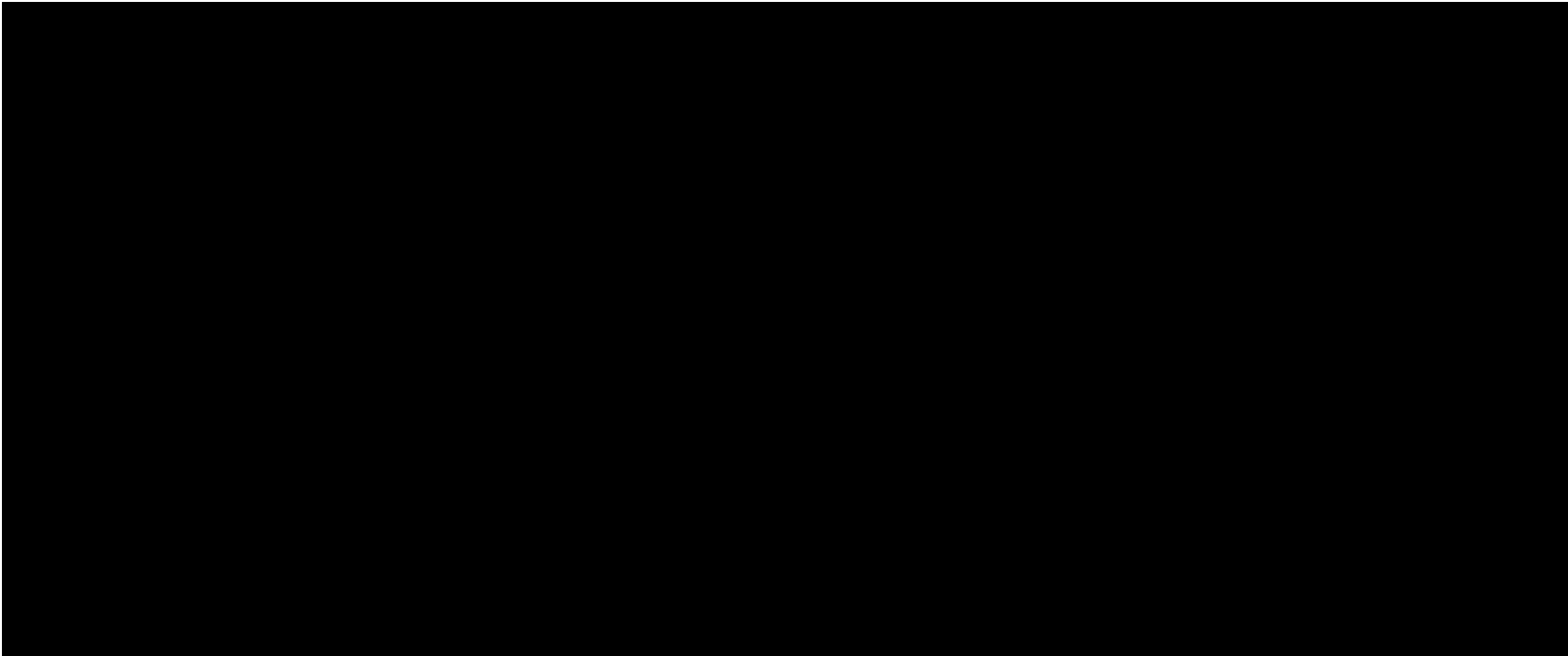


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Calculations, Ph.D.

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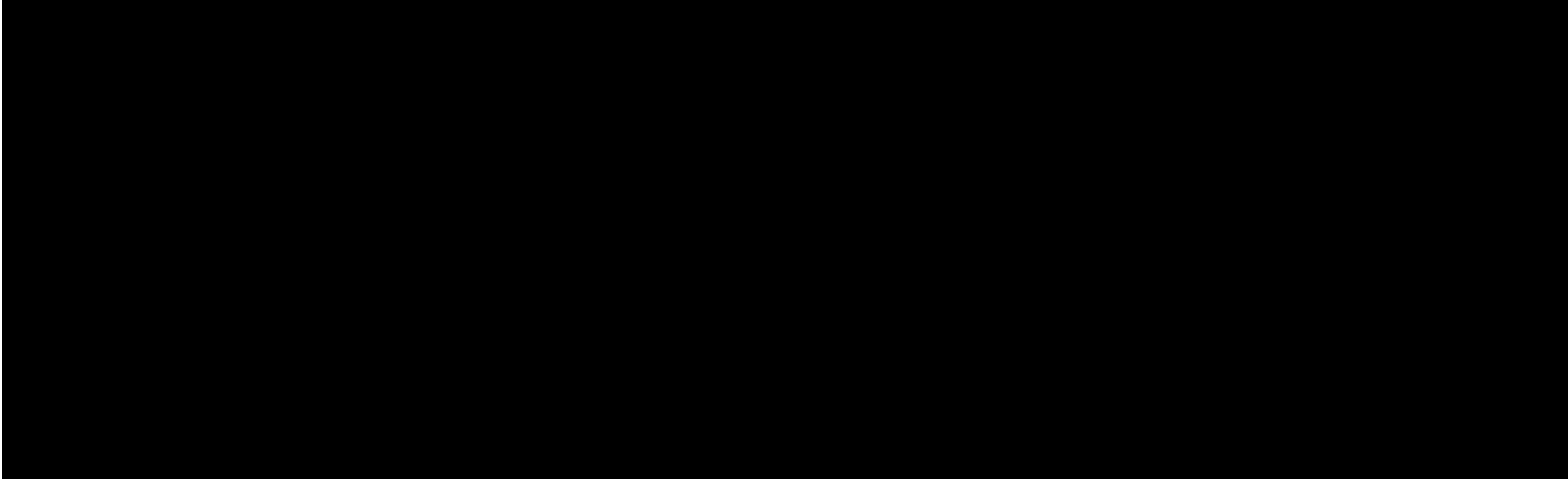
Notes and Sources:

- [A] Year calculations performed.
- [B] Column [D] of Table 7.8
- [C] Column [D] of Table 7.9
- [D] Column [B] of Table 7.10
- [E] Column [D] of Table 7.11



Notes and Sources:

- [A] Year calculations performed.
- [B] Column [C] of Table 7.4
- [C] Column [D] of Table 7.4
- [D] Column [C] of Table 7.5
- [E] Column [D] of Table 7.5



Notes and Sources:

[A] Year calculations performed.

[B] US Android Accounts: Question 21 of  
2022-03-28 [AEO] Google's Supplemental 30(b)(6) Written Responses and Additional Information.pdf

[C] Ratio of (US Population x US Broadband Penetration) / (AZ Population x AZ Broadband Penetration)

[D] Calculation = [B] / [C].

[E] Ratio of US accounts in Arizona that had WAA on but LH off to total accounts.  
Question 19 and 23 of "2021-07-12 Google\_s Responses to 30(b)(6) Questions.pdf"

[F] Calculation = [D] x [E].



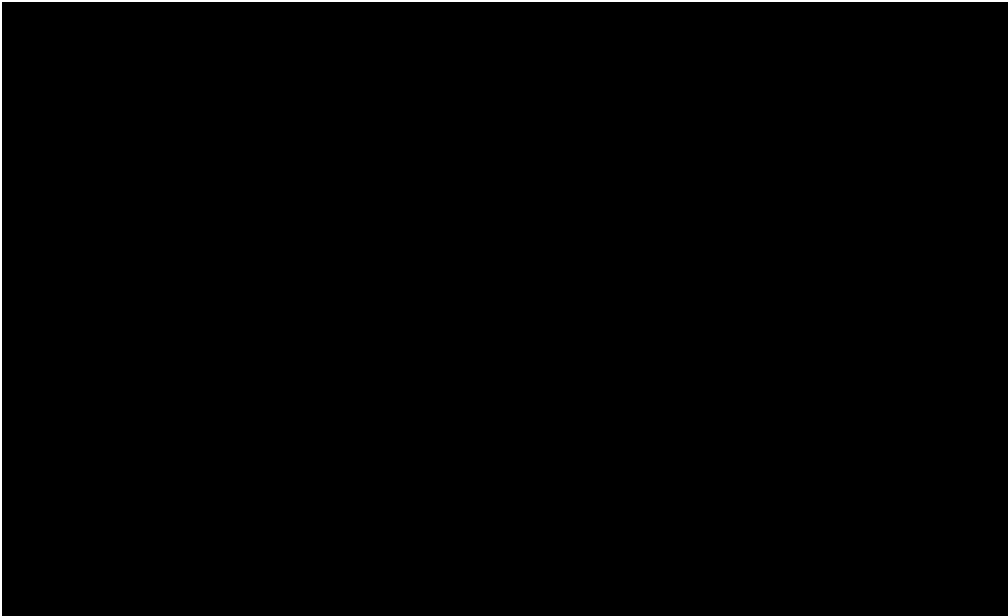
Notes and Sources:

[A] Year calculations performed.

[B] Average US Monthly Number of Active Google Accounts (Google Accounts, Google-Authored Apps, Google Searches)  
Question 23 of "2021-07-12 Google\_s Responses to 30(b)(6) Questions.pdf"

[C] Ratio of (US Population x US Broadband Penetration) / (AZ Population x AZ Broadband Penetration)

[D] Calculation = [B] / [C].

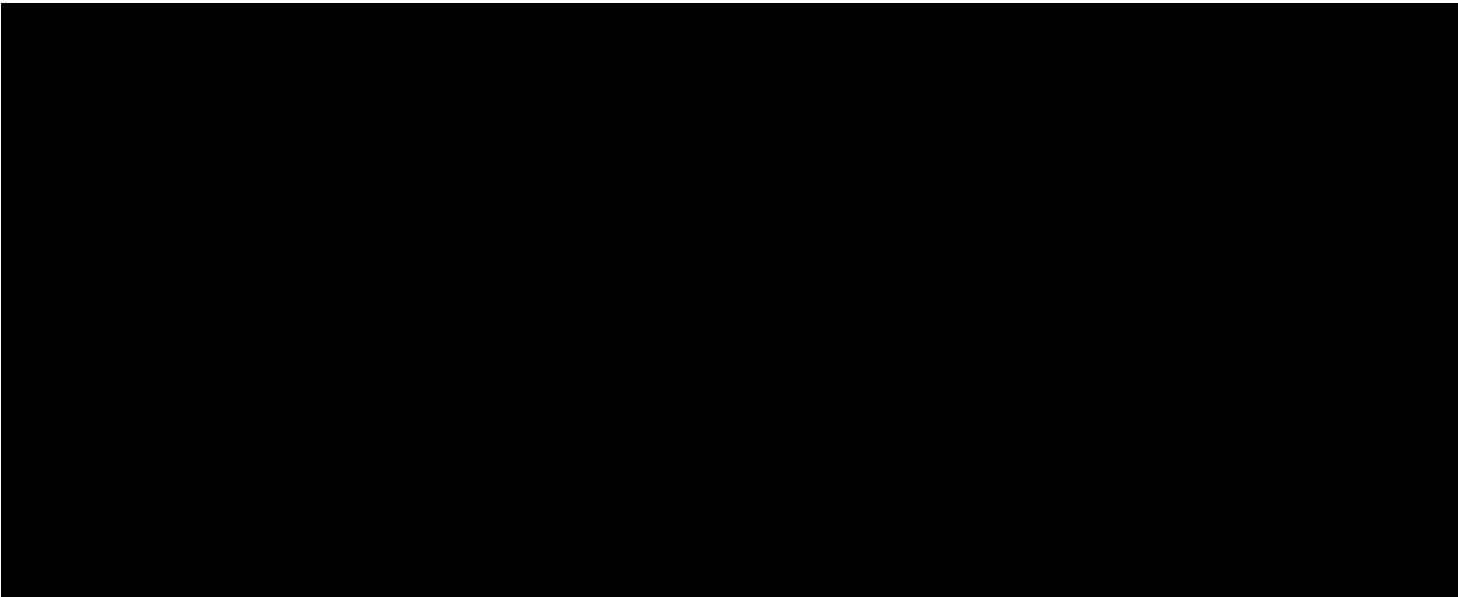


Notes and Sources:

[A] Year calculations performed.

[B] Annual impressions for largest Location\_Type.

"2022-03-28 [AEO] Google's Amended and Supplemental Response to Interrogatory No. 19.pdf"



Notes and Sources:

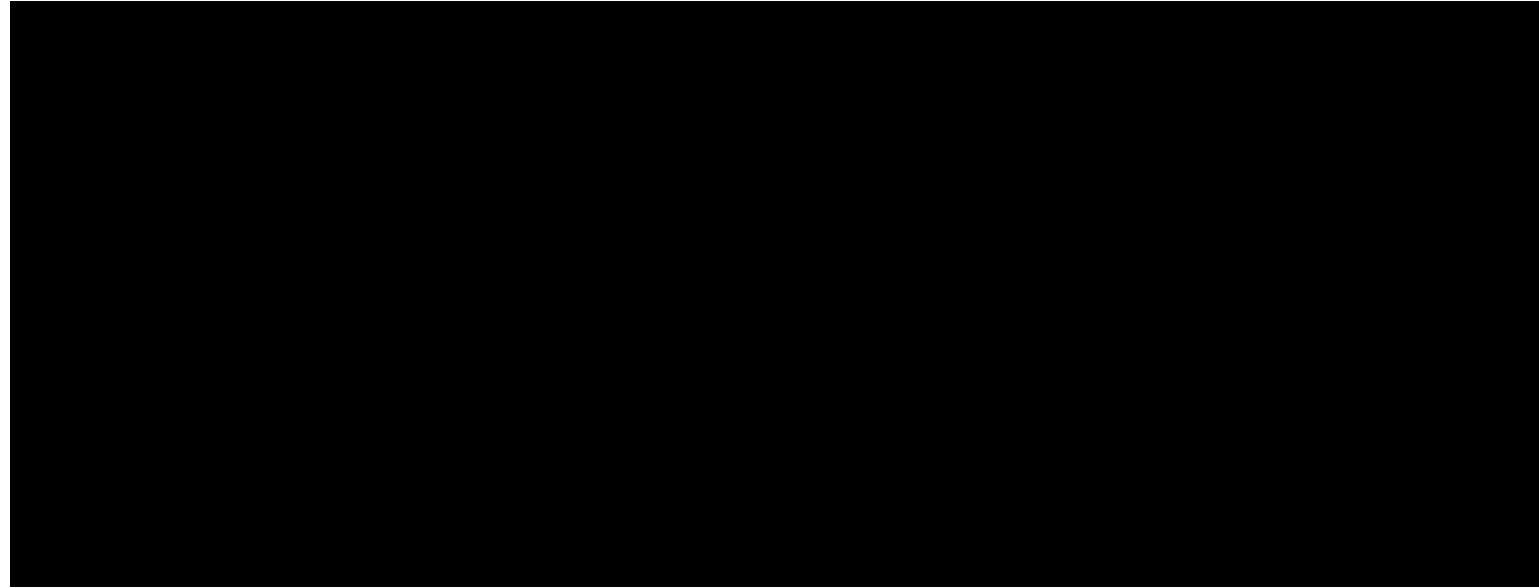
[A] Year calculations performed.

[B] Source 1: "2020-02-21 Responses of Google LLC to CIDs 1-3 (Ex 202).pdf" p.46

[\*] Data for 2019 only for January-July 2019.

[C] Source 2: "2022-03-28 [AEO] Google's Supplemental 30(b)(6) Written Responses and Additional Information.pdf"

[D] Use [B] for 2016-2018 and [C] for 2019-2021. Divided by 1,000,000 to report activations in millions.



Notes and Sources:

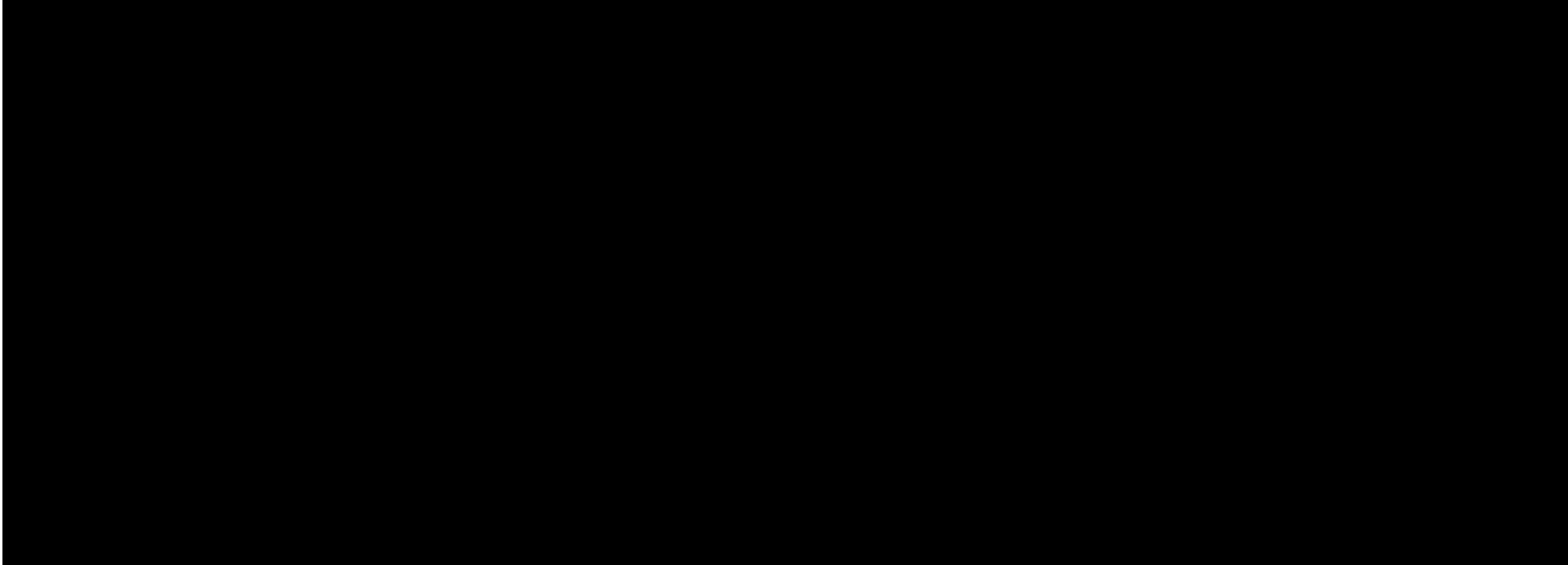
[A] Year calculations performed.

[B] US Android Accounts: Question 21 of  
2022-03-28 [AEO] Google's Supplemental 30(b)(6) Written Responses and Additional Information.pdf

[C] Ratio of (US Population x US Broadband Penetration) / (AZ Population x AZ Broadband Penetration)

[D] Calculation = [B] / [C].





Notes and Sources:

[A] Year calculations performed.

[B] Column [B] of Table 7.6 x 95% / 1,000,000

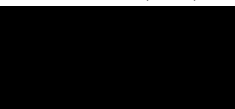
[C] Column [C] of Table 7.6 x 95% / 1,000,000

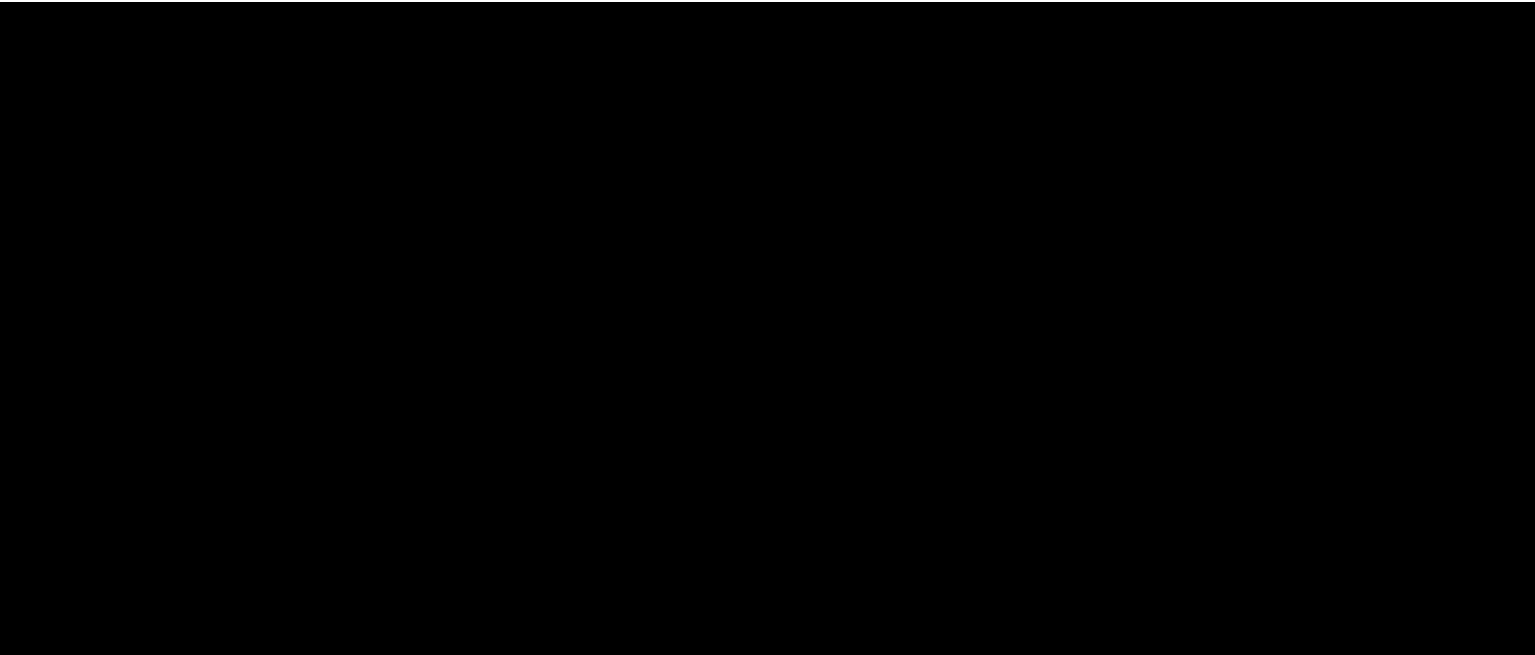
[D] Column [D] of Table 7.6 x 95% / 1,000,000

[E] Column [B] of Table

[F] Column [C] of Table

[G] Column [D] of Table





Notes and Sources:

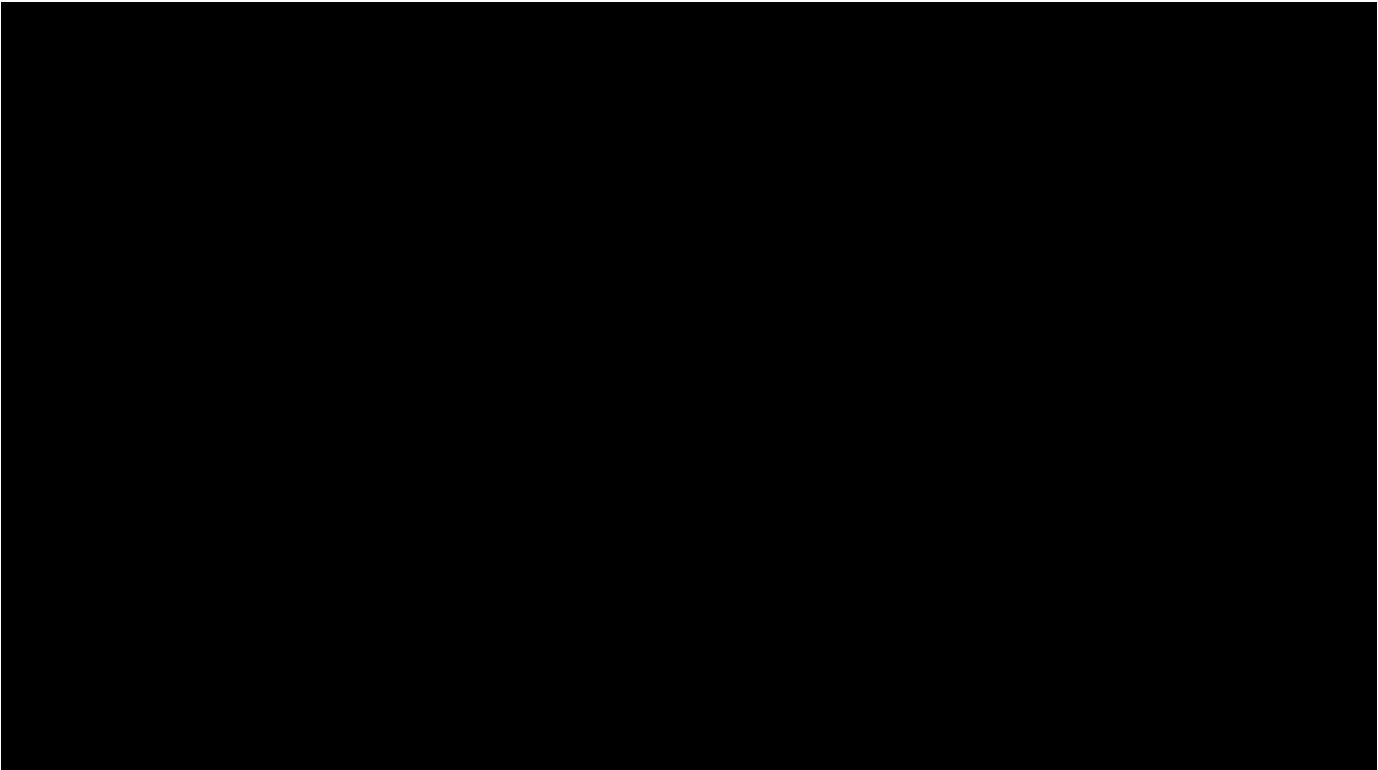
[A] Year calculations performed.

[B] Revenue for Arizona relating to mobile devices using Android OS by using nationwide data for Search Ads  
"2020-02-21 Responses of Google LLC to CIDs 1-3 (Ex 202).pdf" p. 52

[C] Revenue for Arizona relating to mobile devices using iOS by using nationwide data for Search Ads  
"2020-02-21 Responses of Google LLC to CIDs 1-3 (Ex 202).pdf" p. 54

[D] Calculation = [B] + [C]

[\*] Data for 2019 only available for the first half of the year.




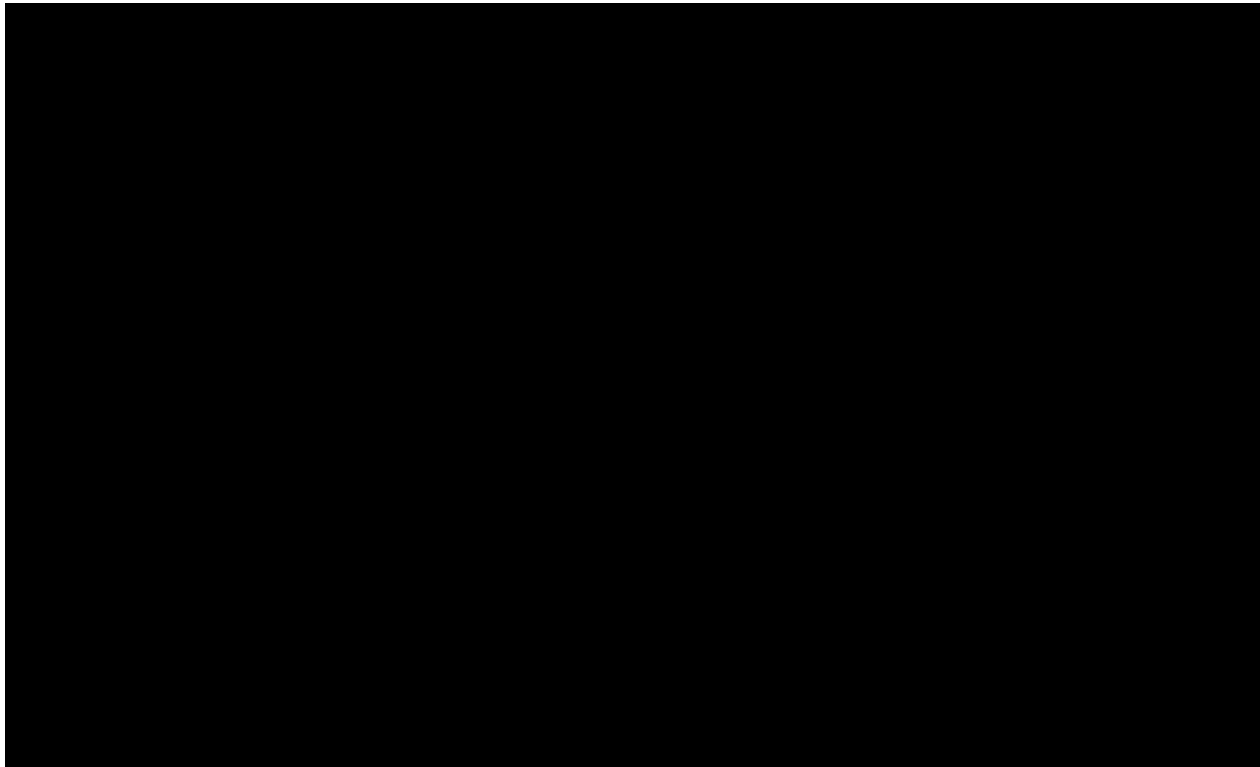
Notes and Sources:

[A] Year calculations performed.

[B] Arizona Ad Operating Income: Google provided for 2018-2021 and calculated 2013-2017.

[C] Calculation = [B] x 95%.

[D] Calculation = [B] x 




Notes and Sources:

[A] Year calculations performed.

[B] Arizona Ad Revenue: Google provided for 2018-2021 and calculated 2013-2017.

[C] Calculation = [B] x 95%.

[D] Calculation = [B] x .

Notes and Sources:

[A] Year calculations performed.

[B] Operating Income from Ads - Global Internal Management View: Question 26 of "2021-07-12 Google\_s Responses to 30(b)(6) Questions.pdf" and for 2021 "2022-03-28 [AEO] Google's Supplemental 30(b)(6) Written Responses and Additional Information.pdf"

[C] US Revenue/Global Revenue, both from Alphabet/Google 10-K Documents

[D] Calculation = [B] x [C].

[E] Ratio of (US Population x US Broadband Penetration) / (AZ Population x AZ Broadband Penetration)

[F] Calculation = [D]/[E]

[G] Annual Arizona Operating Income reported in Question 26 of "2021-07-26 [AEO] Google's Written Responses to 30(b)(6) Topics.pdf" and for 2021 "2022-03-28 [AEO] Google's Supplemental 30(b)(6) Written Responses and Additional Information.pdf"

[H] Calculation = ([F] - [G])/[G]

Notes and Sources:

[A] Year calculations performed.

[B] Global Ad Revenue for Alphabet/Google 10-K.

[C] Revenue from Ads - Global Internal Management View: Question 26 of "2021-07-12 Google\_s Responses to 30(b)(6) Questions.pdf" and "2022-03-28 [AEO] Google's Supplemental 30(b)(6) Written Responses and Additional Information.pdf"

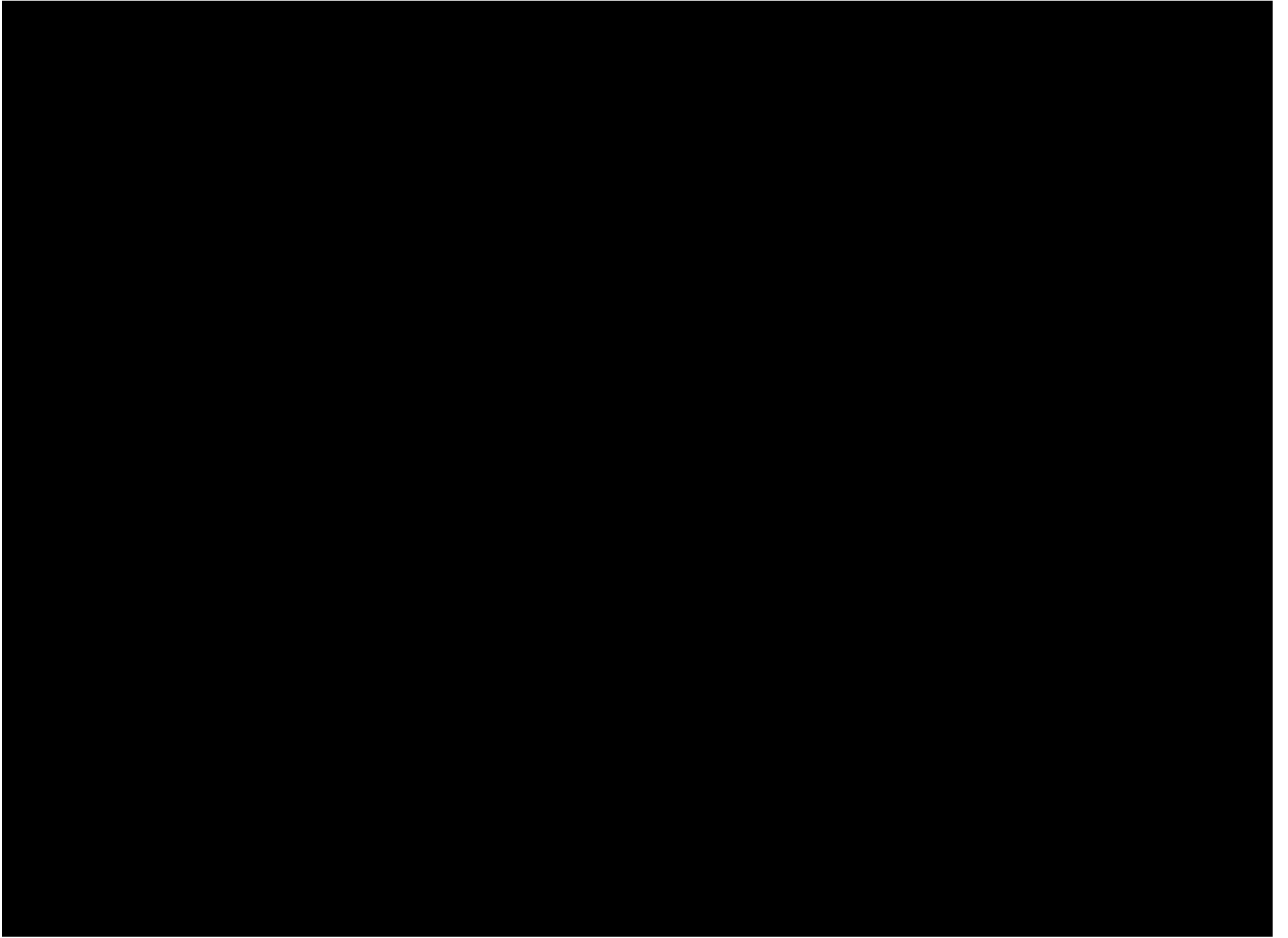
[D] Calculation =  $([C]-[B])/[B]$ .

[E] Revenue from Reported Global Segment Results: Question 26 of "2021-07-12 Google\_s Responses to 30(b)(6) Questions.pdf" and "2022-03-28 [AEO] Google's Supplemental 30(b)(6) Written Responses and Additional Information.pdf"

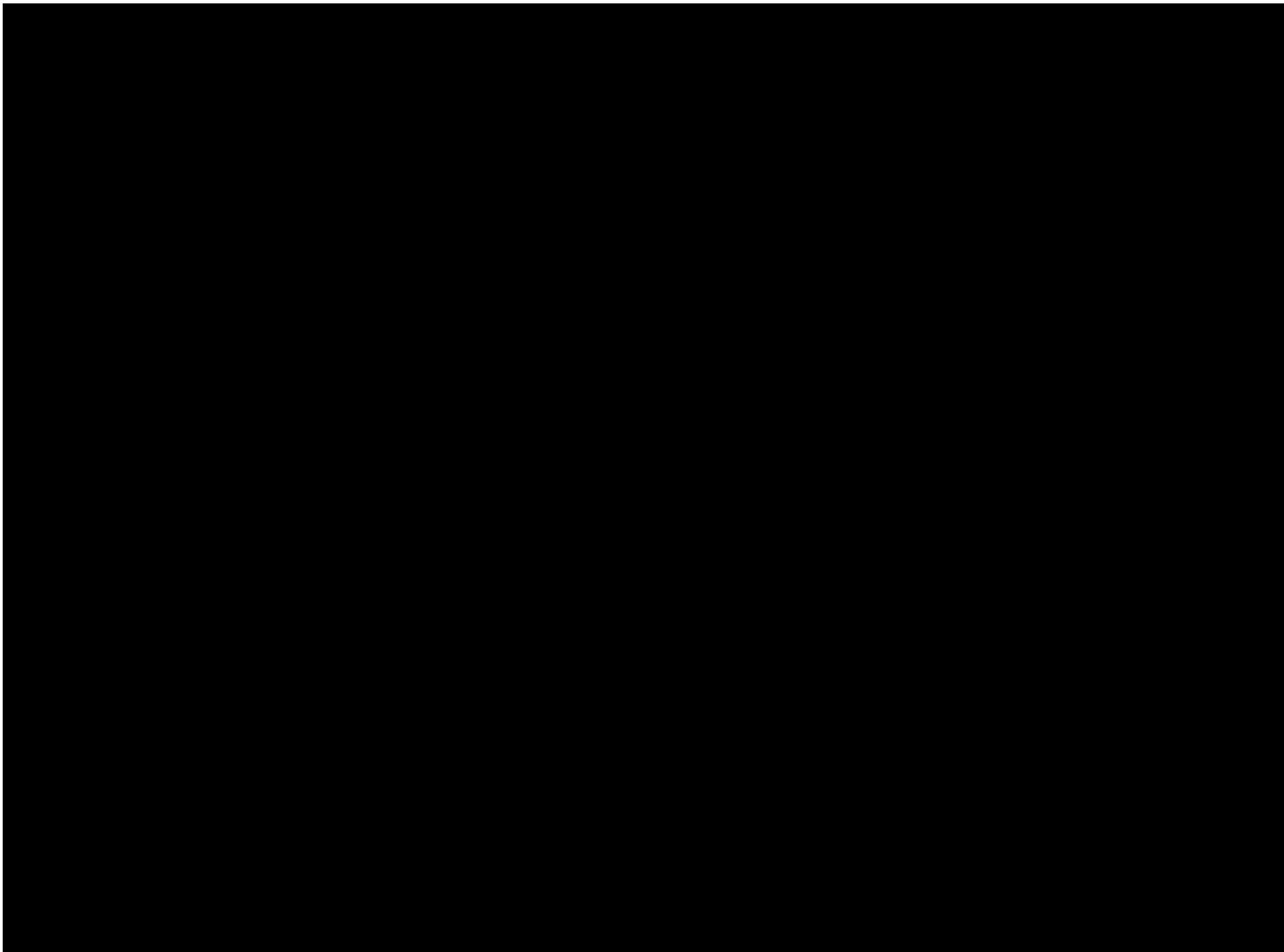
[F] Calculation =  $([E]-[B])/[B]$ .

Notes and Sources:

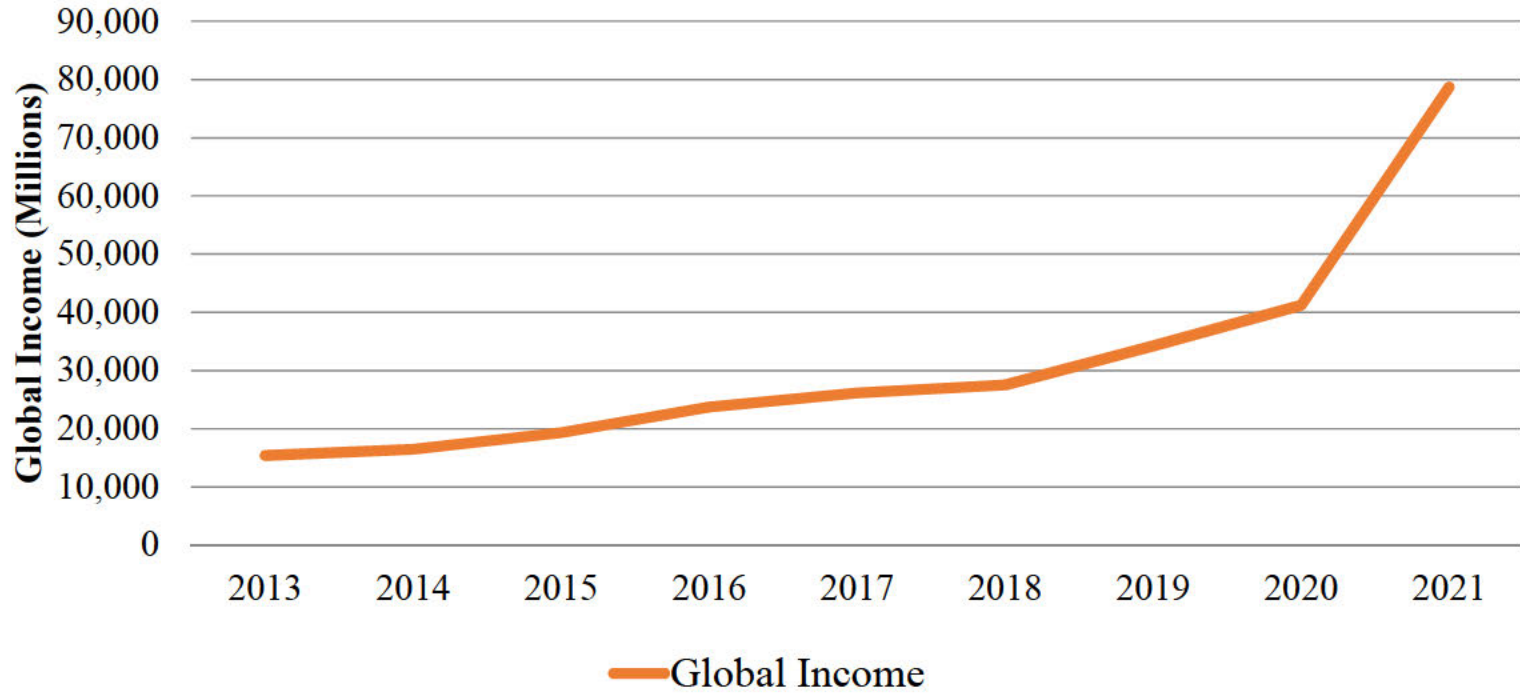
- [A] Year calculations performed.
- [B] Revenue from Ads - Global Internal Management View: Question 26 of "2021-07-12 Google\_s Responses to 30(b)(6) Questions.pdf" and for 2021 "2022-03-28 [AEO] Google's Supplemental 30(b)(6) Written Responses and Additional Information.pdf"
- [C] US Revenue/Global Revenue, both from Alphabet/Google 10-K Documents
- [D] Calculation = [B] x [C]
- [E] Ratio of (US Population x US Broadband Penetration) / (AZ Population x AZ Broadband Penetration)
- [F] Calculation = [D]/[E]
- [G] Annual Arizona Revenue reported in Question 26 of "2021-07-26 [AEO] Google's Written Responses to 30(b)(6) Topics.pdf" "2022-03-28 [AEO] Google's Supplemental 30(b)(6) Written Responses and Additional Information.pdf"
- [H] Calculation = ([F] - [G])/[G]





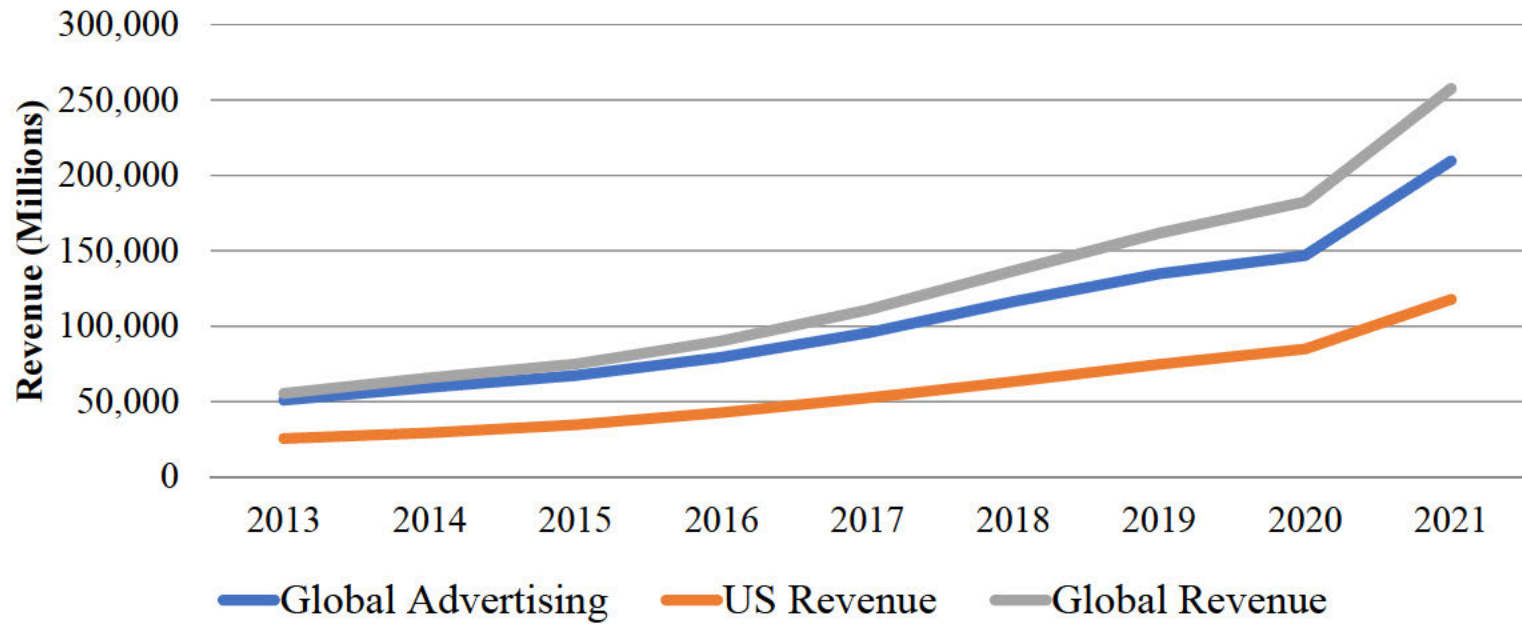


### Global Income from Google/Alphabet 10-Q



Google/Alphabet 10-K. The exact sources are listed in Appendix 3.

## Global Revenue, Global Ad Revenue, and US Revenue from Google/Alphabet 10-K



Google/Alphabet 10-K. The exact sources are listed in Appendix 3.

Year	Region	Segment	Revenue
2013	World	Global Advertising	51072
2014	World	Global Advertising	59624
2015	World	Global Advertising	67390
2016	World	Global Advertising	79383
2017	World	Global Advertising	95577
2018	World	Global Advertising	116461
2019	World	Global Advertising	134811
2020	World	Global Advertising	146924
2021	World	Global Advertising	209497
2013	US	US Revenue	25587
2014	US	US Revenue	29482
2015	US	US Revenue	34810
2016	US	US Revenue	42781
2017	US	US Revenue	52449
2018	US	US Revenue	63269
2019	US	US Revenue	74843
2020	US	US Revenue	85014
2021	US	US Revenue	117854
2013	World	Global Revenue	55519
2014	World	Global Revenue	66001
2015	World	Global Revenue	74989
2016	World	Global Revenue	90272
2017	World	Global Revenue	110855
2018	World	Global Revenue	136819
2019	World	Global Revenue	161857
2020	World	Global Revenue	182527
2021	World	Global Revenue	257637

Year	Quarter	lobal_Income
2013	1	3748
2013	2	3465
2013	3	3761
2013	4	4429
2014	1	4115
2014	2	4258
2014	3	3724
2014	4	4399
2015	1	4447
2015	2	4825
2015	3	4708
2015	4	5380
2016	1	5342
2016	2	5968
2016	3	5767
2016	4	6639
2017	1	6568
2017	2	4132
2017	3	7782
2017	4	7664
2018	1	7633
2018	2	3045
2018	3	8625
2018	4	8221
2019	1	6608
2019	2	9180
2019	3	9177
2019	4	9266
2020	1	7977
2020	2	6383
2020	3	11213
2020	4	15651
2021	1	16437
2021	2	19361
2021	3	21031
2021	4	21885

Year	Global Income
2013	15403
2014	16496
2015	19360
2016	23716
2017	26146
2018	27524
2019	34231
2020	41224
2021	78714
	282814

AZ Broadband	2015	78.1
AZ Broadband	2016	83.1
AZ Broadband	2017	85.7
AZ Broadband	2018	86.2
AZ Broadband	2019	87.2
US Broadband	2015	76.7
US Broadband	2016	81.4
US Broadband	2017	83.5
US Broadband	2018	85.1
US Broadband	2019	86.4

AZ Population

2012	6556.344	5,120,504.66
2013	6634.690	5,181,692.89
2014	6732.873	5,258,373.81
2015	6832.810	5,336,424.61
2016	6944.767	5,771,101.38
2017	7048.088	6,040,211.42
2018	7164.228	6,175,564.54
2019	7291.843	6,358,487.10
2020	7177.986	6,259,203.79
2021	7276.316	6,344,947.55

US Population

2012	314120.641	240,930,531.97
2013	316266.088	242,576,089.24
2014	318534.859	244,316,236.60
2015	320822.902	246,071,165.45
2016	323095.500	262,999,737.27
2017	325142.676	271,494,134.81
2018	326882.088	278,176,657.24
2019	328460.928	283,790,241.36
2020	331236.261	286,188,129.58
2021	332182.892	287,006,018.33

Population Broadband Ratio

2012	47.052
2013	46.814
2014	46.462
2015	46.112
2016	45.572
2017	44.948
2018	45.045
2019	44.632
2020	45.723
2021	45.234

