Figure 108. Annual publisher ad-server impression shares with additional parties, global and US

Publisher geography	Publisher ad-server	2018	2019	2020	2021	2022
Worldwide	Google	91.7%	91.1%	93.5%	93.4%	91.0%
	Firm M	4.6%	4.5%	4.3%	3.9%	5.8%
	Firm N	0.0%	0.1%	0.1%	0.2%	0.3%
	Firm P		0.9%	0.3%	0.1%	0.0%
	Firm O	0.8%	1.6%	0.9%	0.7%	0.9%
	Firm R	0.9%	0.7%	0.4%	0.4%	0.3%
	Firm Q	2.0%	1.1%	0.5%	1.3%	1.7%
US	Google	89.0%	86.7%	92.3%	90.7%	86.5%
	Firm M	0.5%	0.8%	1.1%	1.1%	4.3%
	Firm N	0.0%	0.0%	0.1%	0.1%	0.2%
	Firm P		2.4%	1.1%	0.4%	0.1%
	Firm O	2.4%	4.7%	2.8%	2.4%	2.8%
	Firm R	2.5%	2.2%	1.2%	1.3%	0.8%
	Firm Q	5.7%	3.1%	1.5%	4.1%	5.3%

Source: Publisher ad server panel (see Appendix H).
Notes: 1. Limited to open-web display impressions on mobile and desktop devices (includes house ads). US geography is based on publisher location. 2. The ▮▮▮ and ▮▮ data do not contain information on device type, transaction type, ad type, instream/outstream or mobile channel. Since the data do not allow me to identify ▮▮▮ and ▮▮▮ open-web display impressions, I conservatively include all ▮▮▮ and ▮▮ impressions. 3. Similarly, the ▮▮ data does not distinguish between ad types. Therefore, I conservatively include all ▮▮ ad types. 4. ▮▮▮▮▮▮ data and the ▮▮▮▮ data do not distinguish between instream and outstream video ads, so I conservatively include all video impressions on in-market devices. 5. The ▮▮▮ and ▮▮▮ data do not distinguish between US and ROW publishers, so I conservatively include all ▮▮ and ▮▮▮ publishers. Geography information is unavailable for many of ▮▮▮▮▮▮▮ impressions, so I conservatively include all of these impressions in the US share calculations. The ▮▮▮ data groups US and Canadian publishers, so both countries are included in this figure. Geography information is unavailable for some publishers in the Google data. To be conservative, I consider all of these publishers to be non-US publishers. 6. Due to reported data issues, ▮▮▮▮ data is missing in July 2022. ▮▮▮▮ data is missing in May, July and November of 2018. ▮▮▮▮▮▮▮ data is unavailable prior to May 2019. ▮▮▮▮ data is unavailable prior to April 2018. ▮▮▮ data is missing in October 2018 and April 2022. In these instances, I annualize the third party data to represent full years (except for ▮▮▮▮▮ in 2018, where no months of the data are available).