-Rodino ("HSR") Act.¹ The orders required Alphabet Inc. ("Alphabet," including Google), Amazon.com, Inc. ("Amazon"), Apple Inc. ("Apple"), Facebook, Inc. ("Facebook"), and Microsoft Corp. ("Microsoft") to provide information and documents on the terms, scope, structure, and purpose of transactions that each company consummated between January 1, 2010 and December 31, 2019 for which the company did not file an HSR notification form. The Commission issued these orders under Section 6(b) of the FTC Act, which authorizes the Commission to conduct wide-ranging studies that do not have a specific law enforcement purpose.

The orders were designed to help the FTC deepen its understanding of large technology firms' acquisition activity including examining the trends in acquisitions and the structure of deals. Various Commissioners have stated that mergers and acquisitions in the technology industry are an area of significant importance to the agency.² At the FTC's 2018-2019 Hearings on Competition and Consumer Protection in the 21st Century, participants also noted that major technology firms made hundreds of acquisitions, with many occurring in the past five to ten years.³ In addition to the Commission, the Antitrust Division of the U.S. Department of Justice⁴

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¹ Press Release, FTC, FTC to Examine Past Acquisitions by Large Technology Companies (Feb. 11, 2020), https://www.ftc.gov/news-events/press-releases/2020/02/ftc-examine-past-acquisitions-large-technology-companies.

² See, e.g., Rebecca Kelly Slaughter, Comm'r, Fed. Trade Comm'n, Keynote at 6th Bill Kovacic Antitrust Salon: Where is Antitrust Policy Going? 2 (Sept. 24, 2018),

https://www.ftc.gov/system/files/documents/public_statements/1412806/slaughter_-

<u>closing remarks_for_6th_annual_bill_kovacic_antitrust_salon_9-24-18.pdf</u> ("We are seeing more and more mergers and conduct matters with technology-related issues such as data collection, intellectual property, and network effects."); Rohit Chopra, Comm'r, Fed. Trade Comm'n, Remarks at Silicon Flatirons Conference 2 (Feb. 10, 2019),

https://www.ftc.gov/system/files/documents/public_statements/1453633/remarks_of_commissioner_chopra_at_silic_on_flatirons.pdf ("[W]e need to ask ourselves whether certain business practices and merger activity are really promoting innovation or simply allowing corporate royalty to hold on to their reign."); Noah Joshua Phillips, Comm'r, Opening Address at Chatham House Competition Policy 2020 Conference 2 (Nov. 10, 2020), https://www.ftc.gov/system/files/documents/public_statements/1582986/phillips_remarks_chatham_house_11-10-20.pdf ("Enforcers and policymakers should focus more on issues characteristic of technology markets: acquisitions of nascent competitors, two-sided markets, zero price markets, and so forth.").

³ See, e.g., Sally Hubbard, Remarks at FTC Hearings of Competition & Consumer Protection in the 21st Century, Session #3, Tr. at 265 (Oct. 17, 2018),

https://www.ftc.gov/system/files/documents/public_events/1413712/ftc_hearings_session_3_transcript_day_3_10-17-18fullupdated.pdf.

⁴ See e.g., Press Release, Dep't of Justice, Justice Department Reviewing the Practices of Market-Leading Online Platforms (July 23, 2019), https://www.justice.gov/opa/pr/justice-department-reviewing-practices-market-leading-online-platforms.

and key Congressional leadership 5 have all expressed concerns regarding the number of acquisitions by major technology companies, as have other competition agencies around the world 6

Following the issuance of the Special Orders, FTC staff collected and analyzed data and documents from the respondents to learn more about the relevant transactions. Staff also cross-referenced the material obtained through the Special Orders with publicly available data sources to analyze recipients' transactions. This report publishes the results of that analysis on an aggregated, and therefore anonymized, basis. To protect the confidentiality of the information submitted to the Commission, this report does not publish any confidential information from the recipients of the Special Orders.⁷

This report adds to existing empirical research on transactions by technology companies by analyzing a number of trends and patterns identified in the data. In particular, the report quantifies and categorizes the pace, the size distribution of transactions in dollar terms, the types

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 $^{^5}$ See. e.g., Staff of H. Comm. on the Judiciary, 116^{th} Cong., Investigation of Competition of Digital MARKETS: MAJORITY STAFF REPORT AND RECOMMENDATIONS 44 (2020), https://judiciary.house.gov/uploadedfiles/competition in digital markets.pdf?utm campaign=4493-519 ("Leading economists and antitrust experts have expressed concern that serial acquisitions of nascent competitors by large technology firms have stifled competition and innovation."); KEN BUCK, ET AL., H. COMM. ON THE JUDICIARY, 116TH CONG., THE THIRD WAY: ANTITRUST ENFORCEMENT IN BIG TECH 9 (2020), https://buck.house.gov/sites/buck.house.gov/files/wysiwyg_uploaded/Buck%20Report.pdf. ⁶ Other competition agencies around the world have also expressed concerns. For example, the European Commission has proposed the Digital Markets Act, containing a set of rules for "gatekeepers" and consequences for non-compliance. Eur. Comm'n, The Digital Markets Act: ensuring fair and open digital markets, https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/digital-markets-act-ensuring-fair-andopen-digital-markets en#new-rules-in-a-nutshell (last visited Sept. 2, 2021). Germany's Commission on Competition Law 4.0 proposed "monitoring and assessment of cases involving the early acquisition of innovative start-ups" and evaluation of the current system of ex-ante merger control. FED. MINISTRY FOR ECON. AFFAIRS & ENERGY, A NEW COMPETITION FRAMEWORK FOR THE DIGITAL ECONOMY: REPORT BY THE COMMISSION 'COMPETITION LAW 4.0' 7 (2019), https://www.bmwi.de/Redaktion/EN/Publikationen/Wirtschaft/a-newcompetition-framework-for-the-digital-economy.pdf? blob=publicationFile&v=3. See also UNLOCKING DIGITAL COMPETITION: REPORT OF THE DIGITAL COMPETITION EXPERT PANEL 12, 95 (2019), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785547/unlocking digital competition furman review web.pdf (last visited Sept. 2, 2021) (UK's Digital Expert Panel recommending that identified digital companies ought to make the U.K. Competition and Markets Authority aware of every intended acquisition to assist it with monitoring and selecting digital cases for investigation.); KOREAN FAIR TRADE COMMISSION (KFTC), CHAIRPERSON'S MESSAGE TO EXPLAIN THE PURPOSE AND DIRECTION OF THE "ACT ON FAIR INTERMEDIATE TRANSACTIONS ON ONLINE PLATFORMS," PROPOSED BY THE KFTC 1, (Sept. 28, 2020), https://ftc.go.kr/solution/skin/doc.html?fn=a96717a996e790c90b01a7bc4c1f77d946be46d29989d2d5c23b7f464793 dfba&rs=/fileupload/data/result/BBSMSTR 000000002401/, (last visited Sept. 8, 2021) (stating that "there are anti-competitive concerns that monopolistic platforms are preventing new entrants from entering the market while removing potential competitors by acquiring them."); AUSTRALIAN COMPETITION & CONSUMER COMMISSION, DIGITAL ADVERTISING SERVICES INQUIRY: INTERIM REPORT 88, Dec. 2020, https://files.lbr.cloud/public/2021-01/Digital%20Advertising%20Services%20Inquiry%20-%20Interim%20report.pdf?qSKOBUcxWvgg8v7Xr8McY0FwxpXL1Pgw=, (last visited Sept. 8, 2021) (identifying a "pattern of consolidation" in advertising technology services); COMPETITION COMMISSION SOUTH AFRICA, ONLINE INTERMEDIATION PLATFORMS MARKET INQUIRY, TERMS OF REFERENCE, DRAFT FOR PUBLIC COMMENT 1, (Feb. 19, 2021), http://www.compcom.co.za/wp-content/uploads/2021/02/OIPMI-Draft-ToR-19-02-2021.pdf (last visited Sept. 8, 2021) (identifying a possible "deliberate strategy to... acquire competitive threats"). ⁷ 15 U.S.C. § 46(f).

of transactions, and the number of non-HSR reportable transactions collectively by the five respondents. As far as the acquired companies, the report further examines the acquisition terms regarding their debts or liabilities as of the time of their acquisition, any deferred or contingent compensation offered to key employees and founders as part of the acquisition, the age of the acquired companies as of the time of the consummation of their acquisition, and the number of their full-time non-sales employees that went on to work for the acquiring respondent after the acquisition. This study intends to provide background and findings from this data set, not to provide a basis for evidence in an adjudicatory proceeding.

The report provides certain data on transactions that exceed the HSR Size of Transaction (SOT) threshold. To be clear, however, transactions exceeding the SOT threshold may not have been notified because the Size of Person (SOP) test was not met or one of the statutory or regulatory exemptions applied. In general, unless an exemption applies, premerger notification is required if the transaction meets three tests: (1) the Commerce Test (which is routinely met), (2) the Size of Transaction Test, and (3) the Size of Person Test. To meet SOT, the transaction value, as calculated in accordance with the HSR rules, must be over \$50 million (as adjusted, currently \$92 million). There is no filing obligation for transactions with a value below SOT. If the value of the transaction is more than \$50 million (as adjusted) but \$200 million (as adjusted, currently \$368 million) or less, SOP, which is a set of requirements about the value of the parties' revenues and/or assets, must also be met to make the transaction reportable.

Even if a transaction meets SOT and SOP (if necessary), it need not be reported if it is exempt under one of the statutory or regulatory exemptions. For example, an acquisition of a foreign issuer or foreign assets may not need to be reported if the buyer is not acquiring control or if the issuer or assets have "insufficient nexus" to the United States, as determined on the basis of the revenues generated by the issuer or by the assets from sales in or into the United States.

While this report does not make recommendations or conclusions regarding the HSR thresholds, it does analyze the nonreportable transaction data of respondents and releases trends and patterns relating to these transactions. The study intends to inform ongoing discussions among policymakers, academics, and other stakeholders.

2. Overview

a. Respondents

The Special Order respondents—Alphabet/Google, Amazon, Apple, Facebook, and Microsoft—are five of the largest public U.S. companies by market capitalization. These firms are among the most significant technology companies operating in the world and publicly available information indicates each firm has engaged in a high volume of acquisitions.

⁸ U.S. Companies by Market Capitalization, https://companiesmarketcap.com/usa/largest-companies-in-the-usa-by-market-cap/ (last visited Sept. 2, 2021).

i. Alphabet/Google

Alphabet is a multinational internet technology company headquartered in Mountain View, California and founded in 1998. At publication of this report, Alphabet was the third-largest U.S. company by market capitalization. Alphabet's core business lines are organized under its Google subsidiary, which offers a variety of services and products that enable users to obtain access to websites, photos, videos, and other sources of information across the internet. It primarily generates revenues from these businesses through the sale of online advertising. Some of these services and products include:

- Search, an internet search engine;
- YouTube, a video sharing service;
- Google Drive, a cloud storage service;
- Google Maps, a location information application;
- Gmail, an email service;
- Android, a mobile operating system; and
- Chrome, an internet browser.

Google also operates enterprise-ready cloud services, which includes Google Cloud Platform and Google Workspace. It generates revenues from these services primarily through fees received from customers.¹²

Alphabet reported revenues of \$182.5 billion in 2020, over \$181 billion of which came from its Google segments. Google sales of advertising accounted for approximately 80% of Alphabet's total revenues. ¹³ It reported revenues of about \$29.3 billion in 2010, with approximately two-thirds coming from Google website advertising revenue and 30% coming from Google Network members' website advertising revenue. ¹⁴ At the end of 2020, Alphabet employed over 135,000 individuals, up from nearly 24,400 in 2010. ¹⁵

ii. Amazon

Amazon is a multinational e-commerce company headquartered in Seattle, Washington and was founded in 1994. At publication of this report, Amazon was the fourth-largest U.S. company by market capitalization. A key component of Amazon's business is its online retail platform for goods and services, selling private-label products and products Amazon has

⁹ In 2015, Google restructured itself and Alphabet became the successor parent organization. Before then, Google was the parent organization. Alphabet, Annual Report (Form 10-K) 25-26 (Feb. 2, 2021).

¹⁰ U.S. Companies by Market Capitalization, https://companiesmarketcap.com/usa/largest-companies-in-the-usa-by-market-cap/ (last visited Sept. 2, 2021).

¹¹ Alphabet, Annual Report (Form 10-K) 6, 33 (Feb. 2, 2021).

¹² *Id*. at 6-7.

¹³ *Id.* at 32-33.

¹⁴ Alphabet, Annual Report (Form 10-K) 53 (Feb. 11, 2011).

¹⁵ Alphabet, Annual Report (Form 10-K) 9 (Feb. 2, 2021); Alphabet, Annual Report (Form 10-K) 8 (Feb. 11, 2011).

¹⁶ U.S. Companies by Market Capitalization, https://companiesmarketcap.com/usa/largest-companies-in-the-usa-by-market-cap/ (last visited Sept. 2, 2021).

purchased for retail sale, as well as third-party products for which Amazon offers an e-commerce platform. As part of its online platform business, it offers Amazon Prime, a fee-based membership program that provides users with services such as shipping, streaming movies and TV shows, music, and books. Amazon's primary source of revenue is the sale of a wide range of products and services to customers. In 2017, Amazon bought Whole Foods, a specialty grocery with locations throughout the country. The company also sells its own electronic devices and produces media content. Amazon has also opened physical retail stores, including grocery stores under the banner Amazon Fresh.

Amazon also operates Amazon Web Services (AWS), which offers a suite of enterprise cloud computing services, "including comput[ing], storage, database, analytics, and machine learning, and other services." In 2020, Amazon reported net sales of \$386 billion. Net sales from its AWS business accounted for \$45.4 billion, while all other segments accounted for \$340.7 billion. In 2010, Amazon's net sales were \$34.2 billion; it did not report net sales figures for AWS separately in 2010. At the end of 2020, Amazon had approximately 1,298,000 full-time and part-time employees, not including independent contractors or temporary personnel. At the end of 2010, Amazon had approximately 33,700 full-time and part-time employees.

iii. Apple

Apple is a multinational consumer electronics company headquartered in Cupertino, California and founded in 1977. At publication of this report, Apple was the largest U.S. company by market capitalization.²⁴ The company "designs, manufactures and markets smartphones, personal computers, tablets, wearables and accessories, and sells a variety of related services."²⁵ Apple sells its products through its retail and online stores, direct sales force, and indirect distribution channels. These products include:

- The iPhone line of smartphones;
- The Mac line of personal computers;
- The iPad line of multi-purpose tablets; and
- A Wearables, Home, and Accessories group of products, which includes AirPods wireless headphones and Apple Watch.

Apple also offers a variety of consumer-facing services, including:

¹⁷ Amazon, Annual Report (Form 10-K) 19, 25 (Feb. 2, 2021).

¹⁸ *Id*. at 3.

¹⁹ *Id*.

²⁰ *Id*. at 25

²¹ Amazon, Annual Report (Form 10-K) 18 (Jan. 27, 2011).

²² Amazon, Annual Report (Form 10-K) 4 (Feb. 2, 2021).

²³ Amazon, Annual Report (Form 10-K) 4 (Jan. 27, 2011).

²⁴ U.S. Companies by Market Capitalization, https://companiesmarketcap.com/usa/largest-companies-in-the-usa-by-market-cap/ (last visited Sept. 2, 2021).

²⁵ Apple, Annual Report (Form 10-K) 1 (Oct. 29, 2020).

- Various platforms that allow customers to discover and download applications and digital content, such as the App Store;
- Digital content streaming services, such as Apple Music and Apple TV+;
- Cloud computing services; and
- Payment services.

The company reported total net sales of \$274.5 billion in 2020, about half of which is attributable to iPhone net sales. ²⁶ In 2010, Apple had \$65.2 billion in total net sales, of which \$25.2 billion is attributable to the iPhone. ²⁷ In 2020, Apple generated \$53.8 billion in net sales from its services category, a 16% increase over 2019 net sales (\$46.3 billion), which also represented a 16% increase over 2018 net sales (\$39.8 billion). ²⁸ The company had approximately 147,000 full-time equivalent employees, up from the 46,600 full-time equivalent employees and 2,800 full-time equivalent temporary employees and contractors it had in 2010. ²⁹

iv. Facebook

Facebook is a multinational social media company headquartered in Menlo Park, California and founded in 2004. At publication of this report, Facebook was the fifth-largest U.S. company by market capitalization.³⁰ According to Facebook, the company builds social media products that operate on mobile devices, personal computers, virtual reality headsets, and inhome devices.³¹ These social media products enable individuals to share information about themselves and their activities (including pictures and videos), connect with other individuals, and communicate news and other information. Substantially all of the company's revenues derive from advertising placement sales.³² Facebook's products and services include:

- Facebook, a personal social networking service;
- Instagram, a photo-based personal social networking service;
- Messenger, a mobile messaging service;
- WhatsApp, a mobile messaging service; and
- Facebook Reality Labs, offering augmented and virtual reality products.³³

As of December 31, 2020, Facebook had 2.8 billion monthly active users ("MAUs"), compared to 845 million MAUs on December 31, 2011.³⁴

²⁷ Apple, Annual Report (Form 10-K) 33 (Oct. 27, 2010).

²⁶ *Id.* at 21.

²⁸ Apple, Annual Report (Form 10-K) 21 (Oct. 29, 2020).

²⁹ Apple, Annual Report (Form 10-K) 4 (Oct. 29, 2020); Apple, Annual Report (Form 10-K) 10 (Oct. 27, 2010).

³⁰ U.S. Companies by Market Capitalization, https://companiesmarketcap.com/usa/largest-companies-in-the-usa-by-market-cap/ (last visited Sept. 2, 2021).

³¹ Facebook, Annual Report (Form 10-K) 7 (Jan. 27, 2021).

 $^{^{32}}$ Id

³³ *Id*.

³⁴ Facebook, Annual Report (Form 10-K) 52 (Jan. 27, 2021); Facebook, Annual Report (Form 10-K) 5 (Feb. 1, 2013).

Facebook had about \$86 billion in revenue in 2020, up from about \$2 billion in 2010.³⁵ It employed 58,604 people globally as of December 31, 2020, compared to the 2,661 people it employed full-time as of June 30, 2011.³⁶

v. Microsoft

Microsoft is a multinational software company headquartered in Redmond, Washington and founded in 1975. At publication of this report, Microsoft was the second-largest U.S. company by market capitalization.³⁷ The company develops and supports "software, services, devices, and solutions," and offers "an array of services, including cloud-based solutions that provide customers with software, services, platforms, and content." Microsoft generates "revenue by offering a wide range of cloud-based and other services to people and businesses; licensing and supporting an array of software products; designing, manufacturing, and selling devices; and delivering relevant online advertising to a global audience." Some of the key products and services it offers include:

- Office, a suite of productivity applications;
- LinkedIn, a social networking service for professionals;
- Dynamics, a line of business applications;
- Cloud computing services, including Azure;
- Windows, a personal computing operating system;
- Personal computing devices, including Surface;
- Xbox, a video game platform; and
- Bing, a search engine. 40

Microsoft reported \$168 billion in revenue in 2021, compared to \$62.5 billion in revenue in 2010. As of June 30, 2021, it had approximately 181,000 full-time employees, including 103,000 in the United States. As of June 30, 2010, it had approximately 89,000 full-time employees, including 54,000 in the United States.

³⁵ Facebook, Annual Report (Form 10-K) 50 (Jan. 27, 2021); Facebook, Annual Report (Form 10-K) 34 (Feb. 1, 2013).

³⁶ Facebook, Annual Report (Form 10-K) 10 (Jan. 27, 2021); Facebook, Quarterly Report (Form 10-Q) 48 (July 31, 2012). Facebook completed its initial public offering in May 2012, so earlier headcount reports are not publicly available. Facebook, Quarterly Report (Form 10-Q) 8 (July 31, 2012).

³⁷ U.S. Companies by Market Capitalization, https://companiesmarketcap.com/usa/largest-companies-in-the-usa-by-market-cap/ (last visited Sept. 2, 2021).

³⁸ Microsoft, Annual Report (Form 10-K) 3 (July 29, 2021).

³⁹ *Id.* at 39.

⁴⁰ *Id.* at 10-15.

⁴¹ Microsoft, Annual Report (Form 10-K) 34 (July 29, 2021); Microsoft, Annual Report (Form 10-K) 21 (July 30, 2010).

⁴² Microsoft, Annual Report (Form 10-K) 8 (July 29, 2021).

⁴³ Microsoft, Annual Report (Form 10-K) 14 (July 30, 2010).

b. Special Orders

The Special Orders required each respondent to identify transactions not reported to the FTC and the U.S. Department of Justice under the HSR Act, and to provide information similar to that requested on the HSR notification and report form. ⁴⁴ The Orders also required companies to provide other data and documents on their corporate acquisitions, including information on non-compete provisions and deferred or contingent compensation. FTC staff met with the respondents regularly throughout the data collection and provision period and reviewed responses as they arrived on a rolling basis. Staff then processed and analyzed the material from those responses. This report reflects components of that analysis and identifies several patterns, on an aggregated basis, in the parties' combined transaction history.

3. Analysis

The below section describes the aggregate analysis of data produced, revealing a number of patterns regarding the total number of transactions, transaction types, and sizes. It also quantifies the prevalence of a number of common practices found in the merger agreements, including the use of non-compete provisions and deferred or contingent compensation for the acquired firms' founders and key employees. The analysis also revealed a significant amount of information about each acquired firm, including its country of origin, debts and liabilities, the number of employees joining the acquirer after the transaction, and its age. Finally, staff categorized the transactions by sector to show the relationship between the number of transactions made and industry developments.

Sections 6(f) and 21(d)(1)(B) of the FTC Act prohibit the Commission from disclosing trade secrets or commercial or financial information that is privileged or confidential. Because of this statutory prohibition, the Commission does not have discretion to disclose this type of information.⁴⁵ As a result, this report publishes data from all five respondents on an aggregated basis. We share below the information that we can report publicly within these confidentiality limitations.

a. Methodology

As part of its review, staff collected information from the respondents on several key data points requested in the Special Order. This included, but was not limited to, information on:

- The acquired entities (e.g., whether a target entity had any debts or liabilities at the time of its acquisition);
- The acquirers;
- Parameters specific to each acquisition, such as the consummation date of the acquisition, whether the merger agreements included non-compete clauses, whether the merger

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⁴⁴ Order to File a Special Report, FTC Matter No. P201201 (Feb. 10, 2020) [hereinafter Special Order], https://www.ftc.gov/system/files/documents/reports/6b-orders-file-special-reports-technology-platform-companies/6b-platform-study-sample-order.pdf.

⁴⁵ 15 U.S.C. § 46(f), 15 U.S.C. § 57b-2(d)(1)(B).

agreement stipulated deferred or contingent compensation for the target entity's employees and/or shareholders, as well as the type of the acquisition:

- Voting Security (Control)
- Voting Security (Minority)
- o Asset
- o Patent Acquisition
- Hiring Event
- Non-Corporate Interest (Control)
- Non-Corporate Interest (Minority)
- o License
- o Economic Interest; and
- Post-acquisition outcomes (e.g., the number of employees from the target entity who joined the acquirer after the acquisition).

After collecting the responsive material, staff processed and analyzed the data at both the individual respondent level and collectively for the five respondents.⁴⁶ As part of this analysis, staff grouped acquisitions along various aspects of the transactions, including by:

- respondent;
- acquisition type;
- transaction size;
- calendar year;
- whether the acquired firm was a domestic or foreign entity; and
- nesting these various aspects (e.g., all Voting Security (Control) acquisitions within a certain transaction size range, the number of employees who joined the acquiring firm after an acquisition within a certain transaction size range) and determining the correlation between certain aspects (e.g., were larger transactions more likely to include non-compete clauses in their merger agreements and/or stipulate deferred or contingent compensation for the founders and key employees of the acquired entities).

As part of the analysis, staff also collected additional data on the acquisitions from four proprietary databases (PitchBook, S&P Global Market Intelligence 451 Research, Crunchbase, and Refinitiv). Staff used the information collected to identify and advise respondents of any potentially missing transactions to ensure the completeness of the information received. Staff also used the information to determine the age of each acquired entity as of the time of its acquisition, and to approximate an industry categorization of the target entities.⁴⁷ Combined, this additional information verified the universe of transactions reported as well as provided a basis for additional groupings of transactions (e.g., by acquired entity age, by approximate industry category) for analysis.

⁴⁶ The percentages in this report's figures may not necessarily add up to 100% due to decimal point rounding.

⁴⁷ While some of this information would typically be available using HSR filings, none of the responsive transactions were filed under HSR.

b. Transaction Types

The five respondents reported 819 total non-HSR reportable transactions over the 10-year period for an average of approximately 164 transactions per respondent. Each transaction was categorized according to a primary type: Voting Security (Control), Voting Security (Minority), Asset, Patent Acquisition, Hiring Event, Non-Corporate Interest (Control), Non-Corporate Interest (Minority), License, and Economic Interest. Of the 819 transactions, the largest category was Voting Security (Control) at 382 acquisitions, followed by 150 Asset acquisitions, 101 Hiring Events, and 91 Patent Acquisitions. In the charts that follow, the standard deviations provide a measure of the amount of variation or dispersion across respondents. A lower standard deviation indicates that the values from the five respondents tend to be close to the respective average, while a higher standard deviation indicates that the individual values are spread out over a wider range.

Figure 1: Transaction Types

Type of Transaction	Total	Average Per Respondent	Standard Deviation
Voting Security (Control)	382	76.4	32.7
Asset	150	30	9.5
Hiring Events	101	20.2	16.9
Patent Acquisitions	91	18.2	16.2
Voting Security (Minority)	45	9	9.7

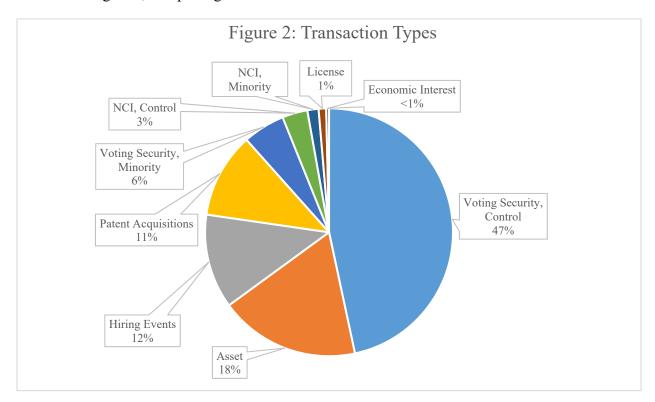
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⁴⁸ The 819 transactions omit approximately 50 additional smaller transactions below \$1 million, 160 financial investments, and Patent Acquisitions below \$2.5 million.

⁴⁹ As defined within the Special Order, see supra note 44. Voting securities (control) is defined under the meaning of 16 C.F.R. § 801.1 et seq., which described that voting securities means any securities which at present or upon conversion entitle the owner or holder thereof to vote for the election of directors of the issuer, or of an entity included within the same person as the issuer. Control is described as either holding 50 percent or more of the outstanding voting securities of the issuer or, in the case of an unincorporated entity, having the right to 50 percent or more of the profits of the entity, or having the right in the event of a dissolution to 50 percent or more of the assets of the entity. An alternative definition of control involves having the contractual power to designate 50 percent or more of the directors of a for-profit or not-for-profit corporation, or 50 percent or more of the trustees in the case of trusts that are irrevocable and/or in which the settlor does not retain a reversionary interest. Voting Securities (Minority) are Voting Securities that are not control Voting Securities. Asset acquisition is holding, in the aggregate, any of the assets of another Entity that, at the time of acquisition, represented any of: (1) 10% or more of the assets of the acquired Entity, or of a division, subsidiary, office or product, research or development group; or (2) assets sufficient to constitute a business or operating unit. Patent acquisition is the purchase of one or more patents that is not otherwise defined as another category of acquisition. Hiring Event means any instances where, within a one-year period, the company hired 25 percent or more non-sales employees of an Entity, division, office, or subsidiary of an Entity, or product, research or development group of an Entity. Non-Corporate Interest means an interest in a Non-Corporate Entity, with control and minority having the same meaning as under Voting Securities. License is obtaining exclusive agreements to intangible property that is not an acquisition. Economic Interest means the right to receive profits or assets upon their distribution, either directly or indirectly, or upon dissolution of the Issuer or Entity; or the right to receive the gains from the appreciation in the value of any interest, including Voting Security or interest, held in, or of, the Entity; or the responsibility for the losses associated with the change in value of the Entity or value of any interest, including Voting Security or interest, in the Entity.

Non-Corporate Interest	27	5.4	2.8
(Control)			
Non-Corporate Interest	12	2.4	3.2
(Minority)			
License	8	1.6	3.2
Economic Interest	3	0.6	1.2
Total # of Transactions	819	163.8	70.2

Voting Security (Control) acquisitions, Asset acquisitions, and Hiring Events were the three most common categories, comprising a combined 77.2% of the 819 total transactions.



Excluding Hiring Events and Patent Acquisitions (which staff considered separately), for a remaining total of 627 transactions, Voting Security (Control) and Asset acquisitions comprised 85% of the transactions, or 89% when including Non-Corporate Interest (Control) acquisitions.

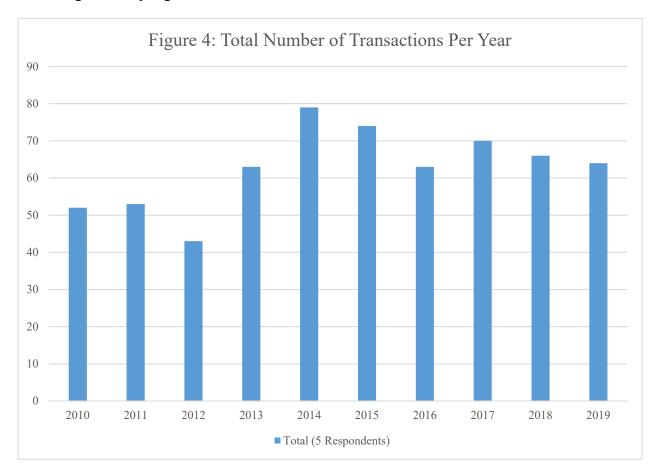
c. Transactions by Year

Excluding Hiring Events and Patent Acquisitions, the total number of transactions per calendar year across the five respondents ranged from 43 (in 2012) to 79 (in 2014), with corresponding annual averages per respondent ranging from 8.6 (in 2012) to 15.8 (in 2014).

Figure 3: Number of Transactions Per Year (Total and Average Per Respondent)

	Total (5 Respondents)	Average Per Respondent	Standard Deviation
2010	52	10.4	7.9
2011	53	10.6	9.9
2012	43	8.6	3.6
2013	63	12.6	5.5
2014	79	15.8	8.1
2015	74	14.8	7.3
2016	63	12.6	4.1
2017	70	14	4.7
2018	66	13.2	5.5
2019	64	12.8	5.8

The number of transactions per calendar year per individual respondent ranged from 2 to 31, with the average annual number of transactions across respondents peaking in 2014 and remaining relatively higher in 2015-2019 than in 2010-2013.



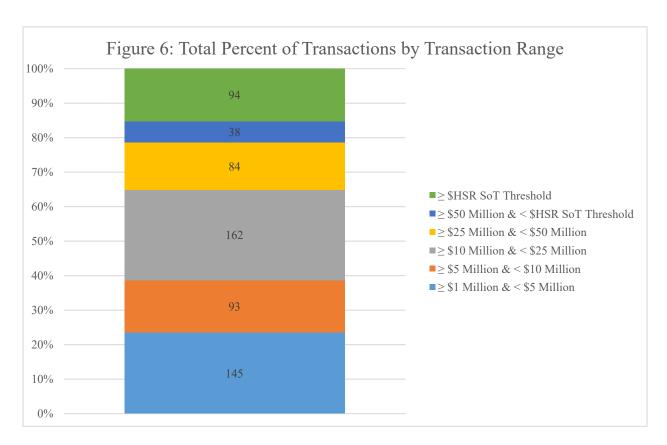
d. Transaction Values

Focusing on transactions (excluding Hiring Events and Patent Acquisitions) above \$1 million, the following table reports information on the number of transactions in each transaction range, where the HSR Size of Transaction (SOT) threshold is determined for each transaction individually based on its consummation date (the HSR SOT threshold has increased annually over the 2010-2019 time period).

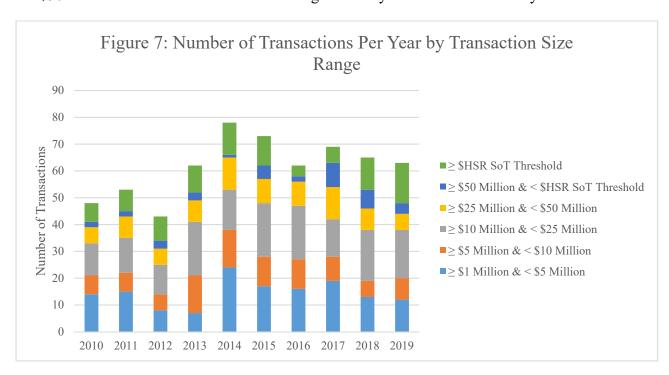
Figure 5: Transactions by Transaction Range

Transaction Range	Total	Average	Standard Deviation	%	Cumulative
≥ \$1 Million & < \$5 Million	145	29	13.9	23.54%	23.54%
≥ \$5 Million & < \$10 Million	93	18.6	8.3	15.10%	38.64%
\geq \$10 Million & $<$ \$25 Million	162	32.4	8.0	26.30%	64.94%
\geq \$25 Million & \leq \$50 Million	84	16.8	8.4	13.64%	78.57%
≥ \$50 Million & < \$HSR SOT	38	7.6	4.8		
Threshold				6.17%	84.74%
≥ \$HSR SOT Threshold	94	18.8	10.8	15.26%	100.00%
All Transactions	616	123.2	48.4		

Transactions in the \$1-5 million range were more common than in the \$5-10 million range, and transactions in the \$10-25 million range were more common than in the \$25-50 million range. Of all transactions (above \$1 million, excluding Hiring Events and Patent Acquisitions), 65% were between \$1 million and \$25 million.



The number of acquisitions in each transaction range fluctuated during 2010-2019, with somewhat pronounced increases in the number of transactions in the \$10-\$25 million range and the \$50 million to the HSR SOT threshold range in later years relative to earlier years.



Asset and Control transactions (including Voting Security Control and Non-Corporate Interest Control transactions) were the most common in each transaction range. For transactions exceeding \$5 million, the majority were Control transactions. Moreover, the share of Control transactions consistently increases in the range of the transactions, comprising 90.4% of transactions in the highest range (transaction sizes above the HSR SOT threshold). The Pearson correlation between the logarithm of acquisition values and transactions being of Control (either in Voting Security or Non-Corporate Interest), on a range of -1 to 1, with positive values indicating positive correlation and vice versa, is 0.38 (with statistical significance at < 1%); that is, transactions with higher purchase amounts are more likely to be Control acquisitions.

Figure 8: Transaction Type by Range

	Transaction Type					
Transaction Range	Asset	Control Transactions (Voting Security + NCI)	Economic Interest	License	Non-Corporate Interest Minority	Voting Security Minority
≥ \$1 Million & < \$5 Million	39.3%	37.9%		5.5%	1.4%	15.9%
≥ \$5 Million & < \$10 Million	31.2%	61.3%				7.5%
≥ \$10 Million & < \$25 Million	20.4%	71.0%	0.6%		2.5%	5.6%
≥ \$25 Million & < \$50 Million	21.4%	72.6%	1.2%		2.4%	2.4%
≥ \$50 Million & < \$HSR SOT Threshold	5.3%	84.2%	2.6%		5.3%	2.6%
≥ \$HSR SOT Threshold	5.3%	90.4%			2.1%	2.1%

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⁵⁰ Correlation measures a statistical relationship between two variables, where 1 indicates the strongest movement in the same direction, -1 in the opposite directions, and 0 being no relation. The Pearson (point-biserial) correlation is a special case of the correlation measure in which one variable is continuous (log of transaction size) and the other variable is binary (0 or 1 indicator variable – in this case, of Control-type transactions).

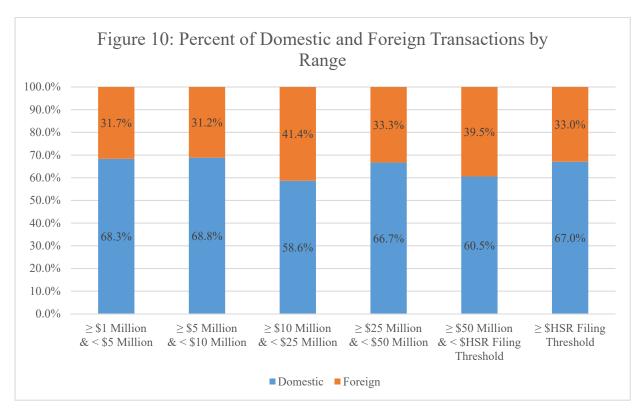
e. Transactions, Domestic/Foreign

The majority of transactions in each transaction range (excluding Hiring Events and Patent Acquisitions) were domestic.

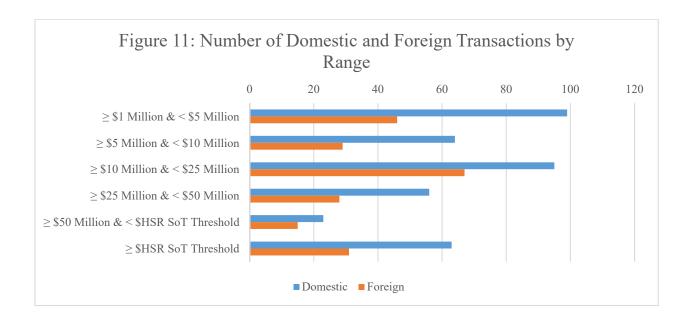
Figure 9: Domestic and Foreign Transactions by Range

Transactions	Domestic	Foreign	% Domestic	% Foreign
≥ \$1 Million & < \$5 Million	99	46	68.3%	31.7%
≥ \$5 Million & < \$10 Million	64	29	68.8%	31.2%
≥ \$10 Million & < \$25 Million	95	67	58.6%	41.4%
≥ \$25 Million & < \$50 Million	56	28	66.7%	33.3%
≥ \$50 Million & < \$HSR SOT	23	15	60.5%	39.5%
Threshold				
≥ \$HSR SOT Threshold	63	31	67.0%	33.0%
Overall	400	216	64.9%	35.1%

The share of domestic transactions in each transaction range were somewhat similar across the different transaction ranges, ranging from 58.6% (for the \$10-25 million range) to 68.8% (for the \$5-10 million range).

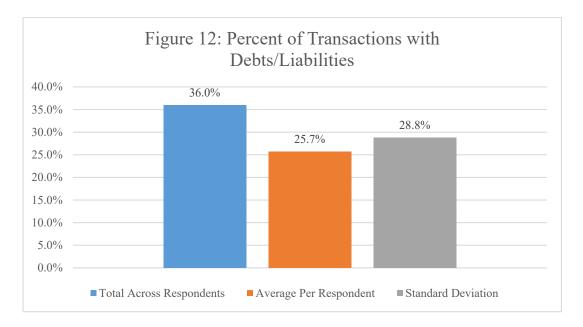


The higher number of transactions in the \$1-5 million range than in the \$5-10 million range, and transactions in the \$10-25 million range than in the \$25-50 million range, extended to the number of both domestic and foreign transactions. In addition, the highest numbers of domestic transactions were in the \$1 to \$5 million and \$10 to \$25 million ranges, whereas the highest number of foreign transactions was in the \$10 to \$25 million range.



f. Transactions with Debts/Liabilities

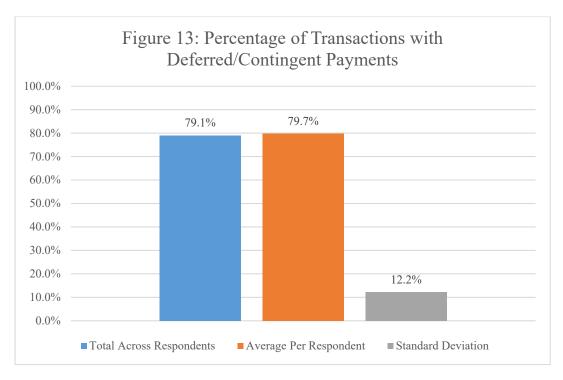
In 36% of the transactions (excluding Hiring Events and Patent Acquisitions), the acquirer assumed some amount of debt or liabilities that the acquired entity had on its balance sheet. On average, for each of the five respondents, 25.7% of the target entities they acquired had debts or liabilities as of the time of the consummation of the transaction.



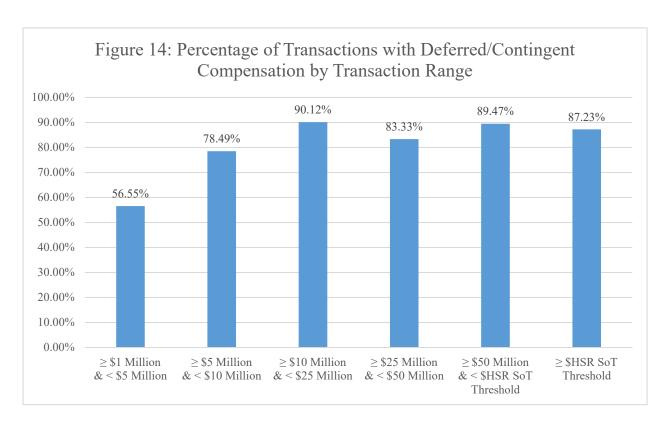
Of the transactions reported, three additional transactions would have exceeded the HSR SOT threshold (i.e., in addition to the 94 transactions already above the HSR SOT threshold) at the time of their consummation when adding the debts or liabilities to their purchase price (to provide a measure of what the purchase price would have been with no debts or liabilities on the acquired entity's balance sheet). At the respondent level, this amounts to an additional 0.6 transactions per respondent on average, with a standard deviation of 1.2.

g. Transactions with Deferred/Contingent Compensation

A majority of transactions also used deferred or contingent compensation to founders and key employees, with relatively small variation across the five respondents.



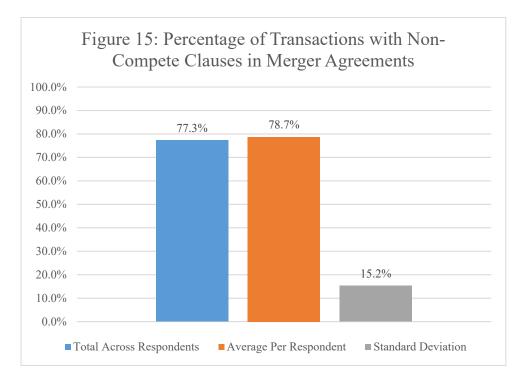
The Pearson correlation between the logarithm of the acquisition value and the acquisition including deferred or contingent compensation is 0.28 (statistically significant at < 1%); that is, higher value transactions were more likely to use deferred or contingent compensation.



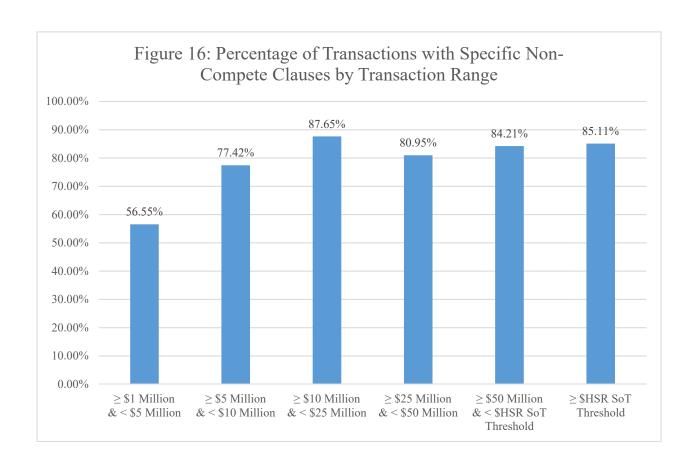
Of the transactions reported, nine additional transactions would have exceeded the HSR SOT threshold (i.e., in addition to the 94 transactions already above the HSR SOT threshold) at the time of their consummation when adding the deferred or contingent compensation (that is separate, and in addition to their purchase price) to their purchase price. At the respondent level, this amounts to an additional 1.8 transactions per respondent on average, with a standard deviation of 2.7.

h. Transactions with Non-Compete Clauses

A majority of transactions, 76.7%, included non-compete clauses for founders and key employees of the acquired entities, with relatively small variation in the percentage of transactions that had non-compete clauses across the five respondents.

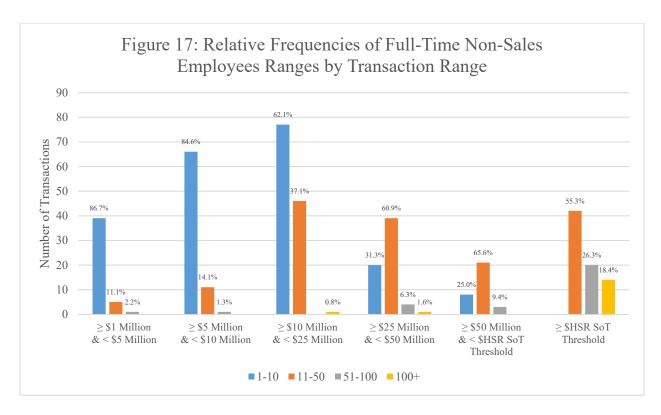


The Pearson correlation between the logarithm of acquisition values and the acquisitions that include non-compete clauses for founders and key employees, on a range of -1 to 1, is 0.24 (statistically significant at < 1%); that is, higher value transactions were more likely to use non-compete clauses. This positive correlation is mostly driven by the smaller transactions of \$25 million or less — the proportion of transactions with non-compete clauses roughly stabilizes for larger transactions.



i. Transactions by Employee Size (Full-Time, Non-Sales)

In Control and Asset transactions for all or substantially all of the assets of the acquired entity (or a division, subsidiary, office, or product, research, or development team of the acquired entity), the respondents reported the number of full-time non-sales employees, if any, that joined the acquiring firm after the transaction was consummated. In the majority of transactions (a total of 419) for which the number of full-time non-sales employees were reported, the number of employees were between 1 and 10. In addition, the employee counts are positively correlated with the sizes of the transactions.



On a more granular level, the Pearson correlation between the logarithm of transaction values and the logarithm of the number of full-time non-sales employees of the target entities who joined the acquiring firm after the acquisitions of the target entities is 0.74 (significant at < 1%); that is, larger transactions tended to be associated with more employees from the target entity joining the acquiring firm.

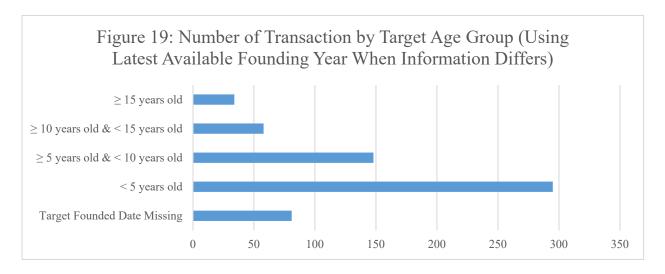
j. Transactions by Target Age

Staff collected additional data on the founding date of the acquired entities (excluding Hiring Events, Patent Acquisitions, and transactions below \$1 million) from PitchBook, S&P 451 Research, and Refinitiv. Staff used this information to determine the age of the target firms as of the time of the consummation of their acquisitions, adopting several approaches to determine a target firm's age: using each of the three data sources individually, as well as in combination. An advantage of the latter is that more target firms are matched with founding dates; in the cases of differing information about a target's founding date in the three data sources, we incorporated either the latest founding date or the earliest founding date (uniformly across all such cases). We report the two approaches that utilize a combination of the three data sources, using the latest founding date (the first approach below) and the earliest (the second approach below) founding date in cases of differing information.

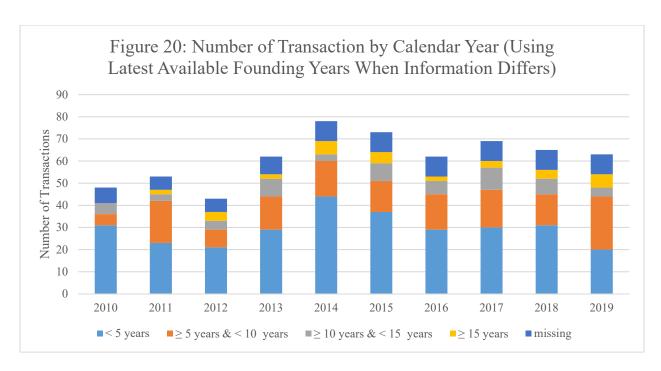
Figure 18: Transactions by Target Age Group (Using <u>Latest</u> Available Founding Year When Information Differs)

Target Age Range	Total	% of Total	Average # Per	Standard
(Using <u>Latest</u>			Respondent	Deviation
Available)				
< 5 years old	295	47.9%	59	23.9
\geq 5 years old & < 10	148	24.0%	29.6	14.4
years old				
\geq 10 years old & < 15	58	9.4%	11.6	8.3
years old				
≥ 15 years old	34	5.5%	6.8	3.0
Target Founded Date	81	13.1%	16.2	7.8
Missing				
Total # of Transactions	616			

As indicated above, when the founding year differed across the three databases, we used two different approaches to analyze the number of acquisitions per calendar year in each age group. This first approach above takes the latest available founding year (and hence the lowest age) for these firms in cases of differing information.



Under this first approach, the number of acquisitions in the youngest (< 5 years old) age group exceeds the number of acquisitions in each of the other age groups.

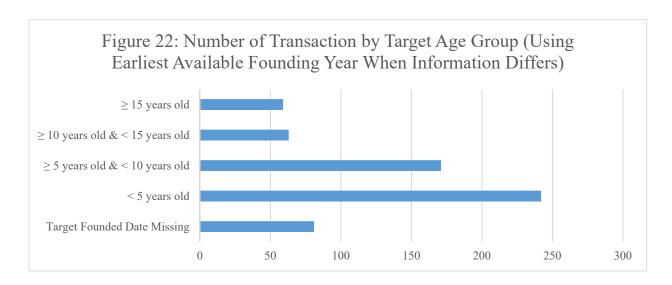


The number of acquisitions in the youngest age group (< 5 years old) fluctuated over time, peaking in 2014. The number of acquisitions in other age groups tended to be higher in the later years than in the earlier years.

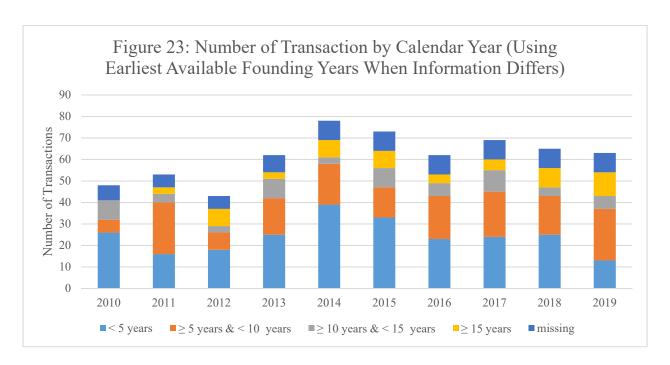
The second approach uses the earliest available founding year (and hence the highest age when information in the three databases differed) and results in some of the acquisitions shifting from younger to older age groups. Under this second approach, the number of acquisitions in the youngest (< 5 years old) age group also exceeds the number of acquisitions in each of the other age groups. However, this approach results in a smaller number of acquisitions in the youngest (< 5 years old) age group and larger numbers of acquisitions in all three other age groups.

Figure 21: Transactions by Target Age Group (Using Earliest Available Founding Year When Information Differs)

Target Age Range	Total	% of Total	Average # Per	Standard
(Using <u>Earliest</u>			Respondent	Deviation
Available)				
< 5 years old	242	39.3%	48.4	19.0
\geq 5 years old & < 10	171	27.8%	34.2	18.8
years old				
\geq 10 years old & < 15	63	10.2%	12.6	7.6
years old				
≥ 15 years old	59	9.6%	11.8	4.8
Target Founded Date	81	13.1%	16.2	7.8
Missing				
Total # of Transactions	616			



In summary, depending on the approach used, between 39.3% to 47.9% of transactions were for target entities that were less than five years old at the time of their acquisition. This percentage range could also be different (i.e., fall outside of this range), as the target entities in 13.4% of the transactions did not have founding dates located in any of the three databases.



Under the second approach, the number of acquisitions in the youngest age group (< 5 years old) also peaked in 2014, and the number of acquisitions in the other age groups again tended to be higher in the later years than in the earlier years.

k. Transactions by Sector

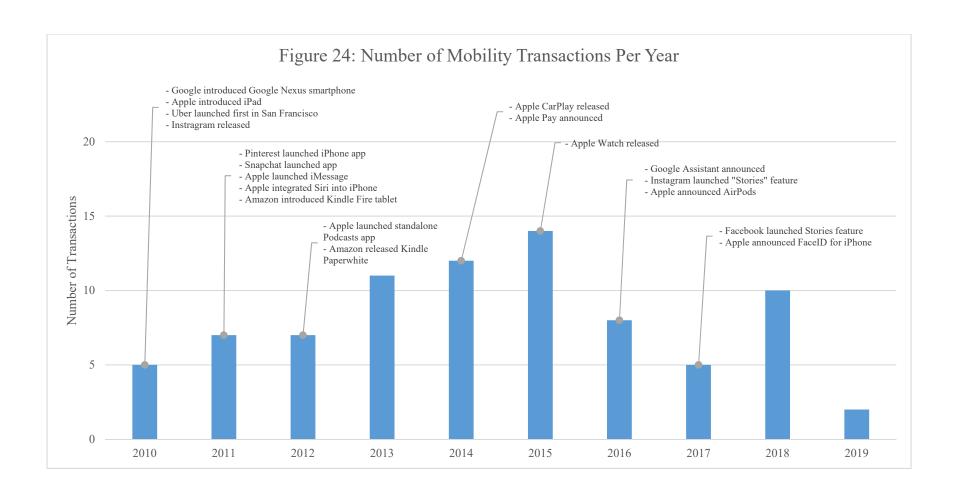
Using information from the S&P 451 Research database, we assigned Primary Sector categories (Level 1 in the S&P taxonomy, which is the broadest of four levels) to target entities in all categorized transactions (excluding Hiring Events and Patent Acquisitions) where this information was available (it was not available for approximately 270 transactions). The eight categories with the highest number of acquisitions, in descending order, were:

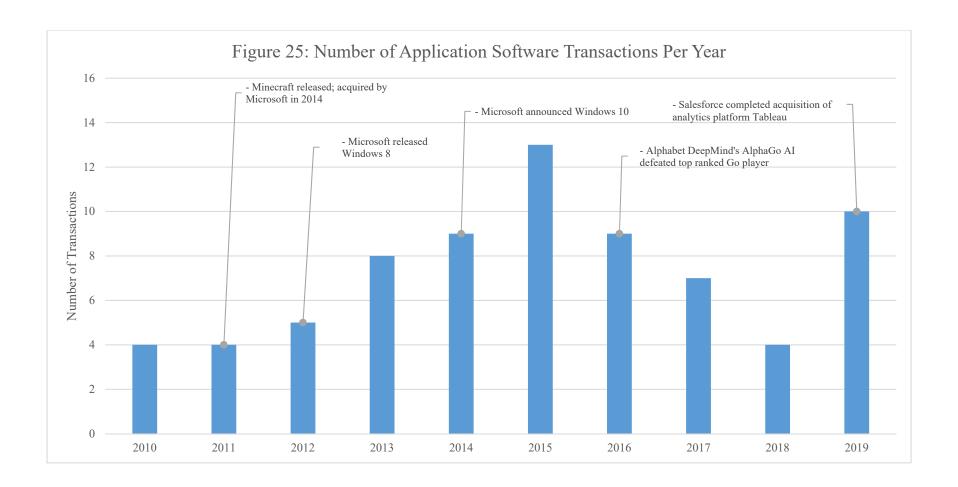
- 1. Mobility (mobile devices and device-based software and content);
- 2. Application Software (front-end applications such as CRM, ERP, SCM, BI, commerce and vertical business software);
- 3. Internet Content & Commerce (internet destination and internet-enabled services);
- 4. Infrastructure Management (software to control and manage IT infrastructure including software development, BPM, virtualization and application performance and cloud management);
- 5. Information Management (software to control information flows including collaboration, email and data management and retrieval);
- 6. Systems (computers, peripherals and control systems);
- 7. Security (IT security software and systems including physical security and surveillance); and
- 8. Media Technologies (systems to control VOD, broadcasting and streaming media, including set top boxes, video encoding and production systems).

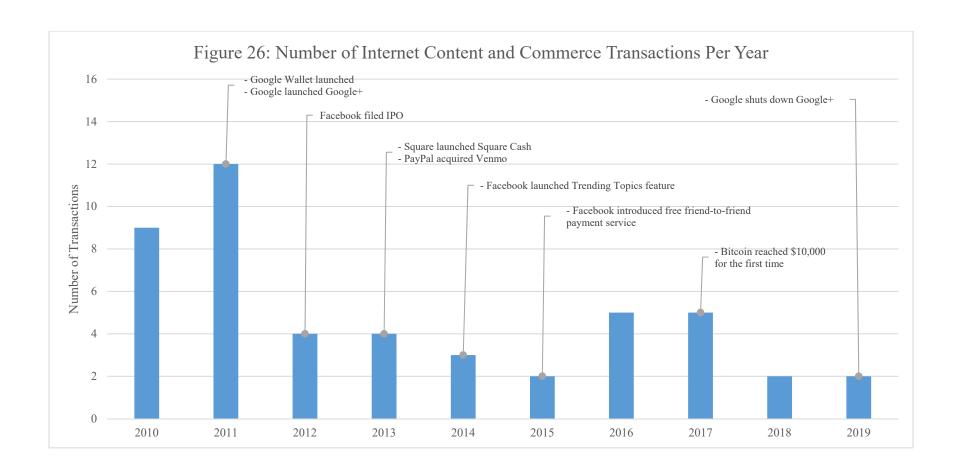
Figures 24-31 depict the total number of acquisitions per calendar year in each of these categories, along with some notable technological events that pertain more specifically to each category.⁵¹

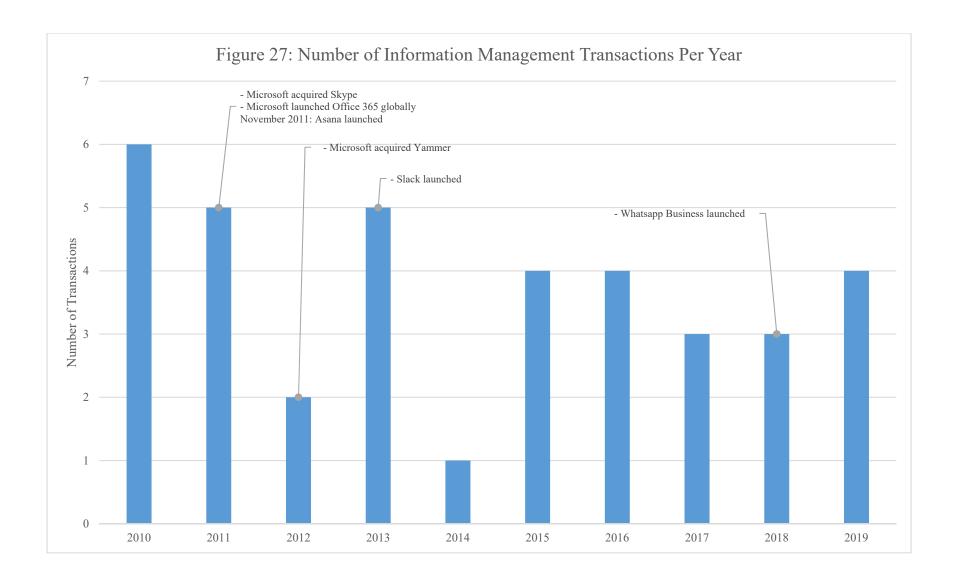
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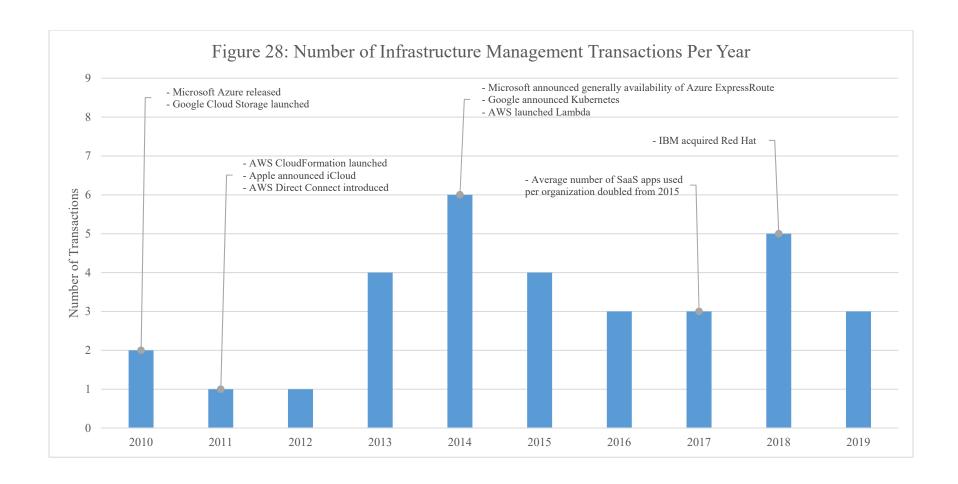
⁵¹ Events listed are based solely on public information and are included in order to provide context to Figures 24-31.

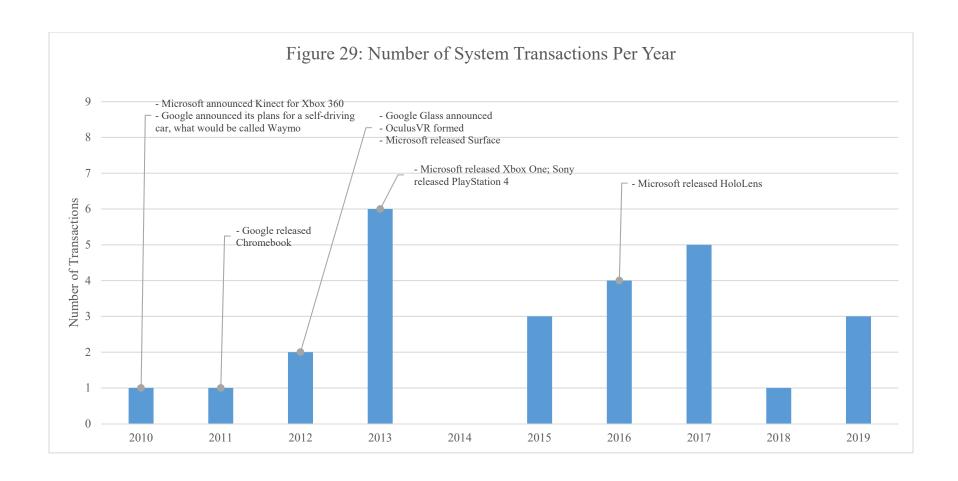


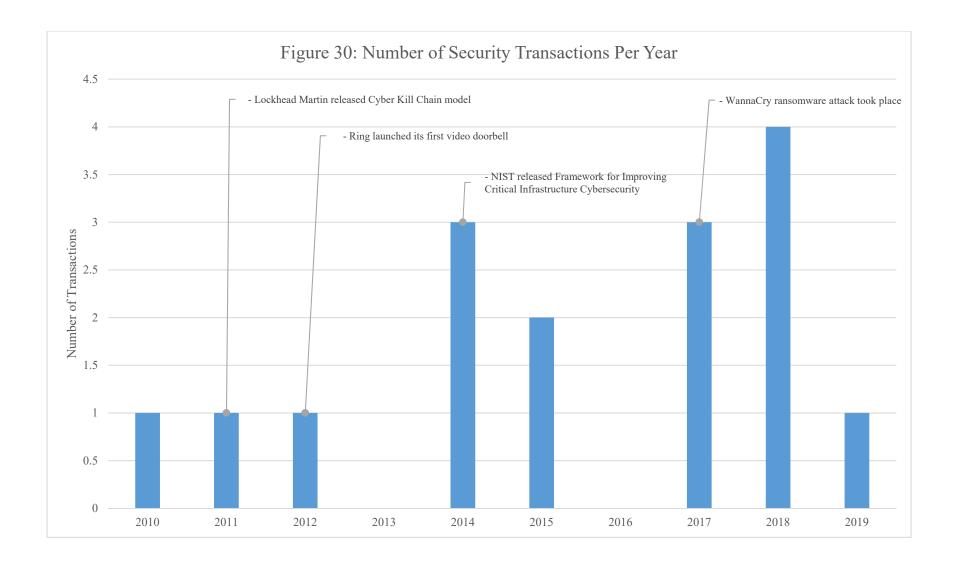


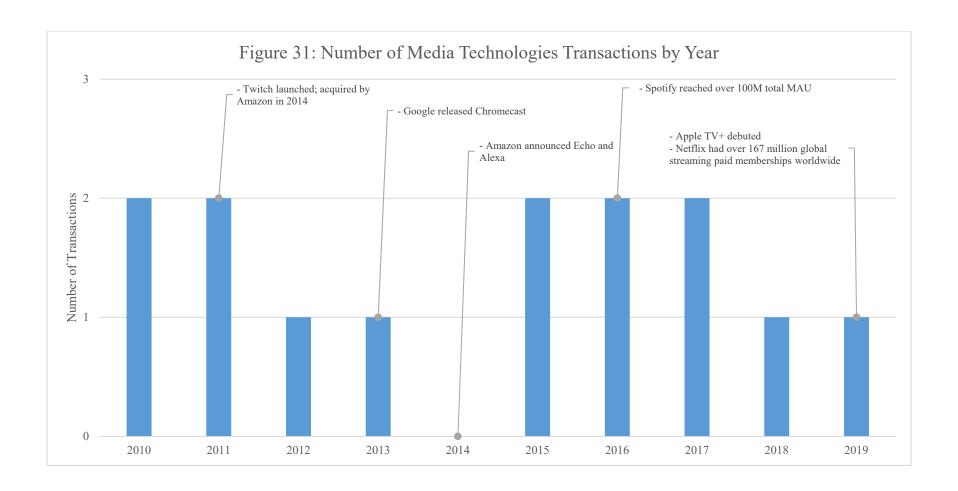












4. Summary

The five technology platform 6(b) respondents identified 616 non-HSR reportable transactions above \$1 million, in addition to 101 Hiring Events and 91 Patent Acquisitions. The respondents reported an additional approximate 60 transactions below \$1 million and 160 financial investments. Voting Security (Control) and Asset acquisitions comprise 65% of all of the above transactions. When excluding Hiring Events, Patent Acquisitions, and transactions below \$1 million, Voting Security (Control) and Asset acquisitions comprise 85% of the transactions.

Focusing on the 616 transactions at or above \$1 million (that exclude Hiring Events and Patent Acquisitions), the study led to a number of observations:

- The total number of such transactions per calendar year across the five respondents ranged from 43 at its lowest per calendar year (in 2012) to 79 at its highest (in 2014), and remained relatively higher in 2015-2019 (ranging from 63 to 74 transactions) than in 2010-2013 (ranging from 43 to 63 transactions).
- The number of such transactions in each transaction size range fluctuated but generally trended up over the 2010-2019 time period (ranges were between \$1 Million and \$5 Million, with 23.54% of the transactions; between \$5 Million and \$10 Million, with 15.10% of the transactions; between \$10 Million and \$25 Million, with 26.30% of the transactions; between \$25 Million and \$50 Million, with 13.64% of the transactions; between \$50 Million and \$10 Million, with 13.64% of the transactions; and greater than the HSR Size of Transaction Threshold, with 6.17% of the transactions).
- Of these transactions, 65% were between \$1 million and \$25 million.
- Asset and Control transactions (including Voting Security Control and Non-Corporate Interest Control transactions) were the most common in each transaction range. For transactions exceeding \$5 million, the majority were Control transactions. Moreover, higher-value transactions were more likely to be Control acquisitions.
- The majority of transactions in each transaction range were for domestic firms, with roughly two thirds of the entities acquired in each transaction range being domestic.
- In 36% of the transactions, the acquirer assumed some amount of debt or liabilities. Such debts and liabilities, when added to the purchase price of the target, would have tipped the purchase amount of three transactions above the HSR Size of Transaction threshold. That is, three more transactions would have been added to the 94 transactions already above the HSR Size of Transaction threshold.
- More than 79% of transactions also used deferred or contingent compensation to founders and key employees, with relatively small variation across the five respondents. Higher value transactions were more likely to use deferred or contingent compensation. Of the

transactions reported, nine additional transactions would have exceeded the HSR Size of Transaction threshold (i.e., in addition to the 94 transactions already above the HSR Size of Transaction threshold) at the time of their consummation when adding the deferred or contingent compensation to their purchase price.

- More than 75% of transactions included non-compete clauses for founders and key employees of the acquired entities, with relatively small variation in the percentage of transactions that had non-compete clauses across the five respondents. Higher value transactions were more likely to use non-compete clauses.
- In more than 50% of the transactions for which the number of the target entity's full-time non-sales employees that were hired by the acquirer was reported by respondents (68% of the transactions), the number of employees was between 1 and 10. In addition, the employee counts are positively correlated with the size of the transaction.
- At least 39.3% of the transactions where the target's age was available (86.9% of the transactions) were for firms that, as of the time of the consummation of the transaction, were less than five years old. The distribution of the acquired firms' ages in each calendar year appeared to marginally, though not considerably, change over 2010-2019. The largest such variation was for the number of acquisitions of firms that were less than five years old, which mostly decreased after 2014.
- Most of the transactions that were classified into technology categories were concentrated in the categories of Mobility (mobile devices and device-based software and content, which comprised more than 10% of the acquired firms), Application Software (front-end applications such as CRM, ERP, SCM, BI, commerce and vertical business software, which comprised more than 9% of the acquired firms), and Internet Content & Commerce (internet destination and internet-enabled services, which comprised more than 6% of the acquired firms). In the Mobility and Application Software categories, the number of transactions peaked in 2015; in the Internet Content & Commerce category, the number of transactions peaked in 2011.

This report analyzed certain aspects of the set of non-HSR reportable transactions by five of the largest technology firms during the period of 2010-2019. Notably, the report adds to the existing body of empirical literature on the subject by analyzing a number of trends and patterns identified in the data. The information intends to inform ongoing discussions among policymakers, academics, and other stakeholders.

