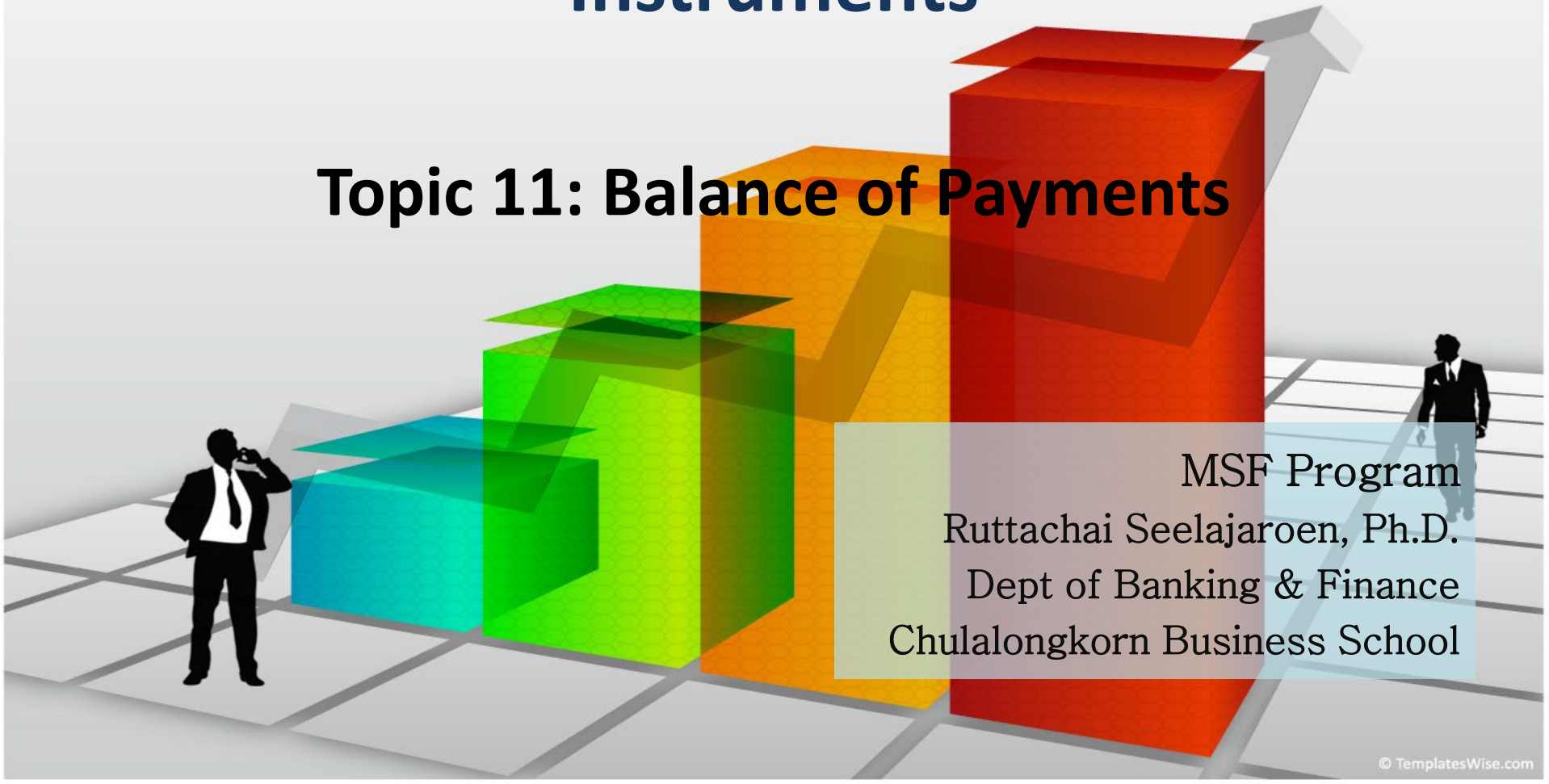
2604697
Financial Markets, Institutions and Instruments

Topic 11: Balance of Payments



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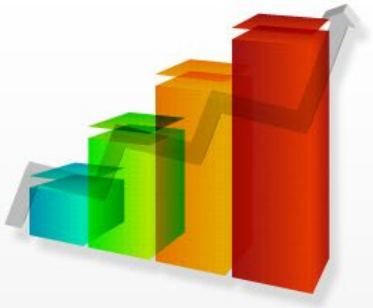


Overview

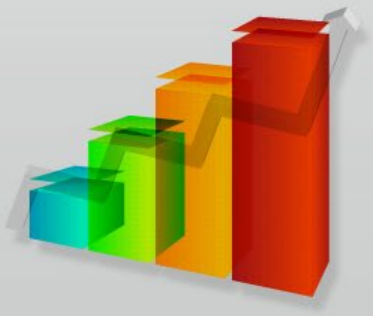
1. Balance of Payments
2. BOP Accounting Principles
3. International Economic Linkages
4. CA and FA Trends in Major Countries

1. Balance of Payments

1.1 Definition

1.2 Components of BOP

1.3 Examples of BOP



▷ Visa > 3 months ⇒ recognized as transaction of Thai resident
▷ But if transfer money back to their home country → exchange btw Thai and foreign country

1.1 A Brief Description of the Subject

- The balance of payments or BOP is an accounting statement that summarizes all economic transactions between residents of the home country and residents of all other countries over a time period.
  - Transactions affecting a country's FX (foreign exchange) position are recorded on the BOP, for example,
    - International trades, ↱ Thailand imports or exports goods to foreign countries <product movements>
    - International investments (portfolio investment and FDI), <capital movement> • capital inflow: foreign buy property ⇒ Thailand lose claims (shdr / debt holder)
      ↳ foreigners have more claim on asset than Thailand | on assets
      • capital outflow: Thai get claim on foreign asset
    - Unilateral transfers → e.g. Foreign teachers send money back to their home country ("Secondary Income")

land deed - claim on land

- The BOP consists of 3 main accounts.

1.2 Components of BOP

1. Current Account (CA)
   - Balance of Trade on goods and services
   - Primary income
   - Secondary income
2. Capital and Financial Account (FA)
   - Net foreign direct investment
   - Net portfolio investment (equity and liability)
   - Other financial items

X. Net Errors and Omissions

3. Official Reserve Account (RA) = changes in official reserves

Thailand Balance of Payments 2018-21 (USD mio)

		2018	2019	2020 p	2021 p
1	**Current Account (CA)**	**28,423**	**38,044**	**21,178**	**-11,018**
2	A. Goods and services	44,922	51,047	26,564	132
3	1. Goods	22,388	26,725	40,856	39,885
4	Exports (f.o.b.)	251,108	242,701	226,984	270,564
5	Imports (f.o.b.)	228,720	215,976	186,128	230,679
6	2. Services	22,535	24,323	-14,292	-39,753
7	Services receipts	77,474	81,178	30,989	24,502
8	Services payments	54,939	56,855	45,281	64,255
9	B. Primary income	-24,515	-20,186	-11,440	-18,588
10	Primary Income receipts	8,730	11,117	12,323	13,439
11	Primary Income payments	33,244	31,303	23,763	32,027
12	C. Secondary income	8,015	7,182	6,055	7,438
13	**Capital and Financial Account (FA)**	**-13,814**	**-15,717**	**-11,948**	**-2,126**
14	A. Capital account	-611	4	43	0
15	B. Financial account	-13,204	-15,721	-11,991	-2,126
16	1. Direct investment	-4,182	-5,604	-23,847	-5,651
17	2. Portfolio investment	-5,864	-8,798	-12,148	-11,468
18	3. Financial Derivatives	134	822	-410	-1,156
19	4. Other investment	-3,292	-2,141	24,414	16,149
20	Net errors and omissions	-7,342	-8,744	9,123	6,048
21	Overall balance	7,266	13,583	18,353	-7,097
22	**Official Reserve Account (RA)**	**-7,266**	**-13,583**	**-18,353**	**7,097**

U.S. Balance of Payments for 2020

	Credits	Debits
Current Account		
[1] Exports	2,134.4	
[1.1] Goods	1,428.8	
[1.2] Services	705.6	
[2] Imports		−2,811.1
[2.1] Goods		−2,350.8
[2.2] Services		−460.3
[3] Primary income	957.9	−769.4
[4] Secondary income	166.3	−294.2
Balance on current account [[1] + [2] + [3] + [4]]		−616.1
Capital Account	0.4	−5.9
Balance on capital account		−5.5
Financial Account (excluding official reserves)		
[5] Direct investment	211.3	−311.7
[6] Portfolio investment	715.9	−220.0
[6.1] Equity securities	648.4	−241.8
[6.2] Debt securities	61.7	21.8
[6.3] Derivatives, net	5.8	
[7] Other investment	535.1	−268.6
Balance on financial account [[5] + [6] + [7]]	662.0	
[8] Statistical discrepancies		−31.4
Overall balance	9.0	
Official Reserve Account		−9.0

huge trade deficit
mainly bcs import > export
current account deficit
surplus
deficit
sum
war outside
surplus on FA
net importer of capital
↳ many assets in US are other foreign's claim
gain on reserve assets

BOP Components

- Current Account records the monetary value of international flows associated with transactions in goods, services, income flows and unilateral transfers.
  - Goods and services
    - Receipts/payments on merchandize and service trade
  - Primary Income
    - Receipts/payments on investment returns (i.e., dividends, profits and interest)
    - Receipts/payments on employment of non-residents
  - Secondary Income (Unilateral transfers)
    - Receipts/payments on money gift or gifts in kind

BOP Components

- Receipts/payments on services include:
  - Travel and tourism
  - Trade transportation
  - Insurance
  - Education
  - Financial, technical and marketing services
  - Telecommunication
  - Use of property right (royalty and franchise fees)
  - Professional and consulting services
- A surplus in CA implies that the nation has transferred more resources (i.e., goods, services) to foreign countries than it has received from them.

BOP Components

- Capital and Financial Account records all international purchases or sales of assets, such as, titles to real estate, corporate stocks and bonds, government securities, bank deposits, etc.
  - Capital transactions consist of capital transfers (such as debt forgiveness, migrants' goods and financial assets) and the acquisition and disposal of certain nonfinancial assets (such as rights to natural resources, patents, copyrights, trademarks, franchises and lease).
  - Financial transactions include financial transactions from private sectors, government and official settlement transactions, excluding changes in official reserves.

BOP Components

- Financial transactions can be classified into 4 types.
  - Direct investment: acquisitions of controlling interest (stock ownership $> 10\%$) in businesses.
  - Portfolio investment: purchases/sales of financial securities (bonds, stocks, etc.)
  - Financial derivatives: purchases/sales of financial derivatives (forwards, futures, options, etc.)
  - Other investments: lending/borrowing in banking systems and in trade credits.
- Normally the balance on capital transactions is very small.

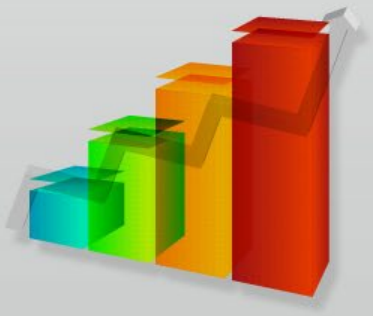
BOP Components

- Official Reserve Account records the change in official reserve assets held at the central bank.
  - Official reserve assets held by central banks include
    - Foreign currencies
    - Gold
    - Special Drawing Rights (SDR)
    - Reserve deposited at the IMF
  - Reasons for holding reserve assets:
    - Liquidity purposes
    - Foreign exchange market intervention purpose

2. BOP Accounting Principles

2.1 Recording Transactions to BOP

2.2 Examples



if transaction is qualified as BOP transaction
↳ CB record by using double entry book ⇒ debit (-), credit (+) with equal amount

2.1 Recording Transactions on BOP

IMF comes up with this method

- Double-entry bookkeeping
  - Each transaction is recorded twice, one as a credit and the other as a debit of an equal amount.
  - The BOP bottom line is always zero.

sum of all account must be zero

$$CA + FA + RA \equiv 0$$

  - The overall balance is sum between CA and FA

newspaper

$$\text{Overall-Balance} = CA + FA$$

2.1 Recording Transactions on BOP

- **Credit transactions** are those involving the receipt of payments from foreigners and are entered with a **positive sign** to reflect **currency inflows.**

CA
- Export, primary/secondary income receipts

FA
- Capital inflows
  - ↑ foreign claims on domestic assets
  - ↓ domestic claims on foreign assets
  - Capital inflows result in a decrease in net private assets of the country's residents.

RA
- Decreases in official reserves

2.1 Recording Transactions on BOP

- Debit transactions are those involving the making of payment to foreigners. They are entered with a negative sign to reflect currency outflows.
  - Import, primary/secondary income payments
  - Capital outflows
    - ↓ foreign claims on domestic assets
    - ↑ domestic claims on foreign assets
    - Capital outflows result in an increase in net private assets of the country's residents.
  - Increases in official reserves

2.2 Examples

- A Thai firm sells rice to a US firm for US$1 m. The US firm pays for the order by writing a check drawn on its account at a U.S. bank. The Thai firm then places the check at its bank in Bangkok to draw the money. (to convert to THB, use the exchange rate at the time of the transaction)

Export (CA)		**+$1 m.**
Other investment* (FA)	**–$1 m.**	

*The deposit of Thai residents with foreign bank ↑

- A Thai firm exports $1 m. worth of goods to a customer in Malaysia and gives 3 months credit term to the customer.

Export (CA)		**+$1 m.**
Other investment* (FA)	**–$1 m.**	

*A loan given by Thai residents ↑

Example of International Payments

- The U.S. firm opens a deposit account with a U.S. bank.

US Bank	
▪ Cash **$2 mio**	▪ Deposit by US firm $2 mio

- The Thai firm places the cheque with a Thai bank. Then, the Thai bank draws the money from the US bank.

most currency use to counterpart is USD

US Bank		TH Bank	
▪ Cash **$2 mio** (never move)	▪ Deposit by US firm **$1 mio** (this move (claim))	▪ Deposit with US bank **$1 mio**	▪ Deposit by TH firm **$1 mio**
	▪ Deposit by TH bank **$1 mio**		

same account

TH bank (claim) TH firm

TH bank has claim on US assets

move → outflow !!! → record as ⊖ number

- Now the Thai bank has more claims over U.S. assets.

2.2 Examples

- A Thai investor buys $1 m. of shares in a company listed on the NYSE, equivalent to less than 10% of the voting rights in the company. The shares are paid for using his bank account in Thailand.

Other investment* (FA)		**+$1 m.**
Portfolio investment (FA)	**–$1 m.**	

*The deposit of Thai bank with foreign bank ↓

- A Thai bank exchanges THB for $1 m. on the FX market.

Other investment* (FA)		**+$1 m.**
Other investment (FA)**	**–$1 m.**	

*The deposit of foreign bank with Thai bank ↑

**The deposit of Thai bank with foreign bank ↑

2.2 Examples

- An expat working in Thailand receives a payment from a Thai company that he works for. ซึ่งไม่ปันทึกอนกว่าง: ส่งเงิน กลับประเทศ

  Not recorded on BOP

- The expat send the money home to support his children's education.

  Other investment* (FA) **+$1 m.** foreign has more claim on TH asset

  Secondary income (CA) **–$1 m.**

  *The deposit of Thai bank with foreign banks ↓

3. International Economic Linkages

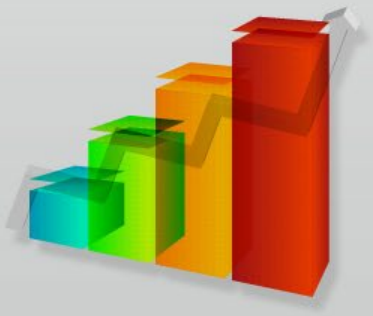
3.1 BOP and Exchange Rates

3.2 CA Deficit and Foreign Indebtedness

3.3 Does CA Deficit Imply a Weak Economy

3.4 Possible Solutions to Chronic CA Deficits

3.5 CA and FA Trends in Major Countries



Reserve asset > 0
< 0

3.1 BOP and Exchange Rate

a lot of movement to defend currency value

means CB intervene by using RA

- Under a fixed rate system, if the overall balance is not zero (CA + FA ≠ 0), the central bank will intervene the foreign exchange market using its foreign reserves (RA).

trade surplus
capital inflow
↳ currency becomes stronger → CB buy foreign currency ⇒ negative RA
↳ Money supply THB ↑ → เงินเฟ้อ

  - If CA + FA > 0, the central bank will buy foreign currency causing an increase in foreign reserves (RA < 0).

deficit → HC weaker & foreign currency stronger → sell foreign currency ⇒ ⊕ RA to BOP not zero

  - If CA + FA < 0, the central bank will sell foreign currency causing a decrease in foreign reserves (RA > 0).

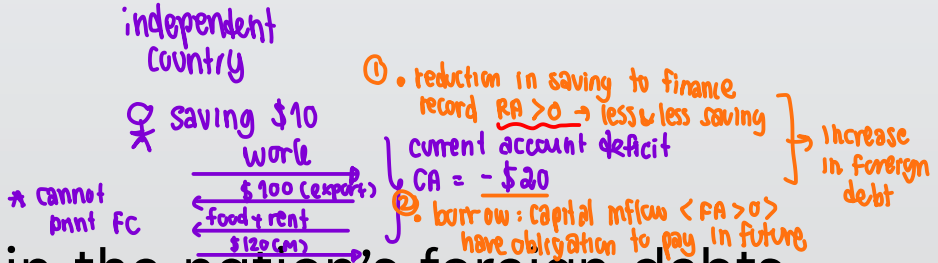
- use RA to gain external balance → thus RA is key

3.1 BOP and Exchange Rate

- Under a floating rate system, the imbalance between CA and FA is automatically eliminated through changes in exchange rate. There is no foreign exchange market intervention (FA = 0).
  - If CA + FA > 0, there will be pressure on the exchange rate to decrease (home currency appreciate). This will automatically reduce the surplus on the overall balance.
  - If CA + FA < 0, there will be pressure on the exchange rate to increase (home currency depreciate). This will automatically reduce the deficit on the overall balance.

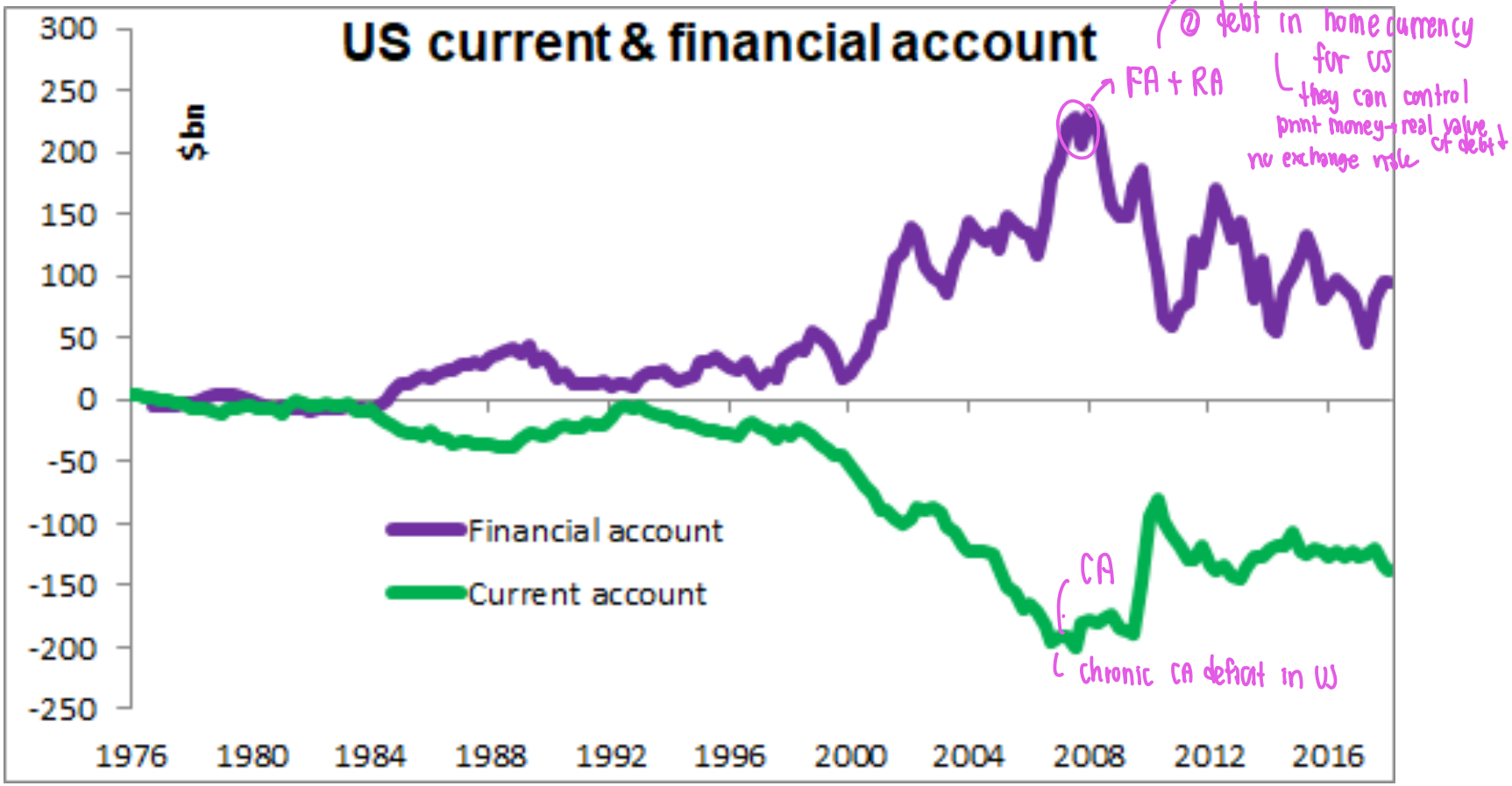
3.2 CA Deficit and Accumulation of Foreign Debts

- FA+RA measures net inflows(+)/outflow(-) of capital (NIC).
  - If FA + RA > 0, foreigners claims on domestic assets increase relative to domestic claims on foreign assets.
    - This implies an increase in foreign debts.
  - If CA < 0
    - FA + RA > 0
    - An increase in the nation's foreign debts.
  - If CA > 0
    - FA + RA < 0
    - A decrease in the nation's foreign debts.



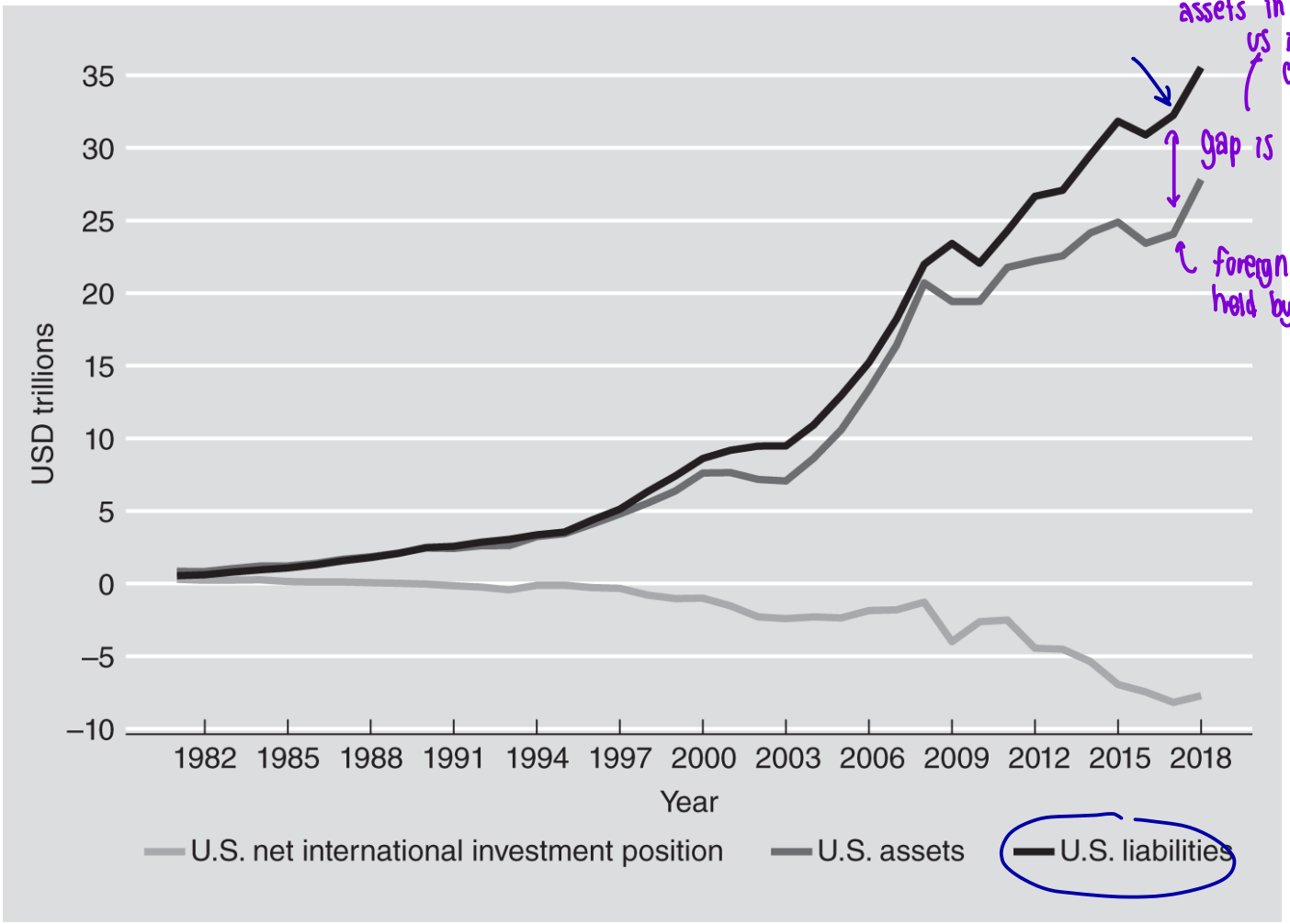
used to be creditor
, become world's biggest international borrower

The U.S.'s CA and FA, 1976-2016 (U$ bn)



Source: https://www.quora.com/How-does-the-US-finance-current-account-deficit-Is-it-sustainable

The U.S. Net International Investment Positions



Due to chronic CA deficits, the US has become a net importer of capital causing the U.S. to become the world largest net international borrower. In 2018, the U.S. GDP was around $20.5 trillion.

3.2 CA Deficit and Accumulation of Foreign Debts

- Fact
  - Over 1982-2003, U.S. current account deficits have averaged $183 billion per year. $4 trillion worth of assets have been transferred to foreign ownership.
  - As of Dec 2022, The U.S. net international investment position was -$16.12 trillion compared to -$18.12 trillion at the end of 2021.

The United States Current Account Balance 1980-2014 (billions of US$)

foreign inv buy US gov bond ⇒ low risk → low rtn
but US invest in more risky asset → higher return

U.S. Balance-of-Payments, 1980–2014 (billions of dollars)

Year	Merchandise Trade Balance	Services Balance	Goods and Services Balance (A)	Income Receipts and Payments Balance (B)	Unilateral Transfers Balance (C)	Current Account Balance
1980	–25.5	6.1	–19.4	30.1	–8.3	2.4
1984	–112.5	3.3	–109.2	30.0	–20.6	–99.8
1988	–127.0	12.2	–114.8	11.6	–25.0	–128.2
1992	–96.1	55.7	–40.4	4.5	–32.0	–67.9
1996	–191.3	87.0	–104.3	17.2	–42.1	–129.2
2000	–452.2	76.5	–375.7	–14.9	–54.1	–444.7
2004	–665.4	47.8	–617.6	30.4	–80.9	–668.1
2008	–820.8	139.7	–681.1	127.6	–119.7	–673.2
2012	–735.3	195.8	–539.5	198.6	–134.1	–475.0
2014	–735.8	231.1	–504.7	217.9	–123.8	–410.6

Source: From U.S. Department of Commerce, *Survey of Current Business*, various issues.

good trade
main contributor of trade deficit
less competitiveness
more competitive
US has chronic deficit
financial services
consulting services

US Current Account deficit per year is around 3-4% of GDP. It does not seem to be large. However, the US has been experiencing Current Account deficit for a long period of time. This could potentially result in a huge pile of external debt.

3.3 Does CA Deficit Imply Weak Economy?

- So far, we described a country's capital and financial flows as responsive to developments in the current account.
- The process can, and often does, work the other way round.
- For example
  - BoT increases interest rate (i_{TH}) $\rightarrow$ FA > 0 $\rightarrow$ THB appreciates $\rightarrow$ CA < 0
  - A significant GDP growth in Thailand (Y_{TH}) $\rightarrow$ FA > 0 $\rightarrow$ imports of capital goods $\uparrow$ $\rightarrow$ CA < 0
- Hence, CA deficit is not necessary a sign of weak economy.

3.3 Does CA Deficit Imply Weak Economy?

- From GDP equations

  [1] Aggregate Expenditure: $Y = C + I + G + (X - M)$

  by household → consumption; commercial sector; gov; foreign sector

  [2] National Income (NI): $Y = C + T + S$

  & value of final product

  Household → use wage to consume, pay tax, and save

  labor (owner of human capital) → get wage
  land (owner of property) → rent
  entrepreneur → profit
  capital → interest

  I want to focus on whatever we produce in country

- Equate [1] and [2]

  current account balance

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

  both belong to private sector

  $=$ Net Private Savings + National Budget Balance

  $=$ Overall Savings-Investment Balance

If no (T-G) & investment demand > saving (too much / too little) → importing capital ⇒ create CA deficit

if there's gov; (T-G) can cause CA deficit as well

If have CA deficit problem ⇒ 1) encourage household to save more
2) gov increases tax or less spending

increase tax → political suicide

(In Thailand we have VAT charge to consumption
↳ original 10% ⇒ 7%)

politician doesn't like this
↳ policy encourage people to spend more
bcs when people save more → consume ↓ → GDP ↓

3.3 Does CA Deficit Imply Weak Economy?

national income (NI) ↓ national spending (NS)

- From $Y = C + I + G + X - M$,

  foreigner spending → not export

  - $C + I + G$ reflects national spending or NS (not in the sense of total output). Thus, we may write, $NI = NS + (X - M)$

    labor intensive (tourism) → hard to increase productivity

  - If $X - M < 0$, then $NS > NI$

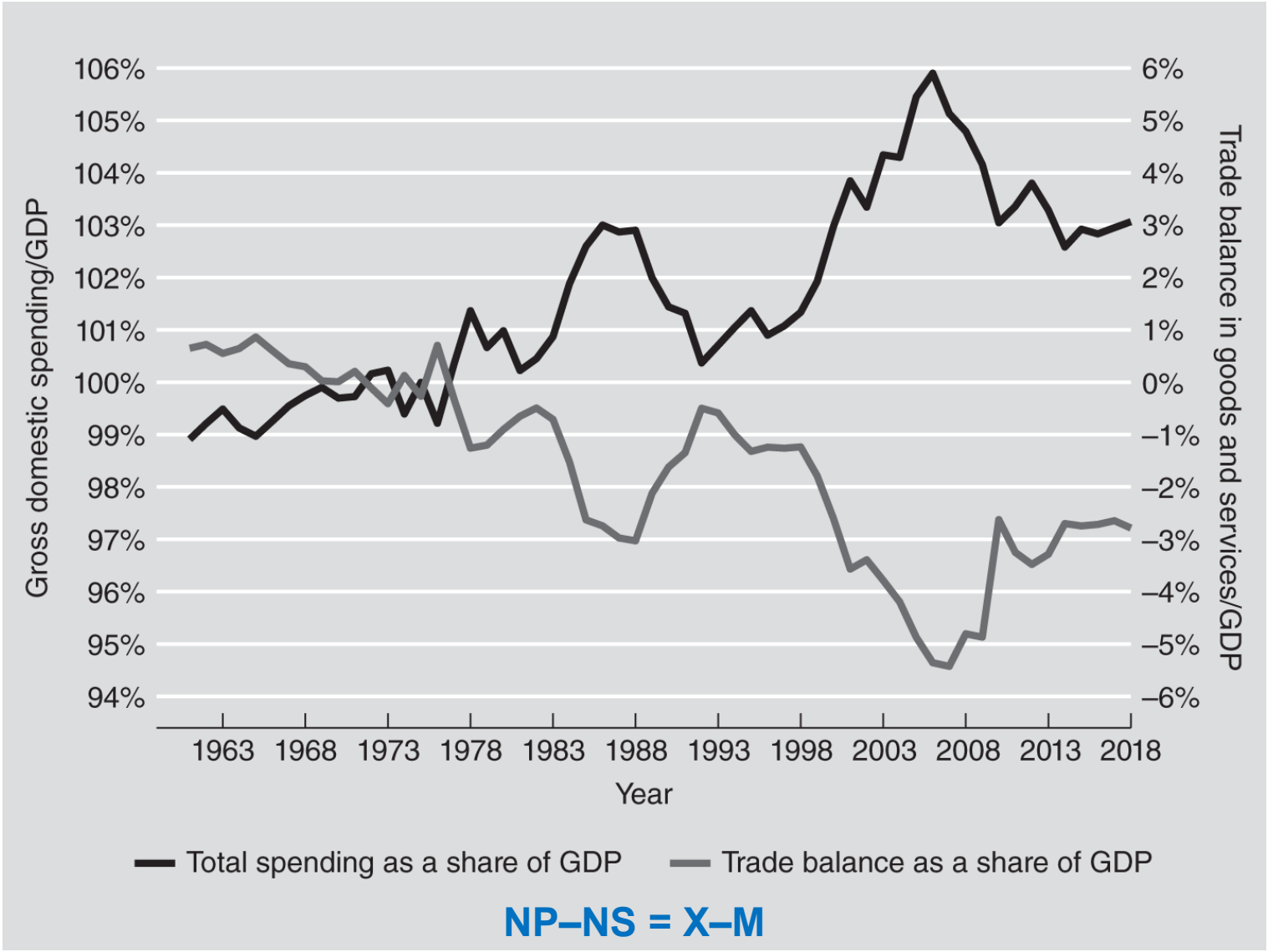
- Therefore,

$$NI - NS = X - M \quad (X - M < 0)$$

- Combine with the result from previous slide

$$NI - NS = X - M = (S - I) + (T - G)$$

The U.S. NP/GDP vs. CA/GDP



NP–NS = X–M

3.3 Does CA Deficit Imply Weak Economy?

- Implications:
  - Low (high) rate of saving relative to domestic investment (i.e., a net importer (exporter) of capital) causes CA deficit (surplus).
  - High (low) national spending relative to nation products causes CA deficit (surplus). The excess demand for consumption must be acquired through import.
  - Countries may experience CA deficit during high economic growth.

apart from macro fundamental

3.4 Possible Solutions to Chronic CA Deficits

- Chronic CA deficit could potentially create problems.
- Possible approaches to solve chronic CA deficit include:
  - Exchange rate policy: Devaluation
  - Trade policy: Import tariffs/quotas, Export promotion
    - Directly affect the amounts of imports and exports
  - Improving economic fundamentals
    - Increase aggregate savings relative to domestic investments.
    - Raise national product relative to national spending

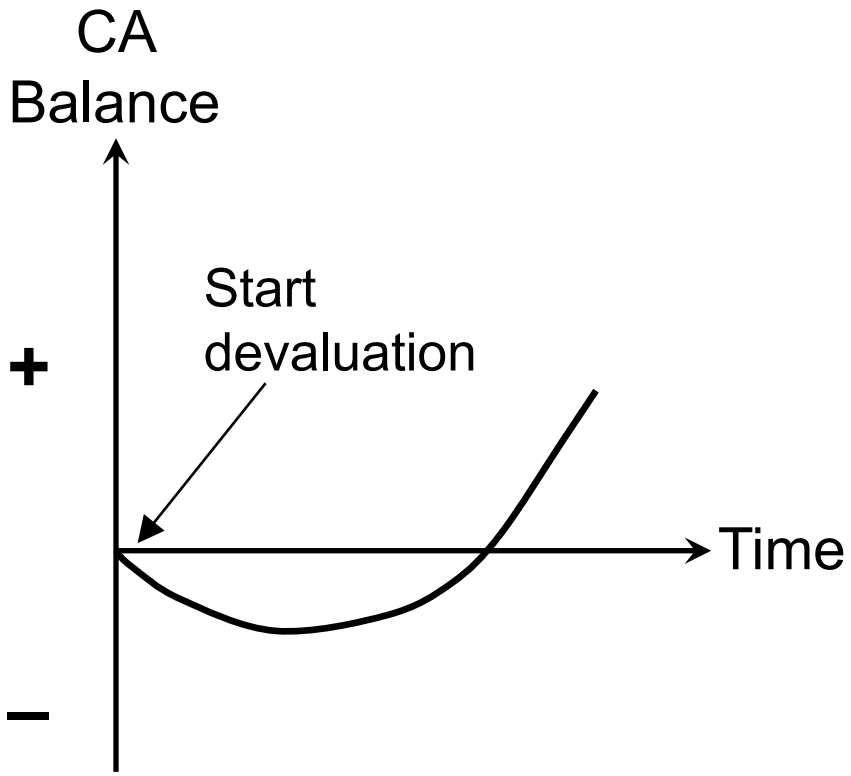
J-curve effect
→ encourage export & consume more in the country
when oil price ↑ unless permanent change
& people aren't willing to change consumption behavior pattern

3.4 Possible Solutions to Chronic CA Deficits

- Devaluation
  - Devaluation is likely to be ineffective
    - It takes time for changes in currency value to affect value of trade. Why?
  - J-Curve effect: A decline in currency value will initially worsen the deficit before improvement.
    - Why?
  - In longer term, the CA deficit may not be improved even when the lower currency value has taken effect.
    - Why?

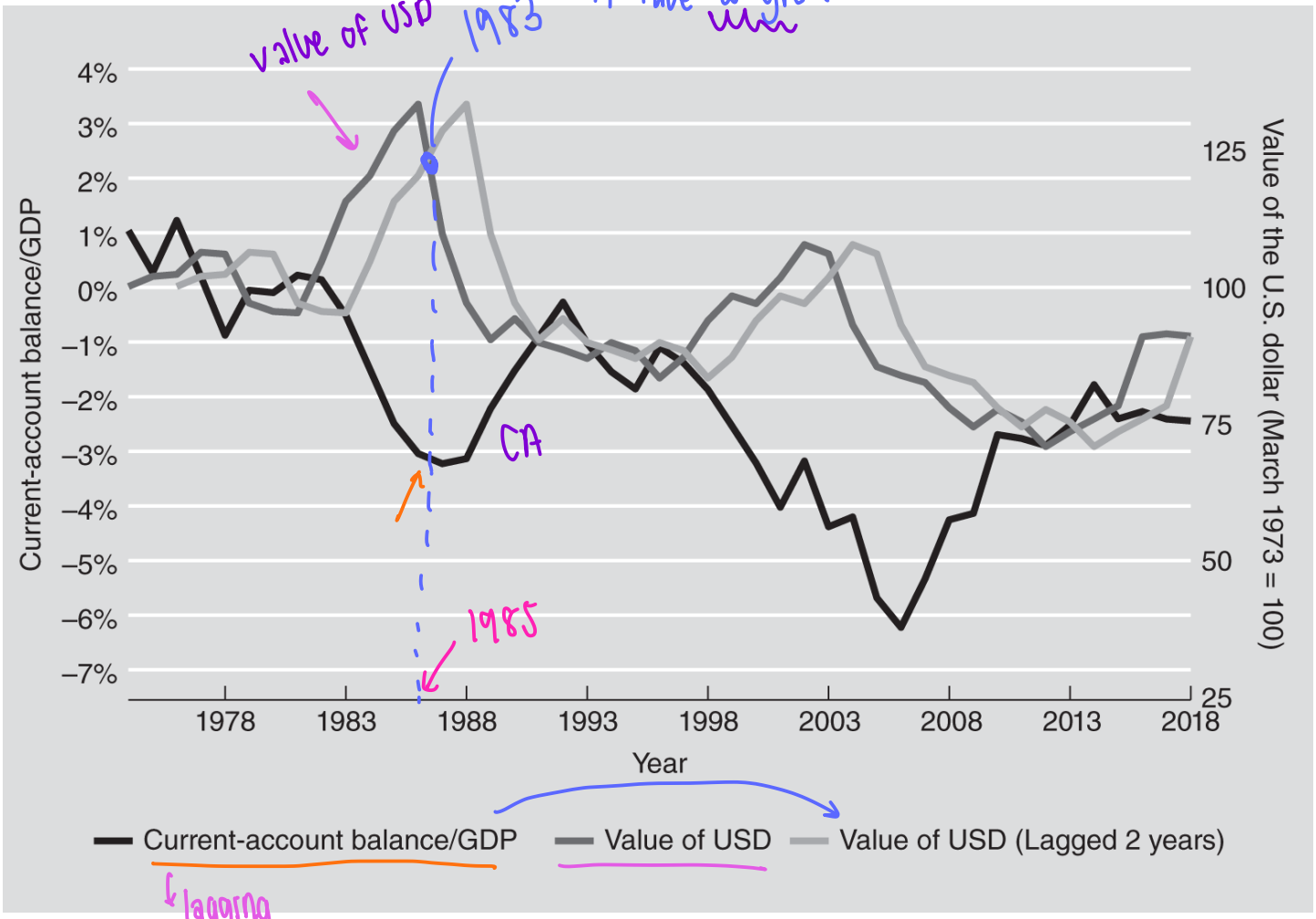
Not all devaluation works

The J-Curve Effect



The J-Curve effect argues that devaluation is likely to be ineffective to improve CA balance, especially, in the short-run. This is because consumption behaviors are slow to change. However, in the long-run, foreign competitors have time to improve their efficiency/productivity. Therefore, devaluation may also be ineffective in the long-run.

The U.S. CA Balance vs. the Dollar



3.5 CA and CA Trends in Major Countries

- The following table shows the trend in CA and FA of 5 major countries.
- Since 1994, CH always has CA surpluses. Over the last 10 years, CH has become the net exporter of capital.
- JP has always been running CA surpluses.

CA and FA Accounts of 5 Major Countries

	China		Japan		Germany		United Kingdom		United States	
Year	BCA	BFA	BCA	BFA	BCA	BFA	BCA	BFA	BCA	BFA
1982	5.7	0.6	6.9	−11.6	4.9	−1.5	8.0	−10.4	−11.6	16.6
1983	4.2	−0.6	20.8	−19.3	3.7	−5.7	5.3	−6.2	−44.2	45.4
1984	2.0	−1.9	35.0	−32.9	8.6	−9.1	1.8	−2.8	−99.0	102.1
1985	−11.4	9.0	51.1	−51.6	17.3	−15.0	3.3	−0.7	−124.5	128.3
1986	−7.0	5.7	85.9	−70.7	37.9	−32.4	−1.3	5.0	−147.2	146.9
1987	0.3	4.4	84.4	−46.3	43.3	−21.8	−12.1	32.2	−160.6	151.5
1988	−3.8	6.1	79.2	−61.7	53.1	−68.7	−35.0	39.5	−121.3	125.2
1989	−4.3	3.8	63.2	−76.3	56.2	−53.3	−42.8	34.4	−99.7	125.0
1990	12.0	−0.4	44.1	−53.2	43.6	−36.4	−38.2	38.3	−86.2	88.4
1991	13.3	0.8	68.2	−76.6	−29.6	23.4	−18.7	23.4	−2.3	−3.5
1992	6.4	−8.5	112.6	−112.0	−26.9	64.1	−22.6	20.2	−50.2	46.2
1993	−11.6	13.4	131.6	−104.2	−22.9	8.7	−17.4	18.7	−85.5	86.9
1994	6.9	23.5	130.3	−105.0	−35.2	33.2	−10.1	11.6	−122.8	117.4
1995	1.6	20.9	111.0	−52.4	−35.3	42.5	−13.0	12.1	−113.8	123.5
1996	7.2	24.5	65.7	−30.6	−20.0	18.8	−8.7	8.1	−124.7	118.1
1997	37.0	−1.1	91.4	−84.8	−12.1	8.3	−0.1	−3.8	−141.0	142.0
1998	31.5	−25.2	100.2	−106.4	−16.2	20.2	−5.2	4.9	−215.0	221.8
1999	21.1	−12.5	97.7	−21.4	−32.4	18.2	−42.3	41.3	−292.5	283.8
2000	20.5	−9.8	121.4	−72.5	−29.2	24.0	−39.0	44.3	−403.5	403.8
2001	17.4	30.1	83.4	−42.9	−10.0	4.5	−36.3	31.9	−376.5	381.4
2002	35.4	39.8	105.5	−59.4	35.7	−37.7	−41.2	40.5	−450.9	454.6
2003	43.0	62.7	135.4	51.8	43.0	−43.7	−39.7	37.1	−520.6	519.0
2004	68.9	121.0	177.2	−16.4	127.2	−129.0	−55.1	55.5	−628.5	625.7
2005	136.5	114.5	165.2	−142.9	130.2	−132.8	−52.5	54.2	−732.1	718.0
2006	235.9	48.8	169.9	−137.9	171.7	−175.4	−85.3	84.0	−807.8	805.4
2007	356.3	104.4	207.7	−171.2	233.5	−232.3	−111.1	113.6	−710.6	710.8
2008	423.6	55.9	136.6	−105.8	212.1	−209.3	−122.5	119.4	−675.4	680.2
2009	247.2	153.3	140.7	−111.1	198.4	−186.0	−84.2	93.7	−372.7	424.8
2010	242.4	229.2	215.9	−174.7	197.8	−195.7	−84.2	94.3	−431.4	433.3
2011	141.5	246.3	130.1	46.5	232.4	−228.5	−52.6	63.5	−446.9	462.8
2012	219.7	−123.1	59.1	−97.4	251.0	−249.3	−101.8	113.4	−419.9	424.4
2013	151.3	280.1	38.7	0.1	244.5	−243.3	−143.9	150.9	−349.2	346.1
2014	236.0	−118.2	34.4	−25.9	282.3	−285.6	−152.5	162.7	−365.2	361.7
2015	304.5	−647.4	134.2	−129.1	288.1	−290.5	−145.3	176.6	−407.8	401.5
2016	191.0	−634.6	190.5	−195.8	297.4	−295.5	−148.5	157.1	−404.2	406.3
2017	188.6	−97.1	200.7	−177.1	285.1	−286.6	−100.4	107.9	−349.3	347.6
2018	23.6	−4.7	175.3	−151.4	313.7	−313.2	−116.1	140.4	−442.5	447.5
2019	102.6	−121.9	172.4	−147.7	289.0	−289.6	−78.6	77.4	−478.6	483.2
2020	273.9	−245.9	162.2	−153.6	262.9	−262.9	−76.0	71.7	−621.6	630.5