

International Finance

The Balance of Payments

Shiu-Sheng Chen

Department of Economics
National Taiwan University

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Outline

- 1 Balance of Payments: Concepts and Terminology
- 2 Global Imbalance
- 3 Current Account and National Income Accounts

Section 1

Balance of Payments: Concepts and Terminology

Balance of Payments

Definition (Balance of Payments, BOP)

Accounting statement that summarizes all the economic transactions between residents of the home country and residents of all other countries.

- Recorded by the **double-entry** accounting system

Double-Entry Accounting System

Credit	Debit
An export to the rest of the world is recorded as a credit.	An import from the rest of the world is recorded as a debit.
A credit is any transaction that conceptually requires a payment in (sell something).	A debit is any transaction that conceptually requires us to make a payment out (buy something).
Credits can include exports of goods and services, but also exports of assets .	Debits can include imports of goods and services, but also imports of assets .
Conceptual inflows/sources of foreign exchange	Conceptual outflows/uses of foreign exchange

Balance of Payments

- Whenever we trade, we trade one thing for another of equal value.
 - That means that all transactions actually involve a credit and a debit.
- **Example 1:** Swap some wheat for some steel of equal value.
 - The value of our **exports** of wheat is recorded as a **credit**.
 - The value of our **imports** of steel is recorded as a **debit**.
- **Example 2:** Trade some wheat for an asset of equal value:
 - The value of our **exports** of wheat is recorded as a **credit**.
 - The value of our **imports** of the asset is recorded as a **debit**.

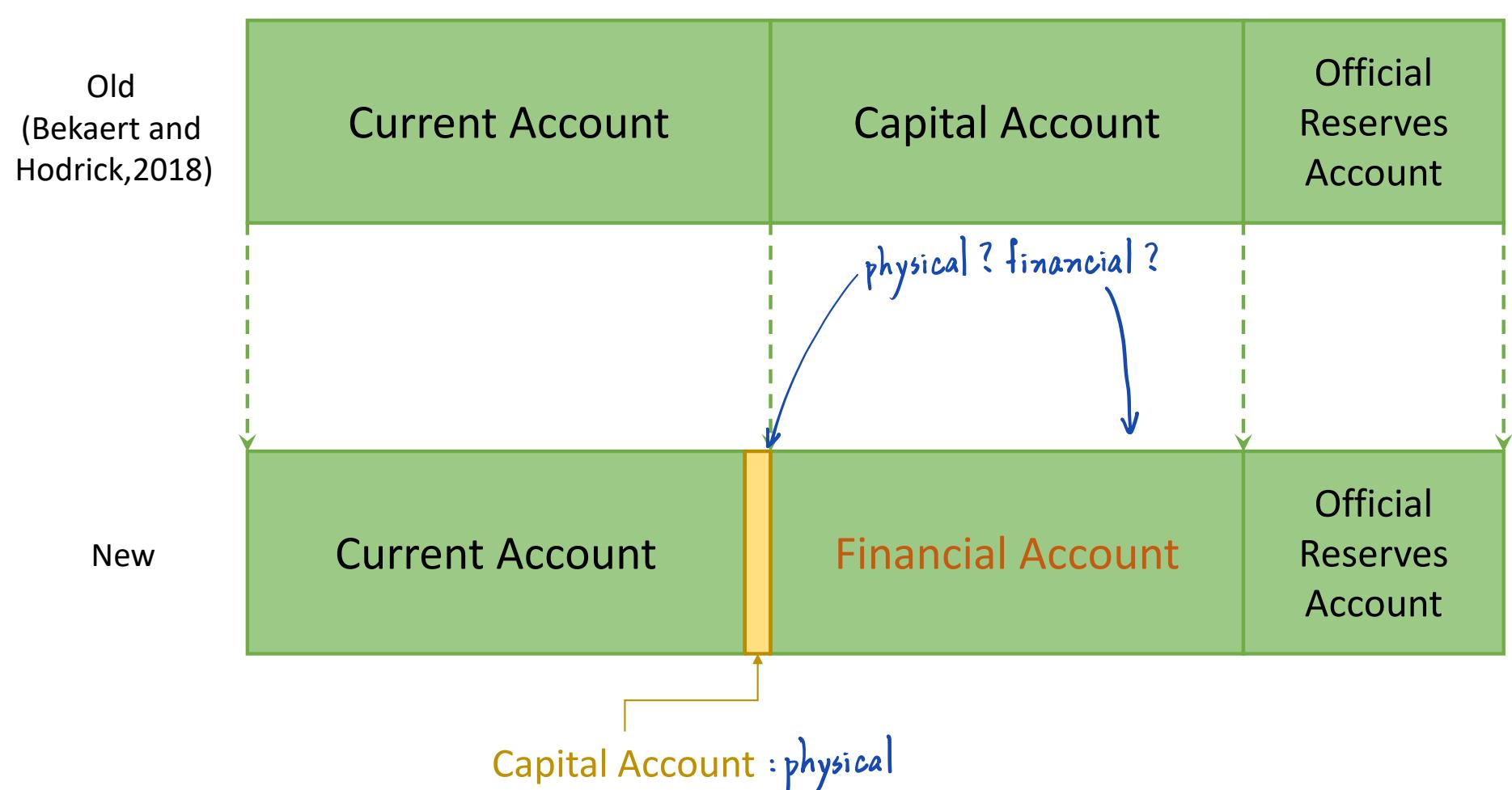
Every transaction will be recorded in various accounts.

Balance of Payments

The balance of payments are broken into four major components:

- The current account
- The capital account
- The financial account
- The official reserves account

Balance of Payments



BOP: The Financial Account

- Records of all imports and exports of financial assets.

Financial Account	Credit (+)	Debit (-)
Domestic ownership of foreign assets (B_t^f)	Decrease	Increase
Foreign ownership of domestic assets (B_t^h)	Increase	Decrease

- The financial account transactions include Foreign Direct Investment, Portfolio Investment, Financial Derivatives and Other Investments.
- Let $B_t = B_t^f - B_t^h$. The financial account **balance** is

$$FA_t = -(B_{t+1} - B_t)$$

The “negative sign” represents the debit entry.

BOP: The Official Reserves Account

- The official reserves account records imports and exports of assets by central banks.
- All transactions involving international reserves.

Official Reserves Account	Credit (+)	Debit (-)
International Reserve (H_t)	Reduction	Increase

- Let ORA_t denote the official reserves account balance

$$ORA_t = -(H_{t+1} - H_t)$$

The “negative sign” represents the debit entry.

BOP: The Current Account

- Records of all imports and exports of goods and services.

Current Account	Credit (+)	Debit (-)
Goods and Services	Export	Import
Interest	Received	Sent
Transfers (secondary income)	Received	Sent

There are two **tricky** items on the current account:

- Investment income (primary income)
- Transfers (secondary income)

for "balance"

Balance of Payments

Transfers

- These are gifts from residents of one country to residents of another. When we give money to foreign residents, we are **exporting an asset**.
- But what are we getting in return of equal value? Nothing, actually. But for purposes of book-keeping, we **pretend that we are importing something** – think of it as the **love and affection (goodwill)** of the foreigner.
- So when we give away money, we record
 - a credit in financial account.
 - a debit in current account (**love and affection is a service!**).

Balance of Payments

Investment income

- When we receive dividends or interest from a foreign investment we have, we are **importing an asset.**
- But this is payment for a service – **the service that lets foreigner use our money.** So we record an **export of a service.**
- So when we receive investment income, we record
 - a debit in financial account.
 - a credit in current account.

Balance of Payments

- Let NFI be net foreign income,

$$NFI = \text{Net Investment Income} + \text{Net Transfer}$$

- The current account balance is
 $\approx \text{trade balance}$

$$CA = (X - M) + NFI$$

BOP: The Capital Account

- Capital transfers (international debt forgiveness, investment grants)
- Records of all acquisitions and disposals of nonproduced, nonfinancial assets (offshore drilling rights, trademark)

Capital Account	Credit (+)	Debit (-)
Capital transfers	Received	Sent
Nonproduced, nonfinancial assets	Disposal	Acquisition

- The capital account is usually not very large.

Examples of BOP Transaction Entries

- Taiwan imports BMWs from Germany, and pays in euros.
 - Debit on current account
 - Credit on financial account
- Taiwan exports electronic products to US, and is paid in dollars
 - Credit on current account
 - Debit on financial account
- Central Bank of Taiwan buys US dollar to depreciate value of the NT dollar
 - Debit on official reserves account
 - Credit on financial account (*export US dollar to central bank*)

Examples of BOP Transaction Entries

- A Taiwanese investor buys a 2-year Canadian note, pays by check in Canadian dollars
 - Debit on financial account
 - Credit on financial account
- US government sends foreign aid to Taiwan, which Taiwan holds in the form of dollars
 - Debit on financial account
 - Credit on current account
- Taiwan tourists spend Japanese Yen in Tokyo
 - Debit on current account
 - Credit on financial account

Balance of Payments

- The sum of all the credits less the sum of all the debits on the
 - current account is called **the current account balance**, CA_t
 - capital account is **the capital account balance**, KA_t
 - financial account is **the financial account balance**, FA_t
 - official settlements balance is the **official reserves balance**, ORA_t
- Surplus/Deficit
 - Surplus results when the credit exceed the debit transactions
 - Deficit results when the debits exceed the credit transactions

Balance of Payments

- Because each transaction records a debit and a credit of equal value, the sum of all credits (+) equals the sum of all debits (-).
- Thus,

$$CA_t + KA_t + FA_t + ORA_t = 0$$

Balance of Payments

- Now suppose that $ORA_t \neq 0$ but $KA_t = 0$, small, omitted here

$$\begin{aligned}
 CA_t &= -(FA_t + ORA_t) \\
 &= (-FA_t) + (-ORA_t) \\
 &= \underbrace{(B_{t+1} - B_t) + (H_{t+1} - H_t)}_{\Delta NFA_t} \\
 &\approx X - m
 \end{aligned}$$

- That is,

current account surplus

or

\Leftrightarrow financial account deficit + official reserves account deficit

\Leftrightarrow a net acquisition of foreign assets ($\Delta NFA > 0$)

赤字 but
asset ↑

Balance of Payments

$$H_{t+1} - H_t > 0, \text{ deficit}$$

央行神操盤 外匯存底衝高 不怕英脫風暴 連五月攻頂 配置多元化奏功 月增1.2億美元 大勝對手南韓

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〔作者〕記者陳美君、吳苡辰 / 台北報導

〔報導地〕

〔主題類別〕新聞綜合 / 焦點新聞

〔摘要〕中央銀行總裁彭淮南運籌帷幄下，我國不畏英國脫歐風暴，外匯存底不減反增。央行昨（5）日公布，6月外匯存底為4,335.52億美元，月增1.2億美元，連五月締造歷史新高。央行外匯局行務委員林祖舜指出，英國脫歐公投後……

央行神操盤 外匯存底逆勢增 投資收益抵銷外資匯出 8月金額續創新高 外匯局長：全球性金融風暴不致重演

〔出版日期〕2015/09/05

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〔版次/版名〕第A1版 / 要聞

〔作者〕記者陳美君 / 台北報導

〔報導地〕

〔主題類別〕新聞綜合 / 焦點新聞

〔摘要〕央行第3季理監事會議召開在即，央行外匯局局長顏輝煌昨（4）日表示，面對變局，央行最重視的外匯存底、利率情勢、資金部位三大指標，目前均呈穩定。其中，最新出爐的8月底外匯存底為4,247.91億美元，續創新高；他研……

Balance of Payments

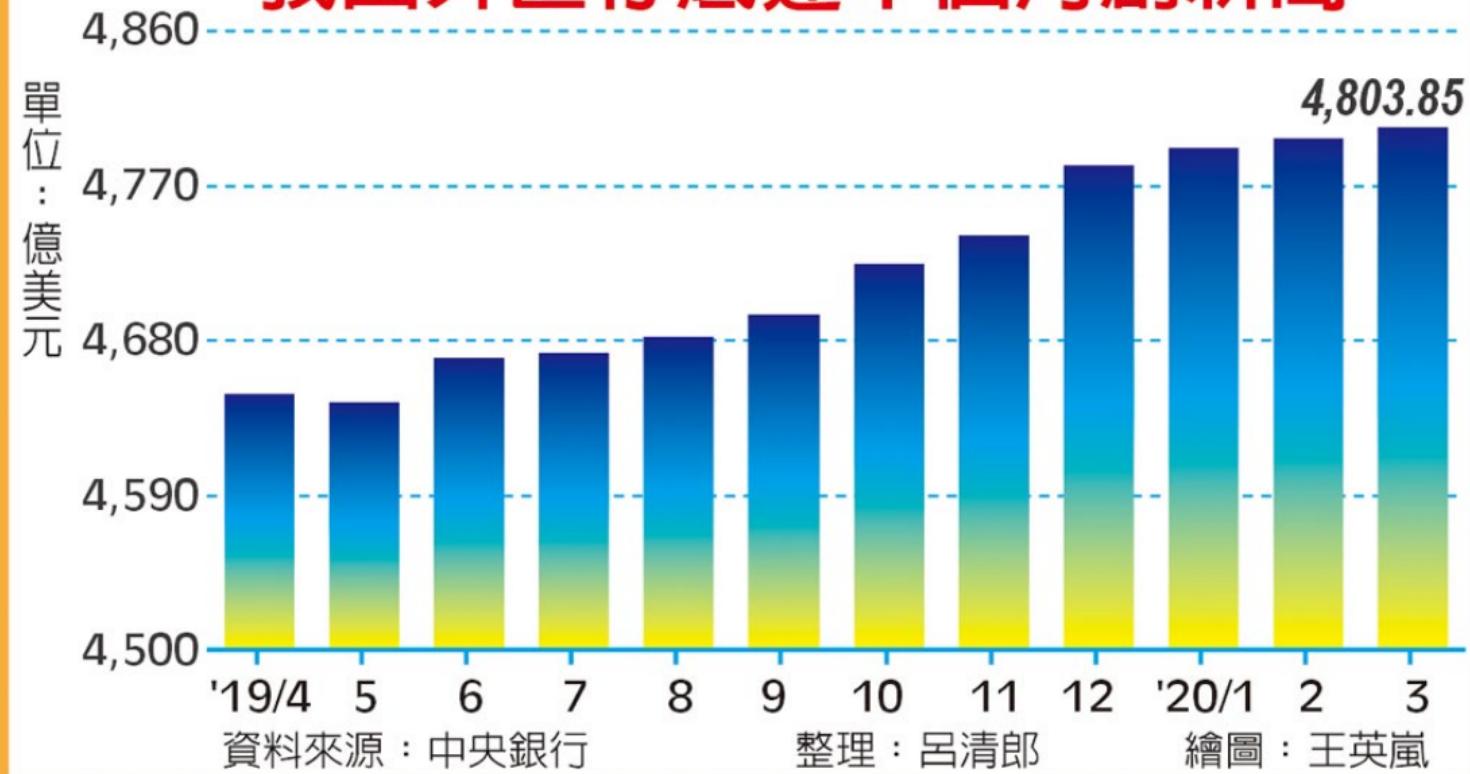
央行神操盤 外匯存底續創高

04:10 2020/04/08 | 工商時報

呂清郎



我國外匯存底連十個月創新高



Balance of Payments

$FA_t < 0$, deficit

金融帳淨流出 上季220.4億美元創新高；錢跑哪去？淨流出持續擴大，國內投資環境魅力不再

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〔作者〕記者呂清郎

〔報導地〕台北報導

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Balance of Payments

中華民國107年8月21日／星期二 <http://www.chinatimes.com>

•集中市場• 上櫃市場• 美元/新台幣•
 ↑ 10699.05 8.09 ↓ 139.71 1.89 ↓ 1:30.760 0.042

台灣投資環境病入膏肓

金融帳 2年淨流出3.8兆

黃珠淵／台北報導

大崩盤 中央銀行最新統計，蔡英文總統上任2年，反映資金投資信心的金融帳淨流出高達1249.1億美元，折合新台幣逾3.8兆元，創歷任總統上任後前2年新高，「把錢逼走」的能耐狠甩扁馬兩朝，反映出國內投資環境不只病入膏肓，更幾近崩潰邊緣。

金融圈直言 啓由自取

「根本是啓由自取！」金融圈說得直接，不用談兩岸關係，台灣勞工問題搞不定、欠水、欠電，幾乎演變成國際笑話，還有誰敢投資？賴揆口號式解決六缺、拚經濟成為空談，呼籲政府不要只會閉眼推新南向，應該睜開眼睛看看資金外逃的問題要如何解決。

央行公布第2季國際收支，以直接投資、證券投資為主，也就是向來被稱做是「錢用腳投票」的金融帳，出現淨流出126.4億美元的驚人數字，除是連續32季淨流出，持續改寫史上最長淨流出紀錄，蔡總統任內無一倖免。

連32季淨流出 史上最長

不過特別的是，若拿歷任總統上任前2年的政績，蔡總統「把錢逼走」的能耐恐讓扁馬自嘆弗如。陳水扁總統上任前2年，金融帳淨流出49.31億美元，只有蔡總統的零頭，馬英九總統上任前2年，淨流入185.32億美元，不只錢沒流出，還逆向灌回

財經政策的照妖鏡，央行罕見提出說帖，強調因為台灣是經常帳順差，所以金融帳淨資產多呈增加，即金融帳多呈流出算是正常，但長期流出、或流出金額居高不下，則技巧性略過不提。

根據央行統計，金融帳連續32季淨流出，累計金額高達3,794.2億美元，約合新台幣11.57兆元，大概是台灣5年的稅收總額。

直接投資方面，即使外資對台投資增加31.6億美元，但被持續向外流出的居民對外直接投資23.7億元大幅削弱，這反映出國內投資環境不只加速惡化，也不看好蔡政府拚經濟的承諾與效果，致企業加速出走。

外資持續抽腿 台股隱憂

證券投資方面，居民對外證券投資淨增加153.9億美元，主要是保險公司投資國外債務證券，至於非居民證券投資減少64.9億美元，這是外資持續抽腿，也為台股後市埋下隱憂。

用腳投票

央行公布第2季國際收支出現淨流出126.4億美元，除是連續32季淨流出，改寫史上最長紀錄。（本報資料照片）

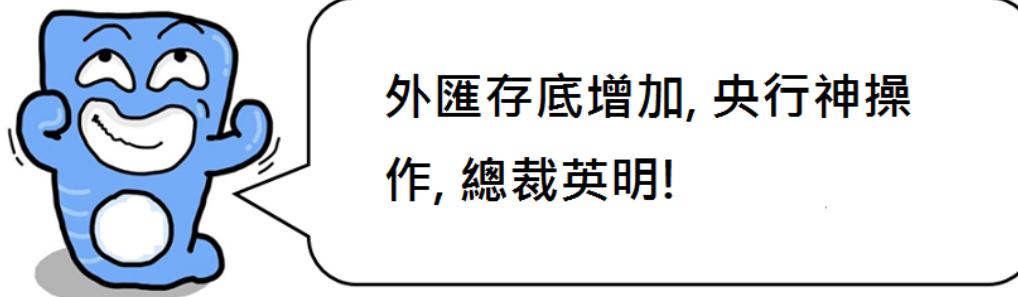
蔡政府上台後 金融帳流出趨勢

季度	淨流出金額（億美元）
2016 Q3	137.8
2016 Q4	171.7
2017 Q1	141.0
2017 Q2	141.7
2017 Q3	175.1
2017 Q4	198.6
2018 Q1	156.8
2018 Q2	126.4
累計	1,249.1

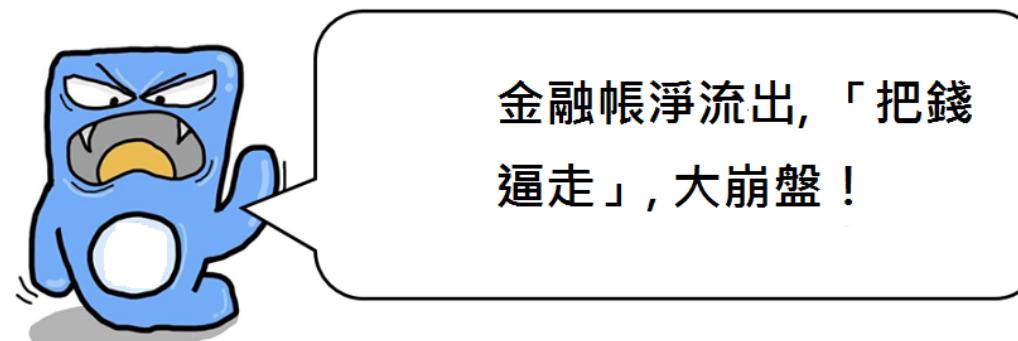
資料來源：中央銀行
製表：黃珠淵

Balance of Payments

official reserves deficit



financial account deficit



Section 2

Global Imbalance

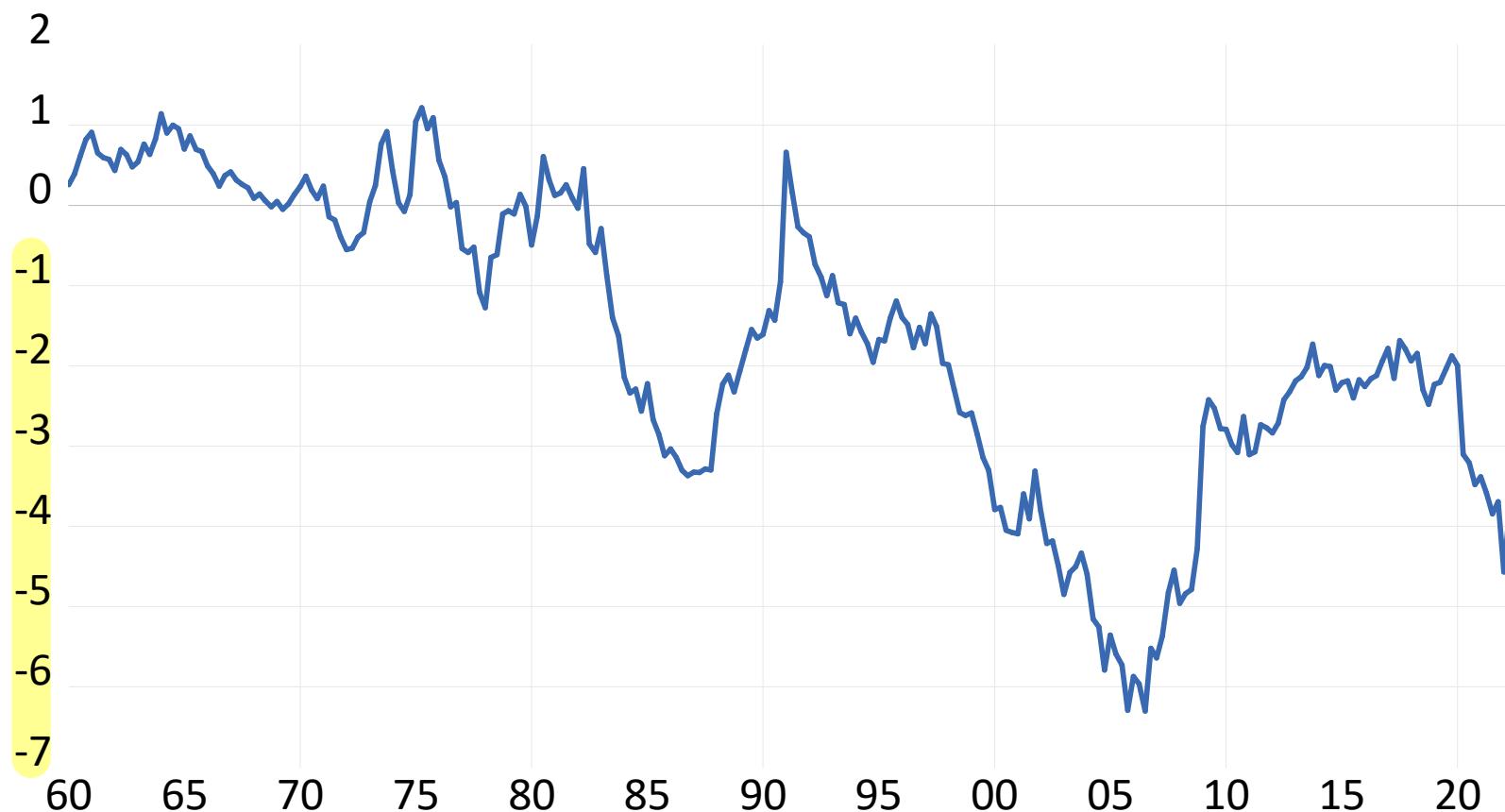
Global Imbalance

- Some countries such as the US and the UK ran large current account deficits, which appeared to have been financed by large current account surplus by China, other emerging markets in East Asia (such as Japan, Korean and Taiwan), and oil exporters.

Current Account Balance: U.S.

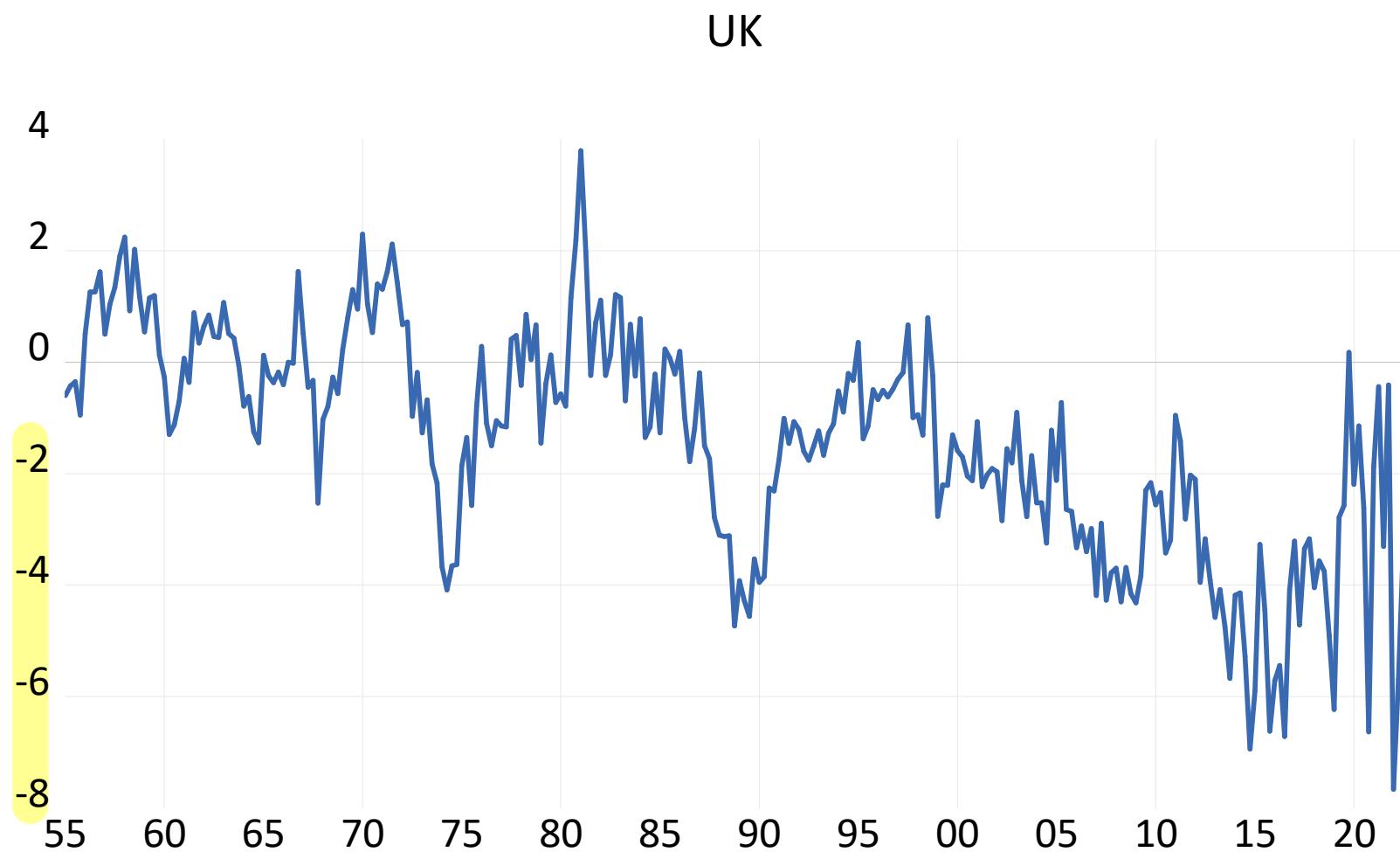
% of GDP

US



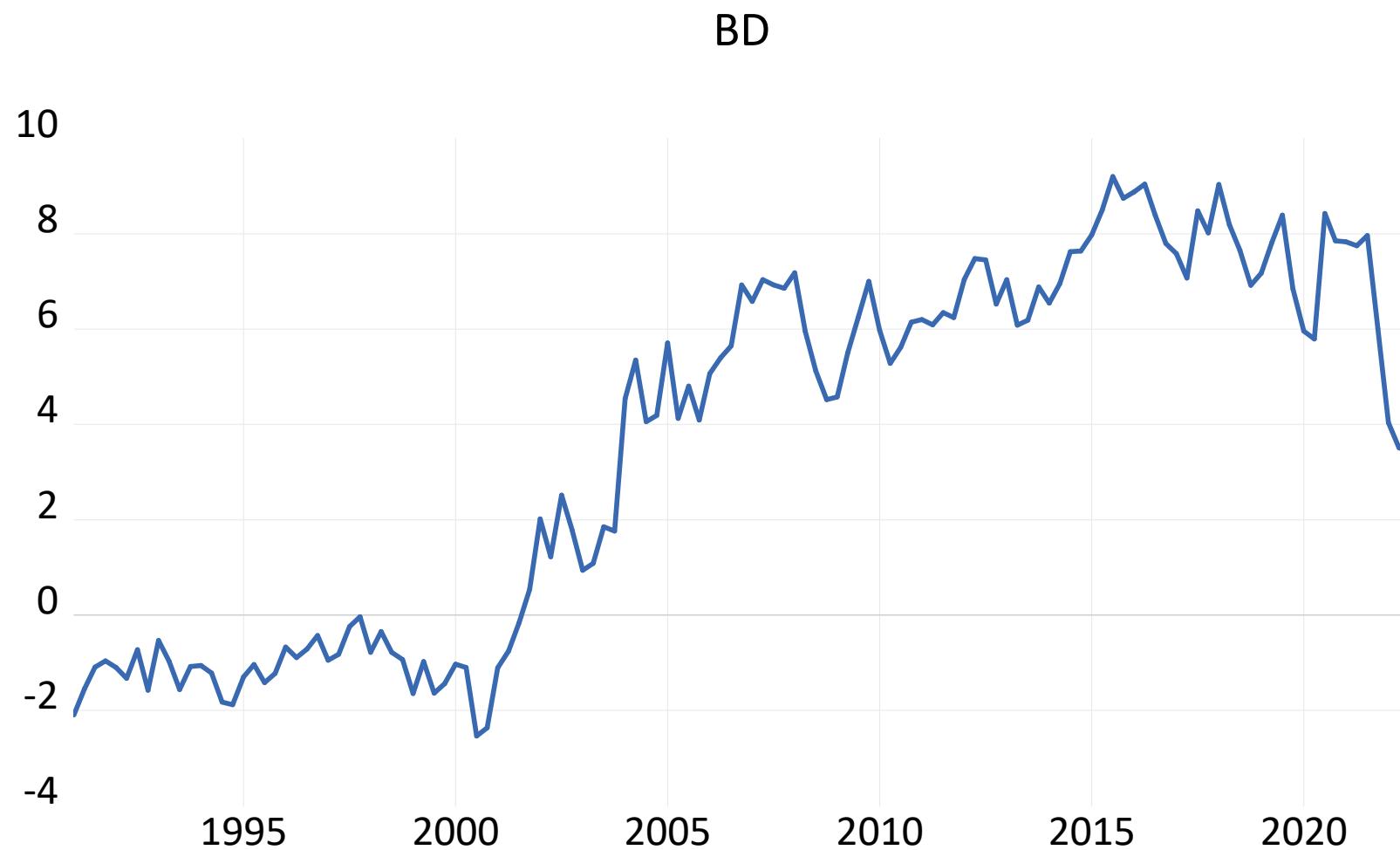
Current Account Balance: U.K.

% of GDP



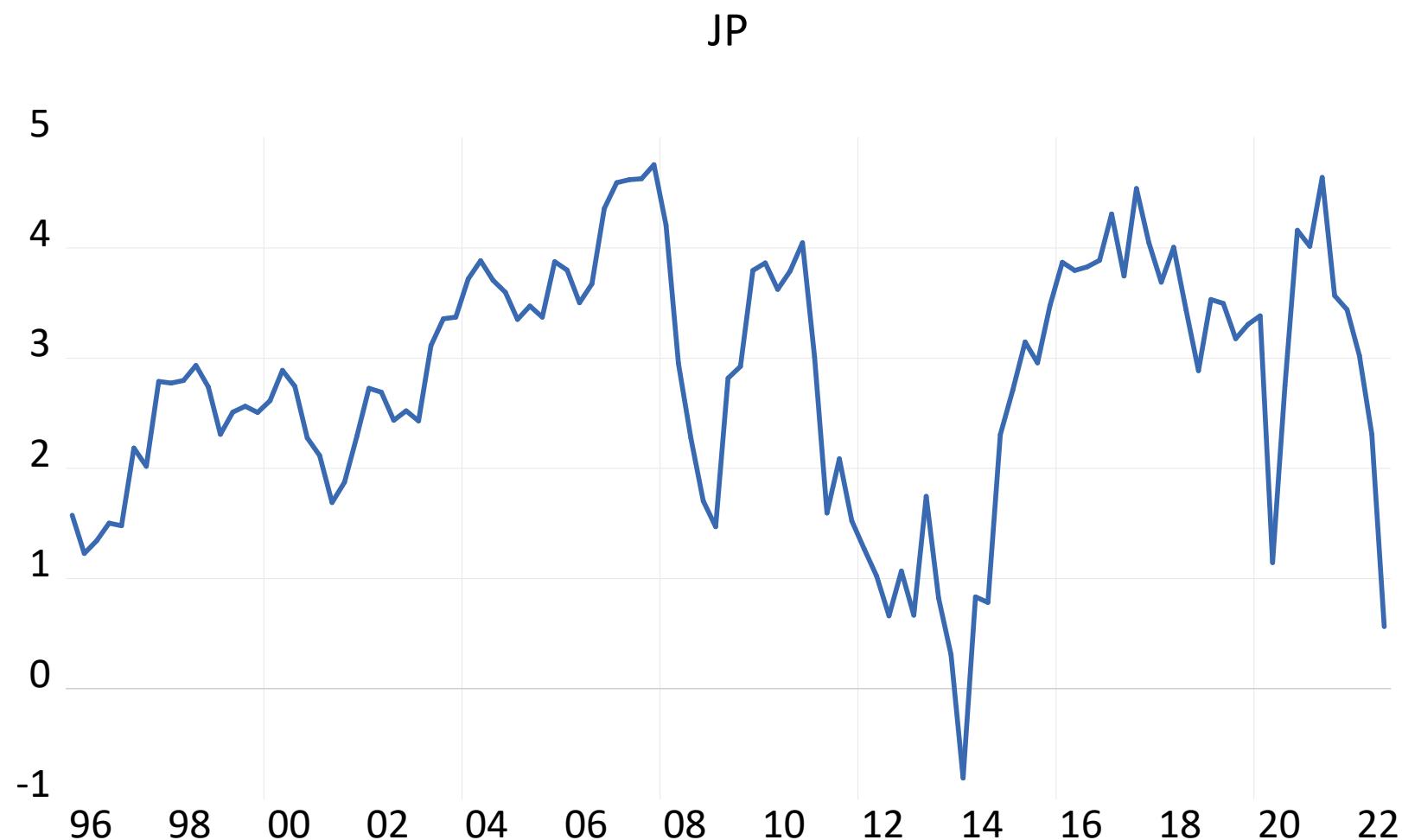
Current Account Balance: Germany

% of GDP



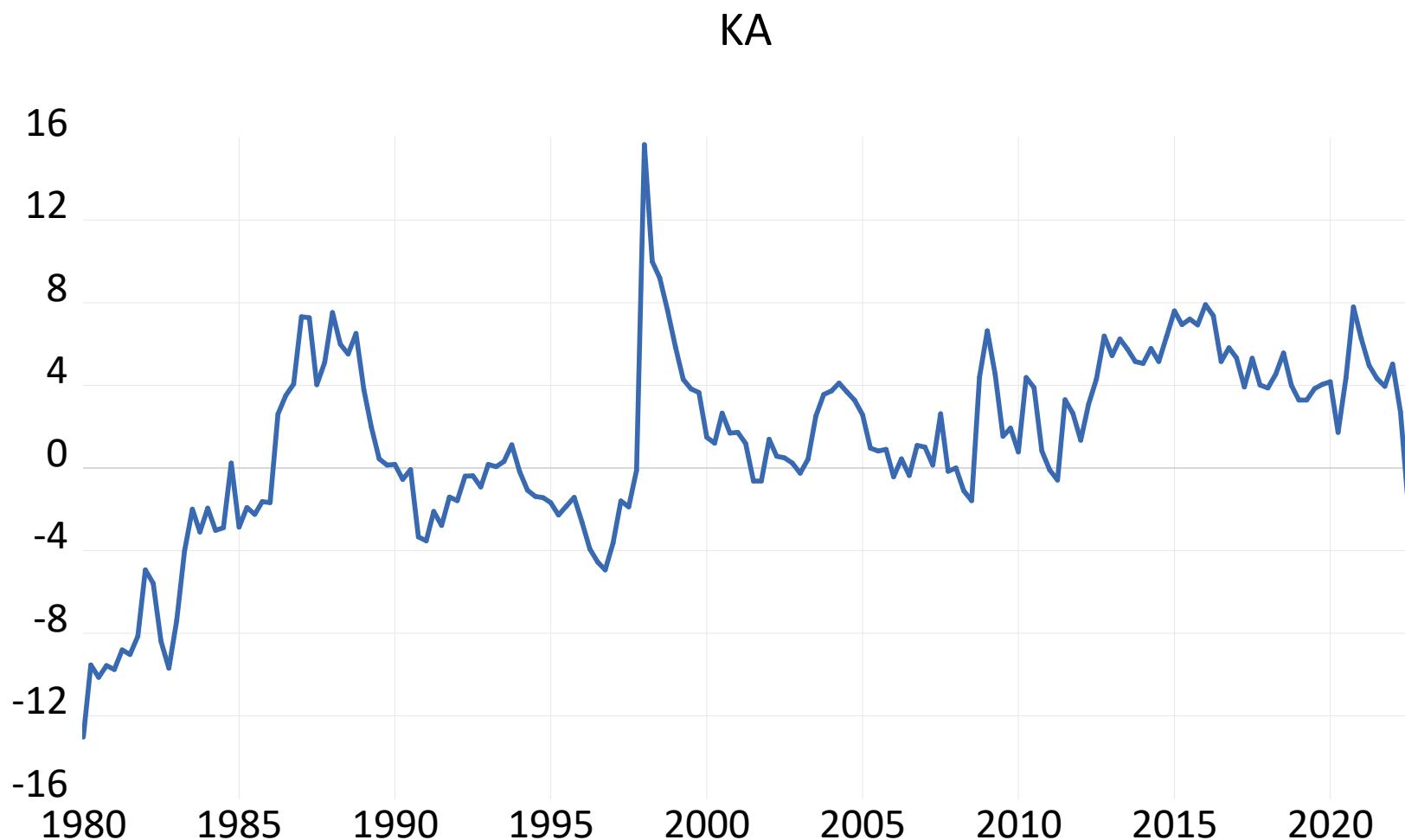
Current Account Balance: Japan

% of GDP



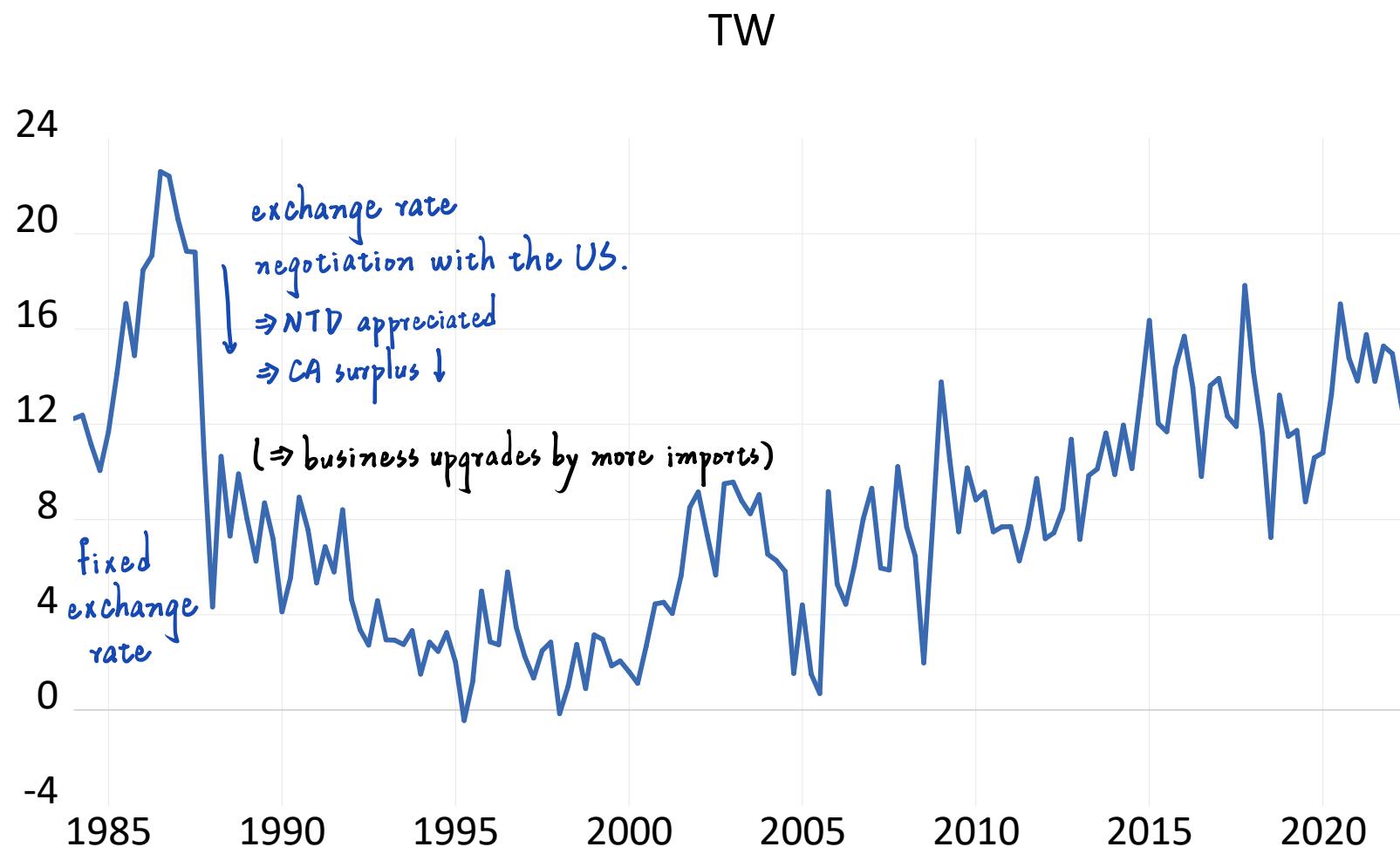
Current Account Balance: Korea

% of GDP



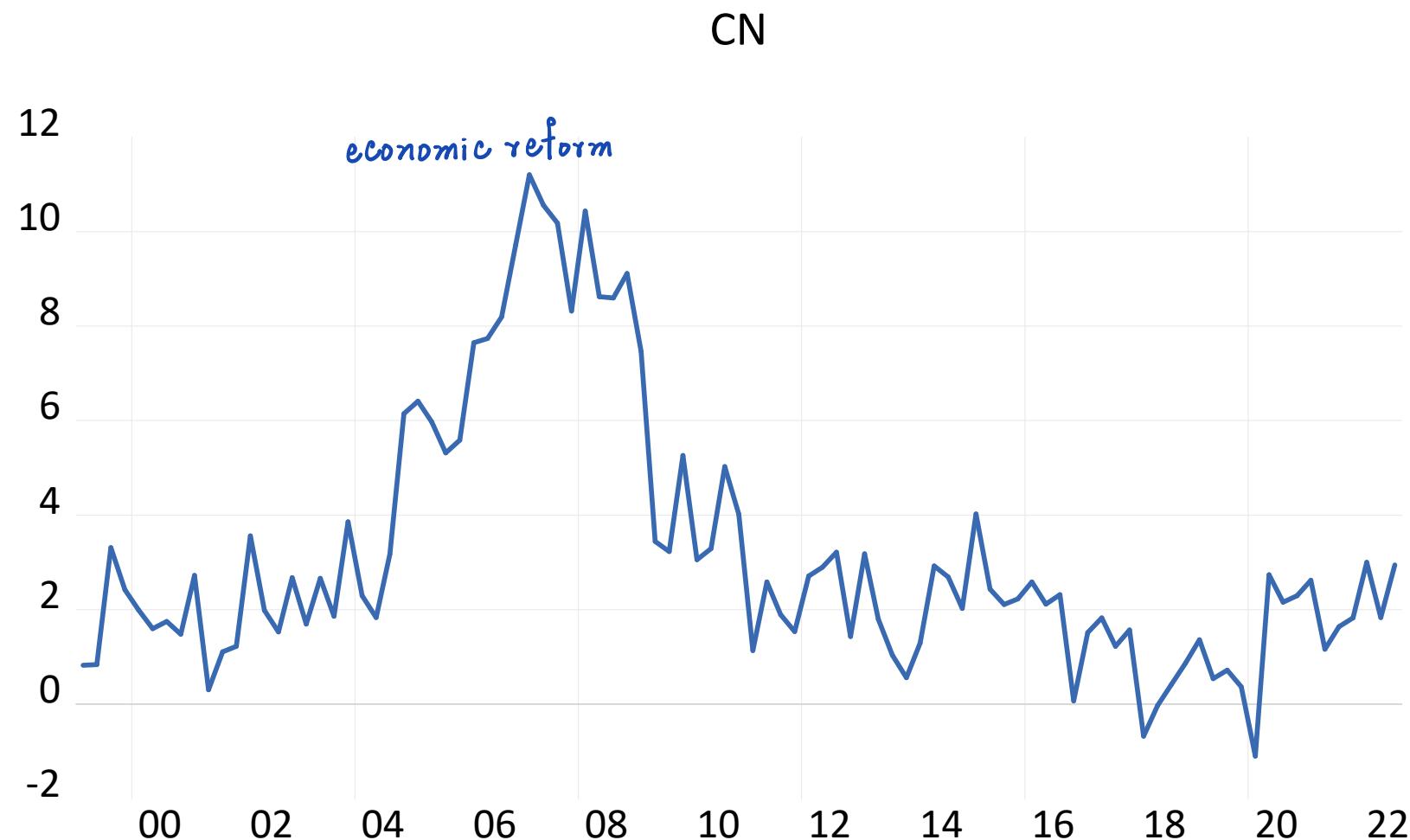
Current Account Balance: Taiwan

% of GDP



Current Account Balance: China

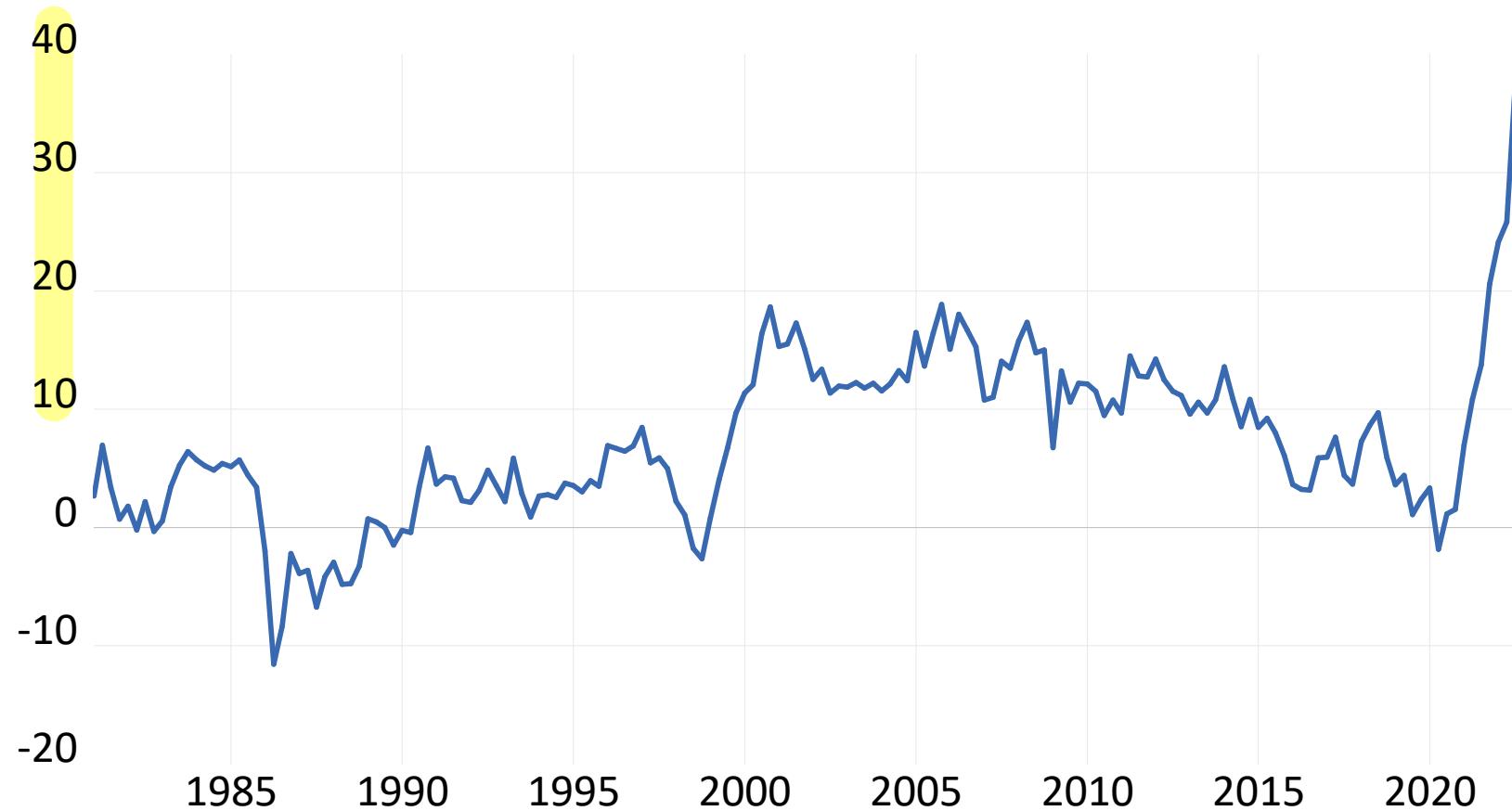
% of GDP



Current Account Balance: Norway *oil exporter*

% of GDP

NO



Global Imbalance

- Possible Explanations

produce much, consume less
● Global Saving Glut/Safe Assets In the US., assets are "safer"

● Modern Mercantilism/Export-led-growth Strategy

● Intervention/Currency Manipulation

● Intertemporal View (Intertemporal Optimization)

● Fiscal Policy future income? patient (time-discounting)?
high income \Rightarrow high government spending

- Let's start with the relationship between the current account and national income accounts.

Section 3

Current Account and National Income Accounts

Current Account vs. National Income

- As you have already known that gross national disposable income ($GNDI$) is equal to Gross Domestic Product (GDP) plus net foreign income (NFI):

$$GNDI = GDP + \underbrace{NFI}_{\substack{\text{usually small,} \\ \text{sometimes omitted}}}$$

- That is,

$$GNDI = [C + I + G + \underbrace{(X - M)}_{NX}] + NFI$$

- So we learn that gross national disposable income less total spending equals the current account:

$$CA \equiv NX + NFI = GNDI - (C + I + G)$$

National Income Accounts

- Rewrite it as

$$\begin{aligned}
 CA &= GNDI - (C + I + G) \\
 &= (GNDI - T - C) - I + (T - G) \\
 &= S^P - I + S^G = S - I
 \end{aligned}$$

- T stands for net taxes
- $GNDI - T - C = S^P$ (= private saving)
- $T - G = S^G$ (= government saving)
- $S^P + S^G = S$ (= national saving)
- Then, *saving glut: $S > I \Rightarrow CA > 0$*

$$CA = S - I < 0 \quad \text{if} \quad S < I$$

Possible Explanations

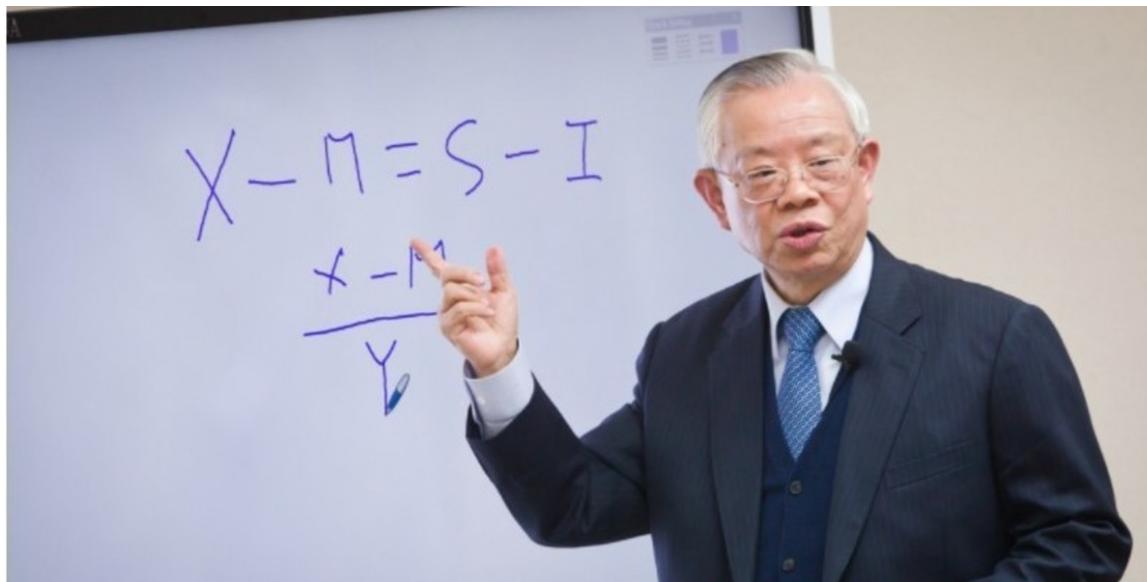
- Possible explanations for large US current account deficit:

$$CA = \underbrace{(GNDI - T - C)}_{S^P} + \underbrace{(T - G)}_{S^G} - I$$

- High consumption: perhaps recession or other temp fall in output.
 ⇒ Just smoothing consumption in face of temporary shocks?
- High investment: justifiable, if raise output in future.
- High Government spending lead to large deficit: the twin deficits hypothesis.
- This kind of discussion may be misleading since in a well-specified model, CA , $GNDI$, C and I would be endogenous variables.
 Cannot "fix" other variables

Possible Explanations

- 2018.8.29 台灣央行所公布的「台灣國際收支資金淨流出的說明」：
“前述國民所得恆等式：假定 $G = T$, 則 $I + (X - M) = S$, 即
 $X - M = S - I$, 一國經常帳順差係反映其超額儲蓄。... 採行
「外需」、「內需」並重之雙引擎策略，擴大內需引擎，增加國內
投資，可降低超額儲蓄及資金淨流出。”



Possible Explanations

- 雖然我們無法確定這裡所謂的“反映”是什麼意思，不過根據其政策建議，我們推測央行所要傳達的訊息是，台灣的經常帳順差是超額儲蓄所造成的，所以透過擴大內需，改善國內投資環境以及擴大公共建設等與央行無關的政策，可增加國內投資，進而減少經常帳順差。
- Again, it is misleading.

Possible Explanations

- Question: what causes CA to move toward surplus or deficit?
- Answer: need a model with micro-foundation (intertemporal approach) which treats all the variables as **endogenous**