Article

The formation of surplus capital in China and the capital flight crisis in 2015–2016[1)]

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Introduction

Twenty years have already passed in the 21st century. During this time, we have come across many facts that make us think that the 21st century is exactly the “Chinese Century”. In 2010 China overtook Japan in dollar-denominated GDP and in 2017 the United States in GDP based on PPP (purchasing power parity), making it virtually the world’s largest economy. On these historic and monumental achievements, Xi Jinping was inaugu-

rated as state president in 2013, who has solidly pursued Chinese nationalism since then, advocating the "great revival of the Chinese nation". By a sharp contrast, China, which already surpassed the United States, is only 72nd in the world ranking of GDP per capita in 2018 at $9,580; Mexico is 71st and Turkey is 73rd. Such an extraordinary gap makes us lose words. Their inseparability, however, well represents some serious contradictions inherent in the Chinese economy, which implies that the coming era will be full of impediments for China.

This paper examines these 40 years of China's economic development since the transition to the reform and opening-up policy in the late 1970s from the perspective of formation of domestic surplus capital, its transformation to trade surplus and further transformation to international surplus capital. The sharp decline in foreign currency reserves due to the capital flight in 2015–2016 caused international surplus capital, which had been "frozen" until then, to be released at once into the world economy.

In the analysis, private excess savings is assigned to be an important analytical concept in focus. As well known, an identity of private national income Y is developed as follows:

$$Y = C + I + (G - T) + (X - M)$$
$$(Y - C) - I = (G - T) + (X - M)$$
$$S - I = (G - T) + (X - M)$$

$S - I$ above denotes private excess savings. It is divided into a bedrock-like structure in an economy thanks to long-term stagnation of private consumption C and a short-term expansion due to a decrease in I during an economic recession or depression. The latter is surplus capital.[2] Once formed in a country, it must be absorbed by budget deficit $G - T$ and / or trade surplus $X - M$, even if completed *ex post*. Trade surplus (on GDP basis or current account surplus on GNI basis) turns into corresponding financial surplus (and / or an outflow of errors and omissions). It is the core substance of what we call international surplus capital (Itaki, 2006, Chapter 5). As later explained in detail, surplus money capital, once formed, does not disappear even when an economy recovers, and accumulates intermittently with each recession. This is the mechanism of an expansion of global fictitious capital (i.e. equities, bonds, real estates, other securitized products and financial derivatives), sporadically inflating with each burst of bubbles after a certain time-lag.

The moving correlation analysis[3] and the orbit analysis[4] are frequently used as important analysis tools. The former is a method for detecting periods of surplus capital, and the latter is a method for capturing leading / following relations among a set of variables. The orbit analysis was applied experimentally in Itaki (2015a) Fig. 5 and succeeded in identifying leading / following relations among GDP components of the post-World War II Japanese economy. It is developed and widely applied in the present paper to the analysis of various aspects of the Chinese economy. Its analytical success or failure should be judged by the

readers, while the results here have deepened the author's conviction that it carries great potential as a new analytical method in social sciences.

Section 1: Formation of domestic surplus capital and its transformation to trade surplus

(1) 1978: transition to the reform and opening-up policy

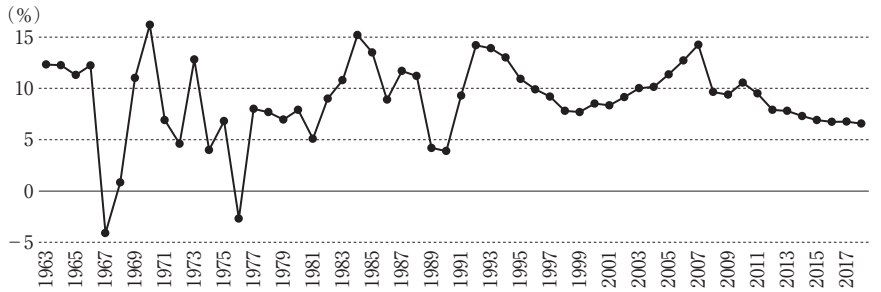
The 3rd Plenary Session of the 11th Central Committee of the Chinese Communist Party in December 1978 declared the historic transition from the planned and centralized economic system to the reform and opening-up policy. As an outstanding symbol of openness to the outside world, "Special Economic Zones" were established in Guangdong and Fujian provinces in the following year, and 14 coastal cities such as Tianjin, Dalian, Shanghai and Guangzhou were designated as "Open Cities". At the same time, the People's Communes, which had embodied the socialist system in rural areas, were completely dismantled in 1985, and the "production contract system of peasant households" was introduced. In 1980, GDP per capita was nearly at the same level as that of Laos and Bhutan (Teng, 2017, p. 56), and the number of the poorest in 1981 living on $1.25 a day (in the purchasing power parity in 2005) amounted to 83,510,000, i.e. more than 80% of the population (*ibid.*, p. 55). From there, the Chinese economy began to grow at a high rate of Sturm und Drang (Fig. 1: GDP growth rate).

However, the road was never flat. In manufacturing industries, the demand for durable consumer goods (e.g. home appliances), which had been suppressed and latent until then, was released at once, but their supplying capacity to meet it was decisively insufficient. Therefore, the import-substituting industrialization of durable consumer goods faced a typical dilemma of developing countries due to lack of supplying capacity as follows: worsening inflation → easing import restrictions → worsening trade balance → tightening imports → boom in capital investment → still insufficient supplying capacity and worsening trade balance. As shown in "Fig. 2: Main components as % of GDP", trade balance was basically in deficit during the 1980s. The tightening policy introduced in autumn of 1988 to alleviate public dissatisfaction with rising inflation led the economy into a recession, which was finally followed by the Tiananmen Square Incident in June 1989 (Teng, 2017, pp. 89–90).

(2) 1994: the dawn of the era of full-scale capital surplus and the epoch of export-oriented industrialization

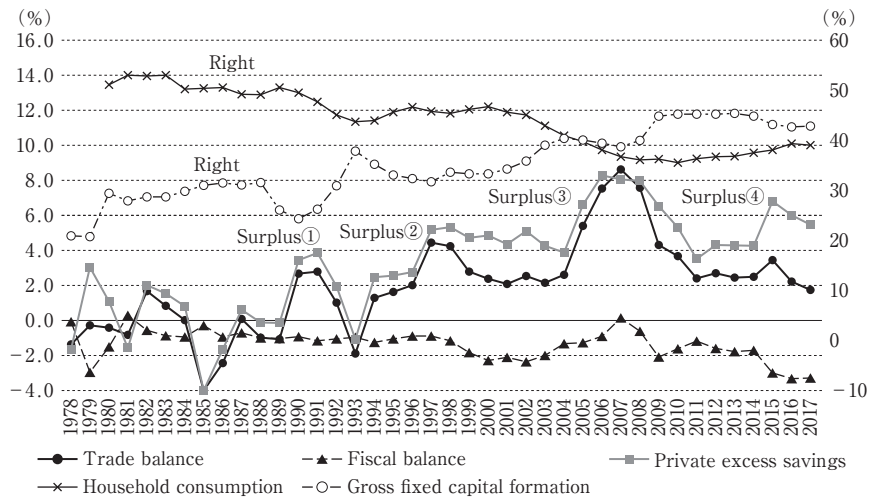
The recession of 1989–90 was tremendous: the growth rates, which recorded 15.2% in 1984 and 11.2% in 1988, fell to 4.2% and 3.9% in 1989 and 1990, respectively. These were the lowest growth rates recorded until the 2020 coronavirus pandemic. It was brought about by a plunge in capital investment (Fig. 2). In addition to the government's tighten-

Fig. 1: GDP growth rate



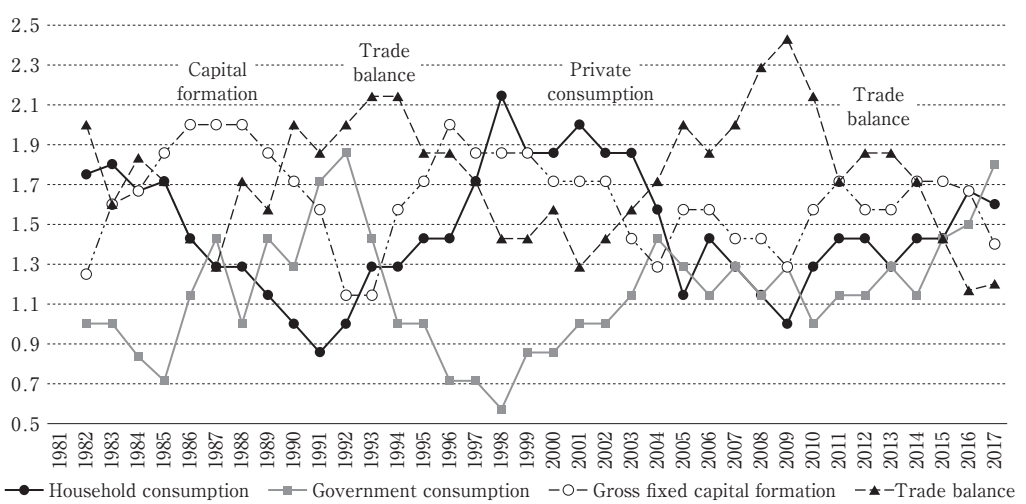
Data: IMF, *International Financial Statistics*

Fig. 2: Main components as % of GDP



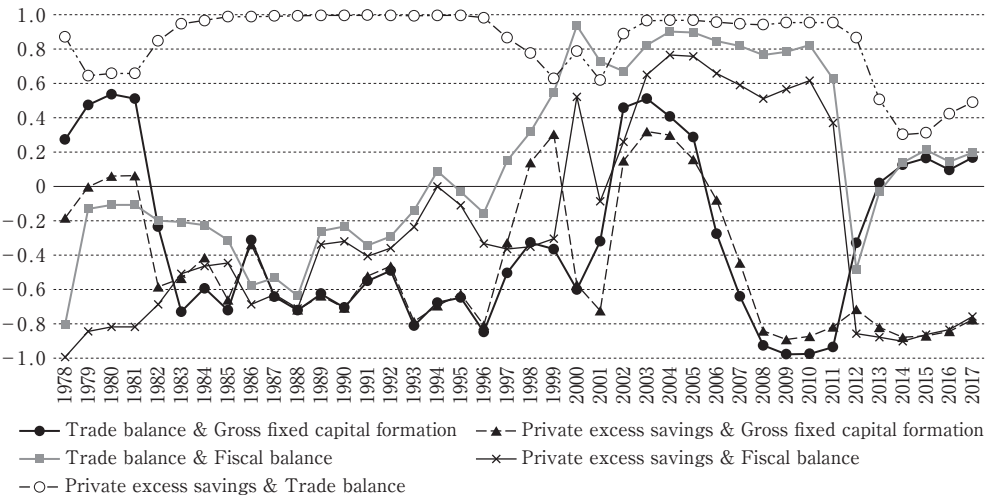
Data: IMF, *International Financial Statistics*

Fig. 3: Orbit analysis (7-year moving average) of GDP main components



Data: IMF, *International Financial Statistics*

Figure 4: 7-year moving correlation of GDP components



Data: IMF, *International Financial Statistics*

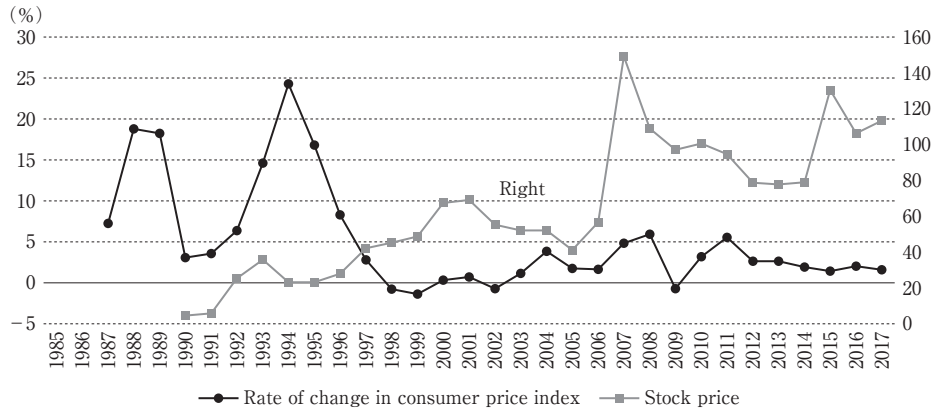
ing policy, economic sanctions of advanced countries against the Tiananmen Square Incident exacerbated the situation. As seen in "Fig. 3: Orbit analysis (7-year moving average) of GDP main components", it was capital investment that solely played a leading role in the economy during the period of 1985-89; the era in the early 1980s had been over when a mixture of surging private consumption and capital investment drove the economy.

The recession increased private excess savings to critical levels in 1990 (3.44% of GDP) and 1991 (3.86%) (Fig. 2). The full-scale domestic surplus capital, arising for the first time since the transition to the reform and opening-up policy, sought its outlet in trade balance and created an unprecedentedly huge surplus (3.44% and 2.79% of GDP). The fact that it was a formation of domestic surplus capital and its external emissions can be proved by an increase in negative correlations during the period between "Private excess savings & gross fixed capital formation" and between "Trade balance & gross fixed capital formation" in "Fig. 4: 7-year moving correlation of GDP components" (−0.635, −0.707, −0.521, and −0.624, −0.703, −0.549, respectively, in 1989, 1990, and 1991).

In 1992 of Deng Xiaoping's South Tour and in 1993, capital investment showed signs of recovery, but stagnated again from 1994 to 1998 and private excess savings sharply increased (2.48% in 1994, 2.57% in 1995, 2.76% in 1996, 5.16% in 1997 and 5.32% in 1998). The latter half of 1997-8 was strongly affected by the Asian currency crisis.

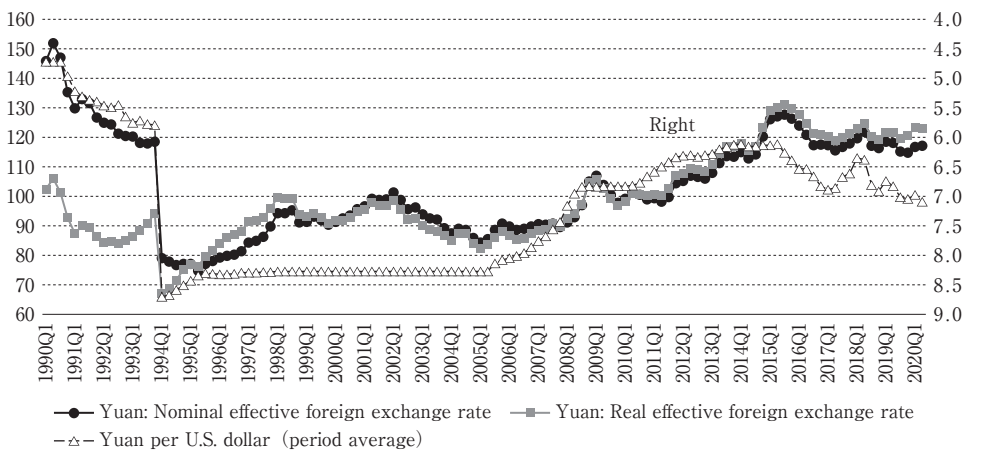
The year 1994 marked a major milestone for subsequent development of the Chinese economy. First, the growth rate peaked in 1992 and showed a slight decline (14.2% in 1992, 13.9% in 1993, 13.0% in 1994). The decline was serious, albeit small, because during the same three years the inflation rate reached 6.4% in 1992, 14.6% in 1993, and as high as 24.3% in 1994. It was no doubt an economic stagnation under hyper-inflation (Fig. 5:

Fig. 5: Stock price and consumer price



Data: IMF, *International Financial Statistics*

Fig. 6: Foreign exchange rates of the Chinese yuan



Data: IMF, *International Financial Statistics*

Stock price and consumer price). The financial authorities had no choice but to raise the interest rate. They maintained it at 10.98% from the 3rd quarter 1993 to the 2nd quarter 1995, and further increased it to 12.06% in the 3rd quarter of the same year, maintaining the level for the following three consecutive quarters. It was the highest rate ever in the history of Chinese financial policy. Under these situations, however, it was impossible to sustain the rate of the Chinese yuan at the present level in the market. Since 1985 the official foreign exchange rate had been gradually depreciated, which reached \$1＝5.80 yuan in the 4th quarter 1993, but plunged into 8.70 yuan at once in the 1st quarter of 1994 (Fig. 6: Foreign exchange rates of the Chinese yuan). Namely, the value of yuan shrank to two-thirds. The reason is obvious that the yuan had actually faced with an appreciation since early 1992 in terms of its real effective exchange rate that took into account inflation rates of major trading countries.[5)]

Against these backgrounds, trade balance had recorded stable surplus since 1994 (1.30% in 1994, 1.62% in 1995, 2.02% in 1996, 4.44% in 1997 and 4.25% in 1998). This fact suggests that the change into steady trade surplus and the transformation into export-dependent economic structure in 1994 were achieved as a vent for domestic surplus capital. A proof is negative correlations between "Private excess savings & fixed capital formation" and between "Trade balance & fixed capital formation" in Fig. 4 (−0.694, −0.625, −0.807, −0.326 and −0.676, −0.645, −0.845, −0.502 in 1994, 1995, 1996 and 1997, respectively). And Fig. 3 reveals that trade balance played the role of the driving force of the economy from 1990 to 1995.

The construction of a socialist market economy, which began in earnest in 1992 under the critical situations after the Tiananmen Square Incident, overcame serious challenges from 1994 to 1998, and then substantially changed its character: private consumption experienced a boom through 2000, and drove the whole economy over the next six years (45.4 % in 1998, 46.7% in 2000) (Figs. 2 and 3). Twenty years after the reform and opening-up, ordinary people had finally begun to pick up the fruits. Government consumption in the period also widened a deficit from around 1 % to well exceeding 2 % (−1.08% in 1998, −2.48% in 2000). In response, capital investment as % of GDP finally began to recover around 2001. Under these circumstances, private excess savings, although remaining high after the surge in 1997-98, gradually decreased (5.16% in 1997, 5.32% in 1998, 4.71% in 1999, 4.85% in 2000, 4.35% in 2001, 5.11% in 2002, 4.27% in 2003, and 3.89% in 2004). And they affected trade surplus most significantly, which dropped from over 4 % to slightly above 2 % (4.25% in 1998, 2.37% in 2000 and 2.09% in 2001). Capital investment sharply expanded after the period through 2004, driven by private consumption.

(3) 2004: towards an explosion of surplus capital and a stock bubble

1 Transformation of surplus capital to trade surplus

The construction of a socialist market economy came back to life in 1998, and while being modified by the decision of the 16th Communist Party Convention in 2002, rushed towards the party-state capitalism on a gigantic mixed oligopolistic economy led by state-owned companies (Itaki, 2021). However, on the way, it encountered a turning point in 2004. Various statistical data suggest that the year was an important turning point.[6] Although the growth rate began to accelerate precisely then, something had definitely begun to change. Let us divide the period before and after around 2007 when the growth rate peaked.

Fixed capital formation as % of GDP peaked in 2004 (40.35%) and began to slowly decline (Fig. 2). Private consumption, declining consistently until then, was caught up with by gross fixed capital formation in 2004, and fell below it in the next year. In consequence, private excess savings had begun to grow explosively since then at the peak of 8.28% in

2006, 8.05% in 2007 and 7.97% in 2008. They were all at once pushed out to the world as trade surplus. The above is the situation in the first half: i.e. a typical pattern of formation of surplus capital with a decline in gross fixed capital formation, a decline in private consumption and thus, a sudden expansion of private excess savings and trade surplus. Note that it is a form of vent for domestic surplus capital, specific to the exploding Chinese economy. In developed countries, in which an annual growth rate is usually around a few percent, a decline in gross fixed capital formation and / or private consumption as % of GDP would be an important sign of a recession. However, in the Chinese economy, in which the growth rate exponentially rose at 10.2% in 2004, 11.4% in 2005, 12.7% in 2006 and 14.3% in 2007, gross fixed capital formation and private consumption actually continued to increase massively in the absolute terms, while shrinking in their relative terms as % of GDP. A rare combination of these two resulted in the formation of an astonishing amount of domestic surplus capital and its external emission in the post-World War II economic history.

In the latter half of the period after 2008, by contrast, domestic surplus capital and trade surplus contracted (both in the relative and absolute terms) again in a form very specific to the Chinese economy. The global financial crisis of the year spread to China, and the growth rate dropped sharply (9.7% in 2008 and 9.4% in 2009). In developed countries, such a recession is usually triggered by a decline in gross fixed capital formation as % of GDP, inducing a fiscal deficit. In China, however, economic stimulus measures of 4 trillion yuan were mobilized and state-owned companies carried out massive capital investment with the endorsement of the government. Thus, gross fixed capital formation as % of GDP sharply rose to the contrary and remained high for some time (40.01% in 2007, 44.80% in 2008 and 45.25% in 2009). Fiscal balance, being in surplus at 0.57% temporarily in 2007, returned to a deficit again (−0.39% in 2008 and −2.22% in 2009). In this way, contrary to the first half, a contraction of domestic surplus capital and trade surplus (both in the relative and absolute terms) took place despite an economic recession. This is the reason why in Fig. 4 the correlation coefficients between "Private excess savings & gross fixed capital formation" and between "Trade balance & gross fixed capital formation" turned to strongly negative since 2007.

That resulted in a huge trade surplus overwhelming the world around 2007: i.e. 5.40% ($130.1 billion) in 2005, 8.28% ($215.7 billion) in 2006, 8.62% ($311.7 billion) in 2007, 7.57% ($359.9 billion) in 2008 and 4.30% ($243.5 billion) in 2009. To understand how huge the outlet of surplus capital was, we need to recall the fact that China overtook Japan in GDP in 2010, suggesting that these numbers of China could be understood as those of Japan. The US-Japan trade friction culminated in 1985–87, when Japan posted highest trade surplus as % of GDP in history, being as "modest" as 3.23%, 3.79% and 2.87%, respectively. It would be a surprise if 8 % trade surplus did not cause trade frictions.

Moreover, the explosive increase in trade surplus was exacerbated by the government's "fiscal policy failure". Fiscal balance improved by 1.85% from a deficit of −1.28% in 2004 to a surplus of+0.57% in 2007. Regarding private excess savings $S-I$, $S-I=(X-M)+(G-T)$ holds; if fiscal deficit $G-T$ shrinks despite an increase in $S-I$ due to a decrease in I, there would be no doubt that $X-M$ naturally expands. This is how the relative contraction of capital investment and private consumption, combined with the change in fiscal balance from deficit to surplus, led to the sudden and enormous expansion of trade surplus. It is a typical anti-Keynesian policy and thus, a beggar-thy-neighbor policy. However, it was also a policy change that could not have been avoided: against the background of accelerating growth and heating-up economy, fiscal surplus, rather than deficit, would be a desirable policy for cooling down the domestic economy.

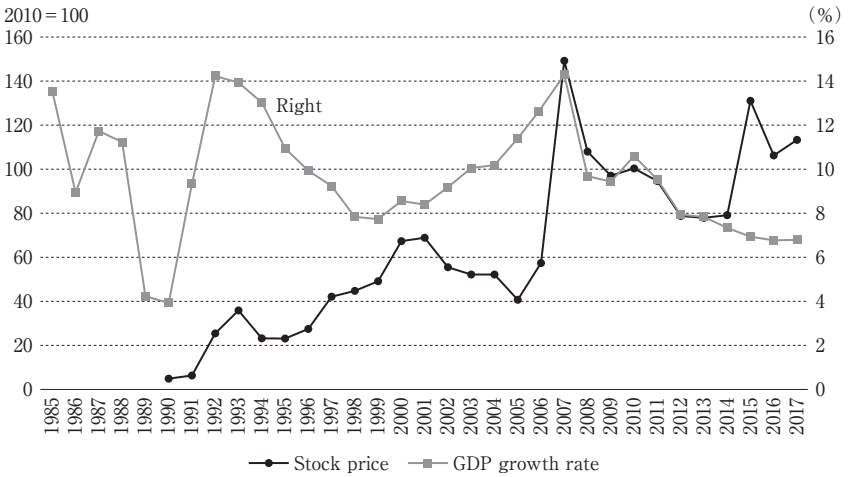
Finally, let us see that the Chinese economy underwent another major structural transformation in 2004. According to Fig. 3, private consumption, which was the driving force of the whole economy from 1998 to 2003, receded and was replaced by trade balance from 2004 to 2014. And its leadership was tremendous; a single component of GDP had never occupied the status of the economic kick-starter for so long a time. The fact means, on the one hand, that the giant elephant-like Chinese economy firmly planted itself in the world economy when it joined the WTO in 2001 and had exerted enormous influences since then. However, on the other hand, it also means that the Chinese economy entered the era of strong interdependence, in which China itself received deep and wide influences from the world economy through its trade balance.

2 Transformation of trade surplus to the stock bubble in 2007

Domestic surplus capital quickly expanding from 2005 led to the stock bubble in 2007 as an almost unavoidable consequence. The peak of the bubble came in the 3rd quarter of 2007, but according to "Fig. 7: Stock price and GDP growth rate", it ignited in 2006-07. From 2001 to 2005, the stock price was rather declining despite the accelerating growth rate but started to rise in 2006-07 and burst in 2008.

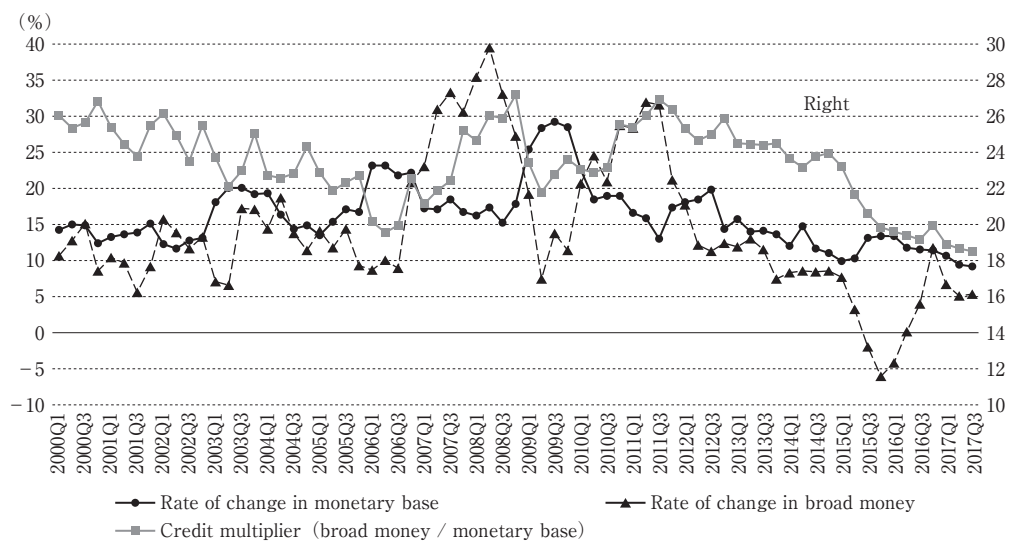
Let us examine the birth of the bubble from the viewpoint of money stock. See "Fig. 8: Money Stock": i.e. the rates of change in the monetary base[7] and the broad money[8], and the credit multiplier, which is the ratio of the broad money / monetary base. The broad money began to increase sharply in the 4th quarter of 2006 and reached around 40% per annum in the 2nd quarter of 2008, suggesting that a huge money stock was created during the period. Let us observe how this led to the stock bubble in "Fig. 9: Orbit analysis of money and stock prices (7-quarter moving average)". From the 2nd quarter of 2006 to the 1st quarter of 2008, the rate of change in the monetary base drove the rates of change in the Shanghai and Shenzhen stock markets and the broad money[9]. As examined later, the rate of change in foreign currency reserves had not yet taken the leadership during the period. However, these results seem to be inconsistent with the facts in Fig. 8, i.e. a large increase

Fig. 7: Stock price and GDP growth rate



Data: IMF, *International Financial Statistics*

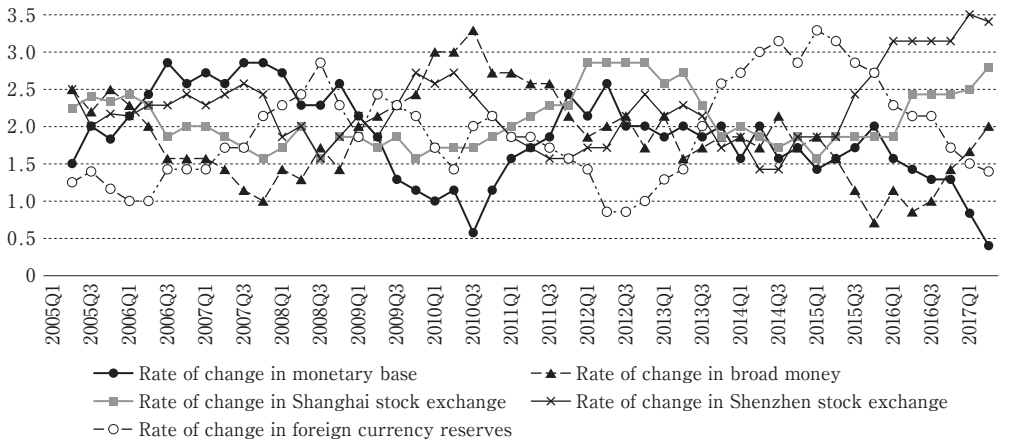
Fig. 8: Money Stock



Data: IMF, *International Financial Statistics*

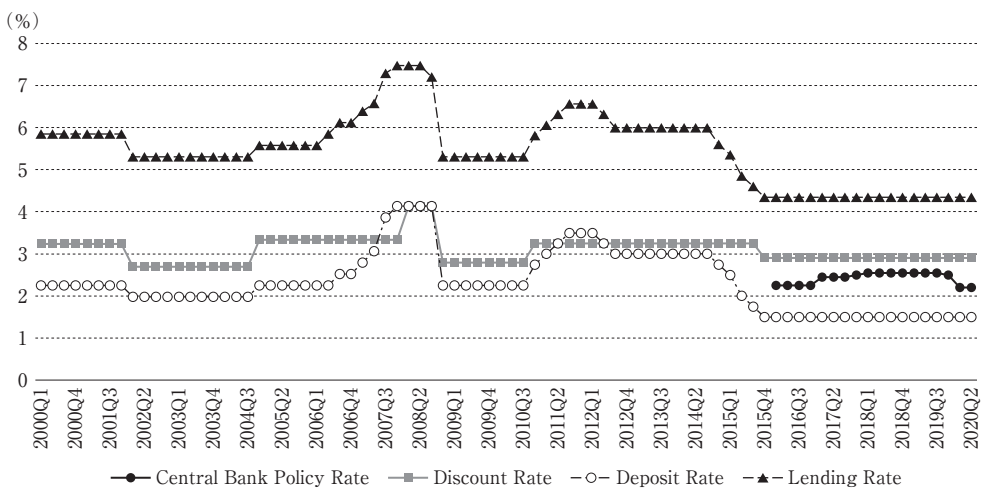
in the rate of change in the broad money and a relatively moderate and gradual decrease in the rate of change in the monetary base. Moreover, according to "Fig. 10: Interest rates", strong tightening monetary policies were adopted from the 2nd quarter of 2006 to the 2nd quarter of 2008. Fig. 5 reveals that the tightening policies are partly against inflation (1.65% in 2006, 4.82% in 2007 and 5.93% in 2008), but mainly against the bubble. The key to resolving the problem lies in the credit multiplier (i.e. broad money / monetary base). It bottomed out at 19.5 in the 2nd quarter of 2006 and sharply increased to 27.2 in the 4th quarter of 2008. It is certain that the government strongly tightened monetary pol-

Fig. 9: Orbit analysis of money and stock prices (7-quarter moving average)



Data: CITIC Securities, Shanghai Stock Exchange (SSE)
IMF, *International Financial Statistics*

Figure 10: Interest rates

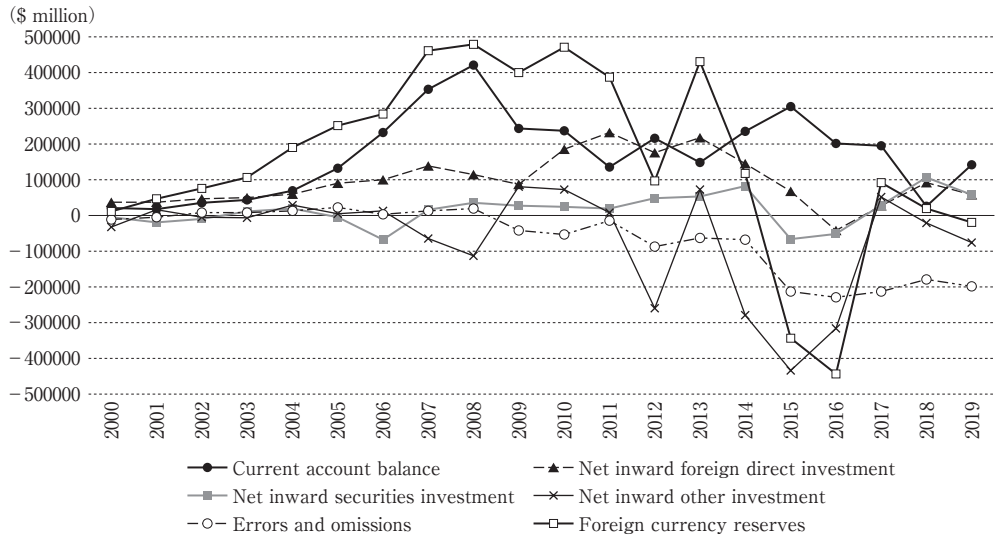


Data: IMF, *International Financial Statistics*

icies on the basis of the monetary base and attempted to control the situation, but commercial banks expanded credit with all the means available.

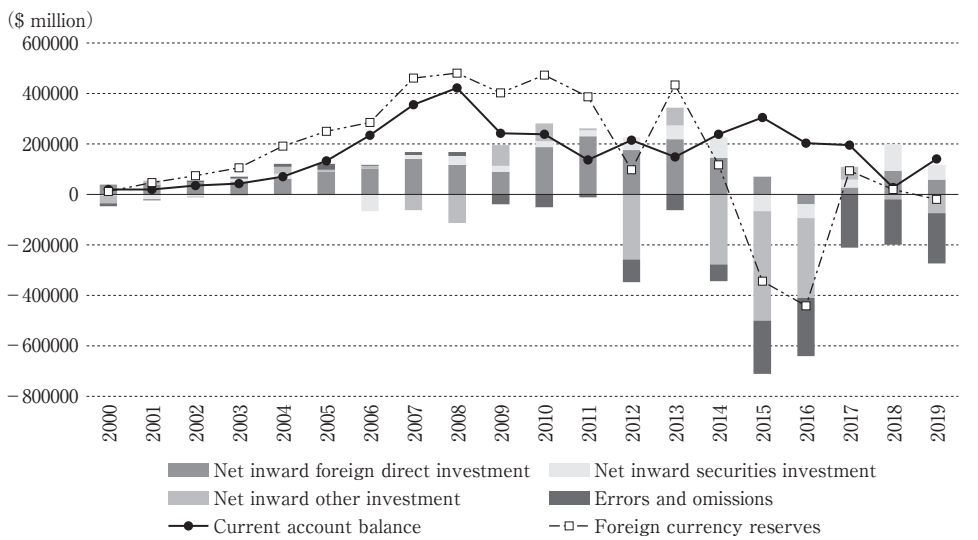
"Fig. 11: Changes in foreign currency reserves and their factors (1)" and "Fig. 12: Changes in foreign currency reserves and their factors (2)" reveal how the credit expansion was made possible. Regarding international balance of payments, the following identity holds: current account + net inward foreign direct investment + net inward securities investment + net inward other investment + errors and omissions ≒ changes in foreign currency reserves. From 2005 to 2008, increasing current account surplus (mostly trade surplus), with the steady inflow of inward foreign direct investment, was the main factor for the increase in foreign currency reserves.

Fig. 11: Changes in foreign currency reserves and their factors (1)



Data: IMF, *International Financial Statistics*

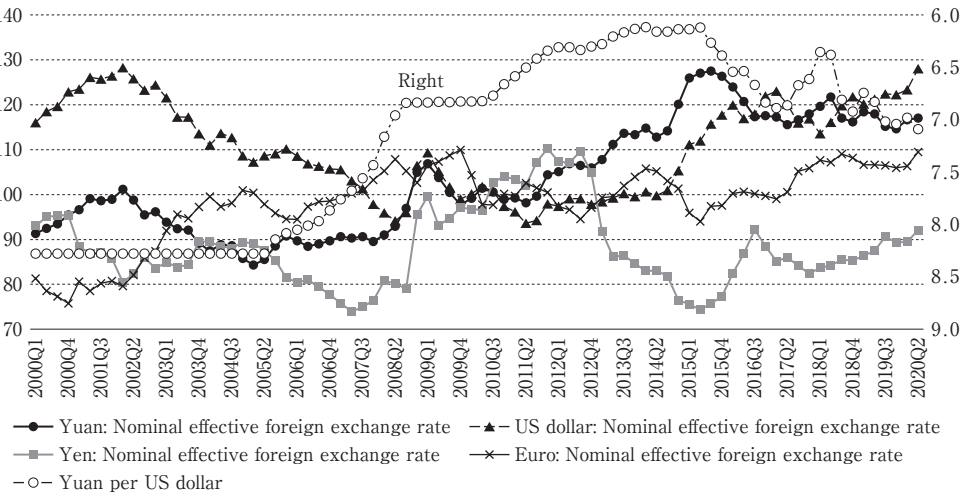
Fig. 12: Changes in foreign currency reserves and their factors (2)



Data: IMF, *International Financial Statistics*

One thing to keep in mind in the context of increasing foreign currency reserves is that the Chinese monetary authorities did not rely solely on interventions in the foreign exchange market to deal with the growing trade surplus. China had adopted the dollar-peg system until July 2005 and fixed the Chinese yuan at $1=8.27 yuan ("Fig. 13: Foreign exchange rates of the Chinese yuan against other currencies"). Then, the peg was removed, and the yuan gradually appreciated until being stable at $1=6.83 yuan after the 3rd quarter of 2008, i.e. an appreciation by 17.4%. They were attempting to deal with the accumu-

Fig. 13: Foreign exchange rates of the Chinese yuan against other currencies



Data: IMF, *International Financial Statistics*

lating trade surplus to some extent by the yuan's appreciation. However, it was too hard to resist the pressure of expanding domestic surplus capital, and in the end, domestic money stock accumulated due to foreign exchange intervention.

If foreign currency (mainly dollars[10]) earned from trade surplus and others is spent for private investment abroad (i.e. foreign direct investment, securities investment, bank lending, etc.) via foreign exchange banks, neither foreign currency reserves builds up nor domestic money stock increases. However, if non-financial companies do not have an advantage for overseas operations and / or financial institutions do not have experiences or know-how of foreign currency management, an inflow of foreign currency brings strong upward pressure to the foreign exchange rate. And if the government does not accept a significant appreciation of the currency value, it will intervene in the market to absorb foreign currency and accumulate foreign currency reserves. As a result, additional money stock is formed in the domestic financial markets. It certainly gives birth to inflation and / or bubbles, which the monetary authorities usually absorb and sterilize by issuing securities.[11]

In the case of China's 2007 bubble, the monetary authorities seem to have taken sterilization policies to some extent by raising interest rates and controlling the monetary base. However, the large amount of yuan that flowed into the banking system in exchange for increased foreign currency reserves expanded the primary deposits (i.e. payment reserves) of commercial banks and explosively increased the broad money through the raised credit multiplier.

Thus, surplus capital, generated during the period 2005–10 in the uniquely Chinese way, brought about externally huge trade surplus and foreign currency reserves and internally the 2007 bubble, and then, came to an end around 2011. After that, due to the fiscal deficit

against the global financial crisis and the expansion of capital investment, private excess savings and trade surplus shrank to around 4 % and mid 2 % of GDP, respectively, and remained in a lull until 2014. In Fig. 4, private excess savings and gross fixed capital formation during this period were almost perfectly in a negative correlation, reflecting the reduction in private excess savings thanks to the recovery of gross fixed capital formation.

(4) 2015: a new surge of surplus capital and the overture to the capital flight crisis

In 2015, capital investment began to decline as % of GDP, and private excess savings regained momentum (from 4.26% in 2014 to 6.28% in 2015) (Fig. 2). Indeed, the growth rate did not plummet at all (6.9%), although it had been declining almost consistently from 14.3% since the 2007 bubble. The Chinese magic last time no longer existed; it was genuine capital surplus. In response to this recession, the government drastically cut the lending rate from 6.00% in the 3rd quarter of 2014 to 4.35% in the 3rd quarter of 2015 (Fig. 10)[12]. Furthermore, fiscal deficit expanded to slightly less than 4 % of GDP. Thanks to these policy measures, trade surplus did not increase as much as expected otherwise (2.50 % in 2014 and 3.43% in 2015). It was indeed typical Keynesian policies, which were also intended not to further aggravate trade frictions with the United States. The fiscal policy around this period reacted agile to business cycle for the first time in its 40-year history, clearly shown in the very strong negative correlation since 2012 between "Private excess savings & fiscal balance" in Fig. 4[13].

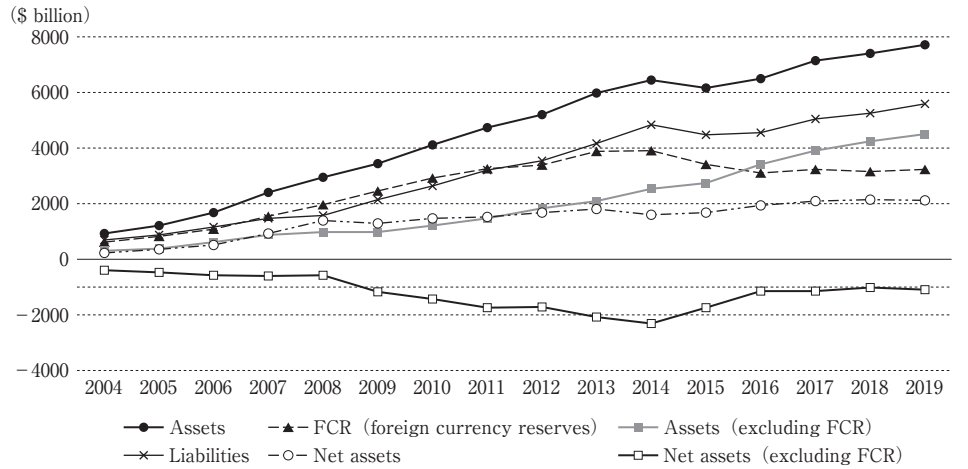
2015 was another major turning point: finally, trade balance left the status of the driving force of the economy (Fig. 3). Capital investment was shortly in the position of the kick-starter, but government consumption and private consumption have been also rising. A close attention should be paid, in particular, to the rise of private consumption, which has been steadily climbing up from the bottom of 2009. The fact may be understood as a precursor to an era in which consumer spending drives the whole economy. However, it should also be noted that the four items are more in a bunch than ever before. It signifies a typical "turning point" in the orbit analysis: namely, the Chinese economy is now in a chaotic state until a new leading / following relationship is born in the next era.

Section 2: The capital flight crisis in 2015–2016

(1) Factors of decreasing foreign currency reserves

2015 was also a major turning point in international financial investment of China. "Fig. 14: International investment positions" reveals that the huge foreign currency reserves started to decline in 2015 after reaching $3.893 trillion in 2014, temporarily exceeding $4 trillion in its first and 2nd quarters. After dropping to a bottom of $3.0978 trillion in 2016,

Fig. 14: International investment positions



Data: IMF, *International Financial Statistics*

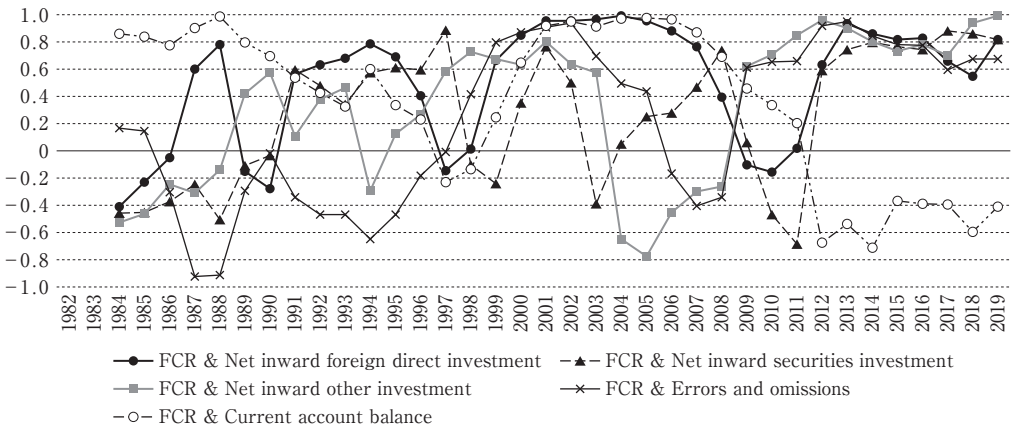
it slightly recovered and reached $3.2229 trillion at the end of 2019: i.e. a decrease as much as $800 billion (20%) in just two years.

According to Fig. 11, foreign currency reserves, which had been steadily increasing until the global financial crisis in 2008, slowed down since 2009 and finally fell sharply in 2015–2016 ($−342.9 billion in 2005 and $−443.6 billion in 2006). Until 2008, steady accumulation of current account surplus was the main factor of the increase in foreign currency reserves supported by net inward foreign direct investment. However, the situation had drastically changed since 2009: current account surplus fell sharply in 2009 and then slumped because of contraction of world trade after the global financial crisis. Net inward foreign direct investment and net inward securities investment had shown relatively stable movements until 2014. By contrast, errors and omissions stable so far widened their negative values from 2009. And the most striking is the movements of net inward other investment[14]: its large fluctuations synchronized almost perfectly with foreign currency reserves. And 2015 finally came when current account balance recovered slightly, but foreign currency reserves fell into the negative sphere at once as all other items began to decline.

(2) Structural changes in 2012: the moving correlation analysis of foreign currency reserves

Let us observe current account balance from a long-term perspective since the start of the reform and opening-up in the moving correlation analysis between foreign currency reserves and other items ("Fig. 15: 7-year moving correlation with foreign currency reserves (FCR)"). From 1984 to 1992, current account balance maintained a stable positive correlation with foreign currency reserves. Since trade balance turned into surplus in the mid-1990s, foreign currency reserves in this period fluctuated in accordance with surplus or

Fig. 15: 7-year moving correlation with foreign currency reserves (FCR)



Data: IMF, *International Financial Statistics*

deficit of current account balance, most of which consisted of trade balance. A turning point came just after the declaration of the socialist market economy in 1992. From 1992 to 1995, net inward foreign direct investment, inspired by the foreign capital introduction policy, contributed very much to accumulation of foreign currency reserves. The movements of net inward securities investment in 1996–1997 are quite interesting: during the period immediately before the Asian currency crisis, a large inflow of securities investment contributed to an increase in foreign currency reserves, but the linkage between them totally disappeared with the outbreak of the crisis. The next interesting point is the movements around the time of joining the WTO in 2001 after the turmoil of the Asian currency crisis: in addition to current account surplus, a massive inflow of foreign direct investment, securities investment, other investment, and even errors and omissions contributed to an increase in foreign currency reserves. Since then, current account surplus and net inflow of foreign direct investment synchronized with a remarkable increase in foreign currency reserves, accumulating towards the 2007 stock market bubble just before the global financial crisis. It is worth paying an attention to the movements of securities investment in 2008: net inward securities investment, enhancing positive correlation since 2005, recorded a correlation coefficient as high as 0.735 in 2008. These movements of securities investment in 1996–1997, 2001 and 2008 evidently disclose its speculative character.

Since 2009 after the global financial crisis, the correlations among the items of international balance of payments had entered a kind of turmoil, the point of which is that current account balance no longer showed a positive correlation with foreign currency reserves. And since 2012, they have been in a strong *negative* correlation. In other words, foreign currency reserves decreased as current account surplus increased, and *vice versa*. At the same time, a substantial structural change began to take place in international capital movements of China. Although a decline in foreign currency reserves occurred in 2015,

its fundamental cause lied in the structural change as follows.

Since 2012, when current account balance began to show a strong negative correlation with foreign currency reserves, all other items have changed to positive correlations. It was a rare, dramatic and stable change that still continues in 2019. Figure 11 shows that foreign currency reserves have fluctuated significantly since 2012 and, closely following these fluctuations, net inward foreign direct investment, net inward securities investment, net inward other investment and even errors and omissions have been moving up and down. This is convincing evidence that the major factor that determines movements of foreign currency reserves shifted from current account balance to investment balance, while current account surplus has been on a long-term downward trend. The shift is particularly noticeable in other investment: already since 2009, it has been highly synchronized with foreign currency reserves. This signifies that since 2012, net *outflow* of foreign direct investment, securities investment, other investment and even errors and omissions have been mainly funded by foreign currency reserves. Fig. 12 illustrates it in the absolute terms.

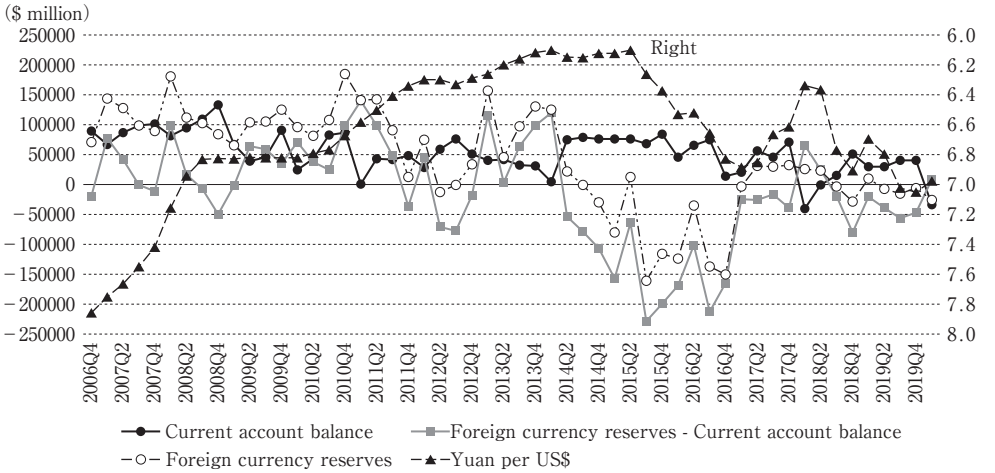
(3) Foreign currency reserves and foreign exchange rate, stock price, interest rate

1 Foreign currency reserves and foreign exchange rate

We examine here the relationship between foreign currency reserves and the yuan's foreign exchange rate against the US dollar. "Fig. 16: Yuan's foreign exchange rate, current account balance and foreign currency reserves" suggests that the yuan's foreign exchange rate against dollar was *closely* related to "foreign currency reserves minus current account balance" from the 4th quarter of 2006[15] to the 1st quarter of 2020. It does not mean, however, a high correlation between them. Needless to calculate, the correlation coefficient between them is very low, although their relation is very close if observed over a long period of 10 years.

"Foreign currency reserves minus current account balance" is almost equal to "investment balance"[16] (note that net inflow is positive and net outflow is negative), which includes foreign direct investment, securities investment, derivatives and other investment. As already mentioned, China had adopted the dollar-peg system until July 2005 and fixed the yuan at 1.27 yuan per dollar. Then, the peg was removed, and the yuan gradually appreciated and stabilized since the 3rd quarter of 2008 at 6.83 yuan per dollar (Fig. 13). This second stable period had continued until the 2nd quarter of 2010, but the yuan began to rise again after the 3rd quarter. After almost two years of appreciation, the yuan seemed to have entered the third stable period since the 1st quarter of 2012 at 6.31 yuan per dollar. Despite the 2007 stock bubble and the global financial crisis in 2008–2009, it was a remarkably orderly transition in "stability → appreciation → stability → appreciation → stability". Judging from the fact that the yuan market was completely isolated from the movements of current account balance, "foreign currency reserves minus current account

Fig. 16: Yuan's foreign exchange rate, current account balance and foreign currency reserves



Data: IMF, *International Financial Statistics*

balance" and foreign currency reserves, very strict capital movement regulations seem to have been in place.

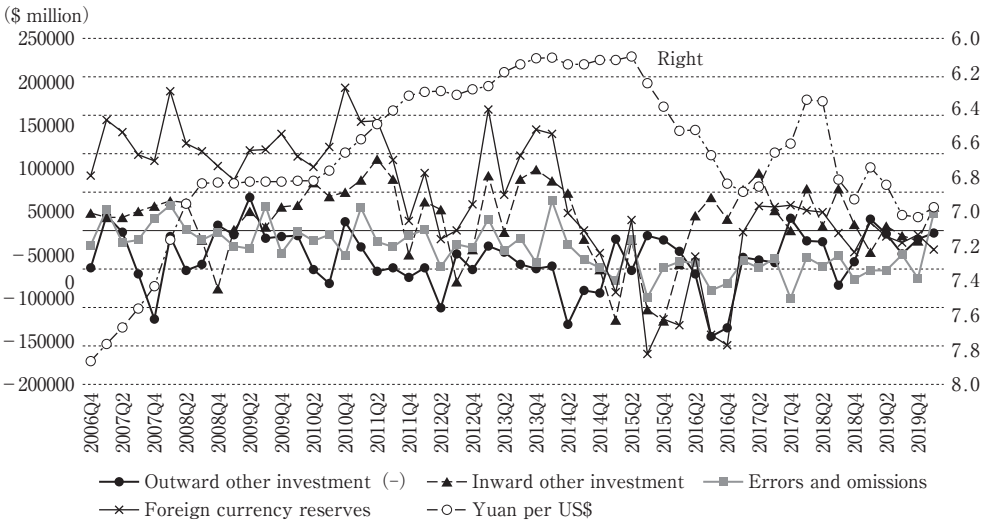
Then, did a change occur: "foreign currency reserves minus current account balance" recorded a considerable deficit for the 2nd and 3rd quarters of 2012 in a row. It was an outflow of capital. As a result, foreign currency reserves, albeit modest ($11.76 billion in the 2nd quarter and $430 million in the 3rd quarter), had experienced their first decline since 1989 and 1992. And the yuan slightly fell (from 6.31 yuan in the 2nd quarter to 6.33 yuan in the 3rd quarter of 2012). Under the strict capital movement regulations, the implications of these slight changes were not small. It was an eerie omen ahead of the collapse of 2015.

However, again from the 1st quarter of 2013 to the 1st quarter of 2014, "foreign currency reserves minus current account balance", albeit much fluctuating, turned into a large inflow ($283.2 billion in total). In response, the yuan appreciated steadily to 6.12 yuan per dollar. The large capital inflow was a kind of lull that always comes before a collapse of the market.

And finally, in the 2nd quarter of 2014, did a decisive turning point come. First, "foreign currency reserves minus current account balance" recorded the largest change so far of more than $170 billion in a quarter alone (from an inflow of $120 billion in the previous quarter to an outflow of $53.1 billion in the current quarter). However, the yuan did not move much yet. It depreciated slightly from 6.12 yuan to 6.16 yuan per dollar.

However, capital outflow did not stop at all. It flowed out massively, as if the floodgate had broken down, for the consecutive three quarters from the 3rd quarter of 2014, by $78.6 billion, $106.6 billion and $156.3 billion. And while it once seemed to reduce to $63.3 billion in the 2nd quarter of 2015, it turned out to be an unprecedented capital flight in China's history of international balance of payments of $228.4 billion in the 3rd quarter.

Fig. 17: Other investment and errors and omissions



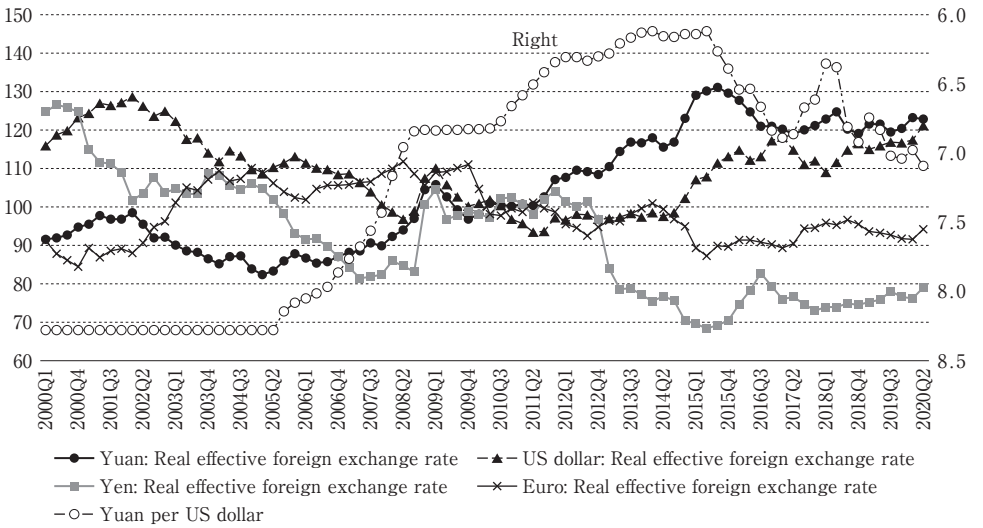
Data: IMF, *International Financial Statistics*

And the yuan began to crash: a depreciation by 12.6% from 6.12 yuan in the 2nd quarter of 2015 to 6.89 yuan in the 1st quarter of 2017.

You may feel that it was a surprisingly moderate devaluation compared to other developing countries, but it was not the case in fact. 6.89 yuan per dollar is the level just before the global financial crisis in the first half of 2008. The yuan's long-term trend of steady appreciation collapsed all of a sudden, which had been painstakingly built up with the help of government investment of 4 trillion yuan (about 580 billion dollars) against the global financial crisis. Net capital outflow in total recorded from the plunge into net outflow in the 2nd quarter of 2014 to the 4th quarter of 2017 amounted to as much as $1.6348 trillion. As a result, foreign currency reserves decreased by $953 billion (23.5%) from the peak of $4.0558 trillion in the 2nd quarter of 2014 to the bottom of $3.1028 trillion in the 1st quarter of 2017. Fig. 15 displays that after the global financial crisis foreign currency reserves have completely synchronized with inflow and outflow of investment balance. Therefore, once capital flight occurred, China could not borrow money to finance it, left with no choice but to lose its national wealth.

Let us explore this serious capital flight more in detail. As examined in Fig. 11, since 2009, net inward other investment had exerted the greatest impact on foreign currency reserves. "Fig. 17: Other investment and errors and omissions"[17] divides other investment into outward and inward, which were both rather speculative albeit "residual", and adds errors and omissions. For as long as seven years from the 1st quarter of 2009 to the 2nd quarter of 2016, it is "inward other investment" that fluctuated foreign currency reserves. Foreign currency reserves were lost due to a sudden withdrawal of other investment from the 3rd quarter of 2014, which had been inflowing massively until then. Such a phenomenon of

Fig. 18: Main real effective foreign exchange rates and the yuan



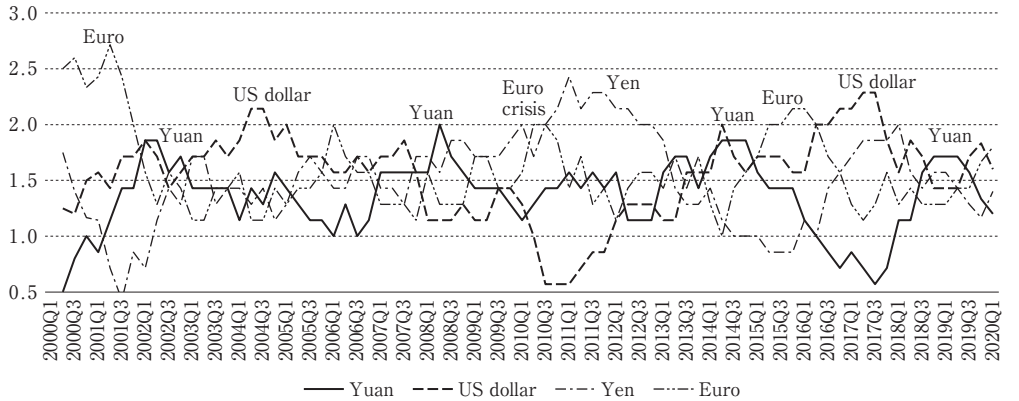
Data: IMF, *International Financial Statistics*

capital flight is clearly observed in errors and omissions as well that possesses a strong speculative character. As in Fig. 15, they had closely moved up and down with "net inward other investment" since 2009, both inversely correlating with foreign currency reserves, and played an important role in the loss of foreign currency reserves from the 3rd quarter of 2014. However, we should not forget the role played by "outward other investment", which until then had little to do with foreign currency reserves. It recorded huge outflows of $138.3 billion and $127.2 billion in the 3rd and 4th quarters of 2016, respectively, almost equal to the loss of foreign currency reserves in the same periods, although "inward other investment" had already turned to inflow by then. Those periods matched the end of the yuan's plunge.

These facts reveal the strong speculative character inherent in "inward other investment", "errors and omissions" and "outward other investment". The yuan's foreign exchange rate peaked at 6.12 yuan per dollar in the 2nd quarter of 2015 and began to plummet in the following quarter. And as examined in the next section, the stock market also peaked in the 2nd quarter of 2015 and collapsed in August. Far ahead in the 3rd quarter of 2014, when the stock bubble began as well, "inward other investment" and "errors and omissions" began to take flight. The foreign capital flight grasped the very moment of escape, when the bubble overheated and the yuan still kept a high value. And in the final moment, "outward other investment" of domestic capital as well could not withstand the plummeting yuan and outflowed.

Finally, let us place the plunge of the yuan, which began in the 3rd quarter of 2015, in the long-term global trends of foreign exchange rates. "Fig. 18: Main real effective foreign exchange rates and the yuan" plots the real effective foreign exchange rates of yuan, dol-

Fig. 19: Orbit analysis among main real effective foreign exchange rates and the yuen (7-quarter moving average)

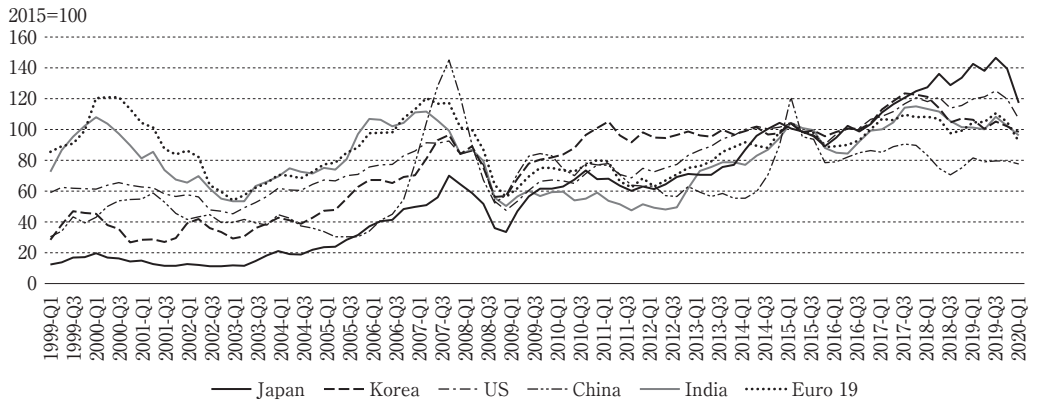


Data: IMF, *International Financial Statistics*

lar, euro and yen over the last 20 years in relation to the nominal rate of the yuan per US dollar. The yuan's real effective foreign exchange rate depreciated by around 20% from 2001, when China joined the WTO, to 2005 with its nominal rate pegged to the US dollar. There is no doubt that the depreciation supported the steady growth of export after being fully incorporated into the world trade system. Then, the yuan started to rise almost consistently after hitting the bottom in the 1st quarter of 2005 (82.4), and it had continued to rise until the 3rd quarter of 2015 (131.1). Quite interestingly, its nominal rate maintained stable from the 1st quarter of 2014 to the 2nd quarter of 2015, and then plummeted. However, its real effective rate appreciated by as much as 13.5% from the 2nd quarter of 2014 (115.5) to the 3rd quarter of 2015 (131.1). The reason is that the yen and the euro depreciated significantly and offset the rising dollar in their real effective foreign exchange rates. We know later that the foreign exchange rate policy was in a contradiction to the expansionary financial and fiscal policies to deal with expanding domestic surplus capital. Therefore, the yuan's devaluation of the nominal rate against the dollar from the 3rd quarter of 2015 was almost inevitable.

Fig. 19 shows the results of the orbit analysis among main real effective foreign exchange rates and the yuen. Although not going into details, we can clearly observe some outstanding events: for example, the euro's leadership from 1999 to 2001 when the common currency was born and that in 2010 when the currency crisis broke out; the yen's leadership from 2008 immediately after the global financial crisis to the end of 2012, in both of which the yen was extremely strong; and the yuan's leadership from 2014 to 2015 now under our scrutiny. The orbit analysis succeeds in identifying a hierarchy of the currencies that drive the world's foreign exchange markets or fluctuate first as a target of world's currency speculation and the currencies that follow them.[18)]

Figure 20: Stock price indexes of major countries



Data: OECD

2 Capital flight, stock price and interest rate

To deepen the understanding of capital flight, let us scrutinize some peculiarities of the stock bubble in 2015. "Fig. 20: Stock price indexes of major countries" confirms that the bubble started in the 3rd quarter of 2014 and peaked in the 2nd quarter of 2015. It plunged in August and spread to other countries, causing a simultaneous global stock market depreciation (the "China shock"[19]). It was a big incident that made us realize the huge weight China carries in the world economy. As already examined in Section 1, 2015 was the year when capital investment began to decline as % of GDP and private excess savings regained momentum, generating genuine surplus capital in the economy. In response to the recession, the People's Bank of China drastically cut the lending rate from 6.00% in the 3rd quarter of 2014 to 4.35% in the 3rd quarter of 2015 (Fig. 10), and the government expanded fiscal deficit to slightly less than 4 % of GDP (Fig. 2). The timing of the interest rate cut is noteworthy: it is completely in line with the start of the bubble. The prices at that time in Fig. 5 were rather declining from 1.92% in 2014 to 1.43% in 2015 per anum. With respect to money stock in Fig. 8, the rate of increase in the broad money was stable at around 8 %, although the credit multiplier remained high. Therefore, the China's bubble in 2015, which trembled the world, was triggered by the instantaneous expansion of equity capital due to the drastic interest rate cut.

However, since the 3rd quarter of 2014, capital flight of "inward other investment" and "errors and omissions" had already started. Capital flight has to be financed by a reduction of foreign currency reserves unless offset by an inflow of capital. The yuan is brought to the monetary authorities, which is converted into a foreign currency (US dollars) and flows out. Capital equivalent to about 20% of $4 trillion foreign currency reserves flowed out; the monetary authorities absorbed the equivalent amount of the yuan from the market. Fig. 8 reveals an unprecedented situation, in which an increase in the broad money slowed down from the 2nd quarter of 2015, and it actually shrank for the following three

Table 1: Correlation matrix among stock price indexes (from 1999 Q1 to 2020 Q2)

Index	Japan	Korea	US	China	India	Euro
Japan	1					
Korea	0.274453	1				
US	0.653518	0.840396	1			
China	0.327199	0.693744	0.606596	1		
India	0.423783	0.914838	0.936396	0.643118	1	
Euro	0.899794	0.260143	0.593555	0.438538	0.364795	1

Data: OECD

Table 2: Correlation matrix among rates of change in stock prices (from 1999 Q2 to 2020 Q2)

Rate of change	Japan	Korea	US	China	India	Euro
Japan	1					
Korea	0.552381	1				
US	0.655263	0.598445	1			
China	0.385428	0.350515	0.419838	1		
India	0.490418	0.67897	0.667068	0.391781	1	
Euro	0.692847	0.573257	0.849063	0.435248	0.657408	1

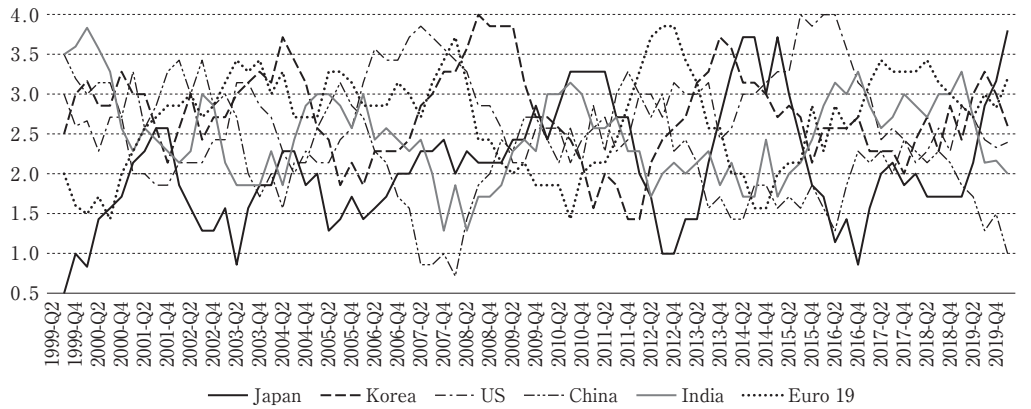
Data: OECD

consecutive quarters. The monetary authorities were not tightening monetary policy, as evidenced by the increased growth rate of the monetary base from the 2nd quarter to the 3rd quarter, i.e. a monetary easing policy. The lending interest rate was also further lowered by mobilizing all state-owned banks (from 4.85% in the 2nd quarter to 4.35% in the 4th quarter of 2015). Then, why did the broad money shrink? It is because commercial banks, faced with a decrease in the primary deposits (i.e. reserves for payment) due to capital flight, had no choice but to lower the credit multiplier, resulting in the shrinkage of the broad money: according to Fig. 8, the multiplier fell from 23.2 in the 1st quarter of 2015 to 18.9 in the 1st quarter of 2017, when the reduction in foreign currency reserves subsided. The stock bubble could not help but burst.

The above is the full account of the generation and collapse of the bubble, sending the "China shock" to the world. It was a worldwide simultaneous stock price devaluation ignited by China. However, such a short-term shock wave and its propagation should not be confused with the long-term and structural position of Chinese equity capital in the world economy. Despite the "China shock" in 2015, the movements of Chinese equity capital remain largely in the following position in the world as we examine.

Stock prices of major countries in Fig. 20 clearly show that China's bubbles in 2007 and 2015 were both prominent in the world. "Table 1: Correlation matrix among stock price in-

Fig. 21: Orbit analysis of stock prices (7-quarter moving average of rates of change)



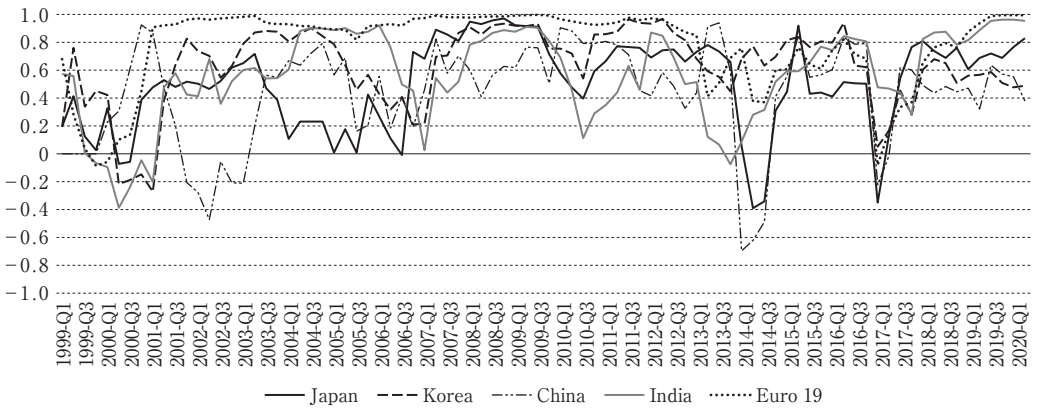
Data: OECD

dexes (from 1999 Q1 to 2020 Q2)" is the matrix of correlation coefficients over the entire period. "Table 2: Correlation matrix among rates of change in stock prices (from 1999 Q2 to 2020 Q2)" lists up correlation coefficients among rates of change in quarterly stock prices. Although Fig. 20 may give us an impression of high correlation coefficients, there are considerable differences between markets. The correlation among indexes can be understood to represent the long-term trend of stock prices. On the other hand, the correlation of rates of change represents how much quarterly ups and downs correlate each other. For example, between the US and the euro area, the correlation of their long-term trend is not very high, but their fluctuations show fairly high correlation. India shares an extremely strong long-term trend with South Korea and the US, but a moderate one with China; on the other hand, India considerably synchronizes its ups and downs with South Korea and the US, but not so much with China. As exemplified, various features can be read in the Tables.

The orbit analysis of quarterly rates of change is shown in "Fig. 21: Orbit analysis of stock prices (7-quarter moving average of rates of change)". We will not conduct its detailed analysis, but easily notice that China's ranking has not been so high and that it was at the bottom during the bubble periods of 2007 and 2015. In other words, the Chinese stock market has almost completely followed the ups and downs of other markets. This fact may suggest that China's equity capital, relatively separated from the world, repeats ups and downs, and boom and bust "arbitrarily" on its own logic.

To confirm this point, let us conduct a 7-quarter moving correlation analysis with the US market, i.e. the headquarters of global equity capital ("Fig. 22: 7-quarter moving correlation with the US (rates of change in stock prices)"). A striking fact is the almost perfect correlation between the US and the 19 euro countries. It continued from the formation of the common currency in 2001 to the first half of 2012.[20] It looks like the ultimate goal of

Fig. 22: 7-quarter moving correlation with the US (rates of change in stock prices)



Data: OECD

synchronization between stock markets. By contrast, the correlations with other countries, including Japan, are surprisingly low. And China occasionally shows negative correlations. Therefore, Chinese equity capital is not in the position to lead or drive the global equity capital except in extremely short and sudden situations such as the "China shock".

Thus, the 2015 bubble was fueled by the fiscal and financial policies that were attempted to overcome surplus capital generated in the unique circumstances of the Chinese economy. And it burst and caused massive capital flight, resulting in a sharp depreciation of yuan against the US dollar by 12.6% and the loss of foreign currency reserves by $935 billion (23.5%). In other words, the world's second-largest economy contracted by more than 10% in an instant, and in return, nearly $1 trillion in foreign currency (the US dollar) were released to the world economy, the implications of which were not small.

Section 3: Transformation to international surplus capital

(1) Transformation of foreign currency reserves to international surplus capital

Foreign currency reserves, which temporarily amounted to $4 trillion, are, on the one hand, a testament to the fact that 1.4 billion Chinese people have endured, on average, extremely low wages and consumption for these 40 years since the reform and opening-up. On the other hand, they are also the result of accumulated trade surplus as the overseas vent of huge surplus capital that have been generated occasionally in the process of the transition from the socialist market economy to the party-state capitalism. Trade surplus sometimes turned into the severe beggar-thy-neighbor policy that struck neighbor countries and caused serious economic frictions. And the Chinese government has rejected appreciation of the yuan, which would be a natural result of trade surplus, and until recently finan-

cial institutions had no way to invest foreign currency accumulated mainly in dollars. And thus, trade surplus transformed into and accumulated as official foreign currency reserves (mainly in US Treasury securities) through government intervention in the foreign exchange market. In Section 2, the 2nd and 3rd quarters of 2014 appeared in various aspects as a decisive epoch, which drastically changed the accumulation structure of foreign currency reserves that had started in the early 21st century.

As elucidated fully in Itaki (2006), in a closed national economy, surplus money capital, created from value destruction of commodity capital and production capital during a recession or a depression, does not disappear even during a boom and expands every recession or depression loan capital and fictitious capital (i.e. equities, bonds, land, other securitized products, financial derivatives, etc.)[21]. In an open economy, surplus commodity capital can be exported and turns into trade surplus, whereby the acquired foreign currency is invested abroad through various channels, transformed into international surplus capital (*ibid.,* Chapter 5). This is how *net* global imbalance is born. On top of that, by creating and adding additional money capital from the banking system on both sides of credit and debt, a huge amount of *gross* capital circulation is created (*ibid.,* Chapter 9, Section 1). Gross international surplus capital is *surplus* capital because it is merely circulating in the world, not rooted in production activities, but as long as it is surplus *capital,* it cannot exist as capital without acquiring value. After all, this contradiction has no solution other than engaging in zero-sum value-plundering activities, which destroy the value of competitors and acquire the value as capital gains, rather than plus-sum value-creating activities[22]. This is the logical necessity that international surplus capital must become speculative capital.

Now, what is the meaning of $4 trillion foreign currency reserves and their reduction by nearly $1 trillion in just two years? From the identity, i.e. the current account (trade balance + income balance) + net inward foreign direct investment + net inward securities investment + net inward other investment + errors and omissions ≒ foreign currency reserves, huge trade surplus would have been converted mostly to China's outward foreign direct investment, securities investment, and other investment, if not absorbed by additional foreign currency reserves. In other words, assuming foreign currency reserves to be zero, current account balance ≒ − net inward foreign direct investment − net inward securities investment − net inward other investment − errors and omissions, that is, current account balance ≒ net outward foreign direct investment + net outward foreign securities investment + net outward foreign other investment − errors and omissions. It is exactly the transformation of private excess savings, which consist of domestic structural savings and surplus money capital, into international surplus capital. International surplus capital as much as $4 trillion of a strong speculative character must have literally raged around the world[23]. However, it was in fact transformed into the Chinese government's official foreign currency reserves.

Official foreign currency reserves are, as it were, frozen international surplus capital. It is said that China's foreign currency reserves are mostly invested in US Treasury securities, i.e. *official* foreign securities investment, and thus, they do not flow out to the outside world or take various other investment forms in pursuit of interest, dividends and capital gains. They are literally "frozen" in the form of US Treasury securities. As a result, the speculative nature of international surplus capital is latent.

However, the situation drastically changed in 2012: net outward foreign direct investment, securities investment, other investment and errors and omissions began to be financed mainly by foreign currency reserves. Finally, in 2015–2016, as if the embankment had broken, inward other investment and errors and omissions in particular switched to an outflow, resulting in the loss of $1 trillion in foreign currency reserves. An era had come when international surplus capital, so far "frozen" and "sealed" as official foreign currency reserves, was released into the field and its speculative nature raged rampantly around the world.

(2) Significance of transformation to international surplus capital

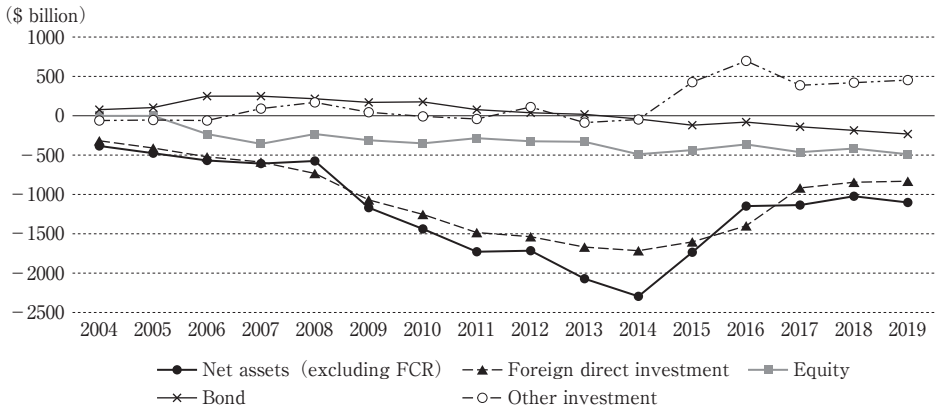
1 Comparison with the Asian currency crisis (1997–1998)

The problem with capital flight in 2015–2016 is that it did not happen in a small developing country that embraced the Washington Consensus and adopted open neoliberal policies. Even China, a major power with strict regulations on capital inflow and outflow and foreign exchange control, could not prevent excessive inflow and flight of capital, and in a bubble, foreign capital twisted the authorities around its finger. The Asian currency crisis, ignited in Thailand in 1997 and infecting one after another Indonesia, Malaysia, Hong Kong and South Korea, and then spreading to Brazil and Russia, was caused by an abnormal inflow and outflow in investment balance. And the global financial crisis in 2008–2009 was triggered by huge investment in securitized financial products to and from US and Europe. The Chinese Communist Party, witnessing these two crises, must have engraved a significant lesson on its heart: i.e. never accepting the Washington Consensus and keeping a tight grip on capital and currency regulations. Nevertheless, the crisis occurred.

It is true that in the case of the Asian currency crisis, Southeast Asian countries had recorded chronic trade deficit. And Thailand, the starter of the crisis, suffered the collapse of its stock market first and then, a sharp devaluation of the baht due to severe foreign exchange speculation against the dollar-pegged system (Itaki, 2006, pp. 403–408). Even after the crisis, capital flight still continued, plunging the entire economy into a depression. In these respects, the capital flight crisis in China was different. In addition, although Thailand lost its foreign currency reserves in an instant and fell into a sharp and serious credit crunch, China could avoid it with abundant foreign currency reserves.

Such a comparison may enable us to make an easy dichotomy between the two cases:

Fig. 23: Private international investment position



Data: IMF, *International Financial Statistics*

the Asian currency crisis is a good example of failed crisis management, and the China's capital flight crisis is a success story. However, there should be no difference between them from the perspective of new formation of international surplus capital. Thailand, which could not afford enough foreign currency reserves, contracted domestic capital investment due to credit crunch and obtained trade surplus by converting private excess savings $S-I$ into hunger export, i.e. the resource of capital flight. Surplus money capital, squeezed out of the shrinking Thai economy, was the substance of newly formed international surplus capital. China, by contrast, curbed credit crunch and economic contraction with strong expansionary financial and fiscal policies and succeeded in maintaining an increase in private excess savings on a relatively small scale. And pouring abundant foreign currency reserves into the foreign exchange market made it possible to cope with capital flight, albeit the yuan was pushed down by more than 10%. However, that resulted in releasing into the global economy $800 billion out of foreign currency reserves as new international surplus capital. The only difference between the two cases is whether new international surplus capital was funded by current private excess savings or those accumulated in the past.

2 Meaning of current account balance turning into deficit

Let us examine some implications of a prediction that China's current account balance would turn into deficit in 2022, which already prevailed before the turmoil of the new Coronavirus (COVID-19). In fact, a deficit of $33.7 billion was recorded in the 1st quarter of 2020, when the number of infected people in Wuhan, China, was increasing. With the global economy suffering several times more damage than the 2008 global financial crisis, it is difficult to predict long-term trends, but if this tendency continues, current account deficit as well as overseas investment would contribute to further decrease in foreign currency reserves. Of course, this does not go straight: in response to the business cycle, domestic

surplus capital will be generated during a recession, which will turn into trade surplus. Therefore, a long-term forecast is extremely difficult, but what will it bring to China and the world, at least if current account balance (trade balance) continues to record a surplus not so large as before?

State capitalism, combining the party and the state (i.e. a gigantic mixed oligopoly economy led by state-owned companies), is now rushing into construction of regional hegemony over East Asia under the Xi Jinping administration for national security, which integrates economics, politics and military all together. The logic in it is the same "logic of defense" as that in the era of imperialism which Lenin described in his seminal book: i.e. offense is the best defense. To that end, giant state-owned resource companies, giant state-owned banks and giant state-owned investment funds together with private companies are now working hard to expand overseas under the flag of "One Belt, One Road". According to "Fig. 23: Private international investment position", net private overseas assets have been significantly alleviating its debt position since 2015 for two reasons: first, as a result of the capital flight in 2015–2016, other investment is now in a net credit position of about $500 billion; second, outward foreign direct investment has substantially increased recently. The second factor in particular seems to continue in the foreseeable future, judging from the present foreign policy of the Chinese government. Then, the question is where to find the resources for the overseas expansion.

One possible measure is to establish the international finance and capital market in China, attract foreign capital via various routes, and convert it into capital for overseas investment. It would be necessary to this end to bring back inward other investment by foreign banks and other financial institutions, and to open substantially the domestic bond and stock markets to foreign investors. However, the Chinese government, witnessing the Asian currency crisis and the global financial crisis, and suffering the capital flight crisis, will never give up the strict foreign exchange and capital regulations. Therefore, this measure will be pursued to some extent, but soon encounter limits.

Another option is to make better use of foreign currency reserves, which still exceed $3 trillion. Investment of foreign currency reserves in US Treasury securities at an overwhelmingly low interest rate compared to the lending rate in China is something like financial aid to the US. This option would be an effective use of the reserves now "frozen" in Treasury securities. It has an advantage that Chinese companies and banks can invest and lend money anywhere in the dollar-denominated world.

Compared to these two measures above, the most advantageous one for China is to invest and lend money overseas in the yuan. If investment and lending to developing countries and resource-rich countries closely tied to the "One Belt, One Road" are denominated in the yuan, Chinese companies, banks and investment funds can freely conduct their overseas activities without being bothered by an increase or decrease in dollar-denominated

foreign currency reserves. Furthermore, it greatly contributes to an expansion of the yuan economic zone, if not fully fledged internationalization of the yuan. Therefore, a further increase in investment of leading state-owned companies, private companies and state-owned investment funds will urge the Chinese government to further promote its "One Belt, One Road" policies.

The "leverage" through the Asian Infrastructure Investment Bank (AIIB) is important for stimulating overseas investment more efficiently while minimizing a decrease in foreign currency reserves. China invests "equity capital" in the yuan and injects "borrowed capital" in dollars through AIIB to the "One Belt, One Road" related countries. The leverage makes it possible to construct infrastructure in targeted countries with high capital efficiency and to further expand the yuan economic zone.

3 Implications of a decrease in Chinese foreign currency reserves for the United States

The last issue to consider is some implications of a decline in China's foreign currency reserves for the key currency, i.e. the US dollar.[24] Let us first assume that the dollar is functioning perfectly as the key currency. Namely, international public and private payments are settled 100% through account transfers between banks in New York (including the Federal Reserve Bank of New York) and thus, all reserves for payment are centered in banks in New York in dollars. In this case, all dollar-denominated payments by the Chinese government and companies are equivalent to dollar-denominated receipts by the partner governments and companies and thus, a decrease in Chinese foreign currency reserves simply increases those of the partner governments or increases corporate deposits. Therefore, the total amount of reserves for payment in New York remains the same. In other words, there is no change in the position of the dollar as the key currency.

Now assume that both the US dollar and the euro are international currencies in the New York and Frankfurt international financial markets. The Chinese government or a Chinese company pays a German machine tool company in euros. Unless the Chinese side borrows in euros, it will sell part of its dollar-denominated foreign currency reserves on the foreign exchange market to raise euros. Let us further assume that the dollar-selling and euro-buying transaction is conducted with a bank in Frankfurt. The payment is transferred to the euro-denominated account of the German machine tool company in Frankfurt. As a result, the Chinese government or a company will reduce dollar deposits at a bank in New York, and the euro deposits of the German company will increase at the bank in Frankfurt. Since the bank in Frankfurt is in a long position in dollars, it sells dollars in the interbank market. Therefore, *ceteris paribus,* the dollar will be under depreciation pressure and the euro under appreciation pressure.

The comparison of the two cases above clearly shows that depreciation pressure of the dollar emerges when another international currency exists other than the dollar, and the

Chinese government or a company uses dollar-denominated foreign currency reserves for transactions in the other currency. The example dealt with trade transactions and the effect of decreasing dollar-denominated foreign currency reserves, but the same effect would occur when the Chinese government simply withdraws dollar-denominated foreign currency reserves and replaces them with euro-denominated foreign currency reserves.

Then, let us consider the phenomenon of a decrease in dollar-denominated foreign currency reserves from a global perspective. For the sake of simplicity, we assume again that the dollar is functioning perfectly as the unique key currency. The larger the global current account imbalance is, the larger the total amount of dollar deposits is, which foreign governments, banks and companies possess and concentrate in the New York international financial market for settling the imbalance. The New York market plays the role of intermediating net global savings / investment gap. However, the total amount of money in gross that circulates the global economy has reached far exceeding the net imbalance. As we assume that all transactions are settled in dollars, dollar-denominated short-term and long-term assets and liabilities exist in the New York international financial market, both of which exactly match in the total gross. Suppose under these circumstances the dollar depreciates for some reason, and the total funds in gross (i.e. assets / liabilities) will be devalued exactly in proportion to the depreciation of the dollar. Namely, value destruction occurs. Some shrewd banks and governments may be quick to detect this and transfer their dollars to real assets in euros, but their business partners make a huge loss in return. Therefore, it is a minus-sum game, in which a loss necessarily occurs in gross.

If the dollar is in fact the unique international currency, such a loss must be tolerated. Banks and companies lament misfortune and incapability of their own. Repeated depreciations of the dollar, however, would urge the pursuit of other international currencies and put pressure of a capital flight on the dollar. It is a capital flight that can affect any assets denominated in the dollar, including official foreign currency reserves. Today, a huge amount of US current account deficit each year results in nearly $30 trillion of net external debt. Current account deficit is not automatically financed by financial balance; "automatic finance" is a fairy tale only on the balance-of-payments identity that holds only *ex post*. When the "national power" of the US declines, which collects excess profits from all over the world in cutting-edge industries, or when excess profits no longer return to the US, the *market value* of the US national economy as a "financial asset" depreciates. At that moment, a capital flight from all dollar-denominated assets, including official foreign currency reserves, will unfold.

The capital flight crisis in 2015–2016 was brought about by various factors unique to the Chinese economy and thus, the outflow of foreign currency reserves from the US took place as its aftermath. The event, therefore, should not be understood as a sign of disturbance in the dollar's key currency position. However, China's active overseas expansion

continues under the condition that a large current account surplus cannot be expected in the foreseeable future. It is likely to act as a structural factor that will continue to reduce foreign currency reserves in the US, putting devaluation pressure on the dollar. In this way, the possibility of a capital flight from the US, which is now deteriorating its global imbalance, would gradually enhance in the future.

Conclusion

This paper discusses the development of the Chinese economy over 40 years since the transition to the reform and opening-up in the late 1970s from the perspective of transformation from domestic surplus capital through trade surplus to international surplus capital. The Chinese economy, which has changed from a socialist planned economy to the new system called a socialist market economy, is now undoubtedly prominent in the world as a unique capitalist economy. The implications it contains are significant for the world as well as for the Chinese people.

Private excess savings, which is a focal concept of our analysis, consist of those expanding during a recession (i.e. domestic surplus capital) and those structured like a bedrock inside the Chinese economy. Either component has increased mainly due to private consumption C long kept at a low level. Apart from luxurious consumption in large coastal cities, the low level of income and consumption among workers and farmers, who make up the majority of the population, has basically oriented the developmental process of the Chinese economy over 40 years. It was the hidden substance of domestic and international surplus capital. And the capital flight crisis in 2015–2016 released a large amount of international surplus capital, which had been frozen and sealed in the form of official foreign currency reserves, into the world economy. The political, economic and military significance of the "One Belt, One Road" cannot be grasped without understanding the basic historical line of China's economic development for these 40 years.

However, on the other hand, we should remember new buds that are now beginning to sprout. As examined, private consumption in the lowest ranking in 2009 in the orbit analysis, which had been passively following trade balance and gross fixed capital formation, has finally risen sharply in recent years. It is now gaining the position to lead the whole economy alongside government consumption. This is a sign of shifting to an economic structure led by private consumption. An aging society is just around the corner. A society must not grow old before each and every worker and farmer becomes rich. To that end, the first and foremost important policies are to improve wages of workers and the consumption level of the general public, and then to increase government expenditures such as various insurances and pensions to further enhance social security. A certain level of fiscal

deficit is also needed. In this way, the structure of economic development that relies solely on capital investment will be transformed. In a new economy, structural private excess savings diminish and a decline of production will be minimized in the face of a recession, and the beggar-thy-neighbor and trade frictions caused by overseas emissions of surplus capital will be something of the past. There could be no incentive to pursue regional hegemony in an economy that relies on solid and stable private consumption, rather than luxury consumption based on bubbles.

Notes

1) フルカラーのグラフ付き日本語訳「中国における過剰資本の形成と資本逃避危機（2015-2016年）」が，下記にて利用できます。The Japanese translation with color figures is available in http://www.ritsumei.ac.jp/ir/isaru/wp/.
2) Itaki (2006) defines it more accurately as "absolute surplus capital". See "Introduction".
3) See Chapter 6 in Itaki (2006).
4) See Itaki (2014) and the introductory part of (2015a) and (2015b).
5) After the devaluation, the yuan slightly regained its value and was fixed at 8.3 yuan per dollar for as long as 10 years from the 2nd quarter of 1995 to the 2nd quarter of 2005. However, as clearly shown in the real effective exchange rate, the rate of yuan had completely returned to the level before the devaluation by the 4th quarter of 1997 due to persistent inflation gap with major trading partners.
6) Since 2004, wage rates have begun to skyrocket in coastal cities, encouraging a controversy over whether the Chinese economy had passed the "Lewisian turning point". See chapter 3 "Lewisian turning point" in Cai (2019). Cai believes that the economy reached it in 2004.
7) The monetary base (i.e. base money or high-powered money) consists of central bank notes + circulating coins + checking accounts of commercial banks in the central bank.
8) Broad money consists of M3 + "financial bonds, bank-issued ordinary corporate bonds and money in trust" + "other financial instruments (i.e. financial institution-issued CPs, investment trusts, government bonds and foreign bonds)". M3 consists of "cash, demand deposits" + "time and savings deposits, foreign currency deposits and certificate of deposit CDs". See Bank of Japan Survey and Statistics Bureau (2019).
9) Very interestingly, during this period, market fluctuations in the Shenzhen stock market drove them in the Shanghai stock market.
10) Trade surplus is not always formed in dollars. For example, in the case of Japan, trade balance was in surplus in yen and in deficit in dollars. However, in China, trade surplus is formed in dollars and thus, China's foreign currency reserves must be invested in dollar-denominated assets especially US treasury securities. See Chapters 5, 6 and 7 in Okuda (2020).
11) In Japan, the Ministry of Finance (Foreign Exchange Fund Special Account) and the Bank of Japan hold foreign currency reserves. The Foreign Exchange Fund Special Account raises funds through issuance of short-term government securities (75 trillion yen in FY2019) and transfer of treasury allowances (41 trillion yen), and invests them in cash deposits (16 trillion yen), gold bullion (157 billion yen), securities (117 trillion yen), etc. The total assets for FY2019 were 147 trillion yen (Ministry of Finance website, https://www.mof.go.jp/about_mof/mof_budget/special_account/gaitame/gaitame_zaimu2018.pdf, viewed September 6, 2020). On the

other hand, the foreign currency reserves held by the Bank of Japan are invested in deposits with foreign central banks, etc. in US dollars, euros and pound sterling, and in bonds issued by foreign central governments, etc. (https://www.boj.or.jp/intl_finance/ex_assets/hyoryo02.htm/, viewed September 6, 2020). The BOJ's foreign currency reserves at the end of FY2019 amounted to 26 trillion yen (https://www.boj.or.jp/about/account/data/zai2005a.pdf, viewed September 6, 2020). Those held by the Ministry of Finance are sterilized by issuing securities and transfer of treasury allowances, but those held by the Bank of Japan are not sterilized and affect the money stock.

12) This level has been consistently maintained until the 2nd quarter of 2020.

13) After that, private excess savings once settled at 6.00% in 2016 and 5.48% in 2017, mainly due to a rise in private consumption. However, as of 2017, the Chinese economy was fully supported by fiscal deficit under stagnant capital investment, albeit at a high level.

14) According to the IMF's *Balance of Payments Manual* (IMF, 2013), "other investment" are literally "residuals" that include all financial transactions not included in foreign direct investment, securities investment, financial derivatives or foreign currency reserves. The financial sectors concerned are central banks, general governments, commercial banks, other financial institutions, non-financial institutions, households, and non-profit institutions serving households (NPISHs): namely, all sectors are involved. Its specified items are "other equity", which includes investment in ADB (Asian Development Bank) and AIIB (Asian Infrastructure Investment Bank); "loans", which include financial leases, repurchase agreement, debt assumption, etc.; "currency and deposits", which include notes, coins, transferable deposits, time deposits, savings deposits and interbank positions; and others such as "insurance technical reserves, pension fund entitlements, and provisions for calls under standardized guarantees", "trade credits and advances", "other accounts receivable / payable" and "SDRs".

15) From the 4th quarter of 2006, quarterly data of outward stock investment are available in IMF's *International Financial Statistics*.

16) Strictly speaking, it is equal to "investment balance plus errors and omissions", although the entry "investment balance" does not exist in IMF (2013), used until the fifth edition of IMF's *International Balance of Payments Manual*.

17) The figure omits "outward and inward stock investment" and "outward and inward bond investment", because they have little quantitative effect.

18) The figure convinces us of the effectiveness and usefulness of the orbit analysis. It should be noted, however, that the results would be completely different depending on whether the unit period of the orbit analysis is a year, quarter, month, etc. Different results would be fairly natural depending on whether you observe the leading / following relations over years or you observe short-term changes on a monthly or daily basis. It may be likened to the difference between momentary tactics of marathon runners and their whole strategy throughout the race: an aggregate of tactics does not make a strategy. One year is an appropriate unit for the orbit analysis among GDP components.

19) The double "China shock" of the yuan and the stock market broke out in August 2015 totally as a bolt from the sky, according to Japan's Ministry of Finance and other financial authorities (Asakawa, 2020, 89–90). Without any explanation from the central bank, the People's Bank of China, about the yuan's devaluation, Mr. Masatsugu Asakawa, just taking office as a treasurer of the Ministry of Finance, made a speculation about a short-term factor of the devaluation that the yuan needed to match its market value in order to make the yuan a constituent cur-

rency of the IMF's Special Drawing Rights (SDR). (The IMF decided to add the yuan to the constituent currencies in November.) In addition, he mentioned, as a more fundamental factor, that "Chinese companies and people are escaping assets overseas" (*ibid.,* 101). However, as we saw, the trigger and main factor for the "China shock" was a large-scale withdrawal of "inward other investment" by overseas investors. The fact that the person who was the head executor of international monetary policy at that time misunderstands the situation still in 2020 carries an important implication. (The book was written on the basis of interview by Mr. Koya Shimizu, an editorial board member of the Nihon Keizai Shimbun). This is why the so-called "oral history" requires strict text critique.

20) An important research question that still remains is why it disappeared in late 2012 and came back in the 3rd quarter of 2019, and what happened in the meantime.

21) In a recession or a depression, the value of unsold products is destroyed, and the value of non-operating equipment is also destroyed. However, the value of money once created is not destroyed. This important principle is explained with the help of Keynesian economics as follows. $S=I$ holds and if the value of the existing total production facilities is K, $K=\Sigma I=\Sigma S$ holds (S includes fixed capital depreciation and I includes renewal investment). In other words, behind the existing physical production facilities, the same value of savings exists in the form of money. Now, if the value of the non-operating part of K is destroyed (i.e. machine disposal and / or factory closure), $K<\Sigma S$. This is because commodity capital and production capital, which take the form of in-kind, can be devalued, but money capital is not devalued once created from the banking system unless a bank goes bankrupt and payoffs are triggered. Therefore, $\Sigma S-K$ signifies surplus money capital.

22) It is a frequently asked question that if surplus money capital is invested in plants and equipment (that is, converted to production capital), will it no longer be surplus capital, or will surplus capital disappear? Let us here again apply Keynesian economics. In the world as a whole, $S=I$ holds; in other words, if new capital investment I_1 takes place, new savings S_1 will be generated somewhere in the world ($S_1=I_1$). The process is intermediated by credit creation of banks. Banks create fictitious credit money (i.e. deposit money) based on a relatively small amount of reserves for payment and lend it to companies. New capital investment I_1 carried out by the companies will generate new savings S_1 somewhere in the world. Then, when they return to the banking system, new deposits will be opened to finance the fictitious credit money created first. Thus, as a result (*ex post*), $S_1=I_1$ holds. It seems as if something were created from nothing in banks, but the function of banks is in fact, by creating fictitious money *ex ante,* to initiate and lead new production.

Now, let us assume that there is surplus money capital generated during a previous recession, assigned as S_0 that exists in a bank account as savings. As in the question above, suppose it is lent to a company and used for capital investment I_1. It should be noted, however, that the cash S_0 does not actually flow out of the banking system because the loan to the company is made by opening an account and transferring money to it. Therefore, as before, the new capital investment I_1 will generate new savings S_1 somewhere in the world. Since S_1 returns to the banking system, it will end up with the total deposits of S_0+S_1. In other words, surplus money capital S_0 does not disappear even if it is allocated to capital investment.

The logic above gives us extremely important suggestions. Namely, once surplus money capital is generated, unless banks go bankrupt and payoffs are triggered, it will never disappear. That is why, every time a recession or a depression occurs, surplus money capital is accumu-

lated further, and loan capital and fictitious capital expand. This is the necessity that financial bubbles become larger and more destructive each time it occurs.

23) As already examined, surplus capital trapped inside a national economy is devalued in its form of commodity capital and production capital, develops into surplus money capital and stays in the domestic loan capital market and fictitious capital market. However, if the surplus capital is successfully discharged to the outside world as trade surplus, the value of commodity capital and production capital would be maintained, and their value destruction could be avoided. On the other hand, since trading partners suffer trade deficit, the contraction of their production destroys the value of commodity capital and production capital, resulting in surplus money capital generated there. The surplus money capital would be transferred to the trade surplus country in exchange for the trade deficit. $I<S$ holds in the trade surplus country, and $S<I$ holds in trade deficit countries: i.e. unilateral transfer of savings (i.e. value deprivation) from the deficit countries to the surplus country. Surplus money capital transferred in this way is transformed into international surplus capital in the form of foreign direct investment, securities investment, other investment and errors and omissions, which is transferred back from the trade surplus country to the deficit countries. This is the logic of transformation of domestic surplus capital into international surplus capital.

The logic suggests an important proposition. International surplus capital generated by the above-mentioned process of beggar-thy-neighbor does not have corresponding commodity capital or production capital wherever in the world, because it was born from their destruction. Therefore, whether it may take the form of securities investment, other investment, errors and omissions, or even foreign direct investment, it unavoidably takes on a speculative character. As international *surplus* capital, it has no choice but to seek the source of profit not from income gains but from capital gains by destroying the value of competitors.

Foreign direct investment, securities investment and other investment can stem not from the beggar-thy-neighbor but from the reverse process of "enrich-thy-neighbor", which does not result from domestic surplus capital and thus, does not take on a speculative or destructive character. However, this paper omits its explanation.

24) In writing this section, Koji Okuda, Professor Emeritus of Ritsumeikan University, provided the present author with kind and useful advice. I would like to express my deepest gratitude to him. Of course, there were some disagreements between us, but it goes without saying that all the remaining theoretical and empirical inadequacies are attributed to the author.

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