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Note: Tables and figures are converted to images for demonstration purposes.

## Revenues by Geography

The following table presents revenues by geography as a percentage of revenues, determined based on the addresses of our customers:

	Year Ended December 31,	
	2020	2021
United States	47 %	46 %
EMEA	30 %	31 %
APAC	18 %	18 %
Other Americas	5 %	5 %

The following table presents the foreign exchange effect on international revenues and total revenues (in millions, except percentages):

	Year Ended December 31,		% Change from Prior Year
	2020	2021	
EMEA revenues	\$ 55,370	\$ 79,107	43 %
EMEA constant currency revenues		76,321	38 %
APAC revenues	32,550	46,123	42 %
APAC constant currency revenues		45,666	40 %
Other Americas revenues	9,417	14,404	53 %
Other Americas constant currency revenues		14,317	52 %
United States revenues	85,014	117,854	39 %
Hedging gains (losses)	176	149	
Total revenues	\$ 182,527	\$ 257,637	41 %
Revenues, excluding hedging effect	\$ 182,351	\$ 257,488	
Exchange rate effect		(3,330)	
Total constant currency revenues		\$ 254,158	39 %

EMEA revenue growth from 2020 to 2021 was favorably affected by foreign currency exchange rates, primarily due to the U.S. dollar weakening relative to the Euro and British pound.

APAC revenue growth from 2020 to 2021 was favorably affected by foreign currency exchange rates, primarily due to the U.S. dollar weakening relative to the Australian dollar, partially offset by the U.S. dollar strengthening relative to the Japanese yen.

Other Americas growth change from 2020 to 2021 was favorably affected by changes in foreign currency exchange rates, primarily due to the U.S. dollar weakening relative to the Canadian dollar, partially offset by the U.S. dollar strengthening relative to the Argentine peso and the Brazilian real.

## Costs and Expenses

### Cost of Revenues

The following tables present cost of revenues, including TAC (in millions, except percentages):

	Year Ended December 31,	
	2020	2021
TAC	\$ 32,778	\$ 45,566
Other cost of revenues	51,954	65,373
Total cost of revenues	\$ 84,732	\$ 110,939
Total cost of revenues as a percentage of revenues	46.4 %	43.1 %

Cost of revenues increased \$26.2 billion from 2020 to 2021. The increase was due to an increase in other cost of revenues and TAC of \$13.4 billion and \$12.8 billion, respectively.

The increase in TAC from 2020 to 2021 was due to an increase in TAC paid to distribution partners and to Google Network partners, primarily driven by growth in revenues subject to TAC. The TAC rate decreased from 22.3% to 21.8% from 2020 to 2021 primarily due to a revenue mix shift from Google Network properties to Google Search & other properties.

The TAC rate on Google Search & other properties revenues and the TAC rate on Google Network revenues were both substantially consistent from 2020 to 2021. The increase in other cost of revenues from 2020 to 2021 was driven by

increases in content acquisition costs primarily for YouTube, data center and other operations costs, and hardware costs. The increase in data center and Table of Contents Alphabet Inc. 36 other operations costs was partially offset by a reduction in depreciation expense due to the change in the estimated useful life of our servers and certain network equipment beginning in the first quarter of 2021.

## **Net Income Per Share**

We compute net income per share of Class A, Class B, and Class C stock using the two-class method. Basic net income per share is computed using the weighted-average number of shares outstanding during the period. Diluted net income per share is computed using the weighted-average number of shares and the effect of potentially dilutive securities outstanding during the period. Potentially dilutive securities consist of restricted stock units and other contingently issuable shares. The dilutive effect of outstanding restricted stock units and other contingently issuable shares is reflected in diluted earnings per share by application of the treasury stock method. The computation of the diluted net income per share of Class A stock assumes the conversion of Class B stock, while the diluted net income per share of Class B stock does not assume the conversion of those shares.

The rights, including the liquidation and dividend rights, of the holders of our Class A, Class B, and Class C stock are identical, except with respect to voting. Furthermore, there are a number of safeguards built into our certificate of incorporation, as well as Delaware law, which preclude our Board of Directors from declaring or paying unequal per share dividends on our Class A, Class B, and Class C stock. Specifically, Delaware law provides that amendments to our certificate of incorporation which would have the effect of adversely altering the rights, powers, or preferences of a given class of stock must be approved by the class of stock adversely affected by the proposed amendment. In addition, our certificate of incorporation provides that before any such amendment may be put to a stockholder vote, it must be approved by the unanimous consent of our Board of Directors. As a result, the undistributed earnings for each year are allocated based on the contractual participation rights of the Class A, Class B, and Class C stock as if the earnings for the year had been distributed. As the

liquidation and dividend rights are identical, the undistributed earnings are allocated on a proportionate basis.

In the years ended December 31, 2019, 2020 and 2021, the net income per share amounts are the same for Class A, Class B, and Class C stock because the holders of each class are entitled to equal per share dividends or distributions in liquidation in accordance with the Amended and Restated Certificate of Incorporation of Alphabet Inc.

The following tables set forth the computation of basic and diluted net income per share of Class A, Class B, and Class C stock (in millions, except share amounts which are reflected in thousands and per share amounts):

	Year Ended December 31,		
	2019		
	Class A	Class B	Class C
Basic net income per share:			
Numerator			
Allocation of undistributed earnings	\$ 14,846	\$ 2,307	\$ 17,190
Denominator			
Number of shares used in per share computation	299,402	46,527	346,667
Basic net income per share	\$ 49.59	\$ 49.59	\$ 49.59
Diluted net income per share:			
Numerator			
Allocation of undistributed earnings for basic computation	\$ 14,846	\$ 2,307	\$ 17,190
Reallocation of undistributed earnings as a result of conversion of Class B to Class A shares	2,307	0	0
Reallocation of undistributed earnings	(126)	(20)	126
Allocation of undistributed earnings	\$ 17,027	\$ 2,287	\$ 17,316
Denominator			
Number of shares used in basic computation	299,402	46,527	346,667
Weighted-average effect of dilutive securities			
Add:			
Conversion of Class B to Class A shares outstanding	46,527	0	0
Restricted stock units and other contingently issuable shares	413	0	5,547
Number of shares used in per share computation	346,342	46,527	352,214
Diluted net income per share	\$ 49.16	\$ 49.16	\$ 49.16

	Year Ended December 31,		
	2020		
	Class A	Class B	Class C
Basic net income per share:			
Numerator			
Allocation of undistributed earnings	\$ 17,733	\$ 2,732	\$ 19,804
Denominator			
Number of shares used in per share computation	299,815	46,182	334,819
Basic net income per share	\$ 59.15	\$ 59.15	\$ 59.15
Diluted net income per share:			
Numerator			
Allocation of undistributed earnings for basic computation	\$ 17,733	\$ 2,732	\$ 19,804
Reallocation of undistributed earnings as a result of conversion of Class B to Class A shares	2,732	0	0
Reallocation of undistributed earnings	(180)	(25)	180
Allocation of undistributed earnings	\$ 20,285	\$ 2,707	\$ 19,984
Denominator			
Number of shares used in basic computation	299,815	46,182	334,819
Weighted-average effect of dilutive securities			
Add:			
Conversion of Class B to Class A shares outstanding	46,182	0	0
Restricted stock units and other contingently issuable shares	87	0	6,125
Number of shares used in per share computation	346,084	46,182	340,944
Diluted net income per share	\$ 58.61	\$ 58.61	\$ 58.61

## Stock-Based Award Activities

The following table summarizes the activities for unvested Alphabet RSUs for the year ended December 31, 2021:

	Unvested Restricted Stock Units	
	Number of Shares	Weighted-Average Grant-Date Fair Value
Unvested as of December 31, 2020	19,288,793	\$ 1,262.13
Granted	10,582,700	\$ 1,949.16
Vested	(11,209,486)	\$ 1,345.98
Forfeited/canceled	(1,767,294)	\$ 1,425.48
Unvested as of December 31, 2021	16,894,713	\$ 1,626.13

The weighted-average grant-date fair value of RSUs granted during the years ended December 31, 2019 and 2020 was \$1,092.36 and \$1,407.97, respectively. Total fair value of RSUs, as of their respective vesting dates, during the years ended December 31, 2019, 2020, and 2021 were \$15.2 billion, \$17.8 billion, and \$28.8 billion, respectively. As of December 31, 2021, there was \$25.8 billion of unrecognized compensation cost related to unvested employee RSUs. This amount is expected to be recognized over a weighted-average period of 2.5 years. 401(k) Plans We have two 401(k) Savings Plans that qualify as deferred

salary arrangements under Section 401(k) of the Internal Revenue Code. Under these 401(k) Plans, matching contributions are based upon the amount of the employees' contributions subject to certain limitations. We recognized expense of approximately \$724 million, \$855 million, and \$916 million for the years ended December 31, 2019, 2020, and 2021, respectively. Note 14. Income Taxes

Income from continuing operations before income taxes consisted of the following (in millions):

## Deferred Income Taxes

Deferred income taxes reflect the net effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of our deferred tax assets and liabilities were as follows (in millions):

	As of December 31,	
	2020	2021
<b>Deferred tax assets:</b>		
Accrued employee benefits	\$ 580	\$ 549
Accruals and reserves not currently deductible	1,049	1,816
Tax credits	3,723	5,179
Net operating losses	1,085	1,790
Operating leases	2,620	2,503
Intangible assets	1,525	2,034
Other	981	925
<b>Total deferred tax assets</b>	<b>11,563</b>	<b>14,796</b>
Valuation allowance	(4,823)	(7,129)
<b>Total deferred tax assets net of valuation allowance</b>	<b>6,740</b>	<b>7,667</b>
<b>Deferred tax liabilities:</b>		
Property and equipment, net	(3,382)	(5,237)
Net investment gains	(1,901)	(3,229)
Operating leases	(2,354)	(2,228)
Other	(1,580)	(946)
<b>Total deferred tax liabilities</b>	<b>(9,217)</b>	<b>(11,640)</b>
<b>Net deferred tax assets (liabilities)</b>	<b>\$ (2,477)</b>	<b>\$ (3,973)</b>

As of December 31, 2021, our federal, state, and foreign net operating loss carryforwards for income tax purposes were approximately \$5.6 billion, \$4.6 billion, and \$1.7 billion respectively. If not utilized, the federal net operating loss carryforwards will begin to expire in 2023, foreign net operating loss carryforwards will begin to expire in 2025 and the state net operating loss carryforwards will begin to expire in 2028. It is more likely than not that certain

net operating loss carryforwards will not be realized; therefore, we have recorded a valuation allowance against them. The net operating loss carryforwards are subject to various annual limitations under the tax laws of the different jurisdictions. As of December 31, 2021, our California R&D carryforwards for income tax purposes were approximately \$5.0 billion that can be carried over indefinitely. We believe the state tax credit is not likely to be realized. As of December 31, 2021, our investment tax credit carryforwards for state income tax purposes were approximately \$700 million and will begin to expire in 2025. We use the flow-through method of accounting for investment tax credits. We believe this tax credit is not likely to be realized. As of December 31, 2021, we maintained a valuation allowance with respect to California deferred tax assets, certain federal net operating losses, certain state tax credits, net deferred tax assets relating to certain Other Bets, and certain foreign net operating losses that we believe are not likely to be realized.