

## Congressional Testimony

Chairman Blumenthal, Ranking Member Hawley, Distinguished Members:

Why does it matter that Microsoft partners with the Communist Party of China? What impact does Apple's supply chain exposure to China have on U.S. national security? And why is Elon Musk a free speech advocate – except when it comes to China?

My name is Isaac Stone Fish, and I am the CEO and founder of Strategy Risks, a business intelligence firm which tracks exposure to China, and helps ensure U.S. companies advance U.S. national security priorities. I'm a Mandarin speaker and former Beijing-based correspondent: In the seven years I spent in China, I visited every province, municipality, and special autonomous region. I am also the author of *America Second* (Knopf, 2022), a book about the Party's influence in the United States and how to ethically and responsibly push back.

In the weeks following the revelations of the massive Chinese Salt Typhoon hack against U.S. targets – and in the weeks following a Presidential election that could transform U.S. policy to China -- this Subcommittee has wisely asked about the implications of major U.S. technology companies' exposure to China. For decades, major U.S. technology companies have integrated their supply chains into China, partnered with brilliant Chinese scientists, and built multi-billion dollar sales and distribution channels into the Chinese market.

In the 2000s and early 2010s -- before Chairman Xi Jinping's dominance and repression, before the genocide in Xinjiang, before the trade wars, before Beijing's horrifically irresponsible behavior during COVID, and before China began seriously threatening U.S. hegemony – U.S. tech companies could partner with the Party and not necessarily jeopardize U.S. national security. Those days are over. Companies with high China exposure often downplay the risks of Beijing's actions to U.S. interests, move U.S. jobs overseas, partner with businesses committing human rights abuses in China, and even strengthen the Party – so that it can implement actions like more successfully hack into the United States government.

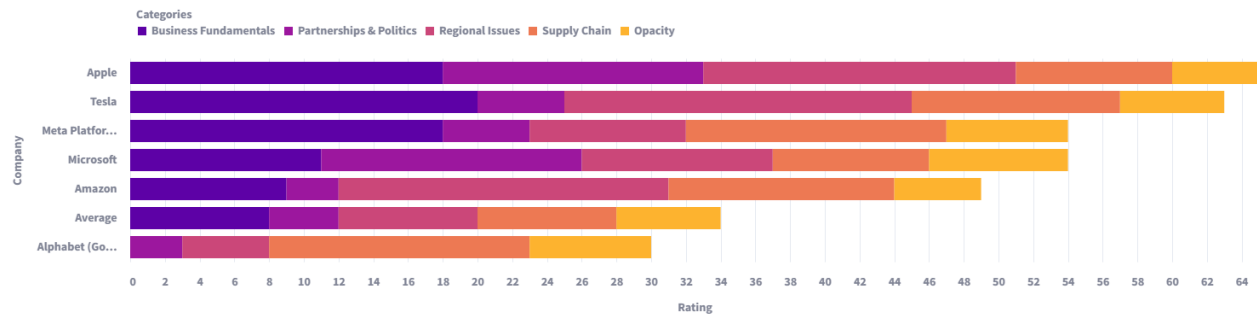
What does exposure to China mean?

Strategy Risks defines and measures exposure through five categories: Business Fundamentals, Partnerships and Politics, Regional Issues, Supply Chain, and Opacity. Business Fundamentals measures revenue in China and other key business measures, reflecting a firm's economic and financial China risks. Partnerships and Politics measures a firm's relationships with state-owned enterprises (SOEs) and the Party. Regional Issues measures risks related to issues such as forced labor, human rights concerns, and regulatory challenges in regions like Xinjiang – where the Party is committing genocide against the local Uyghur population. Supply Chain measures a firm's risk from sourcing materials from China. Opacity reflects a firm's relative lack of disclosure of information relating to China-related risks. These scores are reflected in the Strategy Risks 250 (SR 250) index, which tracks the China exposure of 250 of the United States' largest publicly traded firms.

There are a mix of factors driving these scores: however, one common theme is that firms which conduct business in China need to partner with and satisfy the Party and the Chinese government to ensure business access in China. The Chinese market operates at the behest of the government, and laws in China follow the dictates of the Party. One party rule and one-man rule means that all laws are negotiable, which

forces firms operating in the China to align with the political party in power, instead of a neutral state apparatus.

AAPL, TSLA, MSFT, AMZN, META, GOOG vs. 250 Average, 2023 Ratings (0-100)



Source: Strategy Risks

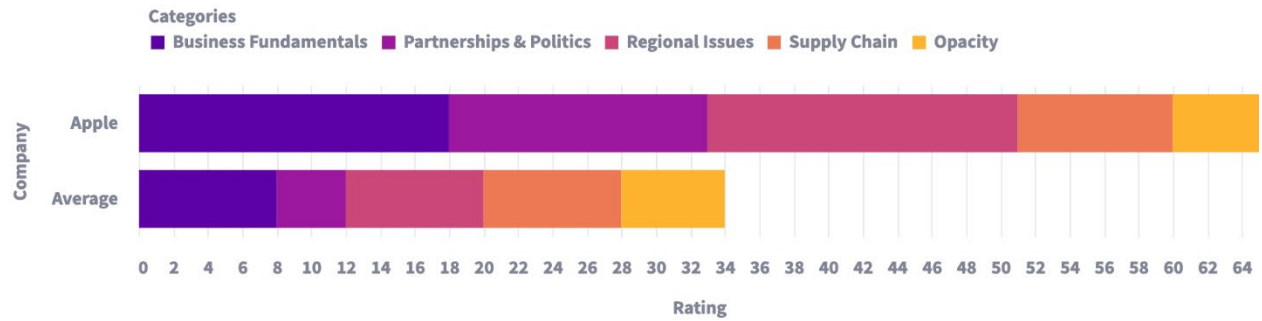
Based on rigorous assessment of these factors, we have observed that the largest technology firms – with the exception of Alphabet (Google) – have above average exposure to China. Apple and Tesla both score in the top five of the SR 250.

A disclaimer: While Strategy Risks strives for objectivity, for such a broad and novel category of risk measurement, Strategy Risks had to make judgement calls on issues like how much to weigh categories, which data sources were reliable, and what constitutes China exposure: in other words, the well-researched but subjective opinions and judgement calls from its team of researchers, analysts, data scientists, and business executives also played an important role in this Index’s construction and calculation. Moreover, our SR 250 ranks companies annually – this is a backward-looking rating, which describes companies’ level of exposure in 2023.

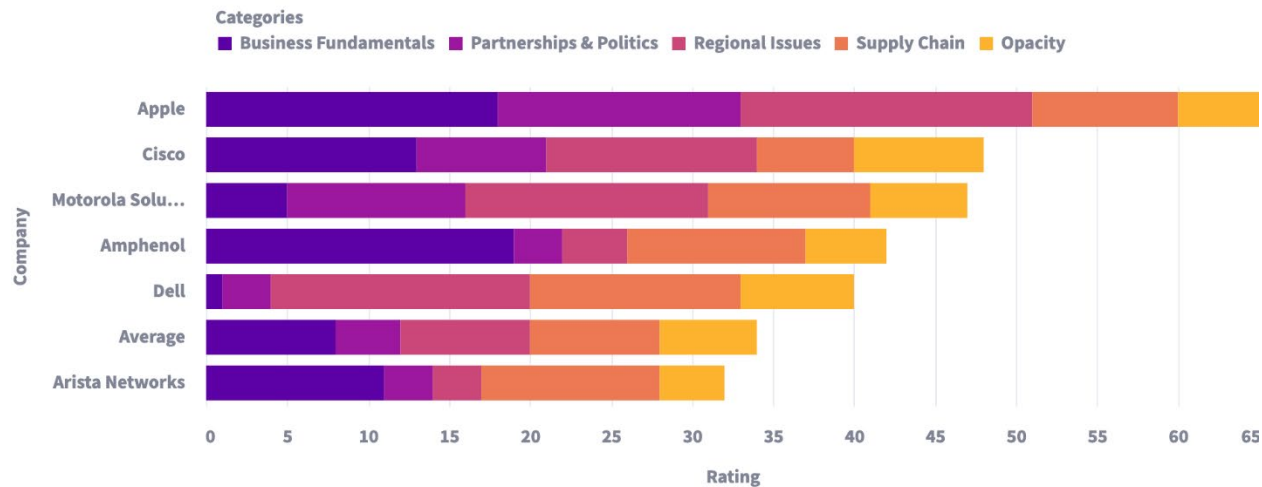
## Apple

Apple ranks third out of 250 firms for China exposure on the SR 250 index, with scores of 18 for business fundamentals, 15 for partnerships and politics, 18 for regional issues, nine for supply chain, and five for opacity, leading to an overall score of 65 out of 100. These scores are significantly higher than the average risk score of 34, with a particularly large variation between the average score for business fundamentals risk of eight and Apple’s score of 18. In 2023, approximately 18.9% of Apple’s revenue came from China.<sup>i</sup> Apple’s score is significantly higher than other companies in the technology hardware and equipment industry. In 2023, Apple’s exposure decreased by seven points over its 2022 exposure, 13 points lower than the overall average increase of six.

AAPL vs. 250 Average, 2023 Ratings (0-100)



AAPL, APH, CSCO, MSI, DELL, ANET vs. 250 Average, 2023 Ratings (0-100)



Apple vs. 250 Average, 2022 to 2023 Ratings Changes



Source: Strategy Risks

Since at least 2017, Apple has repeatedly removed apps and other content from its app store in China. In 2017, Apple admitted to removing 674 Virtual Private Network (VPN) apps from its app store at Beijing’s request.<sup>ii</sup> VPNs provide a method for anonymizing user internet use and evading the Great Firewall, a censorship apparatus used to restrict Chinese citizen’s internet access. Out of 58,942 apps tested by as of November 2024 by the website AppleCensorship – which tracks Apple’s removal of apps globally – the site found Apple removed 5,681 apps in China: higher than Afghanistan, Russia, and the United Arab Emirates. (AppleCensorship tested 61,967 apps in the United States and found 743 removed apps.<sup>iii</sup>)

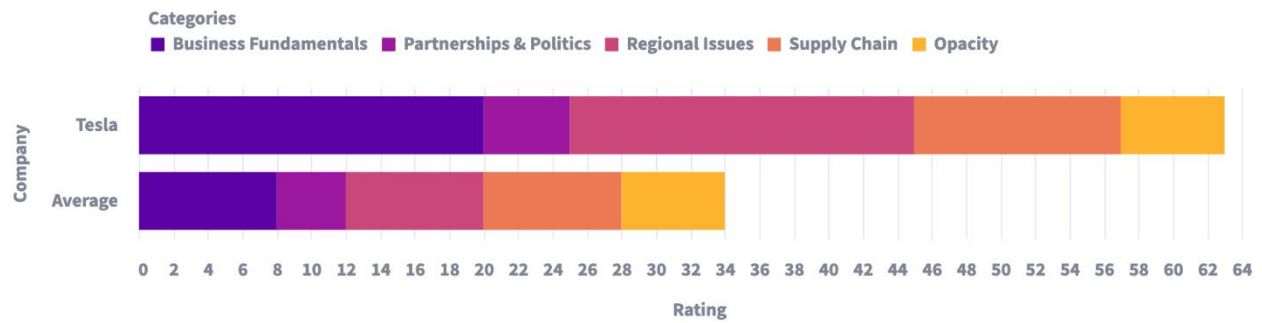
Apple also maintains an extensive supply chain in China, some of which appears linked to forced labor.<sup>iv</sup> In 2023 the nonprofit C4ADS released a report finding that Apple had supply chain exposure to the Zijin Mining Group Co., (Zijin Mining [紫金矿业集团股份有限公司]), a firm credibly accused of using forced labor.<sup>v</sup> In August 2024, the U.S. government placed Zijin Mining subsidiary Xinjiang Habahe Ashele Copper Co., Ltd. [新疆哈巴河阿舍勒铜业股份有限公司] on the Uyghur Forced Labor Prevention Act Entity List for use of forced labor.<sup>vi</sup>

Apple and its subsidiaries maintain four joint ventures (JVs) beneficially owned by Goldwind Science and Technology Co., Ltd. (Goldwind [金风科技股份有限公司]), formerly Xinjiang Goldwind Science and Technology Co., Ltd. [新疆金风科技股份有限公司], a partially state-owned company and the largest wind turbine manufacturer in China. Goldwind is implicated in labor transfer schemes and cooperates with the Xinjiang Production & Construction Corps (XPCC), a paramilitary entity sanctioned by the U.S. Treasury Department. Apple is the minority shareholder in these JVs, owning 30% to Goldwind's 70%.<sup>vii</sup>

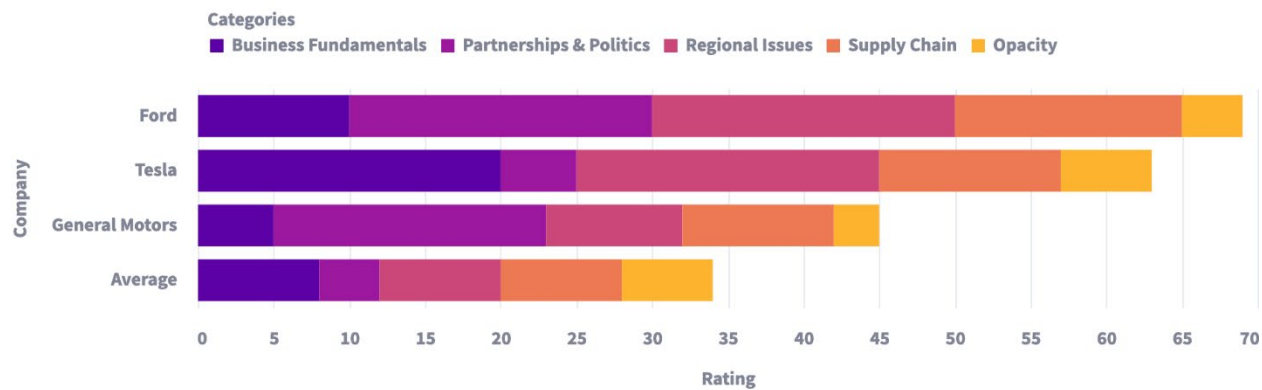
## **Tesla**

Tesla ranks fourth out of 250 firms for China exposure on the SR 250 index, with scores of 20 for business fundamentals, five for partnerships and politics, 20 for regional issues, 12 for supply chain, and six for opacity, leading to an overall score of 63 out of 100. These scores are significantly higher than the average risk score of 34, with a particularly large variation between the average score for business fundamentals of eight and Tesla's score of 20. In 2023, Tesla derived approximately 22.5% of its revenue from China.<sup>viii</sup> Tesla's score is the second highest among companies rated in the automobiles and components industry. In 2023, Tesla's exposure increased by two over its 2022 exposure, four points lower than the overall average increase of six.

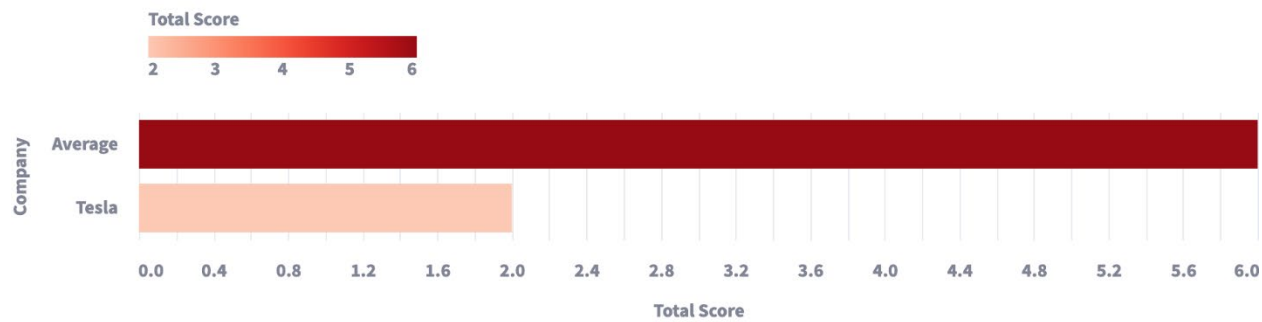
TSLA vs. 250 Average, 2023 Ratings (0-100)



F, TSLA, GM vs. 250 Average, 2023 Ratings (0-100)



Tesla vs. 250 Average, 2022 to 2023 Ratings Changes



Source: Strategy Risks

Tesla maintains strong links to Chinese firms and to the Party, which appear to offer reciprocal benefits to Tesla. In March 2017, the Chinese internet giant Tencent Holdings Limited (Tencent [腾讯控股有限公司]) acquired a 5% stake in Tesla for roughly \$1.78 billion. Tesla CEO Elon Musk welcomed the company as “an investor and advisor.”<sup>ix</sup> In November 2019, Tesla received approval for four construction permits in five days – a speed which requires Party support.<sup>x</sup> A month later in December 2019, Tesla secured a roughly \$1.6 billion dollar loan from four Chinese state-owned banks.<sup>xi</sup> Musk has met with Chinese leaders, including during an April 2024 visit to Beijing, where he met with the country’s #2 ranking leader, Premier Li Qiang. Li praised Tesla as a “successful model” for US-China collaboration.<sup>xii</sup>

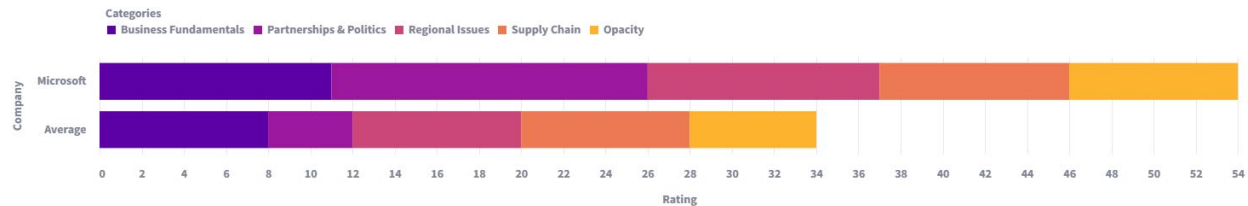
Musk personally wrote an article for the internet regulator and censor, the Cyberspace Administration of China (CAC). In August 2022, Musk was the first non-Chinese citizen to write an article for CAC’s China Cyberspace (中国网信).<sup>xiiiixiv</sup> Zhuang Rongwen (庄荣文), deputy director of the Propaganda Department and director of the Cyberspace Administration of China, stated that the magazine supports guiding public opinion and values – in other words, the magazine is propaganda.<sup>xv</sup>

Tesla’s supply chains link to Xinjiang. In May 2022, Ganfeng Lithium Group Co., Ltd. [赣锋锂业集团股份有限公司], Tesla’s direct supplier of lithium in China (according to a 2021 Tesla Impact Report) established a mining company in Xinjiang, the New Mine Ganfeng (Xinjiang) Lithium Industry Co., Ltd [新矿赣锋（新疆）锂业有限公司].<sup>xvixvii</sup> According to that 2021 Impact report, Tesla relies on Chinese suppliers for key battery inputs like cobalt, nickel and lithium. Tesla also operates stores and charging stations in Xinjiang. On December 31st 2021, Tesla opened its first store in Urumqi, the capital of Xinjiang: Prior to the store opening, Tesla had completed 61 charging station related projects in Xinjiang.<sup>xviii</sup>

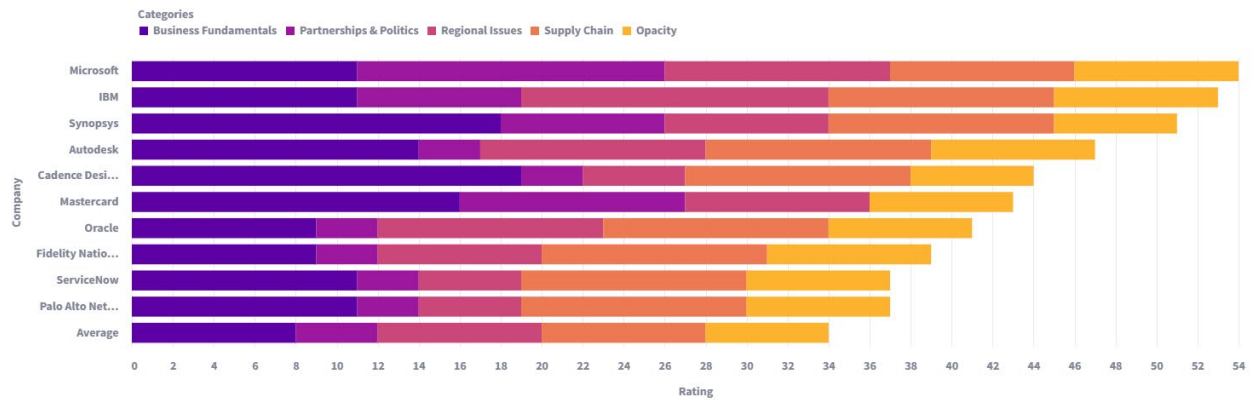
## Microsoft

Microsoft ranks 20 out of 250 firms for China exposure on the SR 250 index, with scores of 11 for business fundamentals, 15 for partnerships and politics, 11 for regional issues, 9 for supply chain, and eight for opacity, leading to an overall score of 54 out of 100. These scores are significantly higher than the average risk score of 34, with a particularly large variation between the average score for partnership and politics of four and Microsoft’s score of 15. Microsoft’s high score is driven by its operation of several joint ventures with Chinese government entities. Microsoft’s total score is the highest of companies in the software and service industry. In 2023, Microsoft’s exposure decreased by four points over its 2022 exposure, ten points lower than the overall average increase of six.

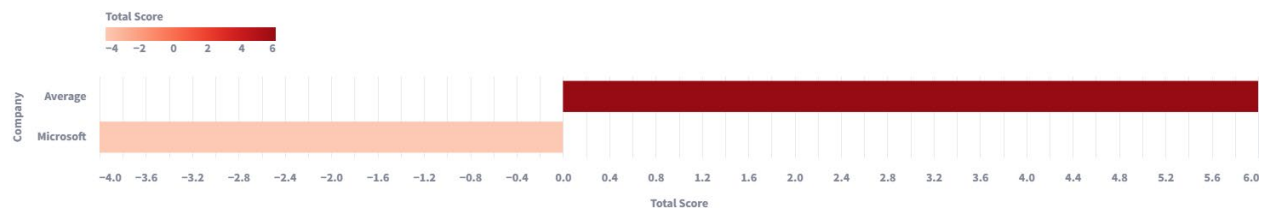
MSFT vs. 250 Average, 2023 Ratings (0-100)



MSFT, IBM, SNPS, ADSK, CDNS, MA, ORCL, FIS, NOW, PANW vs. 250 Average, 2023 Ratings (0-100)



Microsoft vs. 250 Average, 2022 to 2023 Ratings Changes



Source: Strategy Risks

Microsoft’s most notable joint venture is called C&M Information Technologies [神州网信技术有限公司], operated together with the China Electronics Technology Group Corporation (CETC [中国电子科技集团有限公司]), a state-owned enterprise that provides electronic warfare capabilities to China’s military the People’s Liberation Army (PLA).<sup>xix</sup> In 2020 and 2024, the U.S. government sanctioned several of CETC’s research institutes for their role in militarizing islands in the South Sea, and acquiring U.S. technology to advance China’s quantum capabilities.<sup>xx</sup> <sup>xxi</sup> In June 2021, President Joe Biden signed an executive order limiting investments in Chinese government military-industrial firms, including CETC.<sup>xxii</sup> Microsoft formed its joint venture with CETC to produce a modified version of the Windows 10 operating system for Chinese government applications.<sup>xxiii</sup> CETC develops national military and civil information technology systems, including those that support the mass surveillance of ethnic minority populations in the region of Xinjiang, and elsewhere.<sup>xxiv</sup><sup>xxv</sup>

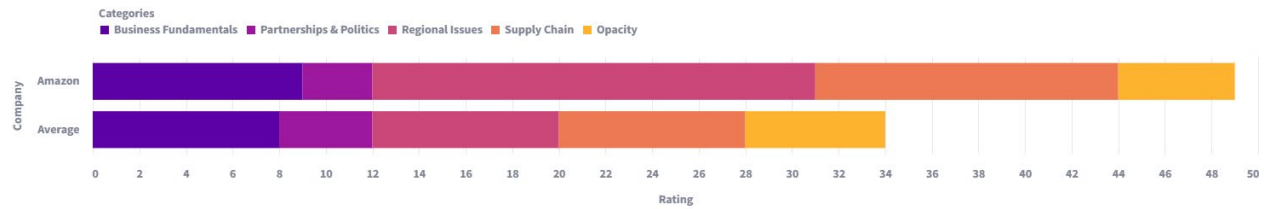
Microsoft participated in China’s information technology regulatory regime. In December 2020, Microsoft China Co., Ltd [微软（中国）有限公司], along with several other major Chinese technology companies, including China Mobile and Huawei Technologies Co., Ltd. [华为技术有限公司], helped draft important industry standard guidelines for the Ministry of Industry and Information Technology (MIIT [工业和信息化部]).<sup>xxvi</sup> MIIT regulates communications technology in China: Participation by Microsoft at this level demonstrates a high degree of proximity to the Party.

Microsoft appears to have cooperated with China’s state intelligence agency, the Ministry of State Security (MSS). In September 2016, Microsoft opened a Microsoft Transparency Center in Beijing, with cooperation from the China Information Technology Security Evaluation Center (CNITSEC [中国信息安全测评中心]). CNITSEC is very likely another name for a division of the MSS, its 13<sup>th</sup> bureau.<sup>xxvii</sup> <sup>xxviii</sup> This potential relationship deserves further scrutiny.

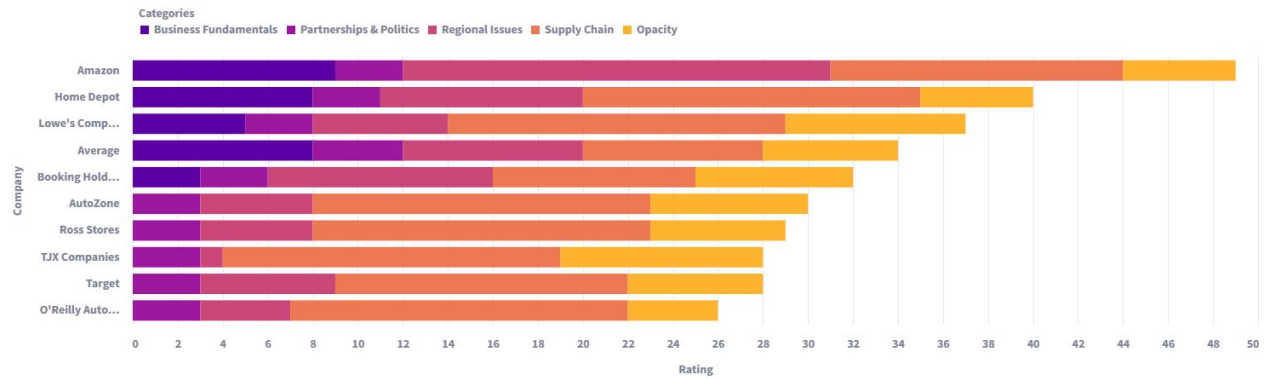
## Amazon

Amazon ranks 31 out of 250 firms for China exposure on the SR 250 index, with scores of 9 for business fundamentals, three for partnerships and politics, 19 for regional issues, 13 for supply chain, and five for opacity, leading to an overall score of 49 out of 100. These scores are significantly higher than the average risk score of 34, with a particularly large variation between the average score for regional issues of eight and Amazon’s score of 19. Amazon’s score in this category is driven by its distribution of products sourced from Xinjiang.<sup>xxix</sup> Amazon’s score is the highest among companies rated in the retail industry. Amazon’s 2023 score and 2022 score were the same.

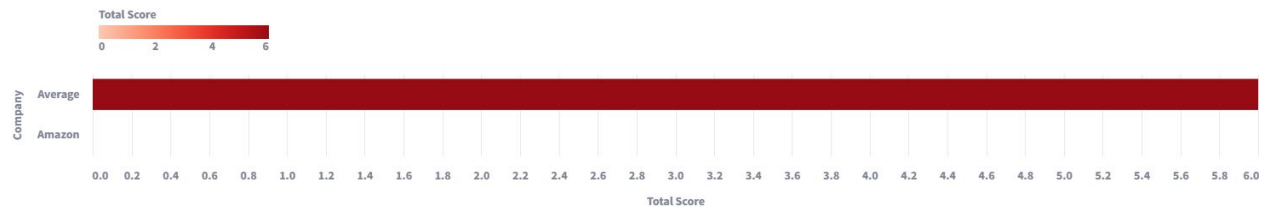
AMZN vs. 250 Average, 2023 Ratings (0-100)



AMZN, HD, LOW, BKNG, AZO, ROST, TJX, TGT, ORLY vs. 250 Average, 2023 Ratings (0-100)



Amazon vs. 250 Average, 2022 to 2023 Ratings Changes



Source: Strategy Risks

Amazon Web Services Inc., (AWS), an Amazon cloud computing subsidiary, provides cloud technology services in China supporting artificial intelligence, aerospace, sensing, defense, biomedical and surveillance programs through local Chinese partners. Beijing Sinnet Technology Co., Ltd. (BST [北京光环新网科技股份有限公司]) has administered AWS provision of services in the “Beijing Region” since 2016.<sup>xxx</sup> BST is beneficially owned by a government entity, and has a joint venture with a sanctioned defense contractor for the Chinese military.<sup>xxxi</sup>

Amazon, through its Beijing cloud services, appears to enforce Chinese censorship. AWS, in their service agreement for Beijing Region Web Services, states that it complies with Chinese law. Should AWS determine the entity under contract makes prohibited content accessible, for example, content that “jeopardizes the honor and interest of the nation...disseminates rumors, disrupts the social order or

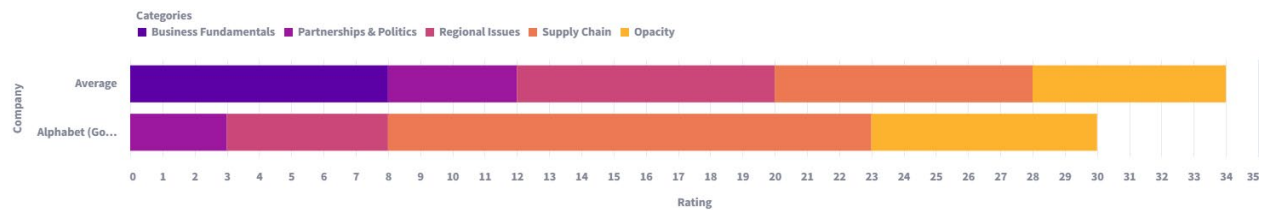


undermines social stability.” AWS may immediately remove the content or suspend access if such prohibited content is found.<sup>xxxiv</sup>

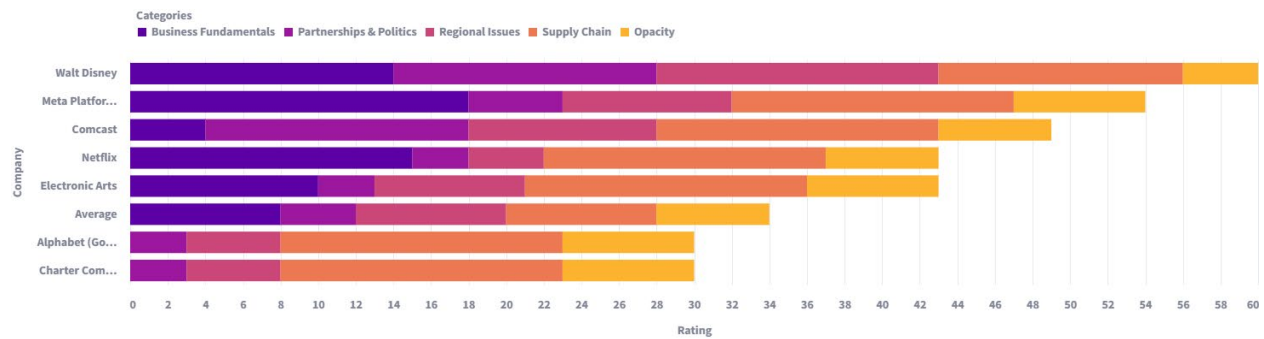
## Google

Alphabet (Google) ranks 145 out of 250 firms for China exposure on the SR 250 index, with scores of zero for business fundamentals, three for partnerships and politics, five for regional issues, 15 for supply chain, and seven for opacity, leading to an overall score of 30 out of 100. These scores are lower than the average risk score of 34, with a particularly large variation between the average score for business fundamentals and supply chain of eight and Alphabet’s scores. These scores are influenced by Alphabet’s apparent lack of joint businesses in China. Alphabet’s score is second lowest among companies in the media and entertainment industry. In 2023, Alphabet’s exposure decreased by two over its 2022 exposure, eight points lower than the overall average increase of six.

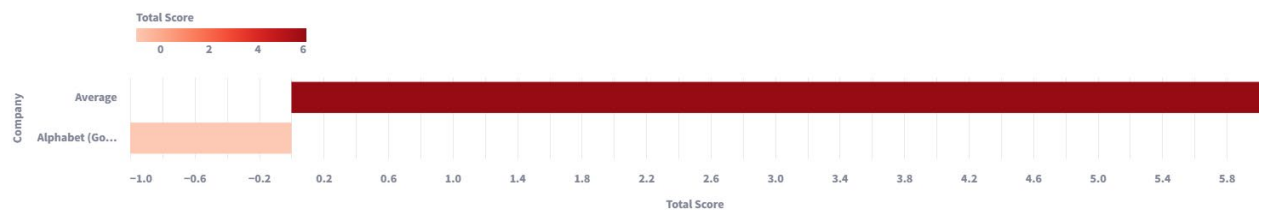
GOOG vs. 250 Average, 2023 Ratings (0-100)



DIS, META, CMCSA, NFLX, EA, GOOG, CHTR vs. 250 Average, 2023 Ratings (0-100)



Alphabet (Google) vs. 250 Average, 2022 to 2023 Ratings Changes



Source: Strategy Risks

Although its parent company’s exposure score is low, Google has previously launched large technology projects and forged partnerships in China. In December 2017, Google launched an A.I. research center in China.<sup>xxxv</sup> Google stated that the research center was the first of its kind in Asia. In January 2018, Google and Chinese technology giant Tencent made a patent-sharing agreement to pave way for "deeper collaboration on innovative new technologies."<sup>xxxvi</sup> In June 2018, Google announced it would invest \$550 million into JD.com (NASDAQ: JD).<sup>xxxvii</sup> JD.com is a large online retailer firm based in China, which sought to capitalize on Google’s A.I. recognition and driverless technology through the partnership.

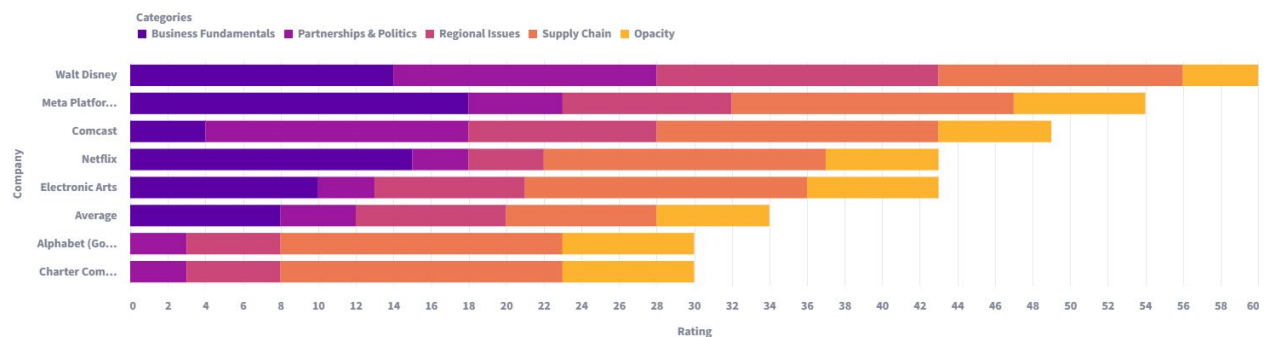
## Meta

Meta Platforms ranks 18 out of 250 firms for China exposure on the SR 250 index, with scores of 18 for business fundamentals, five for partnerships and politics, nine for regional issues, 15 for supply chain, and seven for opacity, leading to an overall score of 54 out of 100. These scores are higher than the average risk score of 34, with a particularly large variation between the average score for business fundamentals of eight and Meta's scores. Roughly 10% of Meta's revenue came from China in 2023.<sup>xxxviii</sup> Meta's score is the second highest among companies rated in the media and entertainment industry. In 2023, Meta's exposure increased by 24 points over its 2022 exposure, 18 points higher than the overall average increase of six.

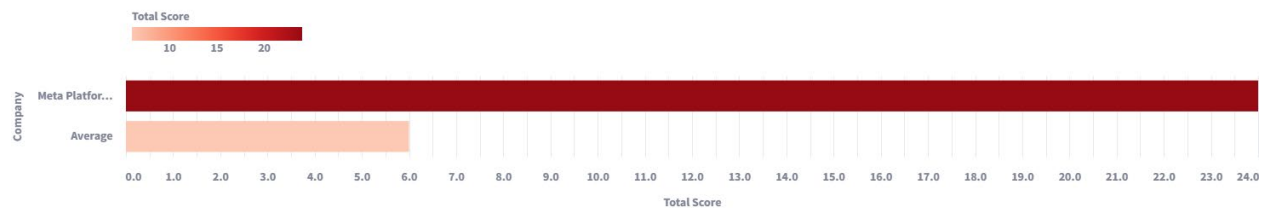
META vs. 250 Average, 2023 Ratings (0-100)



DIS, META, CMCSA, NFLX, EA, GOOG, CHTR vs. 250 Average, 2023 Ratings (0-100)



Meta Platforms (Facebook) vs. 250 Average, 2022 to 2023 Ratings Changes



Source: Strategy Risks

Starting in September 2022, Meta's Vice President and Chief AI scientist Yann LeCun co-authored three papers with Professor Ma Yi [马毅] from the Center for of Data Science and Information Technology at the Tsinghua-Berkely-Shenzhen Institute, a joint research program for IT and data science problems.<sup>xxxixxi</sup> Ma is also a professor at the Electrical Engineering and Computer Sciences Department at the University of California Berkeley, and served as a senior advisor to the ByteDance Research Lab in Silicon Valley from 2017 to 2020.<sup>xli</sup> ByteDance Ltd. is the social media company that developed the social media app TikTok, and maintains strong ties to the Party.

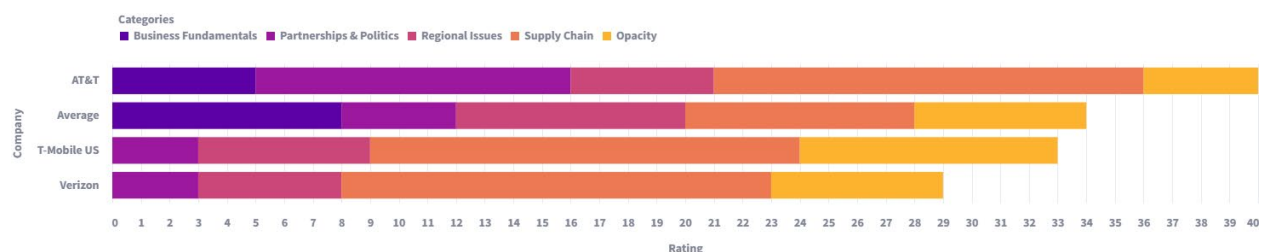
Ma is also a distinguished scholar of the National and Shanghai Thousand Talents Program, which he served on from 2014 to 2017.<sup>xiii</sup> The Thousand Talents Program is a talent recruitment program, often associated with economic espionage, initiated by the Party for Chinese nationals with overseas training. The United Front Work Department, a Party intelligence organization, oversees the program.<sup>xliii,xliv</sup>

Despite these ties, Meta has voiced criticisms of China in recent years. In October 2019, Facebook founder and Meta CEO Mark Zuckerberg started publicly criticizing the country: Meta and Beijing “could never come to an agreement on what it would take for us to operate there, and they never let us in,” he said.<sup>xlv</sup> In July 2020, Zuckerberg also stated that “I think it’s well documented that the Chinese government steals technology from American companies.”<sup>xlvi</sup> In October 2024, Zuckerberg was listed as an honorary member of the Tsinghua University School of Economic Management Advisory Board, though he does not appear to be currently publicly active. “Tsinghua University, Xi’s alma mater, maintains close relationships with the China’s leadership, and, like all universities in China, is administrated and controlled by the Party.

## Conclusion

Nearly all of the major technology firms highlighted here show elevated exposure ratings scores compared to the average rating of all firms in the SR 250. The high scores stand out, particularly when compared with firms in the telecommunications industry. Only Alphabet rated a lower exposure score than the highest rated telecommunications firm, AT&T. Other telecommunications firms such as T-Mobile and Verizon rated a lower exposure score than the average.

T, TMUS, VZ vs. 250 Average, 2023 Ratings (0-100)



Source: Strategy Risks

Qualitative assessments of big tech firms’ exposure demonstrates that there are serious structural risks in their exposure to China. Many of these risks remain due to major technology firms willingly partnering with Chinese entities and personnel with ties to state security organs, jointly running firms with state-controlled companies, and poor vetting of supply chains with significant exposure to human rights abuses.

U.S. tech companies have long tried to balance between the United States and China. But both the U.S. and the Chinese governments want them to make a choice. They’ve long put off that decision, but, as tensions increase between the United States and China, time is running out.

I would like to thank Emma Winter Barss and Juozapas Bagdonas for their help in researching and preparing this statement.

<sup>i</sup> Daniel Howley, “Apple’s China issues could hamper iPhone sales in 2025: Analyst,” YahooFinance, July 1, 2024, observed July 5, 2024 at <https://finance.yahoo.com/news/apples-china-issues-could-hamper-iphone-sales-in-2025-analyst-173430301.html>, and archived at

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<https://web.archive.org/web/20240705065224/https://finance.yahoo.com/web/20240705065224/https://finance.yahoo.com/news/apples-china-issues-could-hamper-iphone-sales-in-2025-analyst-173430301.html>

<sup>ii</sup> Apple, “November 21, 2017,” Patrick Leahy, November 21, 2017, observed March 29, 2022 at

<https://www.leahy.senate.gov/imo/media/doc/Apple%2011212017.pdf>, and archived at

<https://web.archive.org/web/20220329013412/https://www.leahy.senate.gov/imo/media/doc/Apple%2011212017.pdf>

<sup>iii</sup> “Global App Store Censorship Index,” AppleCensorship, undated, observed November 16, 2024 at

<https://appcensorship.com/app-store-monitor>, and archived at <https://archive.ph/sVkie>

<sup>iv</sup> Cheng Ting-Fang and Lauly Li, “Apple moves closer to China despite supply chain shifts,” Nikkei Asia, April 26, 2024, observed April 28, 2024 at <https://asia.nikkei.com/Business/Business-Spotlight/Apple-moves-closer-to-China-despite-supply-chain-shifts>, and archived at <https://web.archive.org/web/20240428004935/https://asia.nikkei.com/Business/Business-Spotlight/Apple-moves-closer-to-China-despite-supply-chain-shifts>

<sup>v</sup> “Fractured Veins,” C4ADS, October 11, 2023, observed April 19, 2024 at <https://c4ads.org/wp-content/uploads/2023/10/Fractured-Veins-spreads-final.pdf>, and archived at

<https://web.archive.org/web/20240419202547/https://c4ads.org/wp-content/uploads/2023/10/Fractured-Veins-spreads-final.pdf>

<sup>vi</sup> “UFLPA Entity List,” Homeland Security, U.S. Government, undated, observed April 21, 2024 at <https://www.dhs.gov/uflpa-entity-list>, and archived at <https://web.archive.org/web/20240421105803/https://www.dhs.gov/uflpa-entity-list>

<sup>vii</sup> “Apple’s Uyghur Dilemma Grows,” Tech Transparency Project, June 8, 2021, observed on July 5, 2023 at

<https://www.techtransparencyproject.org/articles/apples-uyghur-dilemma-grows>, and archived at <https://archive.ph/2vpVL>

<sup>viii</sup> Phate Zhang, “Tesla gets 22.5% of its revenue from China in 2023,” CNEVPost, January 29, 2023, observed January 30, 2024 at [https://cnevpost.com/2024/01/29/tesla-22-pct-revenue-from-china-2023/#:~:text=Tesla%20\(NASDAQ%3A%20TSLA\)%20got,to%20an%20SEC%20filing%20today](https://cnevpost.com/2024/01/29/tesla-22-pct-revenue-from-china-2023/#:~:text=Tesla%20(NASDAQ%3A%20TSLA)%20got,to%20an%20SEC%20filing%20today), and archived at

<https://web.archive.org/web/20240130181419/https://cnevpost.com/2024/01/29/tesla-22-pct-revenue-from-china-2023/>

<sup>ix</sup> Meghan Reeder, “Tesla deal boosts Chinese presence in US auto tech,” CNBC, March 28, 2017, observed April 15, 2024 at <https://www.cnbc.com/2017/03/28/messaging-app-parent-tencent-takes-stake-in-tesla.html>, and archived at

<https://web.archive.org/web/20240415001050/https://www.cnbc.com/2017/03/28/messaging-app-parent-tencent-takes-stake-in-tesla.html>

<sup>x</sup> “Tesla’s ‘Lingang Speed’ of getting 4 licenses in 5 days has gradually become the norm [5 天拿 4 证 特斯拉体验的“临港速度”渐成常态],” People’s Republic of China Central Government, rehosted from Xinhua, September 5, 2019, observed August 26, 2022 at [http://www.gov.cn/xinwen/2019-09/05/content\\_5427451.htm](http://www.gov.cn/xinwen/2019-09/05/content_5427451.htm), and archived at <https://archive.ph/KiDZj>

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