The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and the related notes included in the Accountant's Report in Appendix IA, the Unaudited Condensed Interim Financial Information in Appendix IB and in "Our Business." This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results and the timing of selected events could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set out under "Risk Factors" and elsewhere in this document. We have prepared our consolidated financial statements in accordance with U.S. GAAP. Our fiscal year ends on December 31 and references to fiscal years 2017, 2018 and 2019 are to the fiscal years ended December 31, 2017, 2018 and 2019, respectively.

OVERVIEW

We have a successful online game business, developing and operating a rich portfolio of highly popular titles. Leveraging on our user insights and execution expertise, we have also incubated and developed in-house a pipeline of successful businesses, including our intelligent learning platform, Youdao, and other innovative businesses, ranging from music streaming and private label e-commerce to internet media and e-mail services, among others.

We achieved strong operating results during the Track Record Period. We generated net revenues of RMB44,437.4 million, RMB51,178.6 million, RMB59,241.1 million and RMB17,062.4 million (US$2,409.7 million) in 2017, 2018 and 2019 and the three months ended March 31, 2020, respectively. Our net income from continuing operations was RMB11,683.6 million, RMB8,616.1 million, RMB13,468.6 million and RMB3,950.7 million (US$557.9 million) in 2017, 2018 and 2019 and the three months ended March 31, 2020, respectively.

FACTORS AFFECTING OUR RESULTS OF OPERATIONS

Our ability to continue to deliver original and compelling content and service offerings and effectively operate our existing products

We take pride in being an original content provider. Our continued success in producing and delivering original and compelling content and services to our users largely depends on our ability to stay abreast of users' evolving needs and preferences and dynamics in the digital content and service industries. We seek to identify trend-setting content and services while striving to maintain the longevity and vitality of our existing products by effectively leveraging our rich operational know-how. In particular, as we generate a substantial amount of revenues from our online game services, our ability to successfully update and expand our existing game franchises and maintain a pipeline of new games across diversified genres and geographic regions will affect our future revenue and financial results.

Our ability to grow our user base and drive user engagement and loyalty

We have built a massive and highly engaged user base across our business segments. We generate a substantial part of our revenues through sales of in-game virtual items and play time, merchandise sales, music streaming, advertising services and tuition fees for online courses. Our ability to generate these revenues is affected by the size of our user base and the level of their engagement. Our ability to continue to grow our user base and engagement is driven by various factors, including our ability to offer diverse, attractive and relevant content and services, deliver differentiated and superior user experiences, improve the community features on our platforms and enhance our brand reputation.

Our ability to continue to develop proprietary technologies and apply them meaningfully

We have demonstrated capabilities in developing proprietary technologies and applying technology to enhance our products and services and improve our user experience, which is a critical competitive advantage of ours and a key factor that affects our operations and financial results. We have successfully developed industry-leading proprietary game, AI, big data and other technologies and integrate these technologies into our products and services, and we will continue to significantly invest in developing and upgrading our technology with a focus on optimizing our products and services and delivering a superior and differentiated user experience.

Our ability to manage our costs and expenses effectively across all business segments

Our results of operations are affected by our ability to effectively control our costs and expenses across all of our business segments. We incur revenue sharing costs, including fees shared with distribution channel providers, game developers and other third parties related to mobile games, course instructors related to Youdao's services and others in connection with our other innovative businesses, which may increase in absolute amounts in the near term as we continue to scale up our operations across our business segments. We may also incur higher content costs in the near term as we continue to expand our product and service offerings to cater to the evolving user needs. Our ability to continue to manage and control our cost of revenues, including revenue sharing costs and content costs, while maintaining the high-quality and attractiveness of our products and services will have a significant impact on our business, financial condition and results of operations.

We have incurred substantial R&D expenses as we developed more products and improved our content offerings and technologies to deliver high quality services and value to our users. We strongly believe that R&D must be guided by the principles of commercial viability and applicability, and we plan to continue making purpose-driven investment in technologies. We have also been able to maintain our sales and marketing expenses as a relatively low percentage of our net revenues due to our strong brand reputation. Our ability to sell and market our products and services cost-effectively depends on our ability to continue to leverage our existing brand value, grow and monetize our user bases, and improve our sales and marketing efficiency.

Our ability to make successful strategic investments and acquisitions

We have made, and intend to make, strategic investments and acquisitions. Our investment and acquisition strategy is focused on strengthening our content development and R&D capabilities, creating strategic synergies across our businesses, and enhancing our overall value. Our strategic investments and acquisitions may affect our future financial results, including our margins and net income. In addition, some of our acquisitions and investments may not be successful. We have recorded net investment losses in equity method investees and impairment provisions related to certain equity investments in the past and may incur net investment losses or impairment provisions in the future.

COMPONENTS OF RESULTS OF OPERATIONS

Revenue

The following table sets forth our revenue by segment for the periods indicated:

	For the year ended December 31,						For the three months ended March 31,				
	2017		2018		2019		2019		2020		
	RMB	%	RMB	%	RMB	%	RMB	%	RMB	US$	%
							(unaudited)		(unaudited)	(unaudited)	
	(in thousands, except for percentages)										
Net revenues:											
Online game services	36,281,642	81.6	40,190,057	78.5	46,422,640	78.4	11,850,184	82.2	13,518,244	1,909,141	79.2
Youdao	455,746	1.0	731,598	1.4	1,304,883	2.2	225,731	1.6	541,388	76,459	3.2
Innovative businesses and others	7,699,967	17.4	10,256,920	20.1	11,513,622	19.4	2,346,294	16.2	3,002,735	424,067	17.6
Total net revenues	44,437,355	100.0	51,178,575	100.0	59,241,145	100.0	14,422,209	100.0	17,062,367	2,409,667	100.0

We generate our revenues from the provision of online game services, Youdao and other innovative businesses and services. No customer individually accounted for greater than 10% of our total net revenues for the years ended December 31, 2017, 2018, 2019 and the three months ended March 31, 2020, respectively.

Online game services

We generate our mobile game revenues primarily from the sale of in-game virtual items, including avatars, skills, privileges or other in-game consumables, features or functionality, within the games. We distribute our mobile games through partnerships with major Android- and iOS-based app stores as well as proprietary distribution channels, such as our mobile apps and websites. Users have a variety of payment options for in-game virtual items, including using prepaid points or by making online payments through app stores and other online payment channels. Our mobile game portfolio now consists of over 100 diverse games, and we expect to continue introducing new mobile games each year for the foreseeable future, which we believe will contribute to future growth in net revenues from online game services.

We generate revenue from our PC games mainly through sales of prepaid points. Customers can purchase prepaid points on our NetEase online platforms through debit or credit cards or online payment platforms through which players can directly credit points to their accounts. Customers also can purchase virtual or physical point cards through our third-party retailers. Customers can use the points to play our PC games, either to pay for playing time or to purchase virtual items within the games, and use our other fee-based services.

Youdao

Youdao's revenue consists of two parts: learning services and products and online marketing services. We currently generate the majority of the revenues for Youdao's learning services and products from its online courses in the form of the tuition fees received from students. We generate revenues from Youdao's online marketing services through the provision of different formats of advertisements.

Innovative businesses and others

We derive our innovative businesses and others revenues primarily from e-commerce, music streaming, video streaming, advertising services, premium e-mail and other value-added services.

Cost of revenues

The following table sets forth our cost of revenues by segment for the periods indicated:

	For the year ended December 31,						For the three months ended March 31,				
	2017		2018		2019		2019		2020		
	RMB	%	RMB	%	RMB	%	RMB	%	RMB	US$	%
							(unaudited)		(unaudited)	(unaudited)	
	(in thousands, except for percentages)										
Cost of revenues:											
Online game services	(13,473,339)	(69.5)	(14,617,656)	(61.3)	(16,974,234)	(61.3)	(4,299,345)	(64.3)	(4,851,831)	(685,209)	(63.1)
Youdao	(293,807)	(1.5)	(515,133)	(2.2)	(934,261)	(3.4)	(172,836)	(2.6)	(305,663)	(43,168)	(4.0)
Innovative businesses and others	(5,627,168)	(29.0)	(8,699,637)	(36.5)	(9,777,350)	(35.3)	(2,212,354)	(33.1)	(2,527,251)	(356,916)	(32.9)
Total cost of revenues	(19,394,314)	(100.0)	(23,832,426)	(100.0)	(27,685,845)	(100.0)	(6,684,535)	(100.0)	(7,684,745)	(1,085,293)	(100.0)

Online game services

Cost of revenues for our online game services consists primarily of revenue sharing costs paid to distribution channel providers and game developers, staff costs, royalties and consultancy fees related to our licensed games, server and bandwidth service fees, service fees related to online payments, depreciation and amortization of computers and software and other direct costs of providing these services.

Youdao

Our cost of revenues of Youdao consists primarily of revenue sharing costs paid to Youdao's course instructors, teaching assistants and course development personnel, staff costs, costs of course materials, costs relating to the sales of smart devices, server and bandwidth costs and traffic acquisition costs.

Innovative businesses and others

Cost of revenues related to our innovative businesses and others segment consists primarily of content costs, cost of merchandise sold in our e-commerce business and revenue sharing costs with broadcasters. We pay content fees to third-party partners, record labels, and newspaper and magazine publishers for the right to use proprietary content developed and licensed by them, such as copyrights of music, headline news and articles.

Operating expenses

The following table sets forth our operating expenses for the periods indicated:

	For the year ended December 31,						For the three months ended March 31,				
	2017		2018		2019		2019		2020		
	RMB	%	RMB	%	RMB	%	RMB	%	RMB	US$	%
							(unaudited)		(unaudited)	(unaudited)	
	(in thousands, except for percentages)										
Operating expenses:											
Selling and marketing expenses	(5,504,613)	(45.7)	(6,911,710)	(39.8)	(6,221,127)	(35.0)	(1,158,090)	(29.1)	(1,863,071)	(263,116)	(38.1)
General and administrative expenses	(2,381,842)	(19.8)	(3,078,635)	(17.7)	(3,130,298)	(17.6)	(786,850)	(19.8)	(885,434)	(125,047)	(18.1)
Research and development expenses	(4,161,673)	(34.5)	(7,378,460)	(42.5)	(8,413,224)	(47.4)	(2,037,694)	(51.1)	(2,142,649)	(302,600)	(43.8)
Total operating expenses	(12,048,128)	(100.0)	(17,368,805)	(100.0)	(17,764,649)	(100.0)	(3,982,634)	(100.0)	(4,891,154)	(690,763)	(100.0)

Selling and marketing expenses

Selling and marketing expenses consist primarily of salary and welfare expenses, shipping and handling costs, compensation costs for our sales and marketing staff, and marketing and advertising expenses payable to third-party vendors, internet companies and agents.

General and administrative expenses

General and administrative expenses consist primarily of salary and welfare expenses, compensation costs for our general administrative and management staff, office rental, legal, professional and consultancy fees, bad debt expenses, recruiting expenses, travel expenses and depreciation charges.

Research and development expenses

Research and development expenses consist principally of salary and welfare expenses and compensation costs for our research and development professionals.

Share-based compensation cost

The following table sets forth the allocation of our share-based compensation costs for the periods indicated:

	For the year ended December 31,			For the three months ended March 31,		
	2017	2018	2019	2019	2020	
	RMB	RMB	RMB	RMB	RMB	US$
				(unaudited)	(unaudited)	(unaudited)
	(in thousands)					
Share-based compensation cost included in:						
Cost of revenues	(818,101)	(757,341)	(758,810)	(199,209)	(207,915)	(29,363)
Selling and marketing expenses	(90,271)	(102,638)	(84,920)	(25,247)	(24,811)	(3,504)
General and administrative expenses	(576,629)	(787,200)	(797,120)	(197,858)	(230,371)	(32,535)
Research and development expenses	(499,850)	(824,552)	(763,239)	(198,485)	(202,717)	(28,629)
Total	(1,984,851)	(2,471,731)	(2,404,089)	(620,799)	(665,814)	(94,031)

NetEase 2009 and 2019 Restricted Share Unit Plans

In October 2019, we adopted our 2019 Restricted Share Unit Plan (the "**2019 RSU Plan**") for our employees, directors and consultants. We have reserved 322,458,300 ordinary shares for issuance under this plan. The 2019 RSU Plan was adopted by a resolution of the board of directors and became effective on October 15, 2019 for a term of ten years unless sooner terminated.

In November 2009, we adopted our 2009 Restricted Share Unit Plan (the "**2009 RSU Plan**") for our employees, directors and consultants. We reserved 323,694,050 ordinary shares for issuance under this plan. The 2009 RSU Plan expired on November 16, 2019 in accordance with its terms.

For the years ended December 31, 2017, 2018 and 2019 and the three months ended March 31, 2019 and 2020, we recorded share-based compensation cost of RMB1,984.9 million, RMB2,471.7 million, RMB2,404.1 million, RMB620.8 million and RMB665.8 million (US$94.0 million), respectively, for awards granted under the 2009 RSU Plan and 2019 RSU Plan, as well as the other share incentive plans discussed as below. This cost has been allocated to: (i) cost of revenues, (ii) selling and marketing expenses, (iii) general and administrative expenses, and (iv) research and development expenses, depending on the responsibilities of the relevant employees.

As of March 31, 2020, total unrecognized compensation cost related to unvested awards granted under the 2009 RSU Plan and 2019 RSU Plan, adjusted for estimated forfeitures, was RMB3,872.6 million (US$546.9 million), which is expected to be recognized through the remaining vesting period of each grant. As of March 31, 2020, the weighted average remaining vesting period was 2.35 years.

Other share incentive plans

Beginning in 2014, certain of our subsidiaries granted options exercisable for ordinary shares to certain of our employees. The options expire five to ten years from the date of grant and either vest or have a vesting commencement date upon certain conditions being met. The awards can become 100% vested on the vesting commencement date, or vest in two, three, four or five substantially equal annual installments with the first installment vesting on the vesting commencement date. For the years ended December 31, 2017, 2018 and 2019 and the three months ended March 31, 2019 and 2020, we recorded RMB91.5 million, RMB32.0 million, RMB56.2 million, RMB7.2 million and RMB23.4 million (US$3.3 million), respectively, in compensation expenses for the share options granted under these plans.

While certain share options which have been granted will become vested or would commence vesting upon their applicable vesting commencement date, the occurrence of the applicable vesting conditions is not within our control and is not deemed probable to occur for accounting purposes until the vesting commencement date. For such share options, zero compensation expenses were recorded. As of March 31, 2020, there were RMB314.8 million (US$44.5 million) in unrecognized share-based compensation expenses related to such share options which are expected to be recognized when the relevant vesting conditions are met.

Income taxes

Cayman Islands

Under the current laws of the Cayman Islands, we and our intermediate holding companies which are incorporated in the Cayman Islands, are not subject to tax on income or capital gain. Additionally, upon payments of dividends by us to our shareholders or by our intermediate holding companies in the Cayman Islands to us, no Cayman Islands withholding tax will be imposed.

British Virgin Islands ("BVI")

Our subsidiaries in the BVI are exempted from income tax on their foreign-derived income in the BVI. There are no withholding taxes in the BVI.

Hong Kong

Our subsidiaries in Hong Kong were subject to income tax on their taxable income generated from operations in Hong Kong at a rate of 16.5% in 2017. For the years 2018 and 2019, the first HK$2 million of profits earned by one of our subsidiaries incorporated in Hong Kong is taxed at a rate of 8.25%, while the remaining profits will continue to be taxed at the 16.5% tax rate. The payments of dividends by these companies to us are not subject to any Hong Kong withholding tax.

China

The PRC Enterprise Income Tax Law subjects Foreign Invested Enterprises ("**FIEs**") and domestic companies to EIT at a uniform rate of 25%, and preferential tax treatments may be granted to FIEs or domestic companies which conduct businesses in certain encouraged sectors and to entities otherwise classified as "High and New Technology Enterprises" ("**HNTEs**"), "Software Enterprises" or "Key Software Enterprises."

Boguan, NetEase Hangzhou and certain of our other PRC subsidiaries and affiliated entities were qualified as HNTEs and enjoyed a preferential tax rate of 15% for 2017, 2018 and 2019. In 2017, 2018 and 2019, Boguan, NetEase Hangzhou and certain of our other PRC subsidiaries and affiliated entities were each also qualified as a Key Software Enterprise and enjoyed a further reduced preferential tax rate of 10% for 2016, 2017 and 2018. The related tax benefit was recorded in 2017, 2018 and 2019, respectively.

The foregoing preferential income tax rates, however, are subject to periodic review and renewal by PRC authorities.

Sales tax

Pursuant to the *Provisional Regulation of the PRC on Value Added Tax* and its implementation rules (the "**Provisional VAT Regulation**") our PRC subsidiaries and VIEs are generally subject to VAT at a rate of 6% for revenues earned from rendering services. Our sales of general goods to our customers in the PRC are also subject to VAT, which was 17% until May 1, 2018, 16% from May 1, 2018 to April 1, 2019 and 13% thereafter.

We are also subject to cultural development fees on the provision of advertising services in China. The applicable tax rate was 3% of our advertising services revenues until July 1, 2019 when it was reduced to 1.5%.

Change in segment reporting

Effective in the third quarter of 2019, we changed our segment disclosure to add the financial results of certain advertising services and Yanxuan into "innovative businesses and others." We sold our Kaola e-commerce business in September 2019. In addition, we have commenced separately reporting the results of our majority-controlled subsidiary Youdao which completed its initial public offering and listing on the New York Stock Exchange in October 2019. As a result, we now report the following segments: (1) online game services; (2) Youdao; and (3) innovative businesses and others. This change in segment reporting aligns with the manner in which our chief operating decision maker (the "**CODM**") currently receives and uses financial information to allocate resources and evaluate the performance of reporting segments. We retrospectively revised prior period segment information to conform to current period presentation.

RESULTS OF OPERATIONS

The following table sets forth a summary of our consolidated results of operations for the periods indicated. In September 2019, we sold our Kaola e-commerce business to Alibaba Group Holding Limited. As a result, Kaola has been deconsolidated and Kaola's historical financial results are reflected in our consolidated financial statements as discontinued operations accordingly. Unless otherwise stated, financial results discussed herein refer to our continuing operations.

	For the year ended December 31,						For the three months ended March 31,				
	2017		2018		2019		2019		2020		
	RMB	%	RMB	%	RMB	%	RMB	%	RMB	US$	%
							(unaudited)		(unaudited)	(unaudited)	
	(in thousands, except for percentages)										
Statements of Operations and Comprehensive Income Data:											
Net revenues:	44,437,355	100.0	51,178,575	100.0	59,241,145	100.0	14,422,209	100.0	17,062,367	2,409,667	100.0
Cost of revenues:	(19,394,314)	(43.6)	(23,832,426)	(46.6)	(27,685,845)	(46.7)	(6,684,535)	(46.3)	(7,684,745)	(1,085,293)	(45.0)
Gross profit	25,043,041	56.4	27,346,149	53.4	31,555,300	53.3	7,737,674	53.7	9,377,622	1,324,374	55.0
Operating expenses:											
Selling and marketing expenses	(5,504,613)	(12.4)	(6,911,710)	(13.5)	(6,221,127)	(10.5)	(1,158,090)	(8.0)	(1,863,071)	(263,116)	(10.9)
General and administrative expenses	(2,381,842)	(5.4)	(3,078,635)	(6.0)	(3,130,298)	(5.3)	(786,850)	(5.5)	(885,434)	(125,047)	(5.2)
Research and development expenses	(4,161,673)	(9.4)	(7,378,460)	(14.4)	(8,413,224)	(14.2)	(2,037,694)	(14.1)	(2,142,649)	(302,600)	(12.6)
Total operating expenses	(12,048,128)	(27.2)	(17,368,805)	(33.9)	(17,764,649)	(30.0)	(3,982,634)	(27.6)	(4,891,154)	(690,763)	(28.7)
Operating profit	12,994,913	29.2	9,977,344	19.5	13,790,651	23.3	3,755,040	26.1	4,486,468	633,611	26.3
Other income/(expenses):											
Investment income/(losses), net	362,113	0.8	(22,383)	–	1,306,320	2.2	155,824	1.1	(109,731)	(15,497)	(0.6)
Interest income, net	666,616	1.5	586,671	1.1	821,774	1.4	172,206	1.2	345,184	48,749	2.0
Exchange (losses)/gains	(455,948)	(1.0)	(51,799)	(0.1)	25,166	–	(39,520)	(0.3)	244,057	34,467	1.4
Other, net	271,885	0.6	586,916	1.1	439,422	0.7	37,164	0.3	66,708	9,421	0.4
Income before tax	13,839,579	31.1	11,076,749	21.6	16,383,333	27.6	4,080,714	28.4	5,032,686	710,751	29.5
Income tax	(2,155,988)	(4.9)	(2,460,650)	(4.8)	(2,914,726)	(4.9)	(1,266,685)	(8.8)	(1,082,033)	(152,812)	(6.3)
Net income from continuing operations	11,683,591	26.2	8,616,099	16.8	13,468,607	22.7	2,814,029	19.6	3,950,653	557,939	23.2
Net (loss)/income from discontinued operations	(834,454)	(1.9)	(2,138,682)	(4.2)	7,962,519	13.4	(350,755)	(2.4)	–	–	–

	For the year ended December 31,						For the three months ended March 31,				
	2017		2018		2019		2019		2020		
	RMB	%	RMB	%	RMB	%	RMB	%	RMB	US$	%
							(unaudited)		(unaudited)	(unaudited)	
	(in thousands, except for percentages)										
Net income	10,849,137	24.3	6,477,417	12.6	21,431,126	36.1	2,463,274	17.2	3,950,653	557,939	23.2
Accretion and deemed dividends in connection with repurchase of redeemable noncontrolling interests	–	–	(248,098)	(0.5)	(271,543)	(0.5)	(68,783)	(0.5)	(386,019)	(54,516)	(2.3)
Net (income)/loss attributable to noncontrolling interests and redeemable noncontrolling interests	(141,198)	(0.3)	(76,912)	(0.2)	77,933	0.1	(12,373)	(0.1)	(13,628)	(1,925)	(0.1)
Net income attributable to NetEase, Inc.'s shareholders	10,707,939	24.0	6,152,407	11.9	21,237,516	35.7	2,382,118	16.6	3,551,006	501,498	20.8
Including:											
Net income from continuing operations attributable to NetEase, Inc.'s shareholders	11,542,393	25.9	8,291,089	16.1	13,274,997	22.3	2,732,873	19.0	3,551,006	501,498	20.8
Net (loss)/income from discontinued operations attributable to NetEase, Inc.'s shareholders	(834,454)	(1.9)	(2,138,682)	(4.2)	7,962,519	13.4	(350,755)	(2.4)	–	–	–
Share-based compensation cost included in:											
Cost of revenues	818,101	1.8	757,341	1.5	758,810	1.3	199,209	1.4	207,915	29,363	1.2
Selling and marketing expenses	90,271	0.2	102,638	0.2	84,920	0.1	25,247	0.2	24,811	3,504	0.1
General and administrative expenses	576,629	1.3	787,200	1.5	797,120	1.3	197,858	1.4	230,371	32,535	1.4
Research and development expenses	499,850	1.1	824,552	1.6	763,239	1.3	198,485	1.4	202,717	28,629	1.2

Three months ended March 31, 2020 compared to three months ended March 31, 2019

We have organized our operations into the following segments: online game services, Youdao and innovative business and others. These segments reflect the way we evaluate, view and run our business operations. The following table sets forth the net revenues and cost of revenues by segment for the periods presented as derived from our unaudited condensed interim consolidated financial information.

	For the three months ended March 31,		
	2019	2020	2020
	RMB	RMB	US$
	(unaudited in thousands)		
Net revenues:			
Online game services	11,850,184	13,518,244	1,909,141
Youdao	225,731	541,388	76,459
Innovative businesses and others	2,346,294	3,002,735	424,067
Total net revenues	14,422,209	17,062,367	2,409,667
Cost of revenues:			
Online game services	(4,299,345)	(4,851,831)	(685,209)
Youdao	(172,836)	(305,663)	(43,168)
Innovative businesses and others	(2,212,354)	(2,527,251)	(356,916)
Total cost of revenues	(6,684,535)	(7,684,745)	(1,085,293)

Net revenues

Total net revenues increased by 18.3% to RMB17,062.4 million (US$2,409.7 million) in the three months ended March 31, 2020 from RMB14,422.2 million in the corresponding period of 2019. Net revenues from online game services, Youdao and innovative businesses and others constituted 79.2%, 3.2% and 17.6%, respectively, of our total net revenues in the three months ended March 31, 2020, compared with 82.2%, 1.6% and 16.2%, respectively, in the corresponding period of 2019.

Online game services

Net revenues from online game services increased by 14.1% to RMB13,518.2 million (US$1,909.1 million) in the three months ended March 31, 2020 from RMB11,850.2 million in the corresponding period of 2019. The increase was principally attributable to higher net revenues from our mobile games and PC games. The growth in net revenues mainly resulted from mobile games such as *Fantasy Westward Journey 3D, Identity V, Onmyoji,* and *Onmyoji: The Card Game* and *Fantasy Westward Journey* mobile game, as well as PC games such as *Fantasy Westward Journey Online* and *New Westward Journey Online II*. Our mobile game portfolio now consists of over 100 diverse games. Net revenues from mobile games and PC games represented 70.3% and 29.7% of total net revenues from online game services in the three months ended March 31, 2020, respectively, compared to 72.1% and 27.9% in the corresponding period of 2019, respectively. The following table sets forth a breakdown by mobile games and PC games as a percentage of our net revenues from online games services for the periods indicated:

	For the three months ended March 31,	
	2019	**2020**
	%	%
Online game services net revenues:		
Mobile games	72.1	70.3
PC games	27.9	29.7
Total online game services net revenues	100.0	100.0

Net revenues from our in-house developed games increased by 9.8% to RMB11,871.7 million (US$1,676.6 million) in the three months ended March 31, 2020 from RMB10,810.4 million in the corresponding period of 2019 as a result of the expansion in our offering of in-house developed games, in particular our mobile games. Net revenues from licensed games increased by 58.3% to RMB1,646.5 million (US$232.5 million) in the three months ended March 31, 2020 from RMB1,039.8 million in the corresponding period of 2019, which was mainly attributable to certain of our games licensed from international game developers. Net revenues generated from licensed games represented 9.6% and 7.2% of our total net revenues in the three months ended March 31, 2020 and the corresponding period of 2019, respectively. The following table sets forth a breakdown by in-house developed games and licensed games as a percentage of our net revenues from online games services for the periods indicated:

	For the three months ended March 31,	
	2019	**2020**
	%	%
Online game services net revenues:		
In-house developed games	91.2	87.8
Licensed games	8.8	12.2
Total online game services net revenues	100.0	100.0

Youdao

Net revenues from our Youdao segment increased by 139.8% to RMB541.4 million (US$76.5 million) in the three months ended March 31, 2020 from RMB225.7 million in the corresponding period of 2019. The increase was mainly attributable to increased revenue from its learning services and products.

Innovative businesses and others

Net revenues from the innovative businesses and others segment increased by 28.0% to RMB3,002.7 million (US$424.1 million) in the three months ended March 31, 2020 from RMB2,346.3 million in the corresponding period of 2019. This increase mainly resulted from increases in revenue contribution by our NetEase Cloud Music, NetEase CC live streaming and Yanxuan e-commerce businesses.

Cost of revenues

Our cost of revenues increased by 15.0% to RMB7,684.7 million (US$1,085.3 million) in the three months ended March 31, 2020 from RMB6,684.5 million in the corresponding period of 2019. The increase was mainly due to an increase in revenue sharing costs with distribution channel providers, game developers and other third parties and content costs. In the three months ended March 31, 2020, costs relating to online game services, Youdao and innovative businesses and others represented 63.1%, 4.0% and 32.9% of total cost of revenues, respectively, as compared with 64.3%, 2.6% and 33.1% of the total cost of revenues, respectively, in the corresponding period of 2019.

Online game services

Cost of revenues from our online game services increased by 12.9% to RMB4,851.8 million (US$685.2 million) in the three months ended March 31, 2020 from RMB4,299.3 million in the corresponding period of 2019. The increase in cost of revenues was primarily due to an increase in revenue sharing costs with distribution channel providers, game developers and other third parties related to mobile games, which was primarily due to the launch of various in-house developed and licensed mobile games in the first quarter of 2020.

Youdao

Cost of revenues from Youdao increased by 76.9% to RMB305.7 million (US$43.2 million) in the three months ended March 31, 2020 from RMB172.8 million in the corresponding period of 2019, which was primarily attributable to increased traffic acquisition costs and revenue sharing costs with key instructors to support the promotion and expansion of Youdao's online course offerings.

Innovative businesses and others

Cost of revenues from our innovative businesses and others increased by 14.2% to RMB2,527.3 million (US$356.9 million) in the three months ended March 31, 2020 from RMB2,212.4 million in the corresponding period of 2019. The increase in cost of revenues was primarily due to increased content costs and revenue sharing costs related to our NetEase CC live streaming and NetEase Cloud Music platforms.

Gross profit

Our gross profit increased by 21.2% to RMB9,377.6 million (US$1,324.4 million) in three months ended March 31, 2020 from RMB7,737.7 million in the corresponding period of 2019.

The following table sets forth the consolidated gross profits and gross profit margins of our business activities for the periods indicated as derived from our condensed consolidated financial information. The gross profit margins in three months ended March 31, 2019 and 2020 were calculated by dividing our gross profits over our net revenues for the corresponding type of services.

	For the three months ended March 31,		
	2019	2020	2020
	RMB	RMB	US$
	(unaudited in thousands)		
Gross profit:			
Online game services	7,550,839	8,666,413	1,223,932
Youdao	52,895	235,725	33,291
Innovative businesses and others	133,940	475,484	67,151
Total gross profit	7,737,674	9,377,622	1,324,374
Gross profit margin:			
Online game services	63.7%	64.1%	64.1%
Youdao	23.4%	43.5%	43.5%
Innovative businesses and others	5.7%	15.8%	15.8%
Total gross profit margin	53.7%	55.0%	55.0%

Gross profit margin for online game services in the three months ended March 31, 2020 remained stable compared to the corresponding period of 2019. The increase of gross profit margin for Youdao was mainly due to increased revenues, improved economies of scale and faculty compensation structure optimization related to its learning services and products. The increase in gross profit margin for innovative businesses and others was mainly due to increased net revenues from NetEase Cloud Music.

Operating expenses

Total operating expenses increased by 22.8% to RMB4,891.2 million (US$690.8 million) in the three months ended March 31, 2020 from RMB3,982.6 million in the corresponding period of 2019 as a result of increases across selling and marketing expenses, general and administrative expenses as well as research and development expenses. The following table sets forth our operating expenses for the periods indicated as derived from our condensed consolidated financial information.

	For the three months ended March 31,		
	2019	2020	2020
	RMB	RMB	US$
	(unaudited in thousands)		
Operating expenses:			
Selling and marketing expenses	(1,158,090)	(1,863,071)	(263,116)
General and administrative expenses	(786,850)	(885,434)	(125,047)
Research and development expenses	(2,037,694)	(2,142,649)	(302,600)
Total operating expenses	(3,982,634)	(4,891,154)	(690,763)

Selling and marketing expenses increased by 60.9% to RMB1,863.1 million (US$263.1 million) in the three months ended March 31, 2020 from RMB1,158.1 million in the corresponding period of 2019, primarily due to the increased marketing spending on our online games and Youdao learning services and products.

General and administrative expenses increased slightly by 12.5% to RMB885.4 million (US$125.0 million) in the three months ended March 31, 2020 from RMB786.9 million in the corresponding period of 2019, primarily due to an increase in credit losses related to our accounts receivable.

Research and development expenses increased by 5.2% to RMB2,142.6 million (US$302.6 million) in the three months ended March 31, 2020 from RMB2,037.7 million in the corresponding period of 2019, primarily due to an increase in staff-related costs, mainly as a result of increased headcount for our online game services and Youdao as well as higher salaries, bonuses and other benefits paid to our research and development teams during the first quarter of 2020, including share-based compensation.

Other income/(expenses)

The following table sets forth our other income/(expenses) for the periods indicated as derived from our condensed consolidated financial information.

	For the three months ended March 31,		
	2019	2020	2020
	RMB	RMB	US$
	(unaudited in thousands)		
Other income/(expenses):			
Investment income/(losses), net	155,824	(109,731)	(15,497)
Interest income, net	172,206	345,184	48,749
Exchange (losses)/gains	(39,520)	244,057	34,467
Other, net	37,164	66,708	9,421

Other income/(expenses) in the three months ended March 31, 2020 mainly consisted of investment income related to short-term investments, interest income, foreign exchange gain, offset in part by foreign exchange losses, government incentives, impairment provisions related to certain equity investments, net investment gain in equity method investees and fair value change related to our equity investments with readily determinable fair value and other financial instruments.

Investment losses were RMB109.7 million (US$15.5 million) in the three months ended March 31, 2020 compared to investment income of RMB155.8 million in the corresponding period of 2019. Investment losses in the three months ended March 31, 2020 consists primarily of: (i) an unrealized loss from fair value change of RMB327.0 million (US$46.2 million) in the three months ended March 31, 2020 compared to an unrealized gain from fair value change of RMB129.9 million in the corresponding period of 2019, and (ii) impairment provisions related to certain investments of RMB6.6 million (US$0.9 million) in the three months ended March 31, 2020 compared to RMB96.1 million in the corresponding period of 2019, which was offset in part by investment income related to short-term investments of RMB153.1 million (US$21.6 million), compared to RMB124.6 million in the corresponding period of 2019.

Interest income increased to RMB345.2 million (US$48.7 million) in the three months ended March 31, 2020 from RMB172.2 million in the corresponding period of 2019, primarily due to an increase in our net cash balance, which included total cash and cash equivalents, time deposits and restricted cash balance minus short-term loans. We incurred interest expenses of RMB98.5 million (US$13.9 million) in the three months ended March 31, 2020 related to our short-term loans.

We incurred net foreign exchange gains of RMB244.1 million (US$34.5 million) in the three months ended March 31, 2020, compared to net foreign exchange losses of RMB39.5 million in the corresponding period of 2019, both of which are primarily due to the translation gains and losses arising from our U.S. dollar-denominated bank deposit and short-term loan balances as the exchange rate of the U.S. dollar against the RMB fluctuated over these periods.

Other, net increased to RMB66.7 million (US$9.4 million) in the three months ended March 31, 2020 from RMB37.2 million in the corresponding period of 2019. We received and recognized unconditional government incentives of RMB115.4 million (US$16.3 million) in the three months ended March 31, 2020, compared to RMB36.1 million in the corresponding period of 2019. In the three months ended March 31, 2020, we also made donations of RMB75.7 million (US$10.7 million) to provide support to fight against the COVID-19 pandemic.

Income tax

Income tax decreased to RMB1,082.0 million (US$152.8 million) in the three months ended March 31, 2020 from RMB1,266.7 million in the corresponding period of 2019. Our effective tax rate in the three months ended March 31, 2019 and 2020 was 31.0% and 21.5%, respectively, which represents certain estimates by the Company as to the tax obligations and benefits applicable to it in each quarter.

Net income

Net income attributable to our shareholders in three months ended March 31, 2020 comprised of a net income from continuing operations attributable to our shareholders of RMB3,551.0 million (US$501.5 million) and net income from discontinued operations attributable to our shareholders of zero, compared to a net income from continuing operations of RMB2,732.9 million and a net loss from discontinued operations of RMB350.8 million in the corresponding period of 2019.

Year ended December 31, 2019 compared to year ended December 31, 2018

The following table sets forth the net revenues and cost of revenues by segment for the periods presented as derived from our audited financial statements.

	For the year ended December 31,	
	2018	2019
	RMB	RMB
	(in thousands)	
Net revenues:		
Online game services	40,190,057	46,422,640
Youdao	731,598	1,304,883
Innovative businesses and others	10,256,920	11,513,622
Total net revenues	51,178,575	59,241,145
Cost of revenues:		
Online game services	(14,617,656)	(16,974,234)
Youdao	(515,133)	(934,261)
Innovative businesses and others	(8,699,637)	(9,777,350)
Total cost of revenues	(23,832,426)	(27,685,845)

Net revenues

Total net revenues increased by 15.8% to RMB59,241.1 million in 2019 from RMB51,178.6 million in 2018. Net revenues from online game services, Youdao and innovative businesses and others constituted 78.4%, 2.2% and 19.4%, respectively, of our total net revenues in 2019, compared with 78.5%, 1.4% and 20.1%, respectively, in 2018.

Online game services

Net revenues from online game services increased by 15.5% to RMB46,422.6 million in 2019 from RMB40,190.1 million in 2018. The increase was principally attributable to higher net revenues from our mobile games which totaled RMB33,160.1 million in 2019 compared to RMB28,536.9 million in 2018. The growth in net revenues from mobile games mainly resulted from mobile games such as *Life-After*, *Invincible* and *Identity V*, which gained popularity over the course of 2019. Net revenues from mobile games and PC games represented 71.4% and 28.6% of total net revenues from online game services in 2019, respectively, compared to 71.0% and 29.0% in 2018, respectively.

	For the year ended December 31,	
	2018	2019
	%	%
Online game services net revenues:		
Mobile games	71.0	71.4
PC games	29.0	28.6
Total online game services net revenues	100.0	100.0

Net revenues from our in-house developed games increased by 15.4% to RMB41,965.6 million in 2019 from RMB36,363.6 million in 2018 as a result of the expansion in our offering of in-house developed games, in particular our mobile games. Net revenues from licensed games increased by 16.5% to RMB4,457.0 million in 2019 from RMB3,826.5 million in 2018, which was mainly attributable to the increased revenue as a result of the release of *World of Warcraft Classic* licensed from Blizzard Entertainment, Inc. (together with its affiliated companies, "**Blizzard**") in August 2019, as well as certain other licensed games. Net revenues generated from licensed games represented 7.5% and 7.5% of our total net revenues in 2019 and 2018, respectively. The following table sets forth a breakdown by in-house developed games and licensed games as a percentage of our net revenues from online games services for the periods indicated:

	For the year ended December 31,	
	2018	2019
	%	%
Online game services net revenues:		
In-house developed games	90.5	90.4
Licensed games	9.5	9.6
Total online game services net revenues	100.0	100.0

Youdao

Net revenues from our Youdao segment increased by 78.4% to RMB1,304.9 million in 2019 from RMB731.6 million in 2018. The increase was mainly attributable to increased revenue from its learning services and products.

Innovative businesses and others

Net revenues from the innovative businesses and others segment increased by 12.3% to RMB11,513.6 million in 2019 from RMB10,256.9 million in 2018. This increase mainly resulted from increases in revenue contribution by our NetEase Cloud Music, NetEase CC live streaming and Yanxuan e-commerce businesses.

Cost of revenues

Our cost of revenues increased by 16.2% to RMB27,685.8 million in 2019 from RMB23,832.4 million in 2018. The year-over-year increase was mainly due to an increase in revenue sharing costs with distribution channel providers, game developers and other third parties and content costs. In 2019, costs relating to online game services, Youdao and innovative businesses and others represented 61.3%, 3.4% and 35.3% of total cost of revenues, respectively, as compared with 61.3%, 2.2% and 36.5% of the total cost of revenues, respectively, in 2018.

Online game services

Cost of revenues from our online game services increased by 16.1% to RMB16,974.2 million in 2019 from RMB14,617.7 million in 2018. The increase in cost of revenues in 2019 was primarily due to an increase in revenue sharing costs with distribution channel providers, game developers and other third parties related to mobile games, which was primarily due to the launch of various in-house developed and licensed mobile games in 2019.

Youdao

Cost of revenues from Youdao increased by 81.4% to RMB934.3 million in 2019 from RMB515.1 million in 2018, which was primarily attributable to increased traffic acquisition costs and revenue sharing costs with key instructors to support the promotion and expansion of Youdao's online course offerings.

Innovative businesses and others

Cost of revenues from our innovative businesses and others increased by 12.4% to RMB9,777.4 million in 2019 from RMB8,699.6 million in 2018. The increase in cost of revenues in 2019 was primarily due to increased content costs and revenue sharing costs related to our NetEase CC live streaming and NetEase Cloud Music platforms.

Gross profit

Our gross profit increased by 15.4% to RMB31,555.3 million in 2019 from RMB27,346.1 million in 2018.

The following table sets forth the consolidated gross profits and gross profit margins of our business activities for the periods indicated as derived from our audited financial statements. The gross profit margins in 2018 and 2019 were calculated by dividing our gross profits over our net revenues for the corresponding type of services.

	For the year ended December 31,	
	2018	2019
	RMB	RMB
	(in thousands)	
Gross profit:		
Online game services	25,572,401	29,448,406
Youdao	216,465	370,622
Innovative businesses and others	1,557,283	1,736,272
Total gross profit	27,346,149	31,555,300
Gross profit margin:		
Online game services	63.6%	63.4%
Youdao	29.6%	28.4%
Innovative businesses and others	15.2%	15.1%
Total gross profit margin	53.4%	53.3%

Our gross profit margin for online game services, Youdao and innovative businesses and others in 2019 remained stable compared to 2018.

Operating expenses

Total operating expenses increased by 2.3% to RMB17,764.6 million in 2019 from RMB17,368.8 million in 2018 as a result of an increase in general and administrative expenses and research and development expenses, which was partially offset by a decrease in selling and marketing expenses. The following table sets forth our operating expenses for the periods indicated as derived from our audited financial statements.

	For the year ended December 31,	
	2018	2019
	RMB	RMB
	(in thousands)	
Operating expenses:		
Selling and marketing expenses	(6,911,710)	(6,221,127)
General and administrative expenses	(3,078,635)	(3,130,298)
Research and development expenses	(7,378,460)	(8,413,224)
Total operating expenses	(17,368,805)	(17,764,649)

Selling and marketing expenses decreased by 10.0% to RMB6,221.1 million in 2019 from RMB6,911.7 million in 2018, primarily due to the decreased marketing spending on our online games, as well as media and outdoor branding promotion for our innovative businesses and others, which was partially offset by increased marketing spending on Youdao.

General and administrative expenses increased slightly by 1.7% to RMB3,130.3 million in 2019 from RMB3,078.6 million in 2018, primarily due to an increase in staff-related costs driven by higher compensation levels.

Research and development expenses increased by 14.0% to RMB8,413.2 million in 2019 from RMB7,378.5 million in 2018, primarily due to an increase in staff-related costs, mainly as a result of increased headcount for our online game services and Youdao and higher salaries, bonuses and other benefits paid to our research and development teams during 2019, including share-based compensation.

Other income/(expenses)

The following table sets forth our other income/(expenses) for the periods indicated as derived from our audited financial statements.

	For the year ended December 31,	
	2018	**2019**
	RMB	**RMB**
	(in thousands)	
Other income/(expenses):		
Investment (losses)/income, net	(22,383)	1,306,320
Interest income, net	586,671	821,774
Exchange (losses)/gains	(51,799)	25,166
Other, net	586,916	439,422

Other income/(expenses) in 2019 mainly consisted of investment income related to short-term investments, interest income, foreign exchange gain, offset in part by foreign exchange losses, government incentives, impairment provisions related to certain equity investments, net investment gain in equity method investees and fair value change related to our equity investments with readily determinable fair value and other financial instruments.

Investment income was RMB1,306.3 million in 2019 compared to investment loss of RMB22.4 million in 2018, consisting primarily of: (i) an unrealized gain from fair value change of RMB751.7 million related to the equity investments with readily determinable fair value and other financial instruments in 2019 compared to an unrealized loss from fair value change of RMB248.2 million in 2018, and (ii) investment income related to short-term investments of RMB657.6 million in 2019, compared to RMB463.5 million in 2018, which was offset in part by impairment provisions related to certain investments of RMB176.4 million in 2019, compared to RMB159.7 million in 2018.

Interest income increased to RMB821.8 million in 2019 from RMB586.7 million in 2018, primarily due to an increase of RMB16.4 billion in our net cash balance, which includes total cash and cash equivalents, time deposits and restricted cash balance minus short-term loans. We incurred interest expenses of RMB419.1 million in 2019 related to our short-term loans.

Other, net decreased to RMB439.4 million in 2019 from RMB586.9 million in 2018. We received and recognized unconditional government incentives of RMB368.2 million in 2019, compared to RMB316.7 million in 2018.

We also incurred net foreign exchange gains of RMB25.2 million in 2019, compared to net foreign exchange losses of RMB51.8 million in 2018, both of which are primarily due to the translation gains and losses arising from our U.S. dollar-denominated bank deposit and short-term loan balances as the exchange rate of the U.S. dollar against the RMB fluctuated over these periods.

Income tax

Income tax increased to RMB2,914.7 million in 2019 from RMB2,460.7 million in 2018. Our effective tax rate in 2019 was 17.8% compared with 22.2% in 2018. The change in the effective tax rate was mainly due to the fact that certain of our subsidiaries experienced smaller operating losses in 2019.

Net income

Net income attributable to our shareholders in 2019 comprised of a net income from continuing operations of RMB13,275.0 million and net income from discontinued operations of RMB7,962.5 million, which includes a one-time net gain on disposal of discontinued operations of RMB8,751.2 million related to the sale of our Kaola e-commerce business, offset in part by its net loss prior to such sale, compared to a net income from continuing operations of RMB8,291.1 million and a net loss from discontinued operations of RMB2,138.7 million in 2018.

Year ended December 31, 2018 compared to year ended December 31, 2017

To facilitate the comparison of our operating results and trends in 2017 and 2018, the financial results of our Kaola e-commerce platform in 2017 and 2018 are reflected in our consolidated financial statements as discontinued operations, to present such results on the same basis as they are presented for 2019.

The following table sets forth the net revenues and cost of revenues by segment for the period presented as derived from our audited financial statements.

	For the year ended December 31,	
	2017	2018
	RMB	RMB
	(in thousands)	
Net revenues:		
Online game services	36,281,642	40,190,057
Youdao	455,746	731,598
Innovative businesses and others	7,699,967	10,256,920
Total net revenues	44,437,355	51,178,575
Cost of revenues:		
Online game services	(13,473,339)	(14,617,656)
Youdao	(293,807)	(515,133)
Innovative businesses and others	(5,627,168)	(8,699,637)
Total cost of revenues	(19,394,314)	(23,832,426)

Net revenues

Total net revenues increased by 15.2% to RMB51,178.6 million in 2018 from RMB44,437.4 million in 2017. Net revenues from online game services, Youdao and innovative businesses and others constituted 78.5%, 1.4% and 20.1%, respectively, of our total net revenues in 2018, compared with 81.6%, 1.0% and 17.4%, respectively, in 2017.

Online game services

Net revenues from online game services increased by 10.8% to RMB40,190.1 million in 2018 from RMB36,281.6 million in 2017. The increase was principally attributable to higher net revenues from our mobile games which totaled RMB28,536.9 million in 2018 compared to RMB25,678.6 million in 2017. The growth in net revenues from mobile games mainly resulted from mobile games such as *Knives Out*, which gained popularity over the course of 2018 and the newly released game *All About Jianghu*. Our PC game, *Justice*, which was released in June 2018, also achieved a high revenue performance in 2018. Net revenues from mobile games and PC games represented 71.0% and 29.0% of total net revenues from online game services in 2018, respectively, compared to 70.8% and 29.2% in 2017, respectively.

	For the year ended December 31,	
	2017	2018
	%	%
Online game services net revenues:		
Mobile games	70.8	71.0
PC games	29.2	29.0
Total online game services net revenues	100.0	100.0

Net revenues from our in-house developed games increased by 12.3% to RMB36,363.6 million in 2018 from RMB32,371.4 million in 2017 as a result of the expansion in our offering of in-house developed games, in particular our mobile games. Net revenues from licensed games decreased slightly by 2.1% to RMB3,826.5 million in 2018 from RMB3,910.2 million in 2017, which was mainly attributable to the decrease in net revenues from games licensed from Blizzard. Net revenues generated from licensed games represented 7.5% and 8.8% of our total net revenues in 2018 and 2017, respectively. The following table sets forth a breakdown by in-house developed games and licensed games as a percentage of our net revenues from online games services for the periods indicated:

	For the year ended December 31,	
	2017	2018
	%	%
Online game services net revenues:		
In-house developed games	89.2	90.5
Licensed games	10.8	9.5
Total online game services net revenues	100.0	100.0

Youdao

Net revenues from our Youdao segment increased by 60.5% to RMB731.6 million in 2018 from RMB455.7 million in 2017. The increase was mainly attributable to increased revenues from online courses, which was driven by a combination of factors, including an increase in the number of paid student enrollments for certain online courses, a relatively higher level of gross billings per paid student enrollment, as well as a higher tuition fees for certain popular courses.

Innovative businesses and others

Net revenues from the innovative businesses and others segment increased by 33.2% to RMB10,256.9 million in 2018 from RMB7,700.0 million in 2017. This increase mainly resulted from increases in revenue contribution by our NetEase Cloud Music streaming and Yanxuan business.

Cost of revenues

Our cost of revenues increased by 22.9% to RMB23,832.4 million in 2018 from RMB19,394.3 million in 2017. The year-over-year increase was mainly due to an increase in both the cost of revenue sharing with distribution channel providers, game developers and other third parties and content costs. In 2018, costs relating to online game services, Youdao and innovative businesses and others represented 61.3%, 2.2% and 36.5% of total cost of revenues, respectively, as compared with 69.5%, 1.5% and 29.0% of the total cost of revenues, respectively, in 2017.

Online game services

Cost of revenues from our online game services increased by 8.5% to RMB14,617.7 million in 2018 from RMB13,473.3 million in 2017. The increase in cost of revenues in 2018 was primarily due to an increase in revenue sharing costs with distribution channel providers, game developers and other third parties related to mobile games, which was primarily due to the launch of various in-house developed and licensed mobile games in 2018.

Youdao

Cost of revenues from Youdao increased by 75.3% to RMB515.1 million in 2018 from RMB293.8 million in 2017, which was primarily attributable to increased revenue sharing costs with key instructors and payroll related expenses to support the expansion of Youdao's online course offerings.

Innovative businesses and others

Cost of revenues from our innovative businesses and others segment increased by 54.6% to RMB8,699.6 million in 2018 from RMB5,627.2 million in 2017. The increase in cost of revenues in 2018 was primarily due to increased content costs related to our NetEase Cloud Music and advertising businesses and increased costs of merchandise sold, which were in line with the increase in revenue of our Yanxuan e-commerce business.

Gross profit

Our gross profit increased by 9.2% to RMB27,346.1 million in 2018 from RMB25,043.0 million in 2017.

The following table sets forth the consolidated gross profits and gross profit margins of our business activities for the periods indicated as derived from our audited financial statements. The gross profit margins in 2017 and 2018 were calculated by dividing our gross profits over our net revenues for the corresponding type of services.

	For the year ended December 31,	
	2017	2018
	RMB	RMB
	(in thousands)	
Gross profit:		
Online game services	22,808,303	25,572,401
Youdao	161,939	216,465
Innovative businesses and others	2,072,799	1,557,283
Total gross profit	25,043,041	27,346,149
Gross profit margin:		
Online game services	62.9%	63.6%
Youdao	35.5%	29.6%
Innovative businesses and others	26.9%	15.2%
Total gross profit margin	56.4%	53.4%

The increase of gross profit margin for online game services was mainly due to the increased revenues contribution from our in-house developed PC games, which have relatively higher gross profit margin, as a percentage of our total online game revenues. The decrease of gross profit margin for Youdao was mainly due to increased revenues from learning services and products which had a lower margin than online marketing services. The decrease in gross profit margin for innovative businesses and others was mainly due to increased content and information sourcing costs related to our music and advertising businesses.

Operating expenses

Total operating expenses increased by 44.2% to RMB17,368.8 million in 2018 from RMB12,048.1 million in 2017 as a result of an increase in selling and marketing expenses, general and administrative expenses and research and development expenses. The following table sets forth our operating expenses for the periods indicated as derived from our audited financial statements.

	For the year ended December 31,	
	2017	2018
	RMB	RMB
	(in thousands)	
Operating expenses:		
Selling and marketing expenses	(5,504,613)	(6,911,710)
General and administrative expenses	(2,381,842)	(3,078,635)
Research and development expenses	(4,161,673)	(7,378,460)
Total operating expenses	(12,048,128)	(17,368,805)

Selling and marketing expenses increased by 25.6% to RMB6,911.7 million in 2018 from RMB5,504.6 million in 2017, primarily due to: (i) the increased marketing spending on our various online games, Youdao, as well as media and outdoor branding promotion for our innovative businesses and others, and (ii) an increase in staff-related costs of our sales team, primarily driven by increased headcount and higher compensation levels and performance-related bonus accruals.

General and administrative expenses increased by 29.3% to RMB3,078.6 million in 2018 from RMB2,381.8 million in 2017, primarily due to an increase in staff-related costs driven by increased headcount and higher compensation levels.

Research and development expenses increased by 77.3% to RMB7,378.5 million in 2018 from RMB4,161.7 million in 2017, primarily due to: (i) an increase in staff-related costs mainly as a result of increased headcount for our online game services and innovative businesses and others and higher salaries, bonuses and other benefits paid to our research and development teams during 2018, including share-based compensation, (ii) an increase in technology costs mainly for game content design, and (iii) an increase in other miscellaneous cost such as depreciation and amortization costs, rental and utilities expenses.

Other income/(expenses)

The following table sets forth our other income/(expenses) for the periods indicated as derived from our audited financial statements.

	For the year ended December 31,	
	2017	2018
	RMB	RMB
	(in thousands)	
Other income/(expenses):		
Investment income/(losses), net	362,113	(22,383)
Interest income, net	666,616	586,671
Exchange losses	(455,948)	(51,799)
Other, net	271,885	586,916

Other income/(expenses) in 2018 mainly consisted of investment income related to short-term investments, interest income, foreign exchange gain, offset in part by foreign exchange losses, government incentives, impairment provisions related to certain equity investments, net investment losses in equity method investees and fair value change related to our equity investments with readily determinable fair value and other financial instruments.

Investment loss was RMB22.4 million in 2018 compared to investment income of RMB362.1 million in 2017, consisting primarily of: (i) investment income related to short-term investments of RMB463.5 million in 2018, compared to RMB389.5 million in 2017, and (ii) cash dividend of RMB17.1 million from equity investments in 2018, compared to RMB29.6 million in 2017, which was offset in part by: (i) impairment provisions related to certain investments and a net investment loss in equity method investees totaling RMB258.0 million in 2018, compared to RMB70.7 million in 2017, and (ii) an unrealized fair value change of RMB248.2 million related to the equity investments with readily determinable fair value and other financial instruments in 2018 compared to zero in 2017.

Interest income decreased to RMB586.7 million in 2018 from RMB666.6 million in 2017, primarily due to a decrease of RMB3.4 billion in our net cash balance, which includes total cash and cash equivalents, time deposits and restricted cash balance minus short-term loans. We incurred interest expense of RMB315.9 million in 2018 related to our short-term loans.

Other, net increased to RMB586.9 million in 2018 from RMB271.9 million in 2017. We received and recognized unconditional government incentives of RMB316.7 million in 2018, compared to RMB242.8 million in 2017.

We also incurred net foreign exchange losses of RMB51.8 million in 2018, compared to net foreign exchange losses of RMB455.9 million in 2017, both of which are primarily due to the translation gains and losses arising from our U.S. dollar-denominated bank deposit and short-term loan balances as the exchange rate of the U.S. dollar against the RMB fluctuated over these periods.

Income tax

Income tax increased to RMB2,460.7 million in 2018 from RMB2,156.0 million in 2017. Our effective tax rate in 2018 was 22.2% compared with 15.6% in 2017. The change in the effective tax rate was mainly due to the fact that certain of our subsidiaries experienced higher operating losses in 2018.

Net income

Net income attributable to our shareholders in 2018 comprised net income from our continuing operations attributable to our shareholders of RMB8,291.1 million and net loss from discontinued operations of RMB2,138.7 million, compared to net income from our continuing operation of RMB11,542.4 million and net loss from discontinued operations of RMB834.5 million in 2017.

LIQUIDITY AND CAPITAL RESOURCES

To date, we have financed our operations primarily through operating cash flows and existing capital resources. As of December 31, 2019, we had RMB3,246.4 million in cash and cash equivalents, RMB55,847.1 million in time deposits and RMB15,312.6 million in short-term investments. As of March 31, 2020, we had RMB5,592.8 million (US$789.9 million) in cash and cash equivalents, RMB54,365.1 million (US$7,677.8 million) in time deposits and RMB19,373.4 million (US$2,736.0 million) in short-term investments. Net cash provided by continuing operating activities was RMB16,911.0 million in 2019 and RMB6,500.6 million (US$918.1 million) in the three months ended March 31, 2020. We had short-term borrowings of RMB16,828.2 million and RMB19,624.5 million (US$2,771.5 million) as of December 31, 2019 and March 31, 2020, respectively. On August 9, 2018, we entered into a three-year US$500.0 million revolving loan facility agreement with a group of four arrangers. The facility was priced at 95 basis points over LIBOR and has a commitment fee of 0.20% on the undrawn portion. As of December 31, 2019 and March 31, 2020, we had an undrawn balance of US$300.0 million and US$300.0 million, respectively, under this credit facility. We also entered into several uncommitted loan credit facility agreements provided by certain financial institution. As at December 31, 2019 and March 31, 2020, US$1,015.7 million and US$1,034.5 million, respectively, of such credit facilities has not been utilized.

We believe that our current levels of cash and cash equivalents, cash flows from operations and short-term investments will be sufficient to meet our anticipated cash needs for at least the next 12 months. However, we may need additional cash resources if we experience changed business conditions or other developments. We may also need additional cash resources if we find and wish to pursue opportunities for investment, acquisition, strategic cooperation or other similar action. If we determine that our cash requirements exceed our amounts of cash and cash equivalents on hand, we may seek to issue debt or equity securities or obtain a credit facility. Any issuance of equity securities could cause dilution for our shareholders. Any incurrence of indebtedness could increase our debt service obligations and cause us to be subject to restrictive operating and finance covenants. It is possible that, when we need additional cash resources, financing will only be available to us in amounts or on terms that would not be acceptable to us or financing will not be available at all.

Cash flows

The following table sets forth summary consolidated cash flow data for the periods indicated as derived from our consolidated financial statements. We sold our Kaola e-commerce business in September 2019, and Kaola's historical financial results are reflected in our consolidated financial statements as discontinued operations accordingly. Unless otherwise stated, cash flows discussed herein refer to our continuing activities only.

	For the year ended December 31,			For the three months ended March 31,		
	2017	2018	2019	2019	2020	
	RMB	RMB	RMB	RMB	RMB	US$
				(unaudited)	(unaudited)	(unaudited)
			(in thousands)			
Net cash provided by continuing operating activities	14,864,452	14,659,843	16,910,971	2,625,861	6,500,649	918,067
Net cash used in continuing investing activities	(15,956,509)	(14,999,696)	(21,304,489)	(4,037,261)	(2,478,387)	(350,015)
Net cash (used in)/provided by financing activities	(1,302,728)	1,587,419	1,082,525	411,135	(1,393,899)	(196,856)

Continuing operating activities

Cash provided by continuing operating activities was RMB6,500.6 million (US$918.1 million), RMB2,625.9 million, RMB16,911.0 million, RMB14,659.8 million and RMB14,864.5 million for the three months ended March 31, 2020 and 2019 and years ended December 31, 2019, 2018 and 2017, respectively.

For the three months ended March 31, 2020, cash provided by continuing operating activities consisted primarily of: (i) our net income from continuing operations of RMB3,950.7 million (US$557.9 million), (ii) an increase in deferred revenue of RMB1,379.1 million (US$194.8 million), (iii) an increase in tax payable of RMB1,234.1 million (US$174.3 million), (iv) depreciation and amortization charges of RMB690.1 million (US$97.5 million), (v) share-based compensation cost of RMB665.8 million (US$94.0 million), (vi) fair value change of equity security investments and other financial instruments of RMB327.0 million (US$46.2 million) and (vii) impairment loss for investment of RMB6.6 million (US$0.9 million), partially offset by (A) an increase in accounts receivable, prepayments and other current assets of RMB1,534.3 million (US$216.7 million) and (B) fair value changes of short-term investments of RMB153.1 million (US$21.6 million).

For the three months ended March 31, 2019, cash provided by continuing operating activities consisted primarily of: (i) our net income from continuing operations of RMB2,463.3 million, (ii) share-based compensation cost of RMB620.8 million, (iii) depreciation and amortization charges of RMB581.2 million, (iv) an increase in deferred revenue of RMB151.6 million, and (v) impairment loss for investment of RMB96.1 million, partially offset by (A) an increase in accounts receivable, prepayments and other current assets of RMB1,588.5 million and, (B) fair value change of equity security investments and other financial instruments of RMB129.9 million and (C) fair value changes of short-term investments of RMB124.6 million.

For the year ended December 31, 2019, cash provided by continuing operating activities consisted primarily of: (i) our net income from continuing operations of RMB13,468.6 million, (ii) depreciation and amortization charges of RMB2,613.8 million, (iii) share-based compensation cost of RMB2,404.1 million, (iv) an increase in deferred revenue of RMB883.7 million, (v) a decrease in inventories of RMB415.1 million, and (vi) impairment loss for investment of RMB177.6 million, partially offset by, (A) an increase in accounts receivable, prepayments and other current assets of RMB1,499.9 million, (B) fair value change of equity security investments and other financial instruments of RMB751.7 million, and (C) fair value changes of short-term investments of RMB657.6 million.

For the year ended December 31, 2018, cash provided by continuing operating activities consisted primarily of: (i) our net income from continuing operations of RMB8,616.1 million, (ii) share-based compensation cost of RMB2,471.7 million, (iii) depreciation and amortization charges of RMB2,060.1 million, (iv) an increase in deferred revenue of RMB1,757.9 million, (v) an increase in accounts payable and other liabilities of RMB641.8 million, including content fees, bandwidth cost, bonuses and marketing expenses, (vi) an increase in taxes payable of RMB685.0 million, (vii) fair value change of equity security investments and other financial instruments of RMB248.2 million, and (viii) impairment loss for investment of RMB159.7 million, partially offset by, (A) an increase in accounts receivable, prepayments and other current assets of RMB1,331.7 million, (B) fair value changes of short-term investments of RMB463.5 million, and (C) gains on disposal of long-term investments, business and subsidiaries of RMB213.3 million.

For the year ended December 31, 2017, cash provided by continuing operating activities consisted primarily of: (i) our net income from continuing operations of RMB11,683.6 million, (ii) an increase in accounts payable and other liabilities of RMB2,167.6 million, including content fees, bandwidth cost, bonuses and marketing expenses, (iii) share-based compensation cost of RMB1,984.9 million, (iv) depreciation and amortization charges of RMB791.8 million, (v) a decrease in accounts receivable, prepayments and other current assets of RMB798.0 million, (vi) unrealized exchange losses of RMB440.5 million, and (vii) allowance for provision for doubtful debts of RMB60.8 million, partially offset by, (A) an increase in inventories of RMB754.9 million, (B) a decrease in deferred revenue of RMB1,375.8 million, (C) deferred income taxes of RMB438.3 million, (D) fair value changes of short-term investments of RMB389.8 million, and (E) a decrease in taxes payable of RMB170.1 million.

Continuing investing activities

Cash used in continuing investing activities was RMB2,478.4 million (US$350.0 million), RMB4,037.3 million, RMB21,304.5 million, RMB14,999.7 million and RMB15,956.5 million for the three months ended March 31, 2020 and 2019 and years ended December 31, 2019, 2018 and 2017, respectively.

For the three months ended March 31, 2020, cash used in continuing investing activities mainly consisted of: (i) placement/rollover of matured time deposits of RMB11,667.5 million (US$1,647.8 million), (ii) purchase of short-term investments of RMB10,070.0 million (US$1,422.2 million), (iii) net change in short-term investments with terms of three months or less of RMB780.5 million (US$110.2 million), (iv) purchase of intangible assets, content and licensed copyrights of RMB306.8 million (US$43.3 million), (v) investment in equity method investees and other long-term investments of RMB205.0 million (US$29.0 million) and (vi) purchase of property, equipment and software of RMB164.3 million (US$23.2 million), partially offset by (A) proceeds from maturity of time deposits of RMB13,640.6 million (US$1,926.4 million), (B) proceeds from maturity of short-term investments with terms over three months of RMB6,888.0 million (US$972.8 million) and (C) proceeds from disposal of long-term investments and businesses of RMB197.0 million (US$27.8 million).

For the three months ended March 31, 2019, cash used in continuing investing activities mainly consisted of: (i) placement/rollover of matured time deposits of RMB16,596.5 million, (ii) purchase of short-term investments of RMB4,890.0 million, (iii) purchase of intangible assets, content and licensed copyrights of RMB851.6 million, (iv) investment in equity method investees and other long-term investments of RMB392.0 million and (v) purchase of property, equipment and software of RMB369.6 million, partially offset by (A) proceeds from maturity of time deposits of RMB15,959.5 million, (B) proceeds from maturity of short-term investments with terms over three months of RMB2,311.3 million, (C) amounts received from disposed businesses of RMB651.2 million and (D) proceeds from sale of property, equipment and software of RMB3.8 million.

For the year ended December 31, 2019, cash used in continuing investing activities mainly consisted of: (i) placement/rollover of matured time deposits of RMB77,083.4 million, (ii) purchase of short-term investments of RMB22,370.0 million, (iii) purchase of intangible assets, content and licensed copyrights of RMB2,119.3 million, (iv) purchase of property, equipment and software of RMB1,209.5 million, (v) acquisitions of other long-term investments of RMB1,111.5 million, (vi) net change in short-term investments with terms of three months or less of RMB1,023.2 million, and (vii) investment in equity method investees of RMB450.7 million, partially offset by, (A) proceeds from maturity of time deposits of RMB54,381.6 million, (B) proceeds from maturity of short-term investments of RMB20,225.3 million, (C) proceeds received from discontinued operations of RMB9,031.1 million, and (D) proceeds from disposals of investment in equity method investees and other equity investments of RMB406.7 million.

For the year ended December 31, 2018, cash used in continuing investing activities mainly consisted of: (i) placement/rollover of matured time deposits of RMB41,553.4 million, (ii) purchase of short-term investments of RMB13,393.0 million, (iii) purchase of property, equipment, software and land use rights of RMB5,096.2 million, (iv) acquisitions of other long-term investments of RMB2,751.0 million, (v) amounts paid to discontinued operations of RMB1,889.6 million, (vi) purchase of intangible assets, content and licensed copyrights of RMB1,741.2 million, (vii) net change in short-term investments with terms of three months or less of RMB1,172.3 million, and (viii) investment in equity method investees of RMB272.5 million, partially offset by, (A) proceeds from maturity of time deposits of RMB39,924.5 million, and (B) proceeds from maturity of short-term investments of RMB13,071.4 million.

For the year ended December 31, 2017, cash used in continuing investing activities mainly consisted of: (i) placement/rollover of matured time deposits of RMB33,984.1 million, (ii) purchase of short-term investments of RMB12,491.0 million, (iii) amounts paid to discontinued operations of RMB3,296.4 million, (iv) purchase of property, equipment, software and land use rights of RMB1,661.0 million, (v) acquisitions of other long-term investments of RMB900.7 million, (vi) net change in short-term investments with terms of three months or less of RMB895.3 million, (vii) purchase of intangible assets, content and licensed copyrights of RMB791.6 million, and (viii) investment in equity method investees of RMB235.8 million, partially offset by, (A) proceeds from maturity of time deposits of RMB22,429.6 million, (B) proceeds from maturity of short-term investments of RMB15,615.5 million, and (C) proceeds from disposal of equity investment of RMB350.4 million.

Long-term investments

The following table sets forth a breakdown of our long-term investments by accounting treatment as of the dates indicated:

	December 31, 2017	December 31, 2018	December 31, 2019	March 31, 2020	
	RMB	RMB	RMB	RMB	US$
				(unaudited)	(unaudited)
			(in thousands)		
Investments in equity method investees	563,896	736,551	1,137,774	1,178,773	166,475
Equity investments with readily determinable fair values	828,260	612,465	3,551,545	3,264,128	460,983
Equity investments without readily determinable fair values	1,291,620	3,896,092	4,604,549	4,774,116	674,234
Total long-term investments	2,683,776	5,245,108	9,293,868	9,217,017	1,301,692

During the Track Record Period, our significant equity method investees primarily included Zhejiang Yixin Technology Co., Ltd. (formerly known as Hangzhou Yixin Technology Co., Ltd.), a joint venture we established with China Telecom, and two limited partnerships engaging in investments in online game businesses.

As of March 31, 2020, our investees of equity investments with readily determinable fair values primarily included Alibaba, Huatai Securities Company Limited and Shenzhen Transsion Holding Limited.

Equity investments without readily determinable fair value represent investments in privately held companies with no readily determinable fair value. We do not have significant influence on these investees, or the investments are not common stock or in substance common stock.

We recorded equity share of losses of RMB12.2 million, RMB98.3 million and equity share of earnings of RMB4.3 million and RMB46.2 million (US$6.5 million) for the years ended December 31, 2017, 2018, and 2019 and the three months ended March 31, 2020, respectively, which was included in “investment income, net” in our consolidated statements of operations and comprehensive income.

We recorded fair value loss of RMB215.8 million, fair value gain of RMB763.2 million and fair value loss of RMB327.0 million (US$46.2 million) related to the equity investments with readily determinable fair value for the year ended December 31, 2018 and 2019 and March 31, 2020, respectively, which was included in "investment income, net" in our consolidated statements of operations and comprehensive income. Prior to adoption of ASU 2016-01, we recorded an unrealized fair value loss of RMB23.3 million in other comprehensive income for the year ended December 31, 2017.

We recognized a gain of RMB9.6 million, zero, RMB86.1 million and RMB20.3 million (US$2.9 million) related to the disposal of our investments in equity securities without readily determinable fair value as "investment income, net" in our consolidated statements of operations and comprehensive income for the years ended December 31, 2017, 2018 and 2019 and the three months ended March 31, 2020.

We recognized impairment provision of RMB58.5 million, RMB133.6 million, RMB168.4 million and RMB6.6 million (US$0.9 million) related to certain of the equity investments as "investment income, net" in our consolidated statements of operations and comprehensive income for the years ended December 31, 2017, 2018 and 2019 and three months ended March 31, 2020, respectively.

Short-term investments

As of December 31, 2017, 2018, 2019 and March 31, 2020, our short-term investments mainly consisted of financial products issued by commercial banks in China with a variable interest rate indexed to the performance of underlying assets and a maturity date within one year when purchased. As of December 31, 2017, 2018, 2019 and March 31, 2020, the effective yields of our short-term investments ranged from 2.00% to 5.30% per annum, 1.90% to 5.50% per annum, 2.00% to 4.25% per annum, and 2.00% to 4.13% per annum, respectively.

In 2017, 2018, 2019 and the three months ended March 31, 2020, we recorded investment income related to short-term investments of RMB389.5 million, RMB463.5 million, RMB657.6 million and RMB153.1 million (US$21.6 million), respectively.

Financing activities

For the three months ended March 31, 2019 and 2020 and years ended December 31, 2017, 2018 and 2019, cash provided by or used in financing activities was all from continuing operations. There were no financing activities from discontinued operations for these years.

Cash provided by continuing financing activities was RMB1,082.5 million and RMB1,587.4 million and RMB411.1 million for the years ended December 31, 2019 and 2018 and the three months ended March 31, 2019, respectively, and cash used in continuing financing activities was RMB1,393.9 million (US$196.9 million) and RMB1,302.7 million for the three months ended March 31, 2020 and the year ended December 31, 2017, respectively.

For the three months ended March 31, 2020, cash used in continuing financing activities mainly resulted from: (i) cash paid for repurchase of our shares and purchase of Youdao's shares of RMB2,560.9 million (US$361.7 million) and (ii) dividends paid in the amount of RMB926.5 million (US$130.9 million), partially offset by net changes in short-term loans with terms of three months or less of RMB2,539.6 million (US$358.7 million).

For the three months ended March 31, 2019, cash provided by continuing financing activities mainly resulted from: (i) net changes in short-term loans with terms of three months or less of RMB741.1 million and (ii) capital contribution from noncontrolling interests and redeemable noncontrolling interests shareholders, net of RMB68.6 million, partially offset by dividends paid in the amount of RMB413.6 million.

For the year ended December 31, 2019, cash provided by continuing financing activities mainly resulted from: (i) proceeds from issuance of redeemable noncontrolling shareholder interests and noncontrolling interests, net of issuance costs of RMB6,941.0 million and (ii) net proceeds in short-term loan of RMB2,971.5 million, partially offset by dividends paid in the amount of RMB8,840.6 million.

For the year ended December 31, 2018, cash provided by continuing financing activities mainly resulted from: (i) net proceeds in short-term loan of RMB6,209.6 million and (ii) proceeds from issuance of redeemable noncontrolling shareholder interests, net of issuance cost of RMB5,294.2 million, partially offset by repurchase of shares of RMB7,516.7 million, dividends paid in the amount of RMB1,440.2 million, and repurchase of noncontrolling interests and redeemable noncontrolling interests of RMB975.0 million.

For the year ended December 31, 2017, cash used in continuing financing activities mainly resulted from dividends paid in the amount of RMB3,257.6 million and repurchase of shares of RMB2,061.6 million, partially offset by net proceeds of short-term bank loan of RMB3,105.0 million.

Management of capital resources

In managing our capital, we seek to maintain a reasonable amount of liquidity to support new business growth and maximize returns on our capital resources, while at the same time focusing on the preservation of capital and complying with applicable legal requirements. Our capital resources include primarily cash on hand, demand deposits and time deposits mainly placed with banks in Hong Kong and China and short-term investments. Although we consolidate the results of our subsidiaries and VIEs in our consolidated financial statements, we do not have direct access to the cash and cash equivalents or future earnings of our subsidiaries and VIEs. As of December 31, 2019, these subsidiaries and VIEs had RMB59.0 billion in cash and cash equivalents, demand deposits and short-term and long-term time deposits. Our cash and cash equivalents, demand deposits, time deposits and short-term investments held outside of China are mainly denominated in U.S. dollars, Renminbi and HK dollars.

To fund any cash requirements we may have, we may need to rely on dividends and other distributions on equity paid by our subsidiaries. Since substantially all of our operations are conducted through our PRC subsidiaries and VIEs, our subsidiaries may need to rely on dividends, loans or advances made by another PRC subsidiary or VIE. Certain of these payments are subject to PRC taxes, including sales taxes, which effectively reduce the received amount. In addition, the PRC government could impose restrictions on such payments or change the tax rates applicable to such payments. In 2017, 2018, 2019 and the three months ended March 31, 2020, we accrued RMB707.1 million, RMB679.4 million, RMB846.6 million and RMB270.1 million (US$38.1 million) withholding tax liabilities, respectively, associated with our quarterly dividends and cash expected to be distributed from our PRC subsidiaries to companies in our corporate group outside of China for general corporate purposes. We repatriated a portion of these earnings and paid related withholding income tax in 2017, 2018, 2019 and the three months ended March 31, 2020. For the foreseeable future, we intend to reinvest all remaining undistributed earnings as at March 31, 2020 in our PRC subsidiaries, and accordingly no other withholding tax is expected to be incurred.

In addition, the payment of dividends by entities established in the PRC is subject to limitations. Regulations in the PRC currently permit payment of dividends only out of accumulated profits as determined in accordance with accounting standards and regulations in the PRC. Each of our PRC subsidiaries that is a domestic company is also required to set aside at least 10.0% of its after-tax profit based on PRC accounting standards each year to its general reserves or statutory capital reserve fund until the accumulative amount of such reserves reach 50.0% of its respective registered capital. These restricted reserves are not distributable as cash dividends. As a result of these and other restrictions under PRC laws and regulations, our PRC subsidiaries and VIEs are restricted in their ability to transfer a portion of their net assets to us either in the form of dividends, loans or advances, which restricted portion amounted to approximately RMB14.1 billion, or 23% of our total consolidated net assets, as of December 31, 2019. In addition, if any of our PRC subsidiaries incurs debt on its own behalf in the future, the instruments governing the debt may restrict its ability to pay dividends or make other distributions to us.

Furthermore, any transfer of funds from us to any of our PRC subsidiaries or VIEs, either as a shareholder loan or as an increase in registered capital, is subject to certain statutory limit requirements and registration or approval of the relevant PRC governmental authorities, including the relevant administration of foreign exchange and/or the relevant examining and approval authority. Therefore, it is difficult to change our capital expenditure plans once the relevant funds have been remitted from our company to our PRC subsidiaries or VIEs. These limitations on the free flow of funds between us and our PRC subsidiaries and VIEs could restrict our ability to act in response to changing market conditions and reallocate funds internally in a timely manner.

For additional information, see "Risk Factors — Risks related to our corporate structure — Our corporate structure may restrict our ability to receive dividends from, and transfer funds to, our PRC subsidiaries and VIEs, which could restrict our ability to act in response to changing market conditions and reallocate funds internally in a timely manner" and "Risk Factors — Risks related to doing business in China — Restrictions on currency exchange may limit our ability to utilize our revenues effectively."

CAPITAL EXPENDITURES

Our principal capital expenditures for the three months ended March 31, 2020 consisted mainly of new servers in connection with the operation of our businesses for a total of RMB164.3 million (US$23.2 million). Our principal capital expenditures for 2019 consisted mainly of the construction of our new office buildings and warehouses in Guangzhou and Hangzhou in China, acquisition of new servers in connection with the operation of our online games and developing the expansion packages of such games, and upgrades of our online service infrastructure for a total of approximately RMB1,209.5 million. Our principal capital expenditures for 2018 consisted mainly of the construction of our new office buildings in Hangzhou and Guangzhou in China, acquisition of new servers in connection with the operation of our online games and developing the expansion packages of such games, and upgrades of our online service infrastructure, for a total of RMB2,169.4 million. Our principal capital expenditures for 2017 consisted mainly of costs incurred for the construction of our new office buildings in Zhoushan, Guangzhou and Hangzhou in China, acquisition of new servers in connection with the operation of our online games and developing the expansion packages of such games, and upgrades of our online service infrastructure, for a total of approximately RMB1,654.5 million. In addition, in connection with the licensing of certain online games by

Blizzard to Shanghai EaseNet for operation in the PRC, during the respective terms of the licenses, Shanghai EaseNet as licensee of the games is required to pay royalty fees to Blizzard for the games, have a minimum marketing expenditure commitment, and provide funds for hardware to operate the games.

As of December 31, 2019, we had capital expenditure commitments of RMB1,472.6 million for 2020 onwards, which primarily consist of commitments made in connection with the construction of new office buildings in Guangzhou and Shanghai. Our capital expenditures in 2019 have been, and future capital expenditures are expected to continue to be, funded by operating cash flows and our existing capital resources.

HOLDING COMPANY STRUCTURE

Our company was incorporated in the Cayman Islands. NetEase, Inc. conducts its business in China through its subsidiaries and VIEs. Under current Chinese regulations, there are restrictions and prohibitions on foreign investment in Chinese companies providing, among other things, value-added telecommunications services, internet cultural services and internet publication services, which include the provision of online game, online education and other internet content and services. In order to comply with these restrictions and other Chinese rules and regulations, NetEase, Inc. and certain of its subsidiaries have entered into a series of contractual arrangements for the provision of such services with certain affiliated companies, including Guangzhou NetEase, Hangzhou Leihuo, Youdao Computer, Shanghai EaseNet and certain other affiliated companies. These affiliated companies are considered “variable interest entities” for accounting purposes, and are referred to collectively in this document as “VIEs.” These contractual arrangements allow us to exercise effective control over the VIEs and their subsidiaries. The VIEs hold ICP licenses and other regulated licenses in which foreign investment is restricted or prohibited and operate our Internet businesses and other businesses. The revenue earned by the VIEs largely flows through to NetEase, Inc. and its subsidiaries pursuant to such contractual arrangements. Based on these agreements, NetEase Hangzhou, Boguan and certain other affiliated companies provide technical consulting and related services to the VIEs. In addition, Guangzhou NetEase has a wholly-owned subsidiary, Wangyibao (the operator of our NetEase Pay online payment platform).

As of December 31, 2019, the total assets of all the consolidated VIEs of our company were RMB14.4 billion, mainly comprising cash and cash equivalents, time deposits, accounts receivable, prepayments and other current assets and fixed assets. As of December 31, 2019, the total liabilities of the consolidated VIEs were RMB12.3 billion, mainly comprising accounts payable, deferred revenue, accrued liabilities and other payables.

We believe that our present operations are structured to comply with the relevant Chinese laws. However, many Chinese regulations are subject to extensive interpretive powers of governmental agencies and commissions. We cannot be certain that the Chinese government will not take action to prohibit or restrict our business activities. Future changes in Chinese government policies affecting the provision of information services, including the provision of online games, online education, internet access, online advertising and online payment services, may impose additional regulatory requirements on us or our service providers or otherwise harm our business.

INFLATION

Inflation in China has not materially impacted our results of operations in recent years. According to the National Bureau of Statistics of China, the year-over-year increase in the consumer price index in calendar years 2017, 2018 and 2019 was 1.6%, 2.1% and 2.9%, respectively. Although we have not been materially affected by inflation in the past, we can provide no assurance that we will not be affected in the future by higher inflation rates in China.

CONTRACTUAL OBLIGATIONS

We have operating lease commitments, which are the lease commitments under the lease agreements for our corporate offices, warehouses and retail stores. We also have contractual obligations in respect of the construction of new office buildings and warehouse facilities in Guangzhou, Shanghai and Hangzhou, capital expenditures related to computer equipment and server and bandwidth service fee. In addition, we have contractual obligations in connection with the games licensed from Blizzard. The following sets forth our contractual obligations for server and bandwidth service fees, long-term payables, capital expenditures and office machine and other obligations related to content and services purchases, including the royalties and minimum marketing expenditure commitment for the games licensed to us by Blizzard, as of December 31, 2019:

	Operating Lease Commitments	Server and Bandwidth Serve Fee Commitments	Capital Commitments	Royalties and Expenditure for Licensed Content Commitments	Office Machines and Other Commitments	Total
	RMB	RMB	RMB	RMB	RMB	RMB
			(in thousands)			
2020	195,945	210,343	467,344	2,057,962	135,903	3,067,497
2021	175,286	368,206	578,011	2,166,368	29,304	3,317,175
2022	97,639	218,863	217,001	1,707,765	17,886	2,259,154
2023	20,338	77,616	209,284	1,311,465	17,619	1,636,322
Beyond 2023....	12,930	52,848	1,000	849,159	–	915,937
	502,138	927,876	1,472,640	8,092,719	200,712	11,196,085

Other than the obligations set forth above, we do not have any long-term commitments.

WORKING CAPITAL

We recorded net current assets of RMB38,197.6 million, RMB33,606.7 million, RMB46,862.0 million and RMB46,813.7 million (US$6,611.4 million), respectively, as of December 31, 2017, 2018 and 2019 and March 31, 2020. The following table sets forth a breakdown of our current assets and liabilities as of the dates indicated.

	December 31, 2017	December 31, 2018	December 31, 2019	March 31, 2020	
	RMB	RMB	RMB	RMB	US$
				(unaudited)	(unaudited)
			(in thousands)		
Current assets:					
Cash and cash equivalents	2,467,467	4,977,432	3,246,373	5,592,847	789,861
Time deposits	30,603,369	32,900,287	53,487,075	50,515,092	7,134,094
Restricted cash	5,886,367	4,692,050	3,150,354	3,507,105	495,298
Accounts receivable, net	3,539,594	4,002,487	4,169,358	4,559,441	643,916
Inventories, net	984,228	1,065,615	650,557	562,117	79,386
Prepayments and other current assets	3,126,796	3,925,205	4,817,422	6,060,421	855,895
Short-term investments	9,702,609	11,674,775	15,312,595	19,373,366	2,736,042
Assets held for sale	5,637,330	5,477,869	271,278	50,751	7,167
Total current assets	**61,947,760**	**68,715,720**	**85,105,012**	**90,221,140**	**12,741,659**
Current liabilities:					
Accounts payable	1,070,976	1,201,210	1,212,303	1,197,007	169,050
Salary and welfare payables	2,076,160	2,799,212	2,957,360	2,429,147	343,061
Taxes payable	1,561,920	2,260,646	3,156,513	4,390,606	620,072
Short-term loans	6,623,502	13,658,554	16,828,226	19,624,535	2,771,514
Deferred revenue	6,049,903	7,718,485	8,602,227	9,981,353	1,409,636
Accrued liabilities and other payables	4,331,937	5,005,190	5,292,774	5,546,607	783,331
Short-term operating lease liabilities	–	–	191,454	238,071	33,622
Liabilities held for sale	2,035,716	2,465,713	2,156	87	12
Total current liabilities	**23,750,114**	**35,109,010**	**38,243,013**	**43,407,413**	**6,130,298**

For a detailed discussion on our cash position, being the balance sheet item that has material impact on our liquidity, as well as material changes in the various working capital items, see "— Liquidity and Capital Resources."

Taking into account cash and cash equivalents on hand, our operating cash flows, the available bank facilities and the estimated net proceeds available to us from the Global Offering, our directors believe that we have sufficient working capital for our present requirements and for at least the next 12 months from the date of this document.

OFF-BALANCE SHEET ARRANGEMENTS

We did not have any material off-balance sheet arrangements in the years ended December 31, 2017, 2018 or 2019 and the three months ended March 31, 2020.

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest rate risk

Our exposure to market rate risk for changes in interest rates relates primarily to the interest income generated by excess cash invested in fixed-rate corporate bonds of well-known Chinese companies and financial products issued by commercial banks in China, as well as interest expenses payable on our short-term bank borrowings. All of our short-term bank borrowings as of March 31, 2020 were at fixed rates. Interest instruments carry a degree of interest rate risk. We have not been exposed nor do we anticipate being exposed to material risks due to changes in interest rates. However, our future net interest income may fall short of expectations due to changes in interest rates. Based on our interest instruments as of March 31, 2020, a 10% change in the interest rate would result in an increase or decrease of RMB34.5 million (US$4.9 million) of our total amount of net interest income or of RMB15.3 million (US$2.2 million) of our total amount of investment income from short-term investments for the three months ended March 31, 2020.

Foreign currency risk

A significant majority of our revenues and expenses are denominated in Renminbi, but as noted above, a certain portion of our cash is kept in U.S. dollars, HK dollars and Euro. Although we believe that, in general, our exposure to foreign exchange risks should be limited, the value of our ADSs will be affected by the foreign exchange rate between U.S. dollars, HK dollars, Euro and Renminbi. For example, to the extent that we need to convert U.S. dollars, HK dollars or Euro into Renminbi for our operational needs and the Renminbi appreciates against the U.S. dollars, HK dollars or Euro at that time, our financial position and the price of our ADSs may be adversely affected. Conversely, if we decide to convert our Renminbi into U.S. dollars for the purpose of declaring dividends on our ADSs or otherwise and the U.S. dollar, HK dollars or Euro appreciates against the Renminbi, the U.S. dollar equivalent of our earnings from our subsidiaries and controlled entities in China would be reduced.

The conversion of RMB into foreign currencies, including U.S. dollars, is based on rates set by the PBOC. The PRC government allowed the RMB to appreciate by more than 20% against the U.S. dollar between July 2005 and July 2008. Between July 2008 and June 2010, this appreciation halted and the exchange rate between the RMB and the U.S. dollar remained within a narrow band. Since June 2010, RMB has fluctuated against the U.S. dollar, at certain times significantly and unpredictably. With the development of the foreign exchange market progressing towards interest rate liberalization and Renminbi internationalization and economic uncertainties in both China and the world, the PRC government may in the future announce further changes to the exchange rate system and we cannot assure you that the Renminbi will not appreciate or depreciate significantly in value against the U.S. dollar in the future. It is difficult to predict how market forces or PRC or U.S. government policy may impact the exchange rate between the RMB and the U.S. dollar in the future.

We translate our monetary assets and liabilities which are denominated in currencies other than Renminbi into Renminbi as of each accounting period end, in accordance with applicable accounting standards. As a result of this foreign currency translation, we reported net foreign exchange gain of RMB25.2 million in 2019 and RMB244.1 million (US$34.5 million) in the three months ended March 31, 2020, compared to net foreign exchange losses of RMB51.8 million in 2018 and RMB39.5 million in the three months ended March 31, 2019. To date, we have not entered into any hedging transactions in an effort to reduce our exposure to foreign currency exchange risk. While we may decide to enter into hedging transactions in the future, the effectiveness of these hedges may be limited and we may not be able to successfully hedge our exposure. Accordingly, we may incur economic losses in the future due to foreign exchange rate fluctuations, which could have a negative impact on our financial condition and results of operations.

As of December 31, 2019 and March 31, 2020, we had U.S. dollar-denominated debt outstanding of US$2,178.0 million and US$2,533.0 million, respectively. If the U.S. dollar had appreciated/depreciated by 10% against the Renminbi, our interest payments on this debt in Renminbi terms would have increased/decreased by RMB35.7 million and RMB27.1 million (US$3.8 million), respectively.

As of December 31, 2019 and March 31, 2020, we had U.S. dollar-denominated cash and cash equivalents and time deposits of US$4,609.5 million and US$4,824.8 million, respectively. If the U.S. dollar had appreciated/depreciated by 10% against the Renminbi, our U.S. dollar-denominated cash and cash equivalents and time deposits as of December 31, 2019 and March 31, 2020 would have increased/decreased by RMB3,209.1 million and RMB3,416.3 million, respectively, in Renminbi terms.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Our significant accounting policies are set forth in Note 2 to the Accountant's Report in Appendix IA. The preparation of our consolidated financial statements requires our management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements. Our management periodically re-evaluates these estimates and assumptions based on historical experience and other factors, including expectations of future events that they believe to be reasonable under the circumstances. Actual results may differ significantly from those estimates and assumptions. We have identified the following accounting policies and estimates as the most critical to an understanding of our financial position and results of operations, because the application of these policies requires significant and complex management estimates, assumptions and judgment, and the reporting of materially different amounts could result if different estimates or assumptions were used or different judgments were made.

Basis of consolidation

Our consolidated financial statements include the financial statements of our subsidiaries and VIEs for which we are the primary beneficiary with the ownership interests of minority shareholders reported as noncontrolling interests. All significant transactions and balances among the Company, our subsidiaries and VIEs have been eliminated upon consolidation. We consolidate a VIE if we have the power to direct matters that most significantly impact the activities of the VIE, and have the obligation to absorb losses or the right to receive benefits of the VIE that could potentially be significant to the VIE.

Revenue recognition

On January 1, 2018, we adopted Topic 606 using the modified retrospective method applied to all contracts which were not completed as of January 1, 2018. Results for reporting periods beginning after January 1, 2018 are presented under Topic 606, while prior period amounts are not adjusted and continue to be reported in accordance with our historic accounting under Topic 605.

Under Topic 606, revenues from contracts with customers are recognized when control of the promised goods or services is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for those goods or services, reduced by estimates for return allowances, promotional discounts, rebates and VAT. The recognition of revenues involves certain management judgments, including estimated lives of virtual items purchased by game players, estimated breakage of game points, return allowance for goods sold, the estimation of the fair value of an advertising-for-advertising barter transaction, and the volume of sales rebates. The amount and timing of our revenues can be different if management made different judgments or utilized different estimates.

We operate mobile games and PC games. We are the principal of all games we operate, including both in-house developed games and licensed games. As all these games are hosted on our servers, we have the pricing discretion, and are responsible for the sale and marketing of the games as well as any related customer services. Fees paid to game developers, distribution channels (for example, app stores) and payment channels are recorded as cost of revenues.

Mobile games

We generate mobile game revenues from the sale of in-game virtual items, including avatars, skills, privileges or other in-game consumables, features or functionality, within the games. The performance obligation is to provide on-going game services to the game players who have purchased such virtual items and is satisfied over the average playing period of the paying players. Accordingly, we recognize the revenues ratably over the estimated average playing period of these paying players.

We consider the average period that players typically play the games and other game player behavior patterns, as well as various other factors to arrive at the best estimates for the estimated playing period of the paying players for each game based on players' historical churn rate. If a new game is launched and only a limited period of paying player data is available, then we consider other qualitative factors, such as the playing patterns for paying users for other games with similar characteristics and playing patterns of paying players, such as targeted players and purchasing frequency. While we believe our estimates to be reasonable based on available game player information, we may revise such estimates based on new information indicating a change in the game player behavior patterns and any adjustments are applied prospectively.

PC games

We sell prepaid points to players of our PC games. Customers can purchase "virtual" prepaid points online or from the vendors who register the points in our system via debit and credit cards or bank transfers via the online payment services platforms, and receive the prepaid point information over the internet. Our game players can use the points to play our PC games, pay for in-game items and use other fee-based services. Proceeds received from the sales of prepaid points to players are recorded as deferred revenues.

We earn revenue through providing PC game services to players under two types of revenue models: the time-based revenue model and item-based revenue model. For PC games using the time-based model, players are charged based on the time they spend playing games. Revenues are recognized ratably over the game playing period as the performance obligations are satisfied.

Under the item-based model, the basic game play functions are free of charge, and players are charged for purchases of in-game items. In-game items have different life patterns: one-time use, limited life and permanent life. Revenues from the sales of one-time use in-game items are recognized upon consumption. Limited life items are either limited by the number of uses (for example, 10 times) or limited by time (for example, three months). Revenues from the sales of limited life in-game items are recognized ratably based on the extent of time passed or expired or when the items are fully used. Players are allowed to use permanent life in-game items without any use or time limits. Revenues from the sales of permanent life in-game items are recognized ratably over the estimated average playing period of the paying players.

We consider the average period that players typically play the games and other game player behavior patterns, as well as various other factors, including the acceptance and popularity of expansion packs, promotional events launched and market conditions to arrive at the best estimates of the estimated average playing period of the paying players for the permanent in-game items of each PC game based on players' historical churn rate. This estimate is re-assessed on a quarterly basis. Adjustments arising from changes in the estimated playing period of paying players are applied prospectively as such changes result from new information indicating a change in the game player behavior patterns.

Youdao's online courses services

Youdao's services consist of online courses delivered via live streaming, other activities during the online live streaming period and content playback services. The aforementioned services are highly interdependent and interrelated in the context of the contract and are only considered accessory services to the online live streaming courses, and therefore are not distinct and are not sold standalone. As a result, a live streaming course is accounted for as a single performance obligation which is satisfied over its learning period. The revenues generated from our live streaming courses are recognized ratably over an average of the learning periods of our live streaming courses. We consider the average length of period during which students typically spend time on viewing the courses, as well as other learning behavior patterns, to arrive at the best estimates for the length of the period during the students view playback of the course recordings.

Advertising services

We derive our advertising revenues principally from short-term online advertising contracts. Advertising service contracts may consist of multiple performance obligations with a typical term of less than three months. In arrangements where we have multiple performance obligations, the transaction price is allocated to each performance obligation using the relative stand-alone selling price. We generally determine standalone selling prices based on the prices charged to customers. If the performance obligation has not been sold separately, we estimate the standalone selling price by taking into consideration of the pricing for advertising areas of our platform with a similar advertisement with similar formats and quoted prices from competitors as well as other market conditions. The price allocated to each performance obligation is recognized as revenue over the advertisement display period, which is usually within three months.

We also enter into performance-based advertising arrangements with customers. For cost per mile or cost per thousand impressions advertising arrangements with customers, we recognize revenues based on the number of times that the advertisement has been displayed; and for cost per action advertising arrangements with customers, including Youdao online marketing services, we recognize revenues based on the number of actions completed through the advertisements, e.g., when users click on links.

Certain customers may receive volume rebates, which are accounted for as variable consideration. We estimate annual expected revenue volume with reference to their historical results and reduce revenues recognized.

We recognize revenue from providing advertising service in exchange for non-cash consideration, usually advertising services, promotional benefits, content, consulting services and software provided by counterparties, at the fair value of the non-cash consideration measured as of contract inception date. If we are not able to reliably determine the fair value of noncash consideration, the value of the noncash consideration received is measured indirectly by reference to the standalone selling price of advertising services provided by us.

E-commerce

Our e-commerce revenue is primarily from our private label e-commerce platform Yanxuan. We are the principal for the online direct sales, as we control the inventory before the goods are transferred to customers. We have the primary responsibility for fulfilling the contracts, bear the inventory risk, and have sole discretion in establishing the prices. E-commerce revenues from online direct sales are recognized when control of the goods is transferred to the customer, which generally occurs upon delivery to the customer. We also provide discount coupons to our customers for use in purchases on the Yanxuan platform, which are treated as a reduction of revenue when the related transaction is recognized.

Return allowances, which reduce revenue and cost of sales, are estimated using historical experience. Liabilities for return allowances and rights to recover products from customers associated with our liabilities are recorded as "Accrued liabilities and other payables" and "Inventories, net," respectively, on our consolidated balance sheets.

Fee-based premium services

Fee-based premium services revenues, mostly operated on either consumption-basis or a monthly subscription basis, are derived principally from providing premium live streaming services, online music services, online reading, e-mail and other innovative services. Prepaid subscription fees collected from customers are deferred and are recognized as revenue on a straight-line basis by us over the subscription period, during which customers can access the premium online services provided by us. Fees collected from customer to be consumed to purchase online services are recognized as revenue when related services are rendered.

We generate revenue from the operation of its live streaming platforms whereby users can enjoy live performances provided by the hosts and interact with the hosts. Most of the hosts host the performance on their own. We create and sell virtual items to users so that the users present them simultaneously to hosts to show their support. The virtual items sold by us comprise of either (i) consumable items or (ii) time-based item, such as privilege titles etc. Under the arrangements with the hosts, we share with them a portion of the revenues derived from the sales of virtual items. Revenues derived from the sale of virtual items are recorded on a gross basis as we act as the principal to fulfill all obligations related to the sale of virtual items. Accordingly, revenue is recognized when the virtual item is delivered and consumed if the virtual item is a consumable item or, in the case of time-based virtual item, recognized ratably over the period each virtual item is made available to the user.

Practical expedients

We have used the following practical expedients as allowed under ASC 606:

(a) The effects of a significant financing component are not taken into account for contracts if we expect, at contract inception, that the period between when we transfer a promised good or service to the customer and when the customer pays for that good or service will be one year or less.

(b) We apply the portfolio approach in determining the commencement date of consumption of permanent virtual items and the estimated average playing period of paying players for our PC games and mobile games for the recognition of online game revenue given that the effect of applying a portfolio approach to a group game players' behaviors does not differ materially from considering each one of them individually.

(c) We elect to expense the costs to obtain a contract as incurred when the expected amortization period is one year or less.

Contract balances

Timing of revenue recognition may differ from the timing of invoicing to customers. Accounts receivables represent amounts invoiced and revenue recognized prior to invoicing, when we have satisfied our performance obligations and have the unconditional right to payment. We closely monitor the collection of our accounts receivables and record a reserve for doubtful accounts against aged accounts and for specifically identified non-recoverable amounts. If the economic situation and the financial condition of the customer deteriorates resulting in an impairment of the customer's ability to make payments, additional allowances might be required. Accounts receivables balances are written off when they are determined to be uncollectible.

Investments

Short-Term Investments

Short-term investments include investments in financial instruments with a variable interest rate indexed to performance of underlying assets and investments that we intend, and have the ability, to hold to maturity.

In accordance with ASC 825, for investments in financial instruments with a variable interest rate indexed to performance of underlying assets, we elected the fair value method at the date of initial recognition and carried these investments at fair value. Changes in the fair value are reflected in the consolidated statements of operations and comprehensive income as other income/(expense). Fair value is estimated based on quoted prices of similar products provided by banks at the end of each period. We classify the valuation techniques that use these inputs as Level 2 of fair value measurements.

Long-Term Investments

Long-term investments are comprised of equity investments in publicly traded companies, privately-held companies and limited partnerships.

Equity investments in publicly traded companies are reported at fair value. Prior to January 1, 2018, they were classified as available-for-sale equity securities under long-term investments, with unrealized gains or losses, if any, recorded in accumulated other comprehensive income/(loss) in shareholders' equity. The treatment of a decline in the fair value of an individual security is based on whether the decline is other-than-temporary. We assess available-for-sale equity securities for other-than-temporary impairment by considering factors including, but not limited to, our ability and intent to hold the individual security, severity of the impairment, expected duration of the impairment and forecasted recovery of fair value. If we determine a decline in fair value is other-than-temporary, the cost basis of the individual security is then written down to fair value as a new cost basis and the amount of the write-down is accounted for as a realized loss charged to the consolidated statements of comprehensive income. The fair value of the investment would then become the new cost basis of the investment and is not adjusted for subsequent recoveries in fair value. Starting January 1, 2018, upon the adoption of ASU 2016-01, unrealized gains and losses during the year of 2018 are recognized in other income/(expense).

Prior to January 1, 2018, for investments in common stock or in-substance commons stocks issued by privately-held companies over which we did not have significant influence, and investments in privately-held companies' equity securities that are not common stock or in-substance common stocks, as these securities do not have readily determinable fair value, we carried such investments at cost and only adjusted for other-than-temporary declines in fair value and distributions of earnings that exceeded our share of earnings since our investment. Starting January 1, 2018, upon the adoption of ASU 2016-01, we have elected to measure these investments in equity securities without readily determinable fair value at cost, less impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the same or a similar investment in the same issuer (referred to as the measurement alternative). All gains and losses on these equity securities, realized and unrealized, are recognized in other income/(expense), net.

Investments in common stock or in-substance common stock of investees and limited partnership investments in which we are in a position to exercise significant influence by participating in, but not controlling or jointly controlling, the financial and operating policies are accounted for using the equity method.

Management regularly evaluates the impairment of the investments in privately-held companies without readily determinable fair value and equity method investments at each balance sheet date, or more frequently if events or circumstances indicate that the carrying amount may not be recoverable. For investments without readily determinable fair values, management performs a qualitative assessment of the fair value of the equity interest in comparison to its carrying amount to determine if there is an indication of potential impairment. If such indication exists, management estimates the fair value of the investment and records an impairment in the consolidated statements of comprehensive income to the extent the carrying amount exceeds the fair value. Significant judgments management applies in the impairment assessment for these equity investments include: (i) the determination as to whether any impairment indicators exist during the year; (ii) the selection of valuation methods; (iii) the determination of significant assumptions used to value the equity investments, including selection of comparable companies and multiples, timing and probabilities of different scenarios, estimated volatility rate, risk-free rate and discount for lack of marketability; and (iv) judgments as to whether a decline in value of equity method investments was other than temporary. For equity method investments, management considers an investment impaired when events or circumstances suggest the carrying amount may not be recoverable and recognizes any impairment charge in the consolidated statements of comprehensive income for a decline in value that is determined to be other than temporary.

RECENTLY ISSUED AND ADOPTED ACCOUNTING POLICIES

Please refer to Note 2(z) to the Accountant's Report in Appendix IA and Note 2(e) to the Unaudited Condensed Interim Financial Information in Appendix IB.

DIVIDEND POLICY

In May 2014, our board of directors approved a quarterly dividend policy commencing in 2014. Under this policy, quarterly dividends were set at an amount equivalent to approximately 25% of our anticipated net income after tax in each fiscal quarter. In the second quarter of 2019, our board of directors determined that quarterly dividends will be set at an amount equivalent to approximately 20%-30% of our anticipated net income after tax in each fiscal quarter. The determination to make dividend distributions and the amount of such distributions in any particular quarter will be made at the discretion of our board of directors and will be based upon our operations and earnings, cash flow, financial condition and other relevant factors. Our board of directors declared dividends on our ordinary shares which were equivalent to US$0.69, US$1.04, US$4.14 and US$1.02 per ADS for the first, second, third and fourth quarters of 2019, respectively. Our board of directors also approved an additional special dividend equivalent to US$3.45 per ADS in the third quarter of 2019. All dividends declared in 2019 have been paid. In May 2020, our board of directors approved the Q1 Dividend, and we expect to make dividend payments of approximately US$158 million in aggregate on June 23, 2020 to shareholders of record as of the close of business on June 12, 2020.

Prior to June 11, 2020 (U.S. Eastern Time), the price of our ADSs traded on Nasdaq reflects the entitlement of such ADS holders to receive the Q1 Dividend. June 11, 2020 (U.S. Eastern Time) is the first day of trading when the buyers of our ADSs are no longer entitled to the Q1 Dividend, because trades executed on June 11, 2020 will settle the day after the Record Date of the Q1 Dividend, making it too late for the buyers to receive the dividend. Therefore, the price of our ADSs will be adjusted down on June 11, 2020 to reflect the ex-dividend nature of ADSs bought on or after such date.

After our listing on the Hong Kong Stock Exchange on June 11, 2020, our Shares will immediately begin to trade *ex-dividend*. If you purchase our Shares through the open market, you will not be entitled to receive the Q1 Dividend. The trading price of our Shares immediately after our listing on the Hong Kong Stock Exchange on June 11, 2020 may be lower than the comparable closing price of our ADSs on June 10, 2020. However, you should not interpret such differential as a discount on the price of our Shares offered to investors. Rather such discrepancy is, at least in part, the result of the different entitlement rights with respect to the Q1 Dividend.

We are a holding company incorporated in the Cayman Islands, and our ability to pay dividends to our shareholders depends upon dividends, loans or advances that we receive from our subsidiaries and VIEs. Please refer to "Risk Factors — Risks related to our corporate structure — Our corporate structure may restrict our ability to receive dividends from, and transfer funds to, our PRC subsidiaries and VIEs, which could restrict our ability to act in response to changing market conditions and reallocate funds internally in a timely manner."

Holders of our ADSs will be entitled to receive dividends, if any, subject to the terms of the deposit agreement (including the fees and expenses payable thereunder), to the same extent as the holders of our ordinary shares. Cash dividends will be paid to the depositary in U.S. dollars, which will distribute them to the holders of ADSs according to the terms of the deposit agreement. Other distributions, if any, will be paid by the depositary to the holders of ADSs in any means it deems legal, fair and practical.

NO MATERIAL ADVERSE CHANGE

After due and careful consideration, our directors confirm that, up to the date of this document, there has not been any material adverse change in our financial or trading position or prospects since December 31, 2019, and there is no event since December 31, 2019 which would materially affect the information shown in the Accountant's Report in Appendix IA.

LISTING EXPENSES

We expect to incur listing expenses of up to approximately RMB299.6 million (assuming that the Global Offering is conducted at the indicative offer price per Offer Share of HK$126.00 for both Hong Kong Public Offering and International Offering and the Over-allotment Option is not exercised). We expect to recognize RMB9.8 million as general and administrative expenses in the fiscal year ending December 31, 2020 and RMB289.8 million as a deduction in equity directly.

UNAUDITED PRO FORMA ADJUSTED NET TANGIBLE ASSETS

The following unaudited pro forma adjusted net tangible assets prepared in accordance with Rule 4.29 of the Hong Kong Listing Rules are set out below for the purpose of illustrating the effect of the Global Offering on the consolidated net tangible assets attributable to the ordinary shareholders of the Company as at March 31, 2020 as if the Global Offering had taken place on that date.

The unaudited pro forma adjusted net tangible assets has been prepared for illustrative purposes only and because of its hypothetical nature, it may not give a true picture of the consolidated net tangible assets of the Company, had the Global Offering been completed as of March 31, 2020 or at any future dates. It is prepared based on the consolidated net tangible assets attributable to ordinary shareholders of the Company as of March 31, 2020 as derived from the Unaudited Condensed Interim Financial Information, the text of which is set out in Appendix IB to this prospectus, and adjusted as described below.

	Unaudited consolidated net tangible assets attributable to ordinary shareholders of the Company as of March 31, 2020	Estimated net proceeds from the Global Offering	Unaudited pro forma adjusted net tangible assets attributable to ordinary shareholders of the Company as of March 31, 2020	Unaudited pro forma adjusted net tangible assets per Share	Unaudited pro forma adjusted net tangible assets per ADS	Unaudited pro forma adjusted net tangible assets per Share	Unaudited pro forma adjusted net tangible assets per ADS
	(in thousands of RMB)	(in thousands of RMB)	(in thousands of RMB)	RMB	RMB	HK$	HK$
	(Note 1)	*(Note 2)*		*(Note 3)*	*(Note 4)*	*(Note 5)*	*(Note 5)*
Based on Maximum Public Offer Price of HK$126.00 per Offer Share	62,333,728	19,466,053	81,799,781	23.85	596.31	26.07	651.85

Notes:

(1) The unaudited consolidated net tangible assets attributable to ordinary shareholders of the Company as of March 31, 2020 is calculated based on the unaudited consolidated net assets attributable to ordinary shareholders of the Company as of March 31, 2020 of RMB62,597,346,000 with adjustment for intangible assets attributable to the ordinary shareholders of the Company of RMB263,618,000.

(2) The estimated net proceeds from the Global Offering is based on the Maximum Public Offer price of HK$126.00 per Share, after deduction of the estimated underwriting fees and other related expenses payable by the Company subsequent to March 31, 2020 and without taking into account any allotment and issuance of Shares upon exercise of the Over-allotment Option, the Shares to be issued pursuant to the Share Incentive Plans, including pursuant to the exercise of options or the vesting of RSUs or other awards that have been or may be granted from time to time, and any issuance or repurchase and cancellation of Shares and/or ADSs by the Company.

(3) The unaudited pro forma adjusted net tangible assets per Share is arrived at after the adjustments referred to in the preceding paragraphs and on the basis that 3,429,395,456 Shares were in issue assuming that the Global Offering had been completed on March 31, 2020 without taking into account any allotment and issuance of Shares upon exercise of the Over-allotment Option, the Shares to be issued pursuant to the Share Incentive Plans, including pursuant to the exercise of options or the vesting of RSUs or other awards that have been or may be granted from time to time, and any issuance or repurchase and cancellation of Shares and/or ADSs by the Company after the Latest Practicable Date.

(4) The unaudited pro forma adjusted net tangible assets per ADS is arrived at after the adjustments referred to in the preceding paragraphs and on the basis that one ADS represent twenty-five Shares.

(5) For the purpose of this unaudited pro forma adjusted net tangible assets, the balances stated in Renminbi are converted into Hong Kong dollars at the rate of RMB1.000 to HK$1.0931. No representation is made that Renminbi amounts have been, could have been or may be converted into Hong Kong dollars, or vice versa, at that rate.

(6) The unaudited pro forma adjusted net tangible assets does not take into account the dividend of US$1.16 per ADS for the first quarter of 2020, which is approved in May 2020 and expected to be paid on June 23, 2020 to shareholders of record as of the close of business on June 12, 2020.

(7) No adjustment has been made to reflect any trading result or other transactions of the Company entered into subsequent to March 31, 2020.