1. Introduction

The relation between China and the United States is arguably the most important bilateral relation in the world today. The U.S. and China are respectively the largest and the second largest economies in the world.[1] They are also respectively the largest and the second largest trading nations in the world, as well as each other's most important trading partner. If China and the U.S. work together as partners towards a common goal, many things are possible. An example is the Paris Agreement on the prevention of climate change, approved unanimously by 196 states and other parties in December 2015. This was possible only because both former U.S. President Barack Obama and Chinese President Xi Jinping worked together to make it happen. There are other similarly important global objectives that can be accomplished by the two countries working together as partners, such as the alleviation of poverty in Africa, the denuclearisation of the Korean Peninsula, the enhancement of global cyber-security, and further liberalisation of international trade and investment around the world.

Notwithstanding the tremendous economic progress that China has made since its economic reform and opening in 1978, its GDP per capita in

1 In any reference to economic data, China should be understood to mean the mainland of China only (not including Hong Kong, Macau and Taiwan). According to some "purchasing-power-parity" (PPP) estimates produced by the International Monetary Fund and the World Bank, China is already the world's largest economy, with the U.S. in second place. However, there are methodological problems with using such PPP estimates of GDP as a basis for the comparison of the real magnitudes of economic output across countries. See the discussion in Lawrence J. Lau (2007).

2017 was only US$9,137, still under the middle-income country threshold of US$12,000, and ranking below the 70th position in the world, compared to a GDP of US$59,518 per capita in the U.S.[2] China's overall military strength and scientific and technological capabilities still lag significantly behind the U.S. The Renminbi, the Chinese currency, cannot compare with the U.S. Dollar as an international medium of exchange or store of value. And even though China has veto power in the United Nations Security Council just like the U.S., its influence in multilateral organisations, such as the International Monetary Fund (IMF), the World Bank and the Asian Development Bank, is still relatively weak compared to not only that of the U.S. but also that of European countries and Japan. It is definitely too soon to speak of China and the U.S. as being a "Group of Two" or "G-2".

Moreover, despite China and the U.S. being each other's largest trading partner, there is still significant friction and potential conflict in their economic relations. The friction originated from U.S. grievances about the lopsided trade balance in China's favour, the allegedly undervalued exchange rate of the Renminbi, the lack of market access in China for U.S. firms, the perceived uneven playing field in Chinese markets that appears to favour Chinese state-owned enterprises (SOEs), the industrial policy of the China's government (as manifested in the "Made in China 2025" initiative), inadequate intellectual property-rights protection, forced technology transfer, cyber-theft of commercial and industrial information, and concerns about national security. These grievances culminated in the 2018 decision by U.S. President Donald Trump to impose three separate rounds of new U.S. tariffs on imports from China cumulatively worth US$250 billion, thus starting a trade war between the two countries.[3]

On 1 March 2018, President Trump announced a planned imposition

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2 This is calculated by dividing the official U.S. GDP in 2017 by the official U.S. mid-year population in 2017.

3 This number has been changing. It started out being US$50 billion. As of 24 September 2018, it became US$250 billion. However, an additional US$267 billion has also been mentioned recently, bringing the potential total to US$517 billion, almost the same as the entire value of annual Chinese exports to the U.S.

of a 25 percent ad valorum[4] tariff on steel imports and a 10 percent ad valorum tariff on aluminium imports. China, which is not a significant direct exporter of steel or aluminium products to the U.S., nevertheless initiated a World Trade Organisation (WTO) complaint against these tariffs.[5] The first round of U.S. tariffs that specifically targeted China was on US$34 billion worth of Chinese imports, implemented on 6 July 2018, at a rate of 25 percent ad valorum, affecting goods such as airplane tires, water boilers, X-ray machine components and various other industrial parts. These tariffs were immediately met by retaliatory Chinese tariffs of 25 percent on US$34 billion worth of imports from the U.S., including goods such as electric vehicles, pork and soybeans. A second round of tariffs on another US$16 billion worth of imports from each other were implemented by both countries on 23 August 2018, again, at an ad valorum rate of 25 percent. China again filed a new complaint with the WTO about these new U.S. tariffs.

A third round of tariffs on US$200 billion worth of U.S. imports from China was imposed by the U.S. on 24 September 2018, at an initial rate of 10 percent, but to be raised to 25 percent on 1 January 2019. This latest round of tariffs brought the total value of U.S. imports from China subject to new U.S. tariffs equal to US$250 billion (34 + 16 + 200), or approximately half of the value of the total annual U.S. imports from China. China retaliated by imposing new tariffs on an additional US$60 billion worth of Chinese imports from the U.S., at various rates ranging from 5 to 25 percent, bringing the total value of Chinese imports from the U.S. subject to new Chinese tariffs to US$110 billion (34 + 16 + 60). Approximately US$40 billion worth of the remaining Chinese imports from the U.S., including large aircraft, integrated circuitry and semiconductors, are at the present time not subject to any new Chinese tariffs.

In addition, President Trump has threatened to impose additional tariffs on another US$267 billion worth of U.S. imports from China if China retaliates against the current U.S. tariffs. If implemented, this would mean

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4 "Ad valorum" means according to the value.
5 The European Union filed a similar case with the WTO in June 2018.

the imposition of tariffs on a total of US$517 billion (250 + 267) worth of U.S. imports from China. U.S. imports of goods from China amounted to only US$505.6 billion in 2017, according to U.S. official statistics, and so this possible additional round of new tariffs, if implemented, will mean that the new U.S. tariffs will apply to all U.S. imports from China. However, it is still possible that some U.S. imports from China may be exempted from the new U.S. tariffs in order to protect U.S. firms and/or U.S. consumers. For example, approximately 10 percent of U.S. imports from China by value consists of Apple iPhones, which are assembled in China, and count as Chinese exports, even though the Chinese domestic value-added[6] content of Apple iPhones is very low, at less than 5 percent. Cell phones made in China have so far been exempted from the first three rounds of tariffs. Likewise, semiconductors imported from China to the U.S. are almost all products at the final-stage of finishing and packaging of semiconductors originally manufactured by U.S. high-tech firms for the U.S. market. Their Chinese domestic value-added contents are also very low. The costs of any new tariffs on these goods will therefore be borne primarily by U.S. firms such as Apple Inc. and consumers such as iPhone users, not by the Chinese contract manufacturers. Hence there is some uncertainty whether the new tariffs will be fully implemented.[7] It was reported that Presidents Trump and Xi reached a tentative truce agreement at their dinner meeting on the sidelines of the G-20 Summit in Buenos Aires, Argentina on 1 December 2018, suspending new or increased tariffs on both sides for 90 days to provide time for further negotiations.[8] This should be regarded as a hopeful development.

This China-U.S. trade war disrupts international trade and investment because of its effects not only on the Chinese and U.S. economies but also

6 The value-added amount of a firm is defined as the difference between its revenue and the cost of all its purchased inputs except labour. Thus, value-added consists of the sum of profits, wages and salaries, and depreciation. An assembly operation will typically have a low value-added to revenue ratio because a large quantity of intermediate inputs will have to be purchased elsewhere, most often from abroad.

7 Exemptions from the new tariffs may also be granted by the Office of the U.S. Trade Representative upon application by the importing firm.

8 Apparently, Presidents Trump and Xi also had telephone conversations with each other earlier in November to discuss issues of common concern prior to the G-20 Summit.

on the global supply chains that have sprung up and developed over the past decades. It causes great uncertainties for firms and households throughout the world in their consumption and investment decisions. It also has the potential of permanently altering China-U.S. relations.

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This book has been written with three principal objectives in mind. First, we want to show that while the real effects of the China-U.S. trade war in 2018 are not negligible, they are relatively manageable for China and even more so for the U.S. This is true even if the new U.S. tariffs eventually cover all U.S. imports from China. There is no need to panic. However, the trade war will have psychological effects on the Chinese stock markets and on the exchange rate of the Renminbi, and it will negatively affect the confidence and expectations of Chinese enterprises and households.

Second, we want to show that behind the trade war is the potential economic and technological competition between China and the U.S., as well as the rise of populist, isolationist, and protectionist sentiments around the world, especially in the U.S. The competition between China and the U.S. in terms of being the largest economy in the world, as well as competition in the core technologies of the 21st century, such as artificial intelligence and quantum computing, probably cannot be avoided. It is likely to become the "new normal". However, our analysis shows that while in the aggregate China's real GDP is likely to surpass the U.S. real GDP sometime in the 2030s, on a per capita basis China will remain far, far behind the U.S. and will not reach parity with the U.S. until the end of the 21st century, if at all. Moreover, in terms of the overall general level of scientific and technological development and innovative capacity, China still has a long road ahead to catch up with the U.S. As to the rise of xenophobia in both countries, it is up to each government to demonstrate not only by words but also by actions that it is not necessary for anyone to lose from international trade and direct investments and that there is enough overall gain so that each will benefit. However, while international trade always benefits both trading-partner countries in the aggregate, it does create winners and losers