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Beggar thy neighbour

Bakalářská práce

ADRIÁN RAJŇAK

Vedoucí práce: Ing. Tomáš Paleta, Ph.D.

Katedra ekonomie
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MASARYKOVA UNIVERZITA
EKONOMICKO-SPRAVNÍ FAKULTA
LIPOVÁ 41A, 602 00 BRNO
IČ: 00216224
DIČ: CZ00216224

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Autor: Adrián Rajňak
Ekonomicko-správní fakulta
Masarykova univerzita
Katedra ekonomie

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Author: Adrián Rajňak
Faculty of Economics and Administration
Masaryk University
Department of Economics

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Anotace

Predmetom bakalárskej práce „Beggar thy neighbour policy“ je rozbor využitia nástrojov ekonomických politík typu „ožobrač suseda svojho“ na základe prípadovej štúdie kurzového vývoja Čínskej ľudovej republiky a ich následok na ich obchodného partnera, Spojených štátov amerických a čínskej ekonomiky. Prvá časť sa venuje problematike týchto politík v minulosti a súčasnosti. Druhá časť sa venuje čínskej mene renminbi. Posledná časť sa venuje analýze dopadov na americkú a čínsku ekonomiku vrátane prebiehajúcej obchodnej vojny.

Abstract

The subject of the bachelor's thesis, "Beggar thy neighbour policy," is an analysis of the use of economic beggar thy neighbour policy tools based on a case study of the exchange rate development of the People's Republic of China and their consequences for the trade partner United States of America and the Chinese economy. The first part deals with the issue of these policies in the past and the present. The second part is devoted to the c development of the renminbi. The last part is devoted to analysing the impact on the American and Chinese economies, including a brief look at the ongoing US-China trade war.

Declaration

Prohlašuji, že jsem bakalářskou práci na téma Beggar thy neighbour vypracoval samostatně pod vedením Ing. Tomáše Palety, Ph.D. a uvedl v ní všechny použité literární a jiné odborné zdroje v souladu s právními předpisy, vnitřními předpisy Masarykovy univerzity a vnitřními akty řízení Masarykovy univerzity a Ekonomicko-správní fakulty MU.

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Glossary

BEER	–	Behavioural Equilibrium Exchange
BPM6	–	Balance of Payments and International Investment Position Manual, 6th edition
COFER	–	Currency Composition of Official Foreign Exchange Reserve
ERER	–	equilibrium real exchange rate
ES	–	external sustainability
FDI	–	Foreign Direct Investment
FEER	–	Fundamental Equilibrium Exchange Rate
FERs	–	foreign exchange reserves
G-20	–	Group of Twenty
GATT	–	General Agreement on Tariffs and Trade
GDP	–	Gross Domestic Product
IMF	–	International Monetary Fund
M2	–	measure of the money supply
MB	–	macroeconomic balance
NAFTA	–	North American Free Trade Agreement
PBC	–	People's Bank of China
PPP	–	Purchasing Power parity
PRC	–	the People’s Republic of China
RMB	–	Renminbi
SDR	–	Special Drawing Rights
US	–	the United States
USD	–	United States dollar
WTO	–	World Trade Organization

1 Introduction

Beggar thy neighbour economic policies have a specific place in the global economic system. Historically, they were primarily used before and during The Great Depression to improve a country's position. They were actively used at another country's expense, mainly related to trade. Now, trade wars are nearly non-existent due to the increased globalisation of global trade structures and the work of the WTO. However, there are still countries being accused of using beggar-thy-neighbour economic policies in the present. One of the most commonly accused sinners of using beggar thy neighbour economic policies is the PRC, which is accused of devaluating its currency. The PRC and its currency, the renminbi, have an essential role in the world economy. Currently, the Chinese economy ranks second in the world after the United States, and it is the primary driver of global growth with its role as a worldwide manufacturer. The bachelor thesis aims to analyse and define the importance of Beggar-thy-neighbour economic policies and how the Chinese government allegedly applied such an approach regarding renminbi devaluation to improve its economic position and fuel its growth. The bachelor thesis's primary focus will be clarifying the effects of China's exchange rate policy on the US economy and China's economy. In the first part of the bachelor thesis, beggar thy neighbour policies will be investigated considering historical principles. In the second part, the main primary focus will be to examine a supposed beggar thy neighbour policy on the present-day example of Chinese currency devaluation. In conclusion, the author will try to wrap up the importance and prevalence of beggar-thy-neighbour policies in the aspect of globalisation of the economy and its effect on involved economies. The author claims no conflict of interest

and takes no position on whether the currency of the People's Republic of China is artificially undervalued to gain an advantage over other countries in the international trade market.

2 Methodology

In the preparation of the thesis, empirical and theoretical methods were applied while researching the issue. From empirical methods, the method of observation was used, which consisted of a systematic collection of the necessary material. The methods of abstraction, analysis, synthesis, and deduction were used within the theoretical approaches, and the comparison method was used from the unique techniques. The use of the methods was related to the stated goal of the work, which was to analyse beggar thy neighbour policies and Chinese currency policy effects on domestic and foreign economies. Therefore, the goal of the thesis is to properly identify and analyse the effects of a potential beggar-thy-neighbour policy in on a practical example of the PRC's exchange rate policy.

The first part of this bachelor thesis aims to assemble historical literature and analyse beggar thy neighbour economic policies through theoretical and historical information.

The second part of the bachelor thesis deals with the present-day Chinese currency manipulation at the expense of other countries through the evaluation of renminbi development via historical exchange rate data and related literature, including the present-day strategies of the Chinese authorities.

The third part focusing on the effects of Chinese currency policy on related economies, was evaluated via relevant macroeconomic data. Various literary sources were explored to help reach the final hypothesis of the effects. However, through the thesis, certain limitations regarding the data were met as historical datasets were not freely available.

3 Introduction to beggar thy neighbour policies

Beggar thy neighbour policy (sometimes used in an identical meaning as beggar my neighbour) are economic policies that seek to benefit one country at the expense of other countries (Black, Nashimzade, Myles, 2017). Initially, the term was widely used to characterise eco-nomic policies during the Great Depression. Countries tried to cure domestic recession and unemployment by shifting effective demand away from imports onto domestic production by using tariffs, quotas, and currency devaluation. Beggar thy neighbour policies were also used to combat domestic inflation through currency appreciation, which improves the terms of trade and reduces cost inflationary pressure in the appreciating country, but often has an effect of increasing cost inflation in the country's trading partners (Black, Nashimzade, Myles, 2017). The origin of the term is credited to economist Adam Smith, who used the term in his publication The Wealth of Nations as a critique of mercantilism and protectionist trade policies while believing free trade would increase the wealth of all nations (Hayes, 2022).

Before and during the Great Depression, most beggar-thy-neighbour economic policies were of mercantilist and protectionist types (Hayes, 2022). One of the earliest examples of protectionist beggar thy neighbour policies in the interwar period was Fordney-McCumber Tariff Act which attempted to relieve American farmers that did not adequately meet the demand with the overproduction (Žídek, 2009). The consequence of the tariff was increased difficulty for European countries to export to the United States and to repay their war debts, therefore

contributing to the Great Depression (Office of the Historian, 2022). Another example is the Tariff Act of 1930, known as the Smoot-Hawley Tariff, which raised US tariffs on many imported goods. The tariff largely contributed to the decline of international trade during the early 1930s (Office of the Historian, 2022). US imports from Europe declined from a 1929 high of 1334 million dollars to 390 million dollars in 1932, while US exports to Europe fell from 2341 million dollars in 1929 to 784 million dollars in 1932. Therefore, the Tariff Act of 1930 is commonly viewed as a flagship of protectionist beggar thy neigh-bour economic policies during the Great Depression (Office of the Historian, 2022). However, the United States were not the only sinner contributing towards reducing international trade during the Great Depression. The British were indeed guilty as well, as their beggar thy neighbour economic policies during the Great Depression included the 1932 Ottawa Conference, which resulted in the Ottawa Agreement (al-so known as the Ottawa Agreements or Ottawa Accords) that placed several restrictions on the international trade (Britannica, 2022). The agreement was signed by 23 nations and was in effect from 1932 to 1939. It created the Imperial Preferences system, favouring British Empire trade partners over other nations, and it also increased tariffs on several imported goods (Britannica, 2022). The Ottawa Agreement and the Tariff Act of 1930 are two examples of how protectionism and mercantilism were used as beggar-thy-neighbour economic policies and worsened the Great Depression by placing restrictions on international trade.

One of the possible examples of beggar thy neighbour economic policies is currency devaluation. An example of a beggar thy neighbour policy would be if one country decided to devalue its currency to make its

exports cheaper and more competitive. This would benefit the country that devalued its currency. However, it would be at the expense of its trading partners, who would now find their own exports more expensive and, therefore, less competitive in the international trade market. In the period before the Great Depression, currency devaluations were mainly used as a weapon to increase exports. A country's exports would become cheaper for other nations. Devaluations were a weapon used in trade wars between two or more nations or to expand one's country's economic power (Hayes, 2022).

The earliest currency devaluations occurred before the First World War during the period of the Gold Standard (Stiglitz, 1999). After the Great War, many countries could no longer tie their currency to gold or silver and were forced to devalue their currency. While devaluations were very common after World War 1, most of these were due to the post-war situation of money supply and tying currencies back to gold. As the gold standard started collapsing, this contributed to devaluations. Currency devaluation policies during the Great Depression were often intended as policies with a beggar thy neighbour effect, with the intent to increase exports and domestic production, eventually contributing to a 30% decline in international trade (Žídek, 2009).

Examples of successful currency devaluations post-World War 2 which primarily affected exports were the 1949 British Sterling 30% devaluation (Dawnay, 2001), the 1966 57.5% devaluation of the Indian rupee (Johri and Miller, 2002), the 1992 Swedish crown devaluation (Chabert and Clavel, 2012).

The beggar thy neighbour argument suggests that currency devaluation is a lose-lose proposition because it ultimately harms all countries involved in international trade. This is because currency devaluation makes exports cheaper and imports more expensive, hurting other countries' trade balance. In the long run, this can lead to a trade war, where all involved countries try to devalue their currencies to gain a competitive advantage.

Due to the changes in the global economic architecture post-World War 2 – mostly related to the General Agreement on Tariffs and Trade and subsequent creation of the World Trade Organization, beggar thy neighbour tariffs and trade wars are nowadays relatively uncommon. Economic structure changes were primarily focused on promoting international trade and preventing beggar thy neighbour protectionist economic policies related to tariffs that contributed to the Great Depression and increasing the benefits of globalisation concerning trade (McRae, 2021). Despite the changes to the global economic architecture, a few countries have been accused of using beggar thy neighbour economic policies in recent years. In recent years, the term beggar thy neighbour has been increasingly used to describe the trade policies implemented by the 45th US President, Donald Trump (Leuprecht & Bradbury, 2019). The most notable examples of his administration's trade policies are the United States tariffs on imported steel and aluminium, which were implemented in March 2018 (Lynch and Paletta, 2018). These tariffs were widely criticised by America's trading partners, leading to retaliatory tariffs imposed on American exports (Bradsher, 2018). The Trump administration has imposed a 25% tariff on imported steel and a 10% tariff

on imported aluminium (Horsley, 2018), which accounted for approximately 4.1% of US imports, according to investment bank Morgan Stanley (Chance, 2018). These tariffs were imposed with the stated goal of protecting the US steel and aluminium industries. However, the tariffs also appear to be part of a broader strategy of pressuring other countries to make concessions to the US on trade, specifically concerning China. The Trump administration has also used tariffs to pressure Mexico and Canada to renegotiate the North American Free Trade Agreement (NAFTA) (Karni, Swanson & Shear, 2019). In addition, the Trump administration's use of tariffs has been met with a dispute on the WTO level, as China complained about tariff measures with the support of various third parties signatories (WTO, 2022).

Another accused sinner of using beggar thy neighbour economic policies is The People's Republic of China. The PRC has been accused of deliberately keeping the value of its currency low in order to make its exports cheaper and thus increase its trade surplus (more in subsequent chapters). Critics argue that their exchange rate policy gives China an unfair advantage in global trade and has contributed to the large trade imbalances between China and the rest of the world. The PRC has also been accused of using various other methods to artificially depress the value of its currency, including intervention in the foreign exchange market and setting strict controls on the outflow of capital from the country. The PRC has also been accused of deliberately flooding the world market with cheap goods to drive down prices and put its competitors at a disadvantage (Itano, 2005). Other countries have therefore accused the PRC of so-called "dumping" (Chaffin, 2013). It also began accumulating sizeable foreign exchange reserves, which capped the increase of the renminbi by

buying dollars and selling renminbi (Picardo, 2019). The critics also argue that it has led to the loss of jobs and economic growth in other countries and to inflationary pressures in China itself (Mohr, 2019). Those accusations contributed to tension between the PRC and its trading partners, who accused the PRC of unfair trade practices. A universally accepted belief is that an undervaluation of the currency is, in fact, a beggar thy neighbour economic policy because it subsidises domestic exports and simultaneously contributes to limiting other countries' exports due to them being less competitive. It is said that the primary effect of such a currency devaluation policy is that the trade balance of the "sinner" is marginally improved via the trade surplus due to cheaper exports while harming other countries' trade balance, causing a deficit as undoubtedly, the flows of import and export are affected by the exchange rates.

4 Currency policy of the People's Republic of China

The People's Republic of China's importance in the international financial system is crucial. If China, as the world's largest exporter, manipulates the exchange rate of its currency, the renminbi, the effects of such interventions are global. The People's Republic of China's boom in the last decades since the 1990s is both a result of the country's openness to international trade and pro-export-oriented policies. The following subchapters focus on the development of China's currency, the renminbi and its development and value through time.

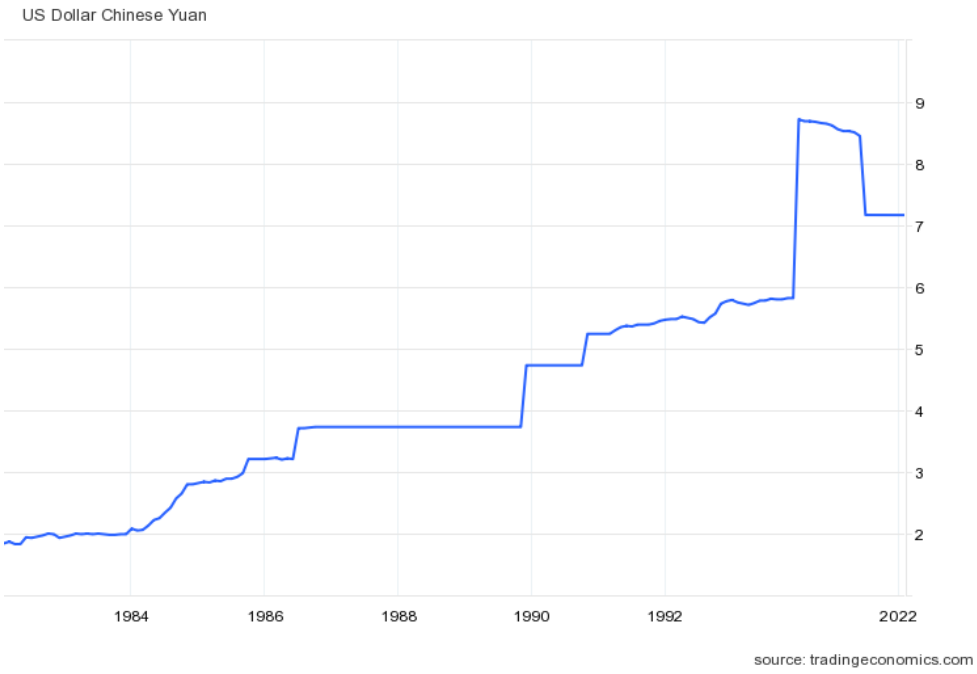
4.1 Development of the renminbi and its exchange rate

The renminbi is the official currency of the People's Republic of China. It is one of the most traded currencies, currently ranking as the fifth most traded currency as of October 2022 (Goko, 2022). The yuan is the basic unit of the renminbi, though it is commonly used in reference to the Chinese currency, mainly in the international sphere. One yuan is divided into ten jiao, which further divides into ten fen. The renminbi's official issuer is China's monetary authority, the People's Bank of China.

Until 1994, the PRC maintained a dual exchange rate system. Its composition has consisted of the official fixed exchange rate system used by the government and of a relatively market-based exchange rate system used in government-sanctioned foreign exchange centres (Morrison and Labonte, 2013). Importers and exporters used the market-based exchange rate system in foreign markets. However, it is essential to note that

access to foreign exchanges was restricted in order to limit imports. This resulted in a black market for foreign exchange (Morrison and Labonte, 2013). The exchange rates of the official fixed exchange rate system and the market-based exchange rate system differed. The official exchange rate in 1993 was 5.77 yuan per dollar and 8.70 renminbi per dollar in foreign markets. The United States criticised the usage of the dual exchange system due to restrictions placed on foreign imports (Morrison and Labonte, 2013).

Fig. 1: USD/RMB Monthly averages from 1982 to 1995 (including present-day rate)



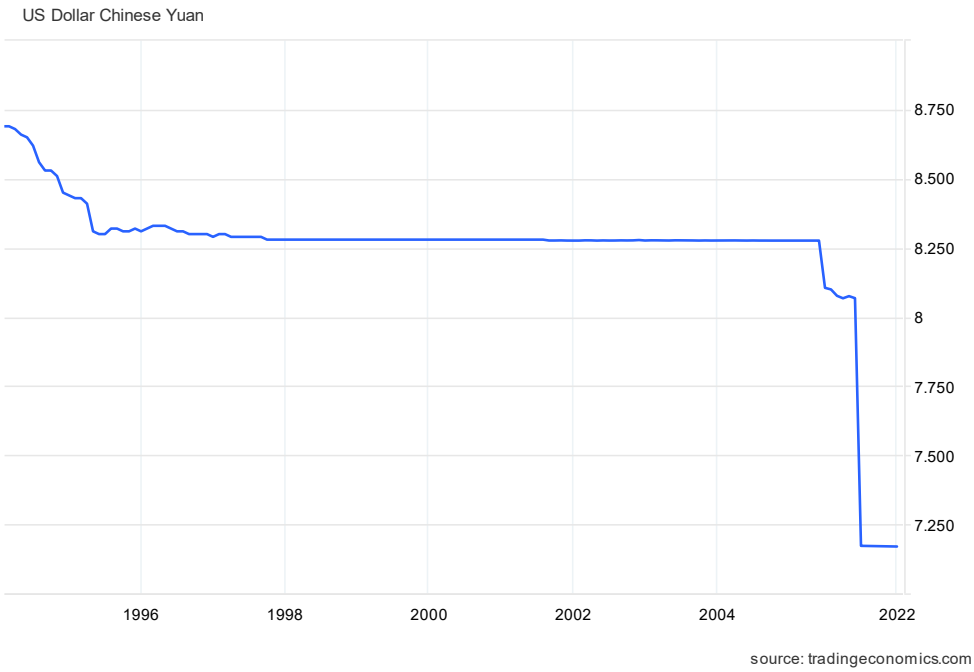
Source: TradingEconomics.com, 2022

In 1994, the Chinese government merged the official fixed exchange rate and market-based exchange rate to the initial rate of 8.70 renminbi per US dollar, which subsequently changed to 8.28 in 1997 and remained

stable without many fluctuations until July 2005 (Morrison and Labonte, 2013). The renminbi became largely convertible based on the current trade account but not based on the capital account, which means that the renminbi is not fully available for investment purposes. Foreign investment by citizens of China is tightly regulated and restricted by the central government, limiting capital outflow from China as a policy of controlling exchange rates and preventing capital flight (Morrison and Labonte, 2013). As of 2022, the renminbi is not fully convertible yet (Eichengreen et al., 2022).

From 1994 until July 2005, China maintained a policy of pegging the renminbi to the US dollar at an exchange rate of approximately 8.28 renminbi per dollar (Morrison and Labonte, 2013). The creation of this bond to the US dollar was a government policy issued to promote and provide a stable environment for foreign trade and investing in China by primarily preventing large exchange rate fluctuations. The PBC maintained this bond by selling or buying as many dollar-denominated assets in exchange for newly printed renminbi, as this was needed to eliminate the excess demand and supply for the renminbi. As a result of this policy by the monetary authority, the exchange rate between the renminbi and the US dollar remained broadly the same, despite various changing economic factors that could otherwise cause the renminbi to appreciate or depreciate against the US dollar. In a floating exchange rate system, demand for goods and assets would determine the exchange rate (Morrison and Labonte, 2013).

Fig. 2: USD/RMB Monthly averages from 1994 to 2006 (including present-day rate)

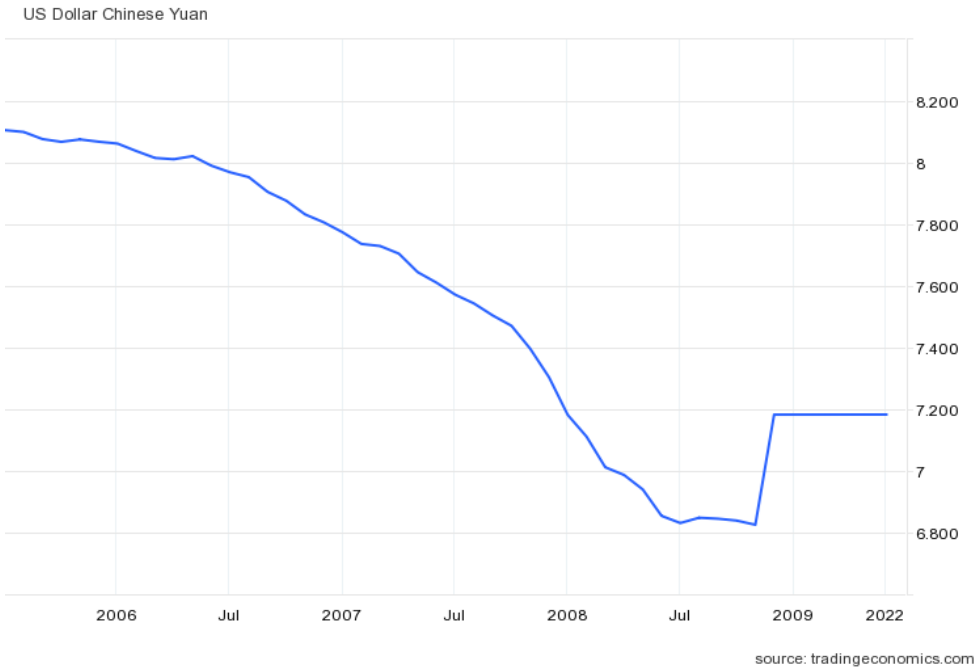


Source: TradingEconomics.com, 2022

In July 2005, the currency policy was drastically reformed. The Chinese government has announced that the renminbi exchange rate would become adjustable based on the supply and demand of the currency market. The exchange rate of the US dollar against the renminbi changed from 8.28 yuan to 8.11, an appreciation of 2.1%. A fluctuation band for the renminbi of 0.3% (which later changed to 0.5%) on a daily basis against the currency basket consisting of USD, Yen, Euro and a few other currencies (Morrison and Labonte, 2013). After July 2005, China allowed the renminbi to appreciate, however, with a cautious and slow approach. From 21 July 2005 to 21 July 2008, the USD/RMB exchange rate changed from 8.11 to 6.83 (an appreciation rate of 18,7%). The situation during

this period could be adequately described with the term managed float, as market forces determined the renminbi's movement, however, with Chinese intervention in the currency market (Morrison and Labonte, 2013).

Fig. 3: USD/RMB Monthly averages from June 2005 to the end of 2008 (including present-day exchange rate)

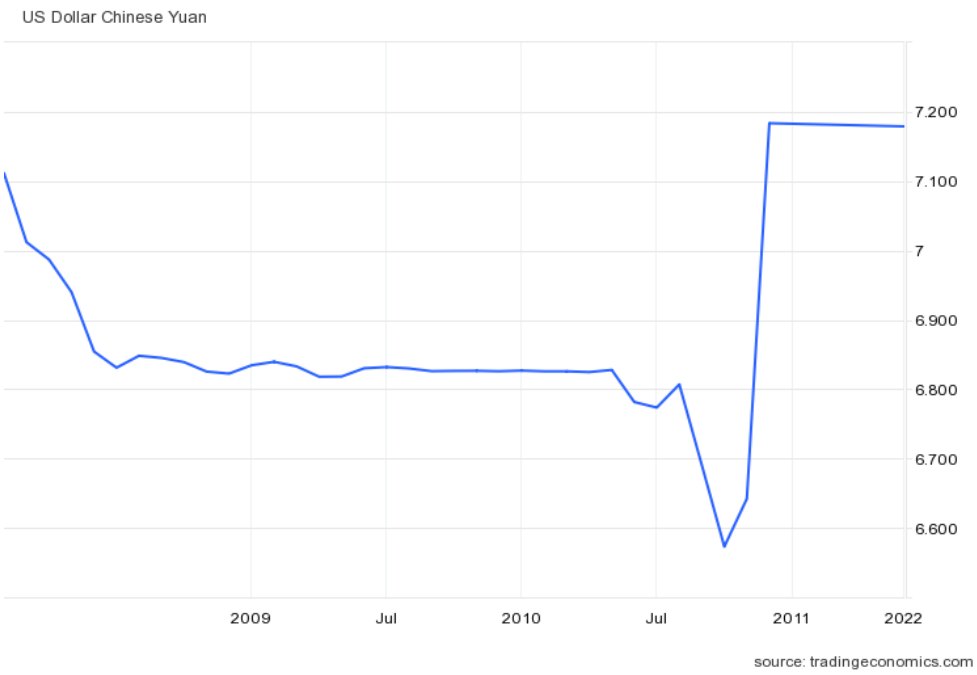


Source: TradingEconomics.com, 2022

China suspended its appreciation currency policy in July 2008 mainly due to declining global demand for Chinese goods because of the global financial crisis of 2008. In 2009, exports and imports decreased by 15.9% and 11.3%, respectively, compared to pre-crisis levels of 2008 (Morrison and Labonte, 2013). The effect on the Chinese economy was not small, as the Chinese government has noted that thousands of export-oriented companies were shut down, and more than 20 million migrant workers

lost their jobs due to the direct effects of the global economic crisis (Yingzi and Dingding, 2009). The USD/RMB exchange rate remained relatively stable at 6.83 until mid-June 2010.

Fig. 4: USD/RMB Monthly average rate from 2008 until the end of 2010 (including pre-sent-day rate)

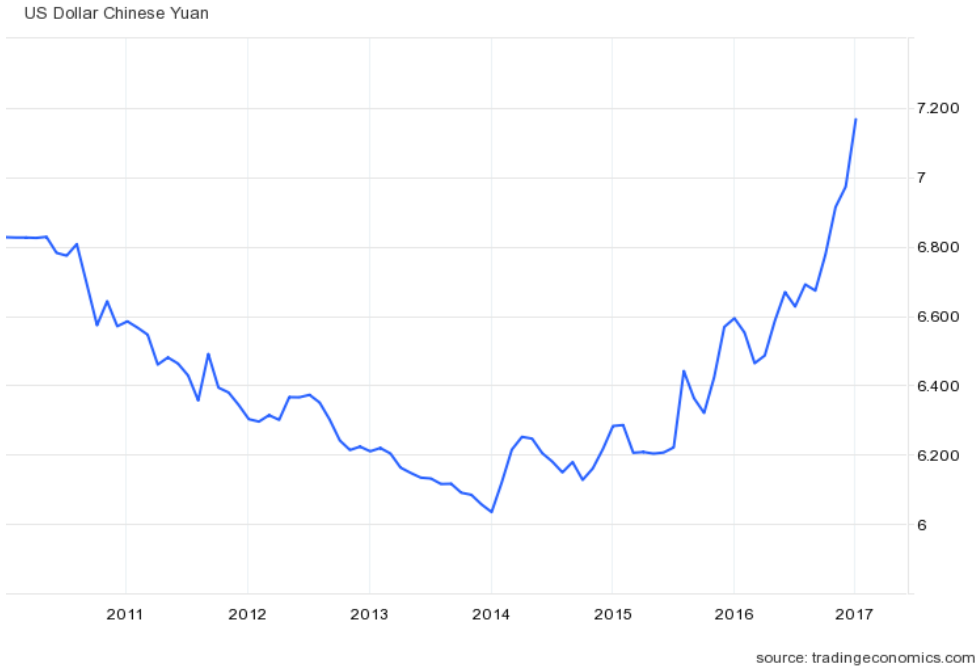


Source: TradingEconomics.com, 2022

In June 2010, the People's Bank of China announced that, under current economic conditions, it had decided to pursue reform of the renminbi exchange rate and increase its flexibility. It ruled out significant one-off appreciation and stated that avoiding fluctuations in the renminbi exchange rate was essential. These arguments were also made partly because Chinese companies could more easily adapt to strengthening the currency. In overall, the renminbi has appreciated (Morrison and

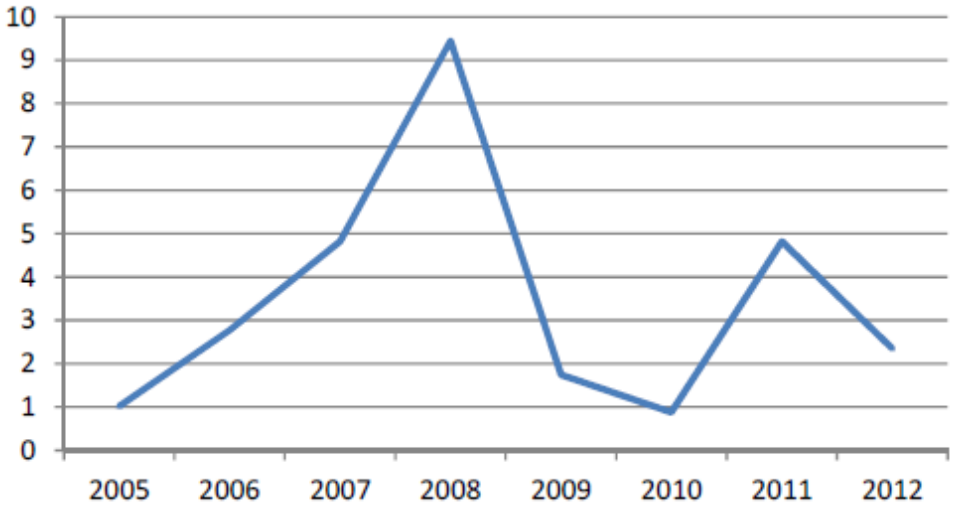
Labonte, 2013). From June 2010 to July 2013, the renminbi appreciated by 10.7% against the American dollar, resulting in the exchange rate of 6.83 yuan per dollar change to 6.17, with the most appreciation occurring in 2010 and 2011 (Morrison and Labonte, 2013).

Fig. 5: USD/RMB Monthly averages from January 2010 until December 2016 (including present day exchange rate)



Source: TradingEconomics.com, 2022

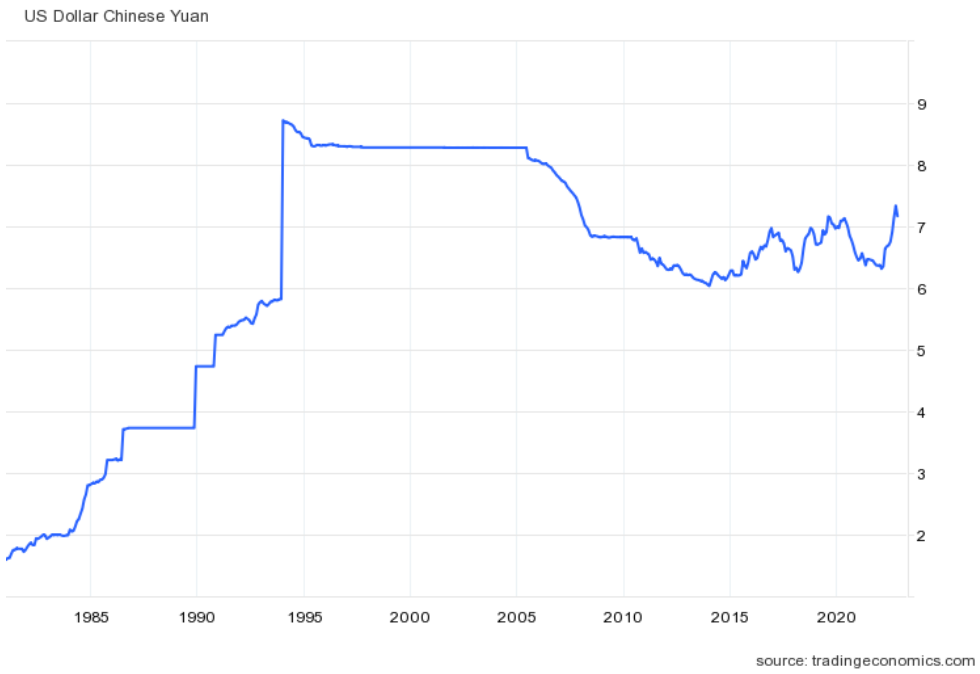
Fig. 6: Average Annual Percent Change in RMB/USD Exchange rate 2005 to 2012



Source: Morrison and Labonte, 2013

In the 2010s, the renminbi experienced depreciation and appreciation fluctuations, with the 2015 devaluation by PBC to 6.38 USD/RMB, effectively re-pegging it against the dollar (Adinolfi, 2015). Fluctuations continued in the late 2010s as the renminbi appreciated from November 2016 at 6.92 USD/RMB until April 2018 at 6.25 USD/RMB, then depreciated from March 2018 rate of 6.23 USD/RMB to 7.11 USD/RMB in May 2020. From May 2020 until March 2022, the renminbi again appreciated to 6.36 USD/RMB, eventually depreciating to the present-day USD/RMB exchange rate of about 7.1 (TradingEconomics, 2022). However, PBC plans to reduce the weakening pressure on the renminbi in the near future (Cheng, 2022).

Fig. 7: USD/RMB Monthly averages from 1981 until November 2022



Source: TradingEconomics.com, 2022

Due to the success in the process of internationalisation of the renminbi by the Chinese government, on 30 November 2015, the International Monetary Fund voted to designate the renminbi as one of the leading world currencies (joining the American dollar, the euro, British sterling and the Japanese yen), therefore including it in the basket of special drawing rights (SDR), becoming the first emerging market currency to be included in the SDR basket in October 2016 (Teague, 2016).

In October 2019, the central bank of China, PBC, announced that a digital renminbi would be released after the preparations process (Tabeta, 2019). The digital version of the currency was initially called DCEP (Digital Currency Electronic Payment), effectively pushing Chinese society to become a cashless society (Lee, 2019). According to some responses, this

is an attempt by the Chinese government to circumvent US dollars in international banking, therefore weakening America's ability to leverage the dollar as the world currency in the broader geopolitical interests (Athawasya, 2019). The adoption of first world digital currency, e-RMB, as of 2022 in the testing phase in several cities (Huld, 2022).

4.2 Internationalisation of Renminbi

The People's Republic of China started focusing on the internationalisation of its currency in the late 2000s, starting with cross-border renminbi settlements of the trade in goods with neighbouring countries in 2009 (PBC, 2021). By definition, "An international currency is one that is used and held beyond the borders of the issuing country, not merely for transactions with that country's residents, but also, and importantly, for transactions between non-residents. In other words, an international currency is one that is used instead of the national currencies of the parties directly involved in an international transaction, whether the transaction in question involves a purchase of goods, services or financial assets. "(Kenen, 2009).

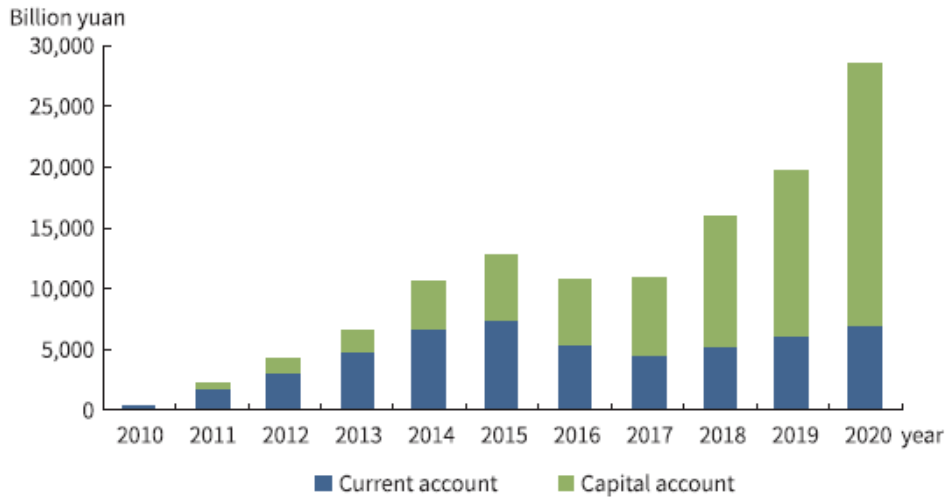
Fig. 8: Roles of an international currency

Function of money:	Governments	Private actors
Store of value	International reserves	Currency substitution
Medium of exchange	Vehicle currency for foreign exchange intervention	Invoicing trade and financial transactions
Unit of account	Anchor for pegging local currency	Denominating trade and financial transactions

Source: Chinn and Frankel, 2005

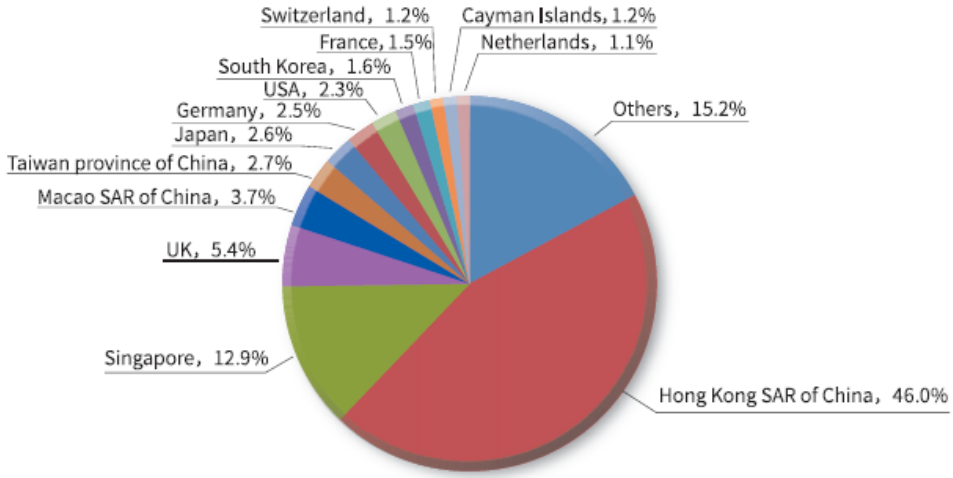
As a result of cross-border settlements in the renminbi, trade settlements in the renminbi increased massively. By Q1 of 2013, trade settlements in the renminbi totalled around 11% of total trade settlements (Zhang and Tao, 2014). In 2005, the Chinese government permitted domestic financial institutions to issue denominated bonds in the Renminbi in Hong Kong (Zhang and Tao, 2014). In 2020, cross-border renminbi settlements accounted for 28.39 trillion yuan (PBC, 2021). In 2020, cross-border settlement in the renminbi under the capital account totalled 21.61 trillion yuan (PBC, 2021). Since 2008, China started signing bilateral currency swap agreements, starting with the Republic of Korea (The Chosun Ilbo, 2010), eventually including 40 countries and regions by the end of 2020, totalling 3.99 trillion yuan (PBC, 2021). Such an agreement was also reached with European Central Bank in 2013, extending it until at least 2025 (ECB, 2022).

Fig. 9: Yearly Cross-border RMB settlement during 2010-2020



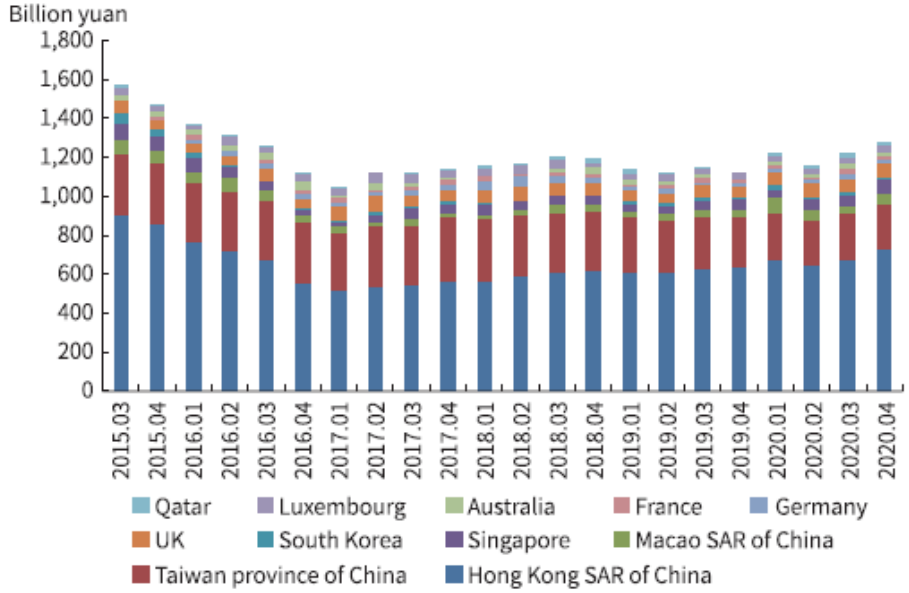
Source: PBC. 2021

Fig. 10: Geographical Distribution of Cross-border settlement in renminbi in 2020



Source: PBC, 2021

Fig. 11: Offshore Renminbi-denominated deposits



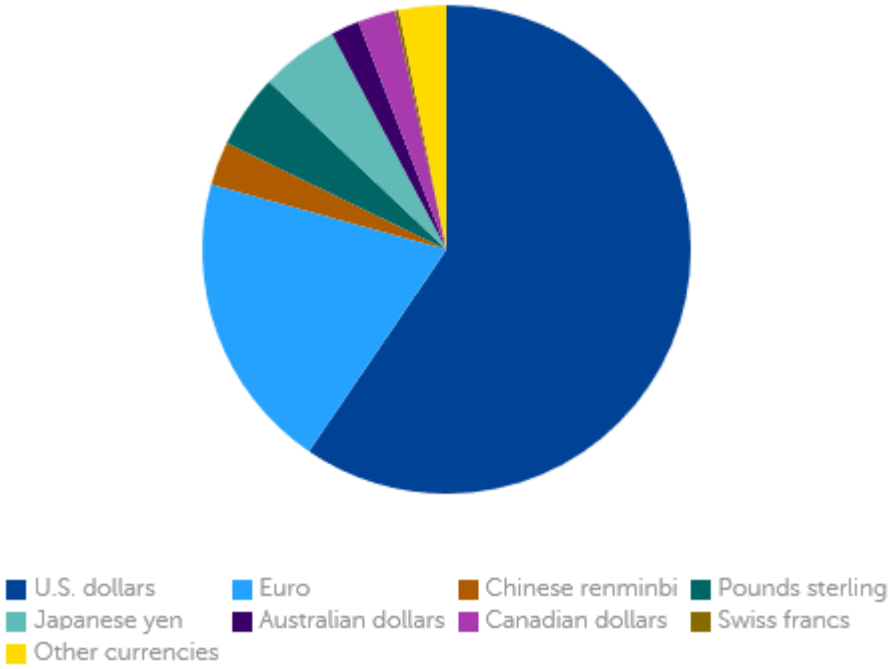
Source: PBC, 2021

Such internationalisation of official Chinese currency has significant implications for the financial industry. Foreign companies can trade with Chinese companies in renminbi, resulting in reduced transaction costs and better trade conditions. It also opens possibilities for international investors, and bonds in the renminbi allow access to diversified funding sources. Capital management is also affected, as multinational companies can manage their funds and payments in renminbi globally (Wang and Tan, 2014). Society for Worldwide Interbank Financial Telecommunication has noted that multiple financial institutions were building up payments, foreign exchange, derivatives and trade settlements in the renminbi as a source of revenue (Batten and Szilagyi, 2013).

It is also clear that with the process of the renminbi's internalisation, China appears to challenge the dominant American Dollar (Crawford,

2022) and appears to push the renminbi into the position of a reserve currency with gradually increasing share since its introduction into COFER survey in 2016 (PBC, 2022). As of Q2 2022, according to data released in the Currency Composition of Official Foreign Exchange Reserves (COFER) report released by the International Monetary Fund (IMF), allocated foreign exchange reserves in renminbi amount to 322.38 billion dollars, accounting for 2.88% of total official foreign exchange reserves, ranking 5th among world currencies, behind USD, euro, Japanese yen, and British sterling pound (IMF, 2022).

Fig. 12: Allocated reserves by currency for Q2 2022



Source: IMF, 2022

Fig. 13: World Currency Composition of Official Foreign Exchange Reserves in millions USD, Total Foreign Exchange Reserves

	2016Q4	2017Q4	2018Q4	2019Q4	2020Q4	2021Q4	2022Q2
⊟ Total Foreign Exchange Reserves	10,720,647.44	11,452,317.50	11,432,752.16	11,822,309.69	12,700,497.74	12,920,517.76	12,036,761.56
⊟ Allocated Reserves	8,417,845.24	10,012,690.96	10,726,222.51	11,071,545.13	11,864,529.04	12,049,795.33	11,174,917.91
Claims in U.S. dollars	5,501,929.91	6,280,659.97	6,624,672.11	6,725,710.82	6,990,974.51	7,085,918.21	6,652,357.08
Claims in euro	1,611,025.86	2,019,378.26	2,217,578.02	2,279,459.18	2,526,413.71	2,481,340.16	2,208,930.80
Claims in Chinese renminbi	90,777.37	123,473.47	203,085.04	214,460.85	271,601.75	337,259.79	322,383.10
Claims in Japanese yen	332,757.90	490,307.86	556,905.59	649,762.81	715,347.56	665,103.11	578,520.31
Claims in pounds sterling	365,857.93	454,789.65	474,875.75	513,518.28	561,388.03	579,381.69	545,080.45
Claims in Australian dollars	142,303.39	180,494.36	174,463.04	187,881.65	216,870.65	221,321.10	210,008.88
Claims in Canadian dollars	163,143.75	202,797.90	197,216.33	205,988.80	246,567.16	286,932.04	278,183.74
Claims in Swiss francs	13,694.39	17,603.77	14,782.39	16,564.40	20,738.35	20,788.80	27,624.18
Claims in other currencies	196,354.74	243,185.71	262,644.24	278,198.34	314,627.32	371,750.44	351,829.36
Unallocated Reserves	2,302,802.20	1,439,626.54	706,529.65	750,764.56	835,968.70	870,722.42	861,843.65

Source: IMF, 2022

Fig. 14: World Currency Composition of Official Foreign Exchange Reserves in millions USD, Shares of Allocated Reserves

	2016Q4	2017Q4	2018Q4	2019Q4	2020Q4	2021Q4	2022Q2
⊟ Total Foreign Exchange Reserves	10,720,647.44	11,452,317.50	11,432,752.16	11,822,309.69	12,700,497.74	12,920,517.76	12,036,761.56
⊞ Allocated Reserves	8,417,845.24	10,012,690.96	10,726,222.51	11,071,545.13	11,864,529.04	12,049,795.33	11,174,917.91
Unallocated Reserves	2,302,802.20	1,439,626.54	706,529.65	750,764.56	835,968.70	870,722.42	861,843.65
⊟ Shares of Allocated Reserves	78.52	87.43	93.82	93.65	93.42	93.26	92.84
Shares of U.S. dollars	65.36	62.73	61.76	60.75	58.92	58.81	59.53
Shares of euro	19.14	20.17	20.67	20.59	21.29	20.59	19.77
Shares of Chinese renminbi	1.08	1.23	1.89	1.94	2.29	2.80	2.88
Shares of Japanese yen	3.95	4.90	5.19	5.87	6.03	5.52	5.18
Shares of pounds sterling	4.35	4.54	4.43	4.64	4.73	4.81	4.88
Shares of Australian dollars	1.69	1.80	1.63	1.70	1.83	1.84	1.88
Shares of Canadian dollars	1.94	2.03	1.84	1.86	2.08	2.38	2.49
Shares of Swiss francs	0.16	0.18	0.14	0.15	0.17	0.17	0.25
Shares of other currencies	2.33	2.43	2.45	2.51	2.65	3.09	3.15
Shares of Unallocated Reserves	21.48	12.57	6.18	6.35	6.58	6.74	7.16

Source: IMF, 2022

4.3 The intervention of the PBC in the foreign exchange market

Intervention in the foreign exchange market is a tool commonly used by central banks to direct their currencies to a desirable level or for stabilisation purposes (Sarno and Taylor, 2001). The Chinese government has been reluctant to admit that any intervention has ever occurred in China's foreign exchange market, fearing that admission would contribute to international pressure for the renminbi to appreciate (Li et al., 2017).

According to Li and his colleagues, the Chinese monetary authority used three forms of intervention in the foreign exchange market.

"The central bank intervenes by directly purchasing or selling foreign currencies in the marketplace. In the case of purchase intervention, the central bank buys foreign currencies with central bank notes; in sale intervention, it sells foreign money to withdraw the RMB from the market. We term this type of intervention "Central Bank (CB) intervention", as it involves the central bank participating in market transactions.

The central bank controls the level and growth of the RMB exchange rate by specifying on each day a central parity rate within a permissible range in which the daily trading prices of the RMB are allowed to fluctuate in the marketplace. We call this "central parity (CP) intervention" because this intervention operation involves the setting and adjustment of the central parity.

Intervention may also take an oral form, including, for example, policy briefing, moral persuasion, formal and informal meetings and telephone conversations. We call intervention through such channels oral intervention. Here, the Chinese central bank effectuates intervention by instructing or directing the attention of market participants towards "things to note"; it does so particularly with traders of state-owned banks, who are a dominant force in the Chinese foreign exchange market." (Li et al., 2017)

Their study focused on central bank intervention in which the central bank intervenes by directly purchasing and selling foreign currencies in the marketplace (Li et al., 2017). During the period ranging from 22 July 2005 to 22 July 2013, the Chinese central bank intervened by purchasing

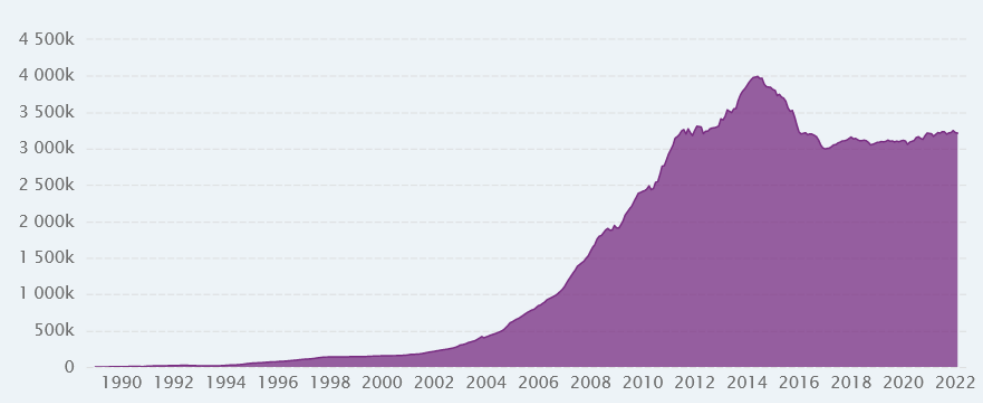
or selling currencies on 1176 trading days, intervening by purchasing on 584 days and by selling on 592 days. They concluded that PBC is mainly motivated by a desire to stabilise exchange rate movements and offset abnormal exchange rate volatility rather than to only address appreciation of the renminbi. In that case, the number of purchase interventions would be much greater than the number of sale interventions. According to their models, during the financial crisis period in 2007 and 2008, PBC's main objective was to maintain confidence in the renminbi and to combat depreciation by sale interventions. In the study's conclusion, they concluded that PBC was mainly driven by the deviation of renminbi from the central parity in the non-crisis years and that exchange rate deviations, conditional volatility, lagged intervention, national economic conditions, interest differential, deviations from the central parity, position of international liquidity and FDI had a significant influence on China's intervention decisions, with focus on the leaning against the wind strategy in the medium term. In contrast, in the long term, leaning with the wind was the primary strategy (Li et al., 2017).

4.4 Foreign Exchange Reserves

The People's Republic of China has the largest foreign exchange reserves in the world. In the past, the United States put pressure on China due to a surplus of trade balance and increasing foreign exchange reserves to revaluate its currency (Žídek, 2009). Chinese foreign exchange reserves are composed of cash, bank deposits, bonds, and other financial assets denominated in currencies other than Chinese domestic currency, the renminbi. By the definition of IMF in BPM6, "reserve assets are those external assets that are readily available to and controlled by monetary

authorities for meeting the balance of payments financing needs, for intervention in exchange markets to affect the currency exchange rate, and for other related purposes (such as maintaining confidence in the currency and the economy, and serving as a basis for foreign borrowing). " (IMF, 2009). China's Foreign Exchange Reserves were measured at 3052.4 billion dollars in October 2022 (ceicdata.com, 2022). People's Bank of China manages Chinese foreign exchange reserves (PBC, 2022). The exact composition of Chinese foreign exchange reserves is unknown, as this is classified information (Wildau, 2015). In July 2019, China's State Administration of Foreign Exchange announced that at the end of 2014, USD financial assets contributed to 58% of Chinese total foreign exchange reserves, down from 79% in 2005, concluding that its share of USD assets was lower than the global average of 65% in 2014 (Xin, 2019). In September 2022, China held 933.6 billion dollars of US government debt, ranking second after Japan (US Department of Treasury, 2022).

Fig. 15: Foreign exchange reserves from January 1989 to October 2022, monthly in million USD



Source: ceicdata.com, 2022

According to the paper done by Miszstal (2021), from 1990 through 2019, the value of Chinese foreign exchange reserves was higher than the optimal values suggested by the Foreign Exchange reserve adequacy ratios, except for the ratio of optimal level of foreign exchange reserves calculated as 20% of the M2 money supply and ratio calculated by the IMF methodology for countries with constant exchange rates, making the optimal foreign exchange reserves higher than actual Chinese foreign exchange reserves (Misztal, 2021). In the paper's conclusion, the author's analysis conducted that Chinese foreign exchange reserves were shielded from the effects of economic crises. However, the high level of the reserves led to their low profitability. The author conducted that levels of the reserves were determined mainly by the inflow of FDI and changes in import expenditure (Misztal, 2021).

5 International accusations and valuation of renminbi

For some time, China has faced many accusations of keeping its currency artificially undervalued by intervening in currency markets, making its exports cheaper and more competitive, and therefore other countries' exports becoming more expensive in relation to Chinese exports. It can be said that it is pursuing a beggar thy neighbour policy, i.e., it seeks to support its economic development at the expense of other economies.

Critics say that the undervalued renminbi is a significant factor behind the expansion of the US trade deficit with China and the decline in US manufacturing jobs (Morrison and Labonte, 2013). Some analysts say there is a direct correlation between America's trade deficit and labour job losses. For example, a study by the Economic Policy Institute points out that the US trade deficit with China, which is supposed to be the result of China's currency policy, led to the loss of 2.7 million jobs (of which 76.9% were in manufacturing) from 2001 to 2011 (Scott, 2012). In addition, some economists argue that China's currency policy incentivises other East Asian economies to intervene in foreign exchange markets and keep their currencies weak against the US dollar to compete with Chinese goods (Morrison and Labonte, 2013). American economist Paul Krugman argues that the undervalued renminbi has even caused a significant slowdown in the global economic recovery post-global financial crisis and estimates that global GDP has decreased by 1.4% due to Chinese mercantilism, therefore making it a beggar thy neighbour economic policy (Krugman, 2009).

5.1 Claims of Chinese currency manipulation

The People's Republic of China has been accused multiple times in the past of currency manipulation and usage of the beggar thy neighbour policy with the undervaluation of the renminbi. Multiple economists have claimed in the past that the renminbi was undervalued. Former World Trade Organization Director-General Pascal Lamy (Reuters, 2010), former US Federal Reserve Chairman Ben Bernanke (Bernanke, 2010), Director of the Peterson Institute for International Economics Fred Bergsten (The Washington Times, 2010), Nobel Laureate Paul Krugman (Krugman, 2010) have all reportedly stated in the past that renminbi is undervalued. A 2012 study done by the Peterson Institute for International Economics based on excessive levels of foreign exchange reserves (FERs) as a percent of GDP and the cumulative increase in FERs as a percent of GDP identified 22 countries that are currency manipulators, the most significant being the People's Republic of China (Bergsten and Gagnon, 2012)

As a member of the World Trade Organization and International Monetary Fund, China's undervalued currency, the renminbi would violate Article XV (4) of the General Agreement on Tariffs and Trade and Article 1 (GATT, 1947), Article 3 of the World Trade Organization Agreement on Subsidies and Countervailing Measures (WTO, 2022) and Article IV Section 1 of the International Monetary Fund that prohibits countries from manipulating their currency (IMF, 2022).

Critics have claimed in the past that the undervalued renminbi has been a major factor behind the US trade deficit with China, which grew from

84 billion dollars in 2000 to 315 billion dollars in 2012 (Morrison and Labonte, 2013). The US Department of the Treasury issues a biannual report to congress on the exchange rate policies of major US trading partners. If such manipulation appears to exist, the Secretary of the Treasury is obliged to negotiate with such countries to eliminate unfair advantages. US Department of Treasury has designated China as a currency manipulator five times from May 1992 and July 1994 over its dual exchange rate system, periods of currency devaluations, import restrictions and lack of access to foreign exchange by importers (Morrison and Labonte, 2013). Many members of the US Congress were frustrated that the designation was removed. Observes have noted that the US cannot prove that China is manipulating its currency with the intent of gaining an unfair advantage as China's intervention in the currency markets is slow compared to the sharp depreciating of the renminbi and that designating China as a currency manipulator would have no practical effect other than "name and shame" and could anger the Chinese government. However, some Members of Congress have urged the Department of Treasury to designate China as a currency manipulator to convey that the United States no longer tolerates Chinese currency policy (Morrison and Labonte, 2013). The 44th US President Obama stated in February 2010 that the undervalued Chinese renminbi puts US firms at a "huge competitive disadvantage," and he claimed to make focusing on addressing China's currency policy a top priority (The White House, 2010). He addressed the issues through various multilateral channels (such as G-20), which could have contributed to changes in international use and the development of the Chinese currency renminbi in the early 2010s (as seen in the chapter focusing on renminbi development).

In May 2015, International Monetary Fund released a press release concluding its Article IV Consultation Mission to China, concluding that the renminbi was no longer undervalued (IMF, 2015). In August 2019, under Trump's administration, the US Department of the Treasury designated China as a currency manipulator for the first time since 1994 (US Department of the Treasury, 2019), with a mostly symbolic move that opened the doors for Trump administration to consult with the International Monetary Fund any unfair advantage that Chinese currency policy could have (Silver, 2022). The IMF stated that the renminbi's value was in line with China's economic fundamentals and that the US dollar was overvalued by 6 to 12 percent (The Strait Times, 2019). However, in January 2020, the designation of China as a currency manipulator was removed by the US Department of the Treasury (Shalal and Alper, 2020), most likely as a move before a preliminary trade agreement to ease the tariff war (more in the chapter focusing on the trade war between US and China). As of 2022, the People's Republic of China is not officially designated a currency manipulator by the United States.

5.2 Estimations of renminbi undervaluation

To fully understand the effects of the renminbi on the US and Chinese economies, it is crucial to investigate the estimations of the renminbi's undervaluation. However, multiple models exist, and opinions on the valuation of the renminbi differ. As the renminbi is not a free-floating currency in the international markets and the People's Bank of China intervenes in affecting its value, most models focus on answering the question of how much is (or, more specifically, was) the renminbi undervalued differs.

In just 2009, four studies looked into the renminbi's undervaluation against the American dollar. Those results varied by rates of 12% undervaluation against the American dollar (Reisen, 2009), 25% undervaluation (Rodrik, 2009), 40% undervaluation in Peterson Institute for International Economics study (Cline and Williamson, 2009) and 50% undervaluation (Ferguson and Schularick, 2009). In 2006, the US Department of the Treasury stated that no single model could accurately explain exchange rate movements due to the many factors and variables involved (Morrison and Labonte, 2013). IMF uses three different approaches for its surveillance and assessment of exchange rate regimes, including equilibrium real exchange rate (ERER), external sustainability (ES) and macroeconomic balance (MB) (IMF, 2006). Though, as mentioned in previous chapters, IMF has not considered the renminbi undervalued since 2015. However, in the past, when IMF made public its estimates of the renminbi's undervaluation in 2011, they estimated that the renminbi was undervalued by 3% under the ERER approach, 17% under the ES approach and 23% under the MB approach (IMF, 2011). In July 2012, the IMF declaration was the following: "The renminbi is assessed to be moderately undervalued, reflecting a reassessment of the underlying current account, slower international reserves and in accumulation, and past real effective exchange rate appreciation." (IMF, 2012). With a range of undervaluation ranging from 5%-10% based on the difference between the real effective exchange rate and rate consistent with fundamentals, and in May 2013 repeated its assessment that the renminbi remained moderately undervalued against the basket of currencies (Morrison and Labonte, 2013). In the Congressional Research Service report (2013), Morrison and Labonte criticise the FEER method to estimate exchange rates

as there is no consensus on what equilibrium would be, as account targets vary.

For pre-2009 studies, multiple methods of methodology and models were used. As seen in the following table, the studies used various methodology models based on Purchasing Power parity (PPP), Fundamental Equilibrium Exchange Rate (FEER) and Behavioural Equilibrium Exchange Rate (BEER), showcasing undervaluation and required appreciation in percentages.

Fig. 16: Estimates of Undervaluation and Required Appreciation of Renminbi

Authors / Version	Year	Undervaluation (%)		Required Appreciation (%)	
		Effective RER	USD	Effective RER	USD
PPP					
Big Mac Index (2007) ; S	2007		-58		138
Bosworth (2004)	2004		-40		67
Cheung, Chinn and Fujii (2007); B-S	2007		-50		100
Coudert and Couharde (2005); B-S	2003		-33 to -29		41 to 50
Frankel (2004) ; B-S	2000		-36		56
Wang (2004) ; B-S	2004	-5		5	
FEER					
Anderson (2006)	2006		-20 to -15		18 to 25
Cline (2005)	2005	-17	-31	21	45
Cline (2007)	2007	-15 to -10	-28 to -25	11 to 18	34 to 39
Coudert and Couharde (2005)	2003	-23	-35 to -31	30	44 to 54
Goldstein (2004)	2004	-30 to -15		18 to 43	
Goldstein and Lardy (2006)	2004	-26 to -17		20 to 35	
Goldstein and Larly (2007)	2007	-38 to -26		35 to 60	
Jeong and Mazier (2003)	2000	-33	-38	49	60
Stolper and Fuentes (2007)	2007		-13		15
Wang (2004)	2003	-5 to 0		0 to 5	
Wren-Lewis (2004)	2003		-18 to -16		19 to 22
BEER					
Bénassy-Quéré et al. (2004)	2001	-14	-31 to -29	16	41 to 44
Bénassy-quéré (2006)	2004	-31 to -24	-37 to -23	31 to 45	30 to 59
Coudert and Couharde (2005)	2002		-18		22
Funke and Rahn (2005)	2002	-6 to -3	-11	3 to 6	12
Macdonald and Dias (2007)	2007	-30 to -7		8 to 42	
Stolper and Fuentes (2007)	2007		-7		7
Wang (2004)	2003	0		0	
Wren-Lewis (2004)	2002		-18 to -16		19 to 22

Source: Cardoso and Duarte, 2017

Analysis of the presented studies showcases us that except for Wang study and the Big Mac Index calculated by The Economist, all studies presented in the table indicate that the renminbi is below its equilibrium value, meaning it was undervalued on average by 20% against American

dollar and 27% against the real effective exchange rate (Cardoso and Duarte, 2017). Cardoso and Duarte (2017) mention that no definitive model exists and that each model has its own strengths and limitations. Therefore, results vary depending on the methodology used. The authors also mention that the models used are not suitable for economies with levels of development as disparate as China and the United States, as FEER and BEER models assume the economy is in full employment and the fact that China is a developing economy. Therefore, maintaining an exchange rate at a level below its equilibrium is appropriate for Chinese goals, meaning that the exchange rate is in equilibrium (Cardoso and Duarte, 2017).

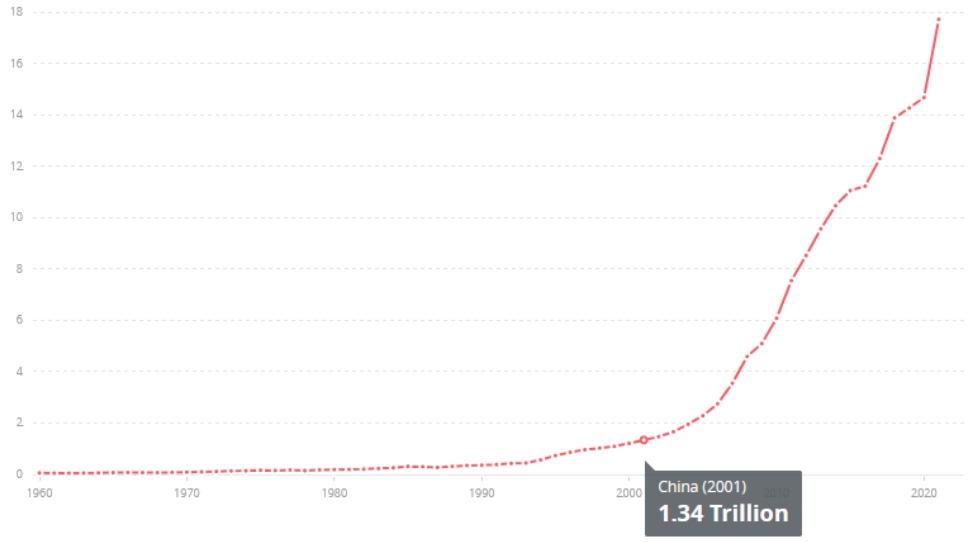
6 Effects of China's currency policy on the Chinese economy

The following chapter focuses on an analysis of how China's currency policy could affect the Chinese economy, including a brief look at its economy and development to try to analyse its possible intention with the currency interventions.

6.1 Integration of China into WTO structures and effects of Chinese currency policy

The People's Republic of China has encountered relatively struggling times, from foreign occupations in the late 18th century to Communist victory in the civil war in 1947. Under communist rule, China has achieved consolidated power and relatively stabilised rule for the first time in its modern history. Chinese economy showcases exceptionally high growth experienced mostly resulting from the post-reform period post-Mao Zedong's death in 1976 and the start of economic reforms in 1978 coming from the Deng Xiaoping leadership of the Chinese Communist Party. Under his leadership, China embraced various socio-economic reforms concluding in a more market-based economy and foreign trade liberalisation. Eventually, in 2001, the People's Republic of China joined the World Trade Organization. Since joining the WTO in 2001, China has experienced high real GDP growth rates, investment and foreign trade (Cardoso and Duarte, 2017). The People's Republic of China ranks second based on nominal GDP as of 2021, behind the United States.

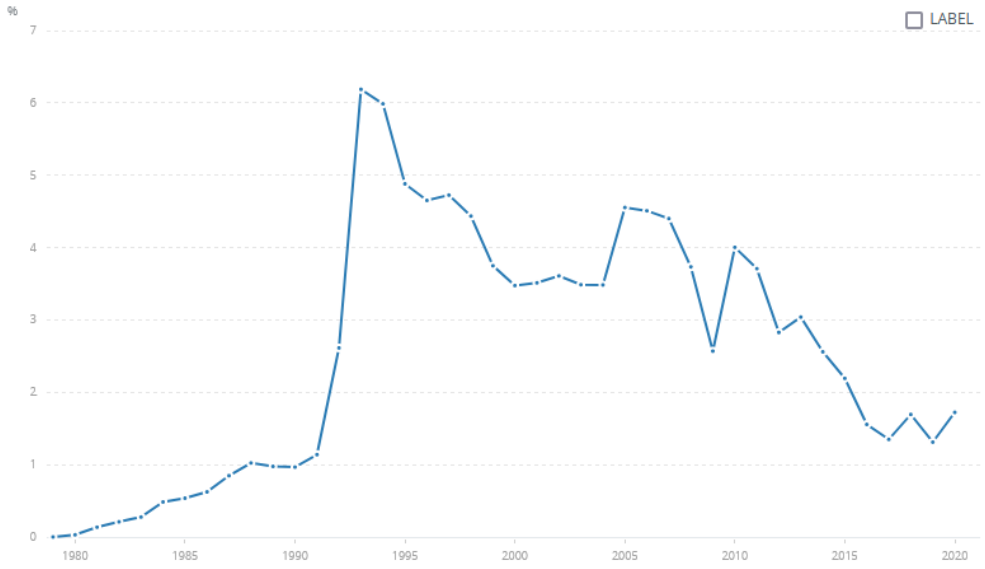
Fig. 17: China's GDP from 1960 to 2021 in USD, with the highlighted year of WTO ascension



Source: World Bank, 2022

As seen in Figure 17, China experienced dramatic growth, especially noticeable after it entered WTO in 2001.

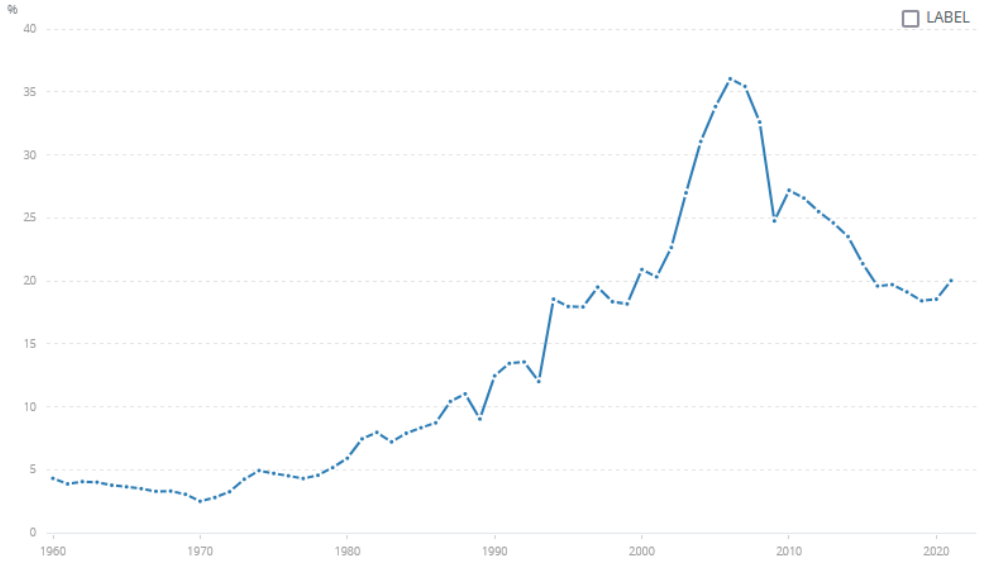
Fig. 18: Foreign direct investment, net inflows (% of GDP)



Source: World Bank, 2022

Figure 18 shows a significant increase in FDI, especially from the beginning of the 1990s, showcasing China's goal to modernise its economy via the ability to attract foreign companies and subsequently strengthen its economy.

Fig. 19: Exports of goods and services - China (% of GDP)



Source: World Bank, 2022

Figure 19 shows that the Chinese economy is, without a doubt, pro-export orientated, with exports reaching as high as 36% of GDP in 2006. This strategy leads to the accumulation of foreign exchange reserves (Figure 15), which, as previously mentioned, are used to intervene in currency markets to keep the renminbi at desirable levels. In that case, the weak renminbi has significantly affected its exports by making them more competitive.

Fig. 20: China exports by the degree of technological intensity

Degree of Technological Intensity	Export Share (%)		Growth Rate (%) 1992-2007	RCA Index	
	1992	2007		1992	2007
High	10.4	31.3	21.2	0.6	1.6
Medium-High	10.2	21	18.3	0.4	0.8
Medium-Low	10.2	15.1	15.9	0.8	1.1
Low	53.3	26.5	8.3	2.5	1.7
Other	16	6.1	6.5	0.7	0.2
Total	100	100	13.1	1	1

Source: Cardoso and Duarte, 2017

As can be seen in Figure 20, China adapted from low technological intensity exports to high technological exports by 2007 (Cardoso and Duarte, 2017).

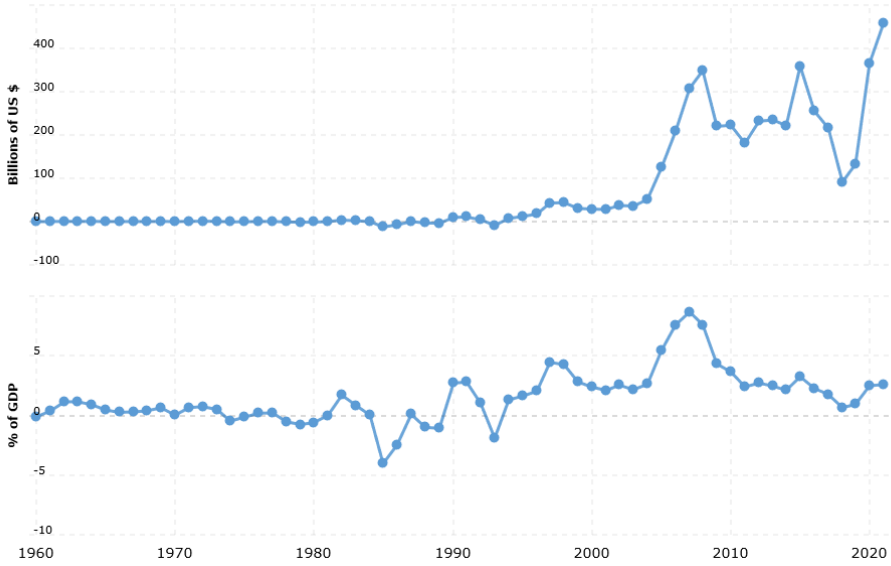
Though overdependence on exports and FDI inflows makes China particularly vulnerable to the effects of global economic slowdowns (Morrison and Labonte, 2013). Another significant effect of undervalued currency is more expensive imports, hurting Chinese companies. Pegging effectively also lowers the Chinese ability to use monetary policy to control inflation to desirable effects. However, China did not experience any significant inflations in recent years, as seen in Figure 21.

Fig. 21: China Annual Inflation rate

Source: TradingEconomics.com, 2022

As a result of pro-export-orientated policies, China currently has a large trade balance (reaching 458.93 billion dollars in 2021) surplus, as shown in Figure 22. The trade surplus significantly dropped in the first year of the US-China trade war.

Fig. 22: China trade balance 1960-2021



Source: Macrotrends.net, 2022

7 Effects of China's currency policy on the American economy

As China and The Unites States are both the most significant trading partners to each other, the consequences of the undervalued Chinese currency, the renminbi, could be significant. As mentioned in previous chapters, American economists and policymakers often criticised Chinese currency policy. The following texts try to estimate the effects of undervalued currency on the American economy via a contemporary literature review.

7.2 US-China trade relationship in data

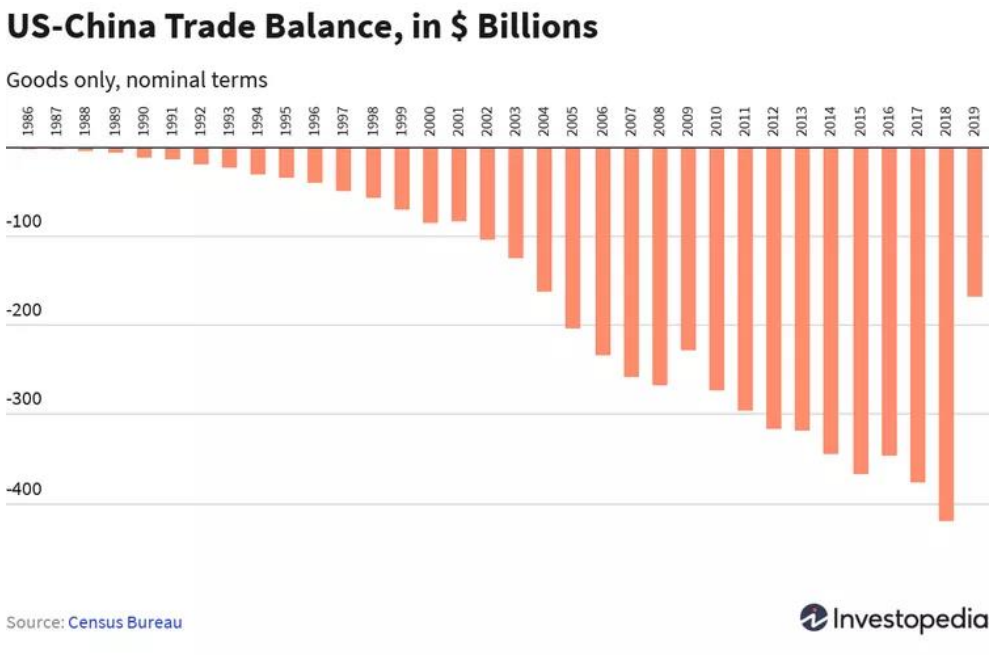
China is currently US's largest goods trading partner, with 559.2 billion dollars in total (two-way) goods trade during 2020. Goods exports totalled 124.5 billion dollars; goods imports totalled 434.7 billion dollars. The US goods trade deficit with China was 310.3 billion dollars in 2020. (USTR, 2022). Trade in services with China (exports and imports) totalled an estimated 56.0 billion dollars in 2020. Services exports were 40.4 billion dollars; services imports were 15.6 billion dollars. The US services trade surplus with China was 24.8 billion dollars in 2020. According to the Department of Commerce, US exports of goods and services to China supported an estimated 758,000 jobs in 2019 (475,000 supported by goods exports and 283,000 supported by services exports). US goods and services trade with China totalled an estimation of 615.2 billion dollars in 2020. Exports were 164.9 billion dollars while imports were 450.4 billion dollars. The US goods and services trade deficit with China was 285.5 billion dollars in 2020 (USTR, 2022).

In the export category, China was the United States 3rd largest goods export market in 2020. US goods exports to China in 2020 were 124.5 billion dollars, up 16.9 percent (18.0 billion USD) from 2019, up 35 percent from 2010. US exports to China are up 549.0 percent from 2001 (pre-WTO accession). US exports to China account for 8.7 percent of overall US exports in 2020. US services exports to China were an estimated 40.4 billion dollars in 2020, 31.9 percent (19 billion dollars) less than 2019, but 97 percent greater than in 2010. It was up roughly 617.7 percent from 2001 (pre-WTO accession). China was the United States' largest supplier of goods imports in 2020 (USTR, 2022).

US goods imports from China totalled 434.7 billion dollars in 2020, down 3.6 percent (16.0 billion dollars) from 2019, up 19 percent from 2010. US imports are up 325 percent from 2001 (pre-WTO accession). US imports from China account for 18.6 percent of overall US imports in 2020 (USTR, 2022).

The US goods trade deficit with China was 310.3 billion USD in 2020, a 9.9 percent decrease (34.0 billion dollars) over 2019 (USTR, 2022).

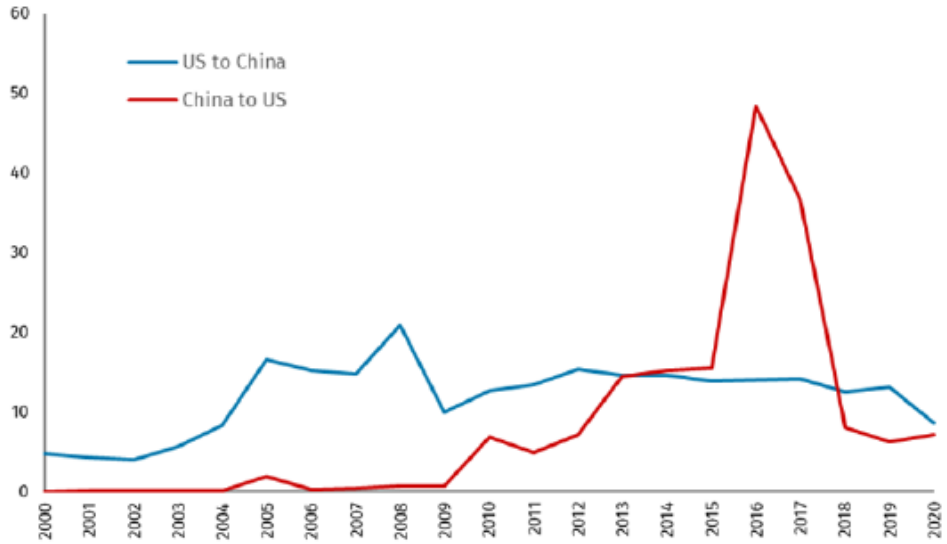
Fig. 23: US-China Trade Balance, in USD billions



Source: Investopedia, 2022

US foreign direct investment (FDI) in China (stock) was 123.9 billion USD in 2020. China's FDI in the United States (stock) was 38.0 billion USD in 2020 (USTR, 2022).

Fig. 24: Annual Value of FDI Transactions between the US and China in USD billons, 2000-2020



Source: Rhodium Group, 2021

7.2 Effects of Chinese currency policy on US-China trade flows and American trade deficit

Many American policymakers expect that if the People's Republic of China significantly appreciated its currency, US exports to China would increase, imports from China would decrease, and the US trade deficit would decline (Morrison and Labonte, 2013). C. Fred Bergsten from the Peterson Institute for International Economics argued in 2010 that a free-floating Renminbi would lower the annual US current account deficit by 100 billion USD to 150 billion USD (Bergsten, 2010). There is an undeniable fact that exchange rates are only one of many factors affecting trade flows (Morrison and Labonte, 2013).

During the period of the renminbi's 21% appreciation from July 2005 to July 2008, US exports to China increased by 71% compared to 81% in the

2001-2004 period, resulting in an increase in American trade deficit with China by 30.1%, while having minimal effect on the Chinese trade balance in this period, as Chinese current account surplus and accumulation of foreign exchange reserves increased by 165% during this period despite appreciation (Morrison and Labonte, 2013). In their congressional report, Morrison and Labonte assume the effect of the J Curve, meaning that it can take years for Renminbi appreciation to reflect the prices of tradable goods and services and hence changes in imports, exports and trade balances. Another factor they consider in their report is the effect of Renminbi appreciation on price changes. They argue that appreciation would not necessarily be passed on to American consumers, as some of the effects may be absorbed on the Chinese side of the deal and some on the American side of the deal (Morrison and Labonte, 2013). US Department of Labor statistics of the index of US Import Prices of Commodities from China shows that the price index increase did not match the renminbi appreciation in the period from 2003 to 2012, hence not resulting in less consumer demand for Chinese imports.

Fig. 25: Import Price Index by Origin (NAICS): All Industries for China

Source: Federal Reserve Economic Data, 2022

According to Chinese data, foreign companies in China account for over half of Chinese trade flows in both exports and imports (Morrison and

Labonte, 2013). The level of value added by the Chinese labour force is small compared to the price of production of each unit (about 3%) of Apple's iPod case study in 2009 (Linden, Kraemer and Dedrick, 2009). In case of a significant renminbi appreciation, which would affect production costs in China, one can assume that foreign-based companies would move production to other countries, causing the US trade deficit to increase with other countries. However, the overall US trade deficit stays the same as US manufacturing is not as prevalent as it used to be in the past, meaning the US is dependent on manufacturing from other countries.

7.3 Effects of Chinese currency policy on American manufacturing and labour force

An often criticised aspect of Chinese currency policy is that due to cheaper Chinese exports, US manufacturing is not sustainable and, therefore, an undervalued renminbi leads to losses of jobs. The 45th US President Donald J. Trump's rhetoric often claimed that unfair Chinese trade policies led to the loss of jobs in the United States. Though opinions on how much the undervalued renminbi (and therefore increased American trade deficit with China, if the effect of the undervalued renminbi on the US trade deficit is real) contributed to the loss of manufacturing and labour force differs.

Robert E. Scott from Economic Policy Institute claimed in his 2012 study that since the People's Republic of China entered the World Trade Organization in 2001, the growth of trade between China and the United States has had a dramatic effect on US workers and the domestic economy, but

not a positive one (Scott, 2012). He claims the growing trade deficit with China has been a primary contributor to the crisis in US manufacturing employment. According to his study, between 2001 and 2011, the trade deficit with China eliminated or displaced more than 2.7 million US jobs, over 2.1 million of which (76.9 percent) were in manufacturing, accounting for more than half of all US manufacturing jobs lost or displaced between 2001 and 2011 (Scott, 2012). He claims that Chinese currency manipulation (which he claims to be the main and "other trade-distorting practises" led to the expansion of the Chinese manufacturing sector at the expense of the United States (Scott, 2012).

Fig. 26: US-China trade and job displacement 2001-2011

U.S.-China trade and job displacement, 2001–2011

				Change ($billions)		Percent change
	2001	2008	2011	2001–2011	2008–2011	2001–2011
U.S. trade with China ($billions, nominal)						
*U.S. domestic exports**	18.0	67.2	96.9	78.9	29.7	439.6%
U.S. imports for consumption	102.1	337.5	398.5	296.4	61.0	290.4%
U.S. trade balance	-84.1	-270.3	-301.6	-217.5	-31.2	258.5%
Average annual change in the trade balance				-21.7	-10.4	13.6%
				Change (thousands of jobs)		Percent change
U.S. trade-related jobs supported and displaced (thousands of jobs)						
U.S. domestic exports-jobs supported	169.4	547.9	707.4	538.0	159.5	317.7%
U.S. imports for consumption-jobs displaced	1,139.5	3,598.1	4,419.7	3,280.2	821.6	287.9%
U.S. trade deficit-net jobs displaced	970.1	3,050.2	3,712.3	2,742.2	662.1	282.7%
Average annual change in net jobs displaced				274.2	220.7	14.4%

Source: Scott, 2012

Though opinions on this matter differ, Derek Scissors from Heritage Foundation claimed in his 2010 article that appreciation of the renminbi would have little impact on American employment, claiming it would create a few thousand jobs at best. His argument lies within the use of the Chinese government's use of industrial policies, subsidies, and regulatory protectionism to limit the imports of goods and services, claiming

that these forms of protectionism have a more significant effect on the American economy than the Chinese currency policy of renminbi (Scissors, 2010). Michael Pettis from Carnegie Endowment for International Peace concluded in his 2010 speech that as long as China continues to subsidise its production at the expense of household income, it will have difficulty increasing domestic demand and cutting reliance on exports (Carnegie Endowment for International Peace, 2010). Federal Reserve Bank of San Francisco concluded that on every dollar spent on a product made in China, 55 cents goes to services supplied in the United States, including retail and transportation, resulting in the actual value of goods and services originating in China totalling only 1.2% of US personal expenditures in 2010 and that US imports of goods and services from China amounted only to 2.5% of GDP in 2010 (Hale and Hobijn, 2011).

A study from 2010 estimated that a 25% appreciation of the renminbi would decrease imports from China and lead to greater domestic production and increased exports to China. However, any benefit would be offset by lower Chinese economic growth due to falling exports, resulting in lower Chinese demand for imports, ultimately leading to a negative effect on US aggregate demand and output, resulting in the loss of 57100 American jobs (Fair, 2010). Similarly, IMF analysis claims that a 20% renminbi appreciation would boost US economic growth by 0.05% to 0.07%. In comparison, appreciation and reforms would lead to US growth of over 0.15%, while appreciation alone would reduce Chinese economic growth by 2% to 8.8%. With a combination of other reforms, the growth would range from a 1% boost to a reduction by 2%. (IMF, 2011).

7.4 US-China Trade War

According to the beggar thy neighbour theory, when one country feels that another country practises beggar thy neighbour economic policies which damage the stated country, retaliation is to be expected. As with the case of US-China economic relations, the 45th President of the United States, Donald J. Trump, based part of his presidential electoral campaign on this relationship (including claims of unfair Chinese currency manipulation) on reducing China's superior position of trade surplus with the United States (BBC, 2016).

Shortly after assuming the office of United States President in January 2017, in early 2018, the two largest economies in the world started engaging in a trade war by imposing tariffs against each other. After the Section 201 investigation of solar panels and washing machines, US International Trade Commission determined that imports of these products had hurt American producers, Trump's administration started imposing tariffs on specific products from many countries (Fajgelbaum and Khandelwal, 2021). Following the Section 301 investigation into the People's Republic of China's trade practices, on 22 March 2018, the Office of the US Trade Representative accused the People's Republic of China of unfair trade practices stating their reasoning in a forced transfer of technology and intellectual property thief (Fajgelbaum and Khandelwal, 2021). Five tariff rounds were followed on Chinese exports in July, August, and September (all in 2018) and other rounds in June and September of 2019, with Chinese retaliation in each round. In January 2020, Phase One agreement was signed, reducing tariffs from September 2019 by half (Fajgelbaum and Khandelwal, 2021). The United States imposed

tariffs on 17.6% of 2017's imports, with the average increase of tariffs ranging from 3.7% to 25.8%, while trade partners retaliated on 8.7% of 2017 exports, with average tariffs increasing from 7.7% to 20.8% (Fajgelbaum et al., 2021). The trade war affected transactions of about 5.5% Chinese GDP (Fajgelbaum and Khandelwal, 2021). According to Fajgelbaum et al. (2021), the tariffs affected about two-thirds of ten-digit imported and exported products. 62% of Chinese imports were targeted, while 81% of US imports were targeted by imposed tariffs (Bown et al., 2021). As of 2022, the trade war is still ongoing under Biden's administration (Bown and Kolb, 2022).

Economic consequences were not the only factor. Political motivations also played a role in initiating the trade war, as Fajgelbaum et al. (2020) provide suggestive evidence of electoral motivation consistent with a median-voter view of politically motivated tariffs. According to a 2019 study, the consequences of the trade war did not pay off for the Republican party in the 2018 Midterm election, as counties exposed to retaliation tariffs reduced support for the Republican party (Blanchard et al., 2019).

As the trade war is still ongoing, estimations of how this conflict affected both American and Chinese economies are relatively unclear (especially since both countries were affected by the global pandemic in 2020, though it is important to note that before reaching Phase One agreement, at the peak of the trade war, US trade balance deficit with China reduced significantly as seen on Figure 21) and not a scope of this thesis, through if the United States perceived China as a currency manipulator to gain

unfair trade imbalance with the United States, retaliation was to be expected, eventually leading to further escalations between two countries.

8 Conclusion

In conclusion, beggar thy neighbour economic policies can be an effective tool to improve the domestic economy, though they often result in retaliation. Currency devaluations are common in both crisis and non-crisis times and can lead to an increase in export which benefits pro-export-orientated economies, though they contribute to worsening the global crisis if done during the crisis period. Regarding Chinese currency policy, it is clear that the People's Republic of China can indeed be labelled as a currency manipulator because they intervene in the currency markets and peg their currency renminbi to the American dollar. They also appear to push their currency into a reserve currency status. However, their intent with currency manipulation is unclear, as it can be perceived as a way of stabilising their currency instead of a full-on application of beggar thy neighbour type of currency devaluation. However, multiple sources claimed that the renminbi was undervalued. However, no uniform model exists, and IMF does not consider the renminbi undervalued since 2015. Ultimately, claiming that one country is using the beggar thy neighbour policy is a subjective opinion that economic and geopolitical rivalries and other competitive reasons can cause. As seen in the effects on Chinese and American economies, the lower value of the renminbi helps make Chinese exports more competitive and thus increases Chinese growth. On the other hand, the effect on the American economy is much less clear due to the multiple factors involved. Some studies claim that the undervalued renminbi is the cause of the increasing trade deficit between the US and China and the loss of manufacturing. Others claim that renminbi appreciation would hurt the Chinese economy (and thus hurt the American economy as well) or have no or minimal effect on the

American economy or manufacturing as production would move to another country with cheaper production costs. At last, no matter if the country practices the beggar thy neighbour policy or not, it is enough that one country perceives another country as an abuser of such policy and therefore being damaged by it. Thus, according to the beggar thy neighbour theory, most beggar thy neighbour policies lead to retaliation from countries perceived as being damaged by such economic policy, as seen with the ongoing US-China trade war, ultimately possibly harming everybody involved.

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