Osher Lifelong Learning Institute, Fall 2022

Contemporary Economic Policy Issues

Florida Atlantic University
Fall, 2022

Host: Jon Haveman, Ph.D.
National Economic Education Delegation

NATIONAL ECONOMIC EDUCATION DELEGATION

1

Available NEED Topics Include:

- US Economy
- Healthcare Economics
- Climate Change
- Economic Inequality
- Economic Mobility
- Trade and Globalization
- Minimum Wages
- Immigration Economics
- Housing Policy
- Federal Budgets
- Federal Debt
- Black-White Wealth Gap
- Autonomous Vehicles
- Healthcare Economics

NATIONAL ECONOMIC EDUCATION DELEGATION

2

Course Outline

- **Contemporary Economic Policy**
  - Week 1 (10/6): U.S. Economic Update (Jon Haveman, NEED)
  - Week 2 (10/13): Trade and Globalization (Alan Deardorff, University of Michigan)
  - Week 3 (10/20): Autonomous Vehicles (Jon Haveman, NEED)
  - Week 4 (10/27): Economic Inequality (Chris Herrington, VCU)
  - Week 5 (11/3): The Black-White Wealth Gap (Jon Haveman, NEED)
  - **Week 6 (~~11/10~~ 11/17): Trade Deficits and Exchange Rates (Alan Deardorff, UM)**

NATIONAL ECONOMIC EDUCATION DELEGATION 3

3

Submitting Questions

- **Please submit questions of clarification in the chat.**
  - I will try to handle them as they come up.
- **We will do a verbal Q&A once the material has been presented.**
- **OLLI allowing, we can stay beyond the end of class to have further discussion.**
- **Slides will be available from the NEED website by tomorrow. (https://needelegation.org/delivered_presentations.php)**

NATIONAL ECONOMIC EDUCATION DELEGATION 4

4

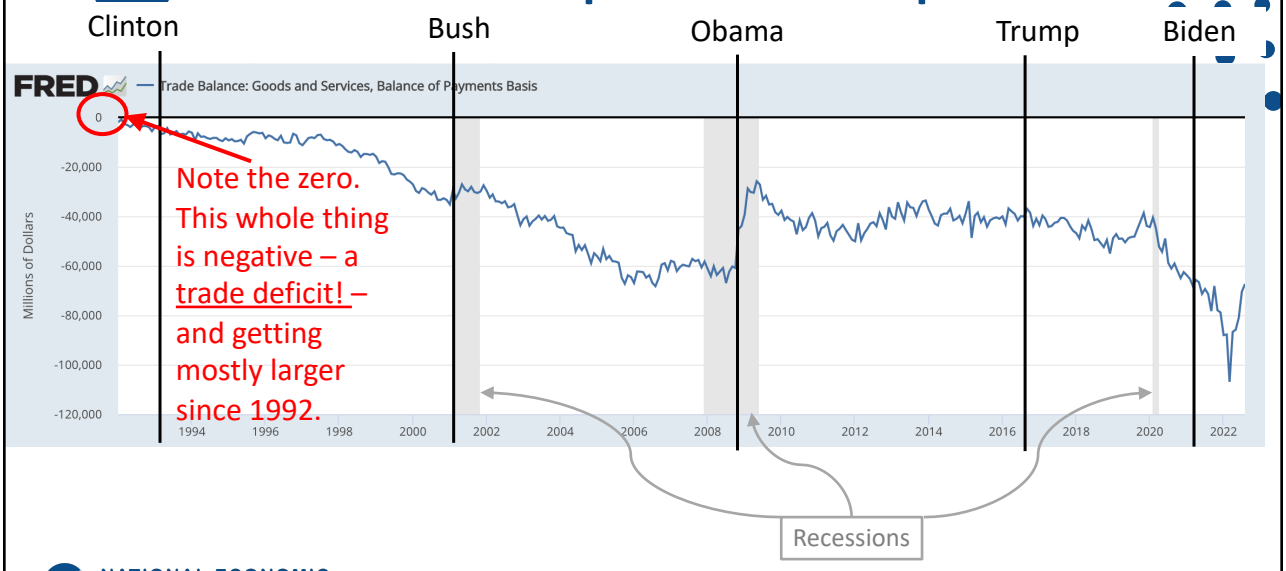
Trade Deficits and Exchange Rates

Alan Deardorff
University of Michigan

NATIONAL ECONOMIC EDUCATION DELEGATION

5

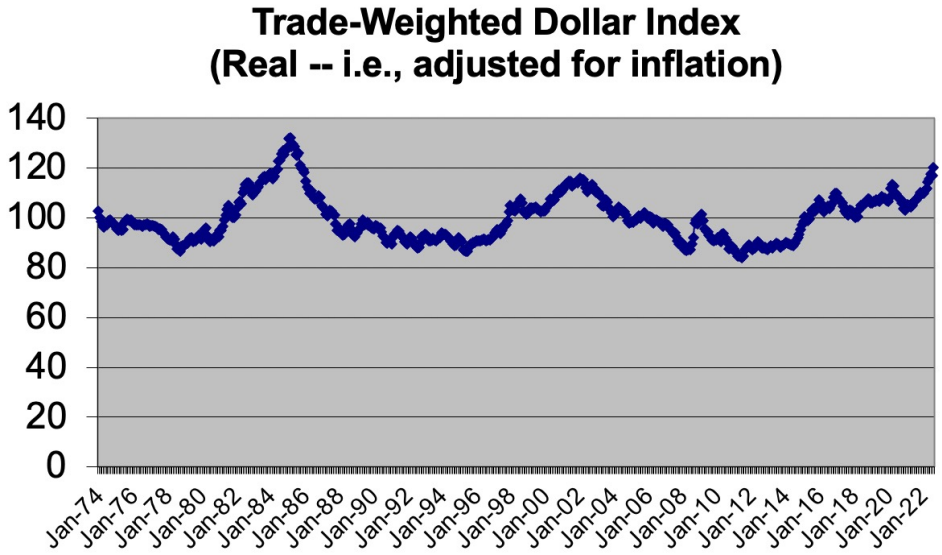
US Trade Balance = Exports minus Imports



NATIONAL ECONOMIC EDUCATION DELEGATION

6

US Exchange Rate



Source: Federal Reserve

NATIONAL ECONOMIC EDUCATION DELEGATION

7

7

Outline

- **The trade deficit**
  - How it's defined
  - How it has changed over time, US and other
  - What it means and does not mean
- **Exchange rates**
  - What they are
  - How they are determined
  - How they have changed over time, US and other
  - How they matter
  - Currency manipulation (if time allows)

NATIONAL ECONOMIC EDUCATION DELEGATION

8

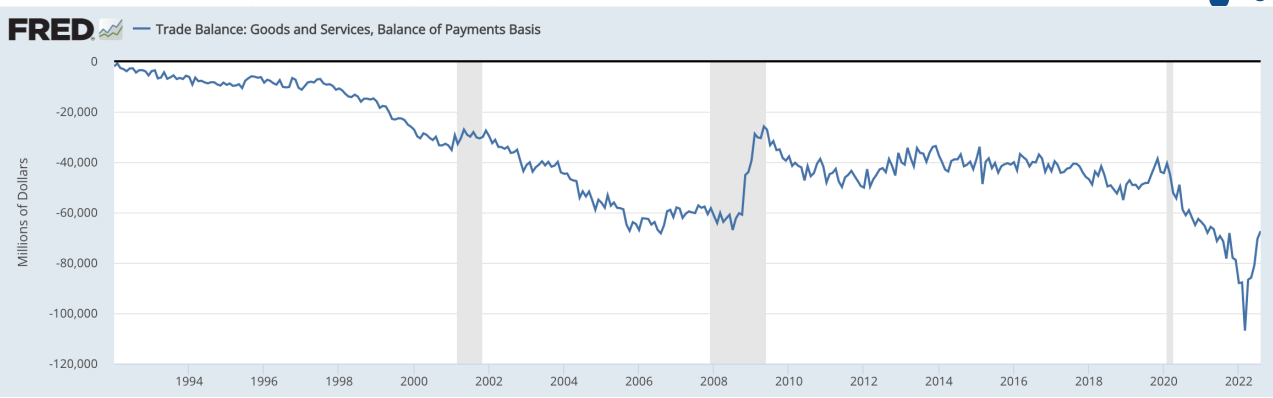
8

Trade Deficit

- **The trade balance**
  - Defined as Exports minus Imports, X–M
  - May be reported for goods only, or for goods and services
- **When trade balance is negative, that's a trade deficit**
  - Thus trade deficit is Imports minus Exports, M–X
- **The US:**
  - Has had a deficit for many decades
  - It has grown substantially in recent years
  - Has had a surplus for trade in services
- **Another measure: "The Current Account Balance"**
  - The trade balance plus:
    - International income flows
    - International transfer payments (e.g., remittances, aid)
  - For US, not very different from the trade balance

9

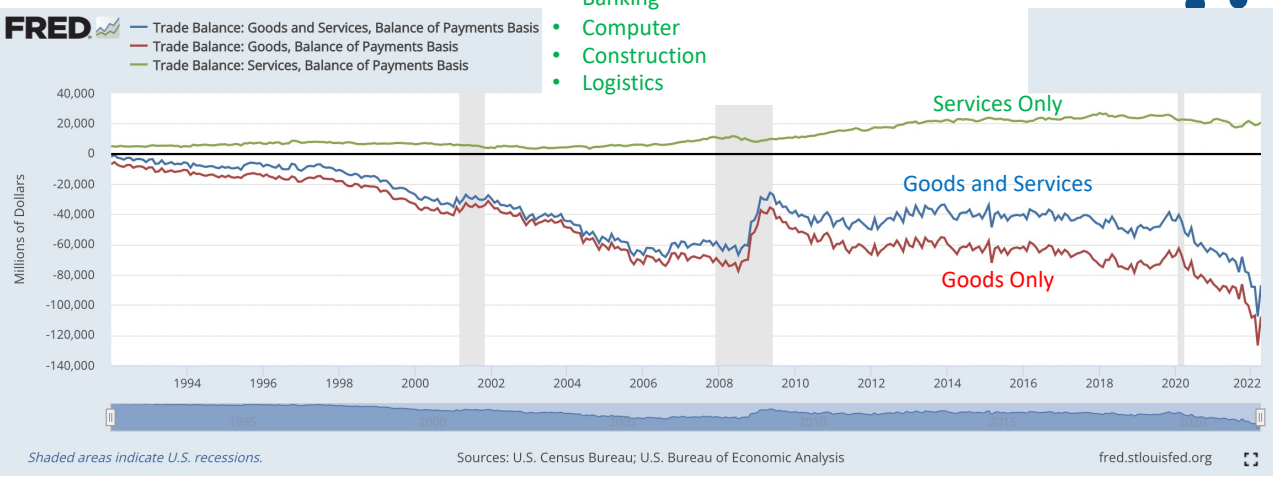
US Trade Balance: Goods and Services



10

US Trade Balances

Services trade examples:
- Professional (legal, engineering, accounting)
- Banking
- Computer
- Construction
- Logistics



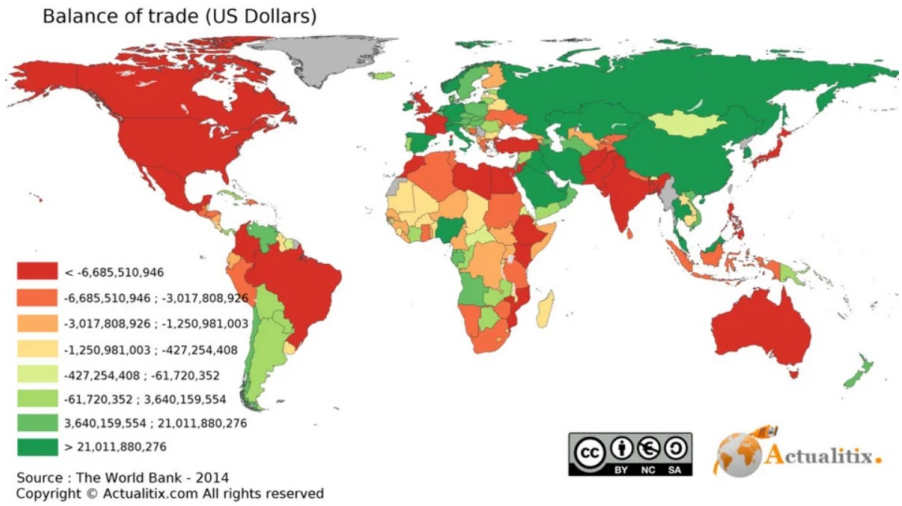
11

Trade Deficit

- **For the World as a Whole**
  - Since one country's imports are another's exports
    - ↳ The sum of all deficits and surpluses must be zero
- **Therefore US deficit implies rest of world has surplus**
- **But many countries have deficits**

12

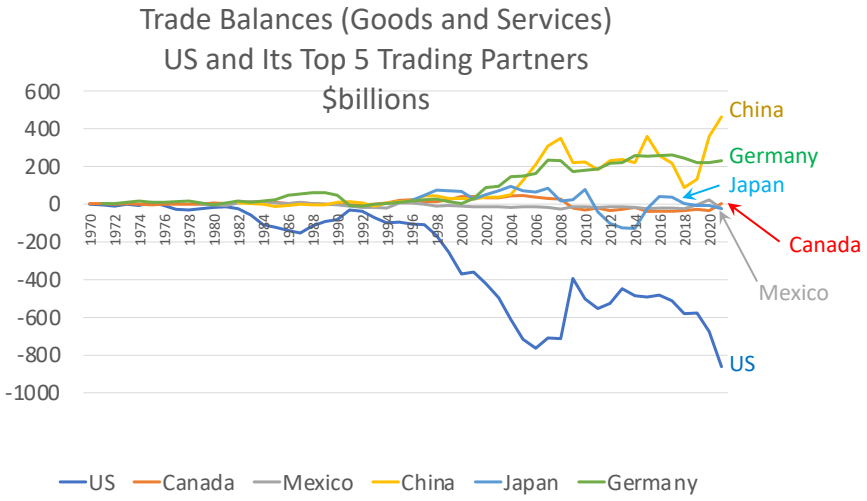
World Map: Balance of trade (US Dollars)



Source: Reddit

13

Trade Balances Over Time

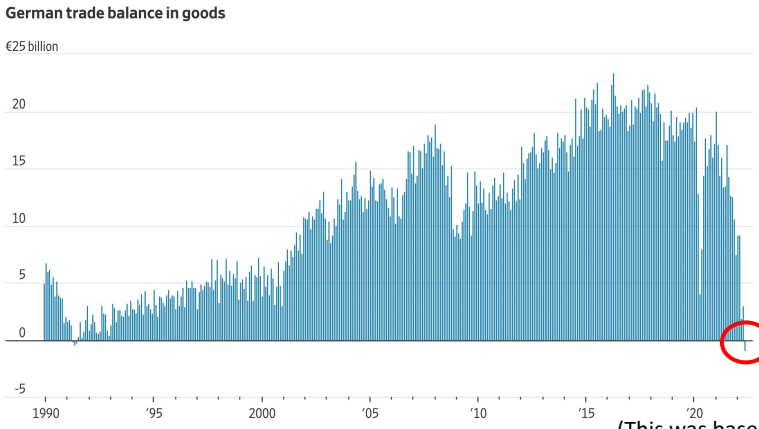


Source: IMF *International Financial Statistics*

14

Trade Balances Over Time

But note the recent data for Germany:



Negative for first time since 1991

Source:
WSJ, 7/11/22

(This was based on preliminary data. Revised data a month later showed a small surplus.)

15

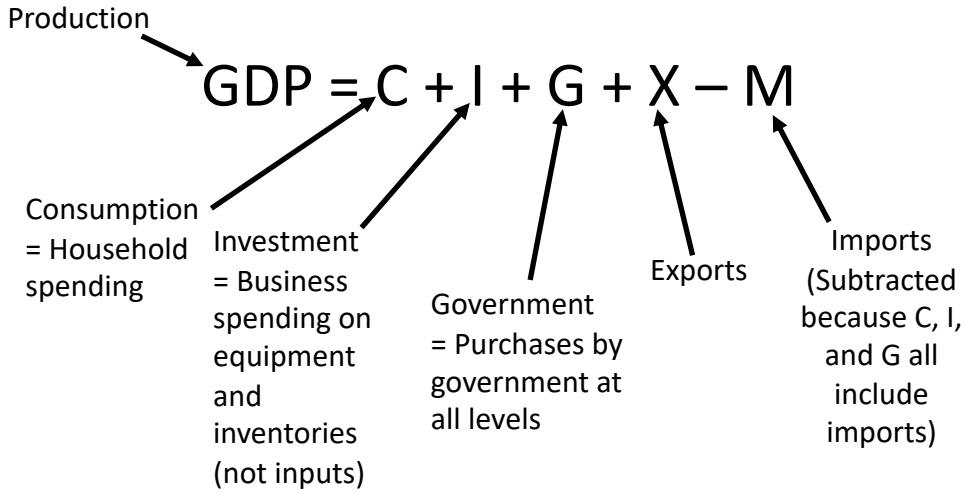
Trade Deficit

- **What a trade deficit means**
  - Imports > Exports
  - The gap must be paid for somehow. By
    - Capital inflows (borrowing, sale of stocks & bonds)
    - Sale of property (real estate, companies)
    - Gifts from foreigners (not relevant for US)
    - Others willing to hold more or our currency (very relevant for US)
  - What explains the gap? Look at GDP (Gross Domestic Product), which measures both production and income in a country:

$$GDP = C + I + G + X - M$$

16

What a Trade Deficit Means



NATIONAL ECONOMIC EDUCATION DELEGATION

17

17

What a Trade Deficit Means

Income = Expenditure + Trade Balance

$$GDP = C + I + G + X - M$$

OR:

Trade Balance = Income – Expenditure

$$X - M = GDP - (C + I + G)$$

- **Therefore**
  - Trade Surplus = Income minus Expenditure
  - Trade Deficit = Expenditure minus Income
- **Running a trade deficit means we are spending <u>more</u> than our income**

NATIONAL ECONOMIC EDUCATION DELEGATION

18

18

What a Trade Deficit Means

- **For another interpretation, subtract net taxes from both sides**

T = Net Taxes = Taxes – Transfers

GDP – T = C + I + G – T + X – M

(GDP – T – C) + (T – G) – I= (X – M)

Private Saving: (GDP – T – C)

Gov't Saving: (T – G)

Trade Balance: (X – M)

Total Saving: (GDP – T – C) + (T – G) – I

What a Trade Deficit Means

- **For another interpretation, subtract net taxes from both sides**

T = Net Taxes = Taxes – Transfers

GDP – T = C + I + G – T + X – M

(GDP – T – C) + (T – G) – I= (X – M)

20

Private Saving: (GDP – T – C)

Gov't Saving: (T – G)

Trade Balance: (X – M)

Total Saving: (GDP – T – C) + (T – G) – I

Trade Balance = Saving minus Investment

What a Trade Deficit Means

Trade Balance = Saving minus Investment

- **Therefore**
  - If a country is saving more than needed to finance domestic investment, it will, by definition, run a trade surplus
  - If a country is saving less than needed to finance domestic investment, it will, by definition, run a trade deficit
- **That gap is also, as before, the difference between total income and total expenditure**
- **It therefore also appears as**
  - Net borrowing and lending
  - Plus net acquisition or sales of assets

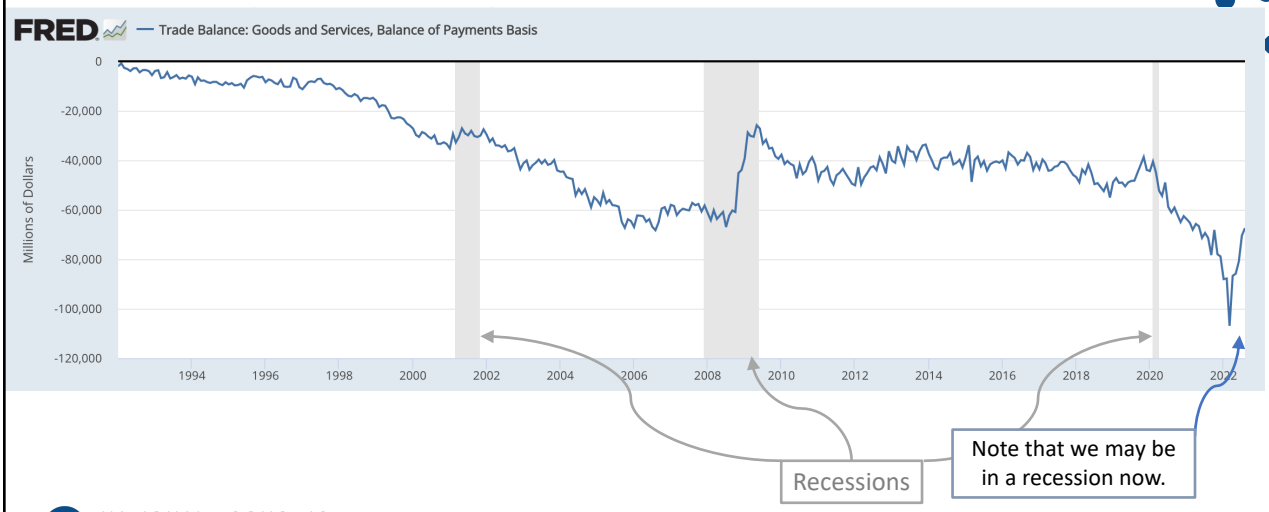
21

What a Trade Deficit Does NOT Mean

- **There are several very popular interpretations of trade deficits that are not valid, even though many politicians believe them:**
  - That foreign trade barriers are hurting our exports
  - That other countries are engaged in unfair trade
  - That our firms are not competitive
  - That we are losing jobs to other countries
  - That we need to restrict trade
- **To understand why these are wrong, think about whether they could change**
  - Expenditure relative to income, or
  - Saving relative to investment
- **Possible exception: If we are in recession and these may change income**
  - But note that trade deficit typically falls during recession, due to recession reducing expenditure

22

US Trade Balance: Goods and Services



NATIONAL ECONOMIC EDUCATION DELEGATION

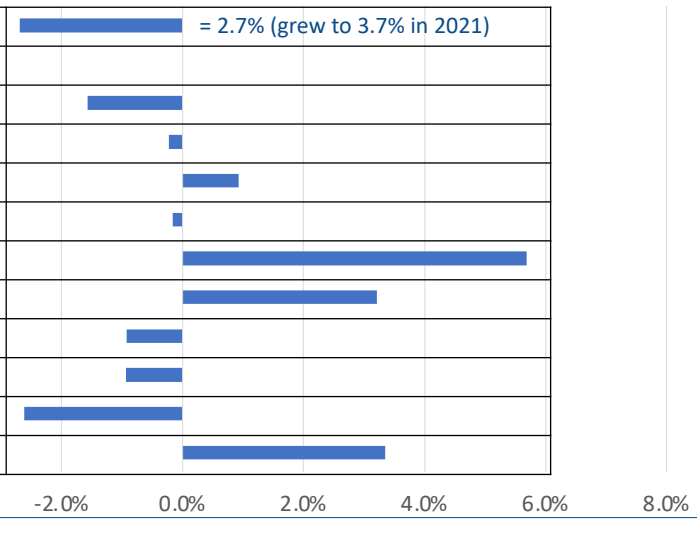
US Trade Deficit

- **The US trade deficit means that the US is spending more than its income. How much?**
  - $861 billion in 2021, according to the IMF
  - How does that compare to US GDP? GDP was $23 trillion.
  - So US trade deficit was about 3.7% of US GDP
  - Collectively, we and our government are spending almost 4% above our income.
  - How does that compare to other countries?

NATIONAL ECONOMIC EDUCATION DELEGATION

Trade Balance / GDP of US and It's Top Ten Trading Partners, 2019

US	Trade w US
	$ billions
Canada	619.0
Mexico	617.7
China	579.1
Japan	221.6
Germany	189.7
S. Korea	136.8
UK	133.2
France	97.2
India	94.3
Italy	82.5



Source: IMF *International Financial Statistics*

Trade balance includes goods and services

NATIONAL ECONOMIC EDUCATION DELEGATION

25

25

Trade Balance / GDP Sample countries, 2019

Singapore	36.9 %
Ireland	12.4%
Switzerland	9.8%
Germany	5.7%
China	0.9%
Japan	–0.2%
US	–2.7%
Romania	–4.1%
Ukraine	–8.1%
Philippines	–9.6%
Haiti	–24.5%
Guyana	–62.2%

Source: IMF *International Financial Statistics*

Trade balance includes goods and services

NATIONAL ECONOMIC EDUCATION DELEGATION

26

26

US Trade Deficit

- **Is it a problem?**
  - Yes, if others are unwilling to lend to us or to hold our assets (& our money)
  - But the US, at least for now, has both a strong currency and a strong economy
    - Others trust assets in the US more than others
    - They also rely on US dollars for transactions and reserves
    - We have an "Exorbitant Privilege" because of the US dollar's role in the world economy (said by Valery Giscard d'Estaing in the 1960s) when most currencies were pegged to dollars, but still valid today)

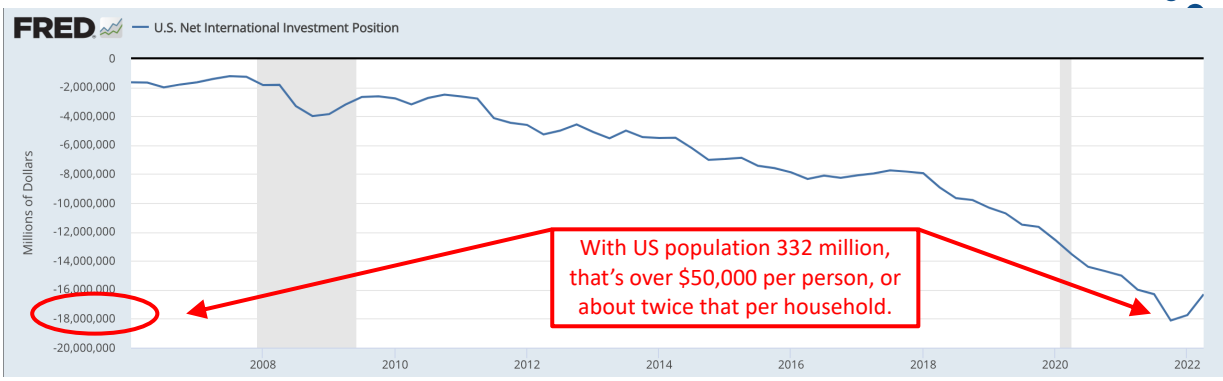
27

US Trade Deficit

- **Is it a problem?**
  - It does mean that US net debt to foreigners grows every year.
  - What if other countries decide to dump their dollar assets? Their value would plumet and they would lose. (But runs on currencies, like runs on banks, do happen.)
  - US net international investment position recently reached –$18 trillion!

28

US Net International Investment Position



29

US Trade Deficit

- **Is it a problem?**
  - Yes, in my view, but <u>not</u> because it might hurt us. Because it takes advantage of others.
  - The US, one of the richest countries in the world, is
    - Spending more than its income
    - Being funded, in part, by much poorer countries
  - We are enjoying
    - More goods and services than we produce
    - Produced by often lower-wage and poorer workers abroad
    - Without, at least in the foreseeable future, paying for them
  - That just feels wrong to me,
    - Especially if others are financing us not by choice but because they have no other option.

30

US Trade Deficit

- **Could an increase in the trade deficit ever hurt us?**
  - Yes, if we are in a recession.
  - Then by demanding foreign goods and services instead of our own, we support jobs abroad instead of at home
  - That is when using trade policy and/or exchange-rate policy to promote demand and higher employment at home seems to make sense.
    - But it helps us only at the expense of others, if they are also in recession
    - And it is likely to cause retaliation, cancelling all or more than any benefit

Trade Deficits and Exchange Rates

- **Do exchange rates matter for trade deficits?**
  - Yes.
  - If your currency falls in value, it makes
    - Exports cheaper
    - Imports more expensive
    - Lowers real income and therefore expenditure
    - Result: Trade balance "improves"
      - Deficit shrinks, or
      - Surplus grows
  - Example: Volker policy in 1980-81
    - Raised US interest rates
      - ↳ Attracted capital from abroad
        - ↳ Caused the US dollar to rise in value by about 50%
          - ↳ Hurt US exports, helped imports, and increased the US trade deficit

Pause

- **Pause for**
  - Questions
  - 5-Minute Break
- **Next: Exchange Rates**

33

Exchange Rates

- **What they are**
  - The price of one currency in terms of another
  - Thus, for example
    - The number of dollars you pay for one euro: $/€
    - Or, the number or euros you'll get for one dollar: €/$
  - Rates reported in data are those between major banks
  - Rates you see in banks, stores, and currency exchanges will be worse for you
    - To cover cost and make profit for them

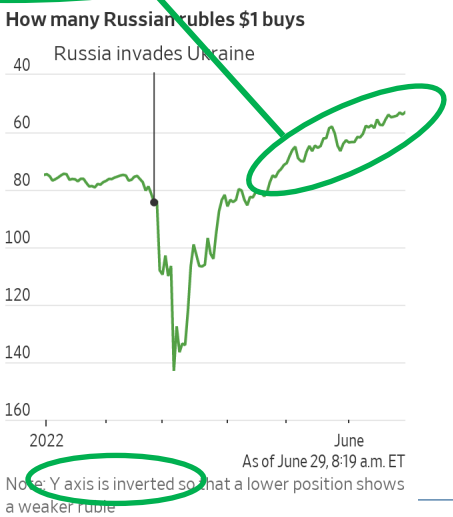
34

Exchange Rates

- **What they are**
  - Confusing! Hard to know what is up and what is down
    - i.e., "The Japanese yen rose today from 95 to 90"
    - Makes sense because the numbers are understood to be ¥/$, not $/¥, so the change from 95 to 90 is in fact a rise in the value of the yen
  - Yen is reported that way because alternative would be
    - "The Japanese yen rose today from $0.0105 to $0.0111"
  - For currencies worth much less than $1, scales often show currency/$
    - Graphs of rates over time may be drawn on an "inverted scale"
    - Or "strength" may appear as drop on the graph

35

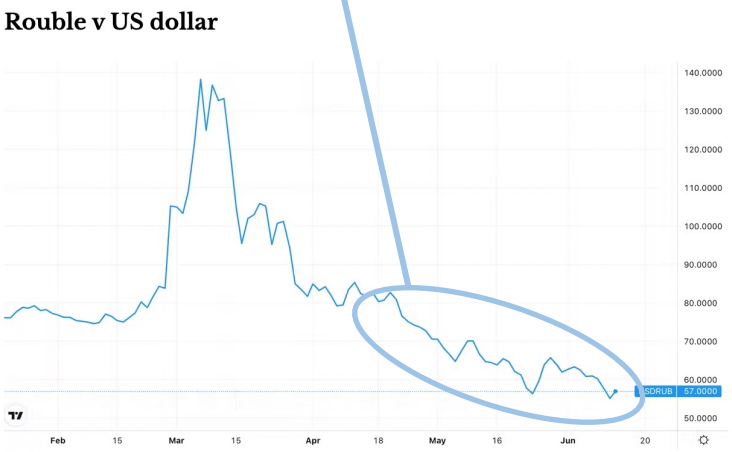
Russia's Surprising Economic Headache: A Strong Ruble



Wall Street Journal
June 29, 2022

36

Russia's rouble is now stronger than before the war



The Conversation
June 13, 2022

NATIONAL ECONOMIC EDUCATION DELEGATION

37

37

What Determines Exchange Rates

- Exchange rates are determined in markets
- Thus they respond to changes in demand and supply

NATIONAL ECONOMIC EDUCATION DELEGATION

38

38

What Determines Exchange Rates

- **Main sources of <u>demand</u> for our country's currency**

  Increases that cause our currency to rise (or "appreciate"):

  - Exports, i.e., foreign purchases of our
    - Goods
    - Services
  - "Capital inflows," i.e., foreign purchases of our
    - Stocks
    - Bonds
    - Currency

What Determines Exchange Rates

- **Main sources of <u>supply</u> of our country's currency**

  Increases that cause our currency to fall (or "depreciate"):

  - Imports, i.e., our purchases of foreign
    - Goods
    - Services
  - "Capital outflows," i.e., our purchases of foreign
    - Stocks
    - Bonds
    - Currencies

What Determines Exchange Rates

- **Changes that cause our currency, the $, to rise in value**
  - More US exports and/or less US imports
  - Rise in US interest rates and or fall in foreign interest rates
  - New expectation that dollar will rise
    - Causes wealth holders to buy more of $ assets
  - Central banks choose to hold more $ in reserves
- **Opposites of above cause the $ to fall**

41

What Determines Exchange Rates

- **Historic Roles of Governments and Central Banks**
  - Define the value of currency in terms of gold or silver
    - The Gold Standard of the 19th and early 20th century
  - Intervene in markets to "peg" their currency to another
    - The Dollar Standard of 1945-1973
      - Most currencies were pegged to the US $
      - Other central Banks bought and sold dollars to achieve this.
  - Let major currencies "float" since 1973
    - Many weaker countries still intervene in markets, buying or selling to
      - Peg to another currency
      - Reduce currency fluctuations
    - A few intervene in markets to "manipulate" their currencies
      - Reduce their value to encourage exports

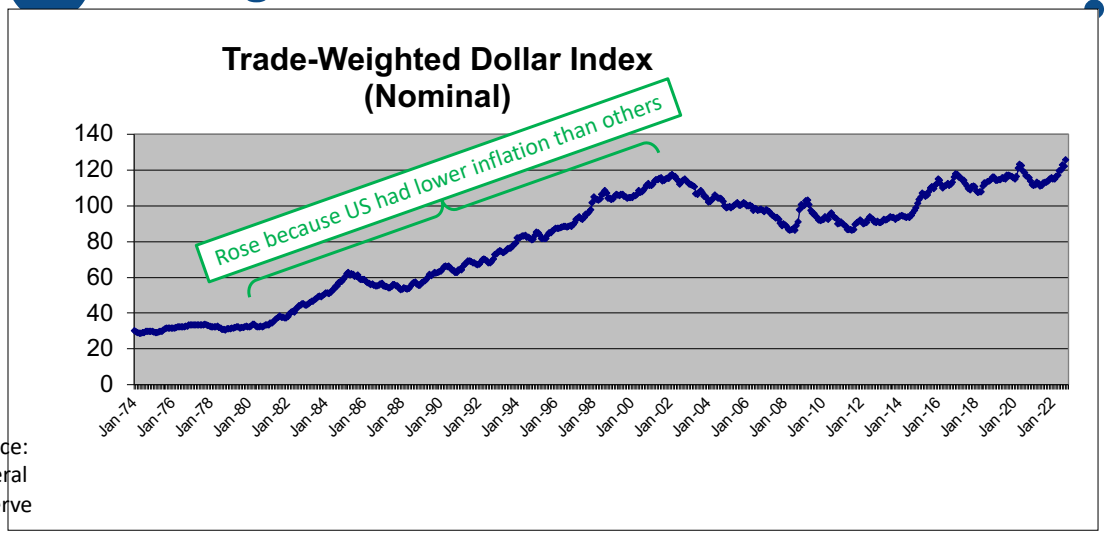
42

How Have Exchange Rates Changed

- **We'll look at**
  - US dollar
  - France, Germany, Italy, and Euro Area's euro
  - Canadian dollar
  - Mexican peso
  - British pound
  - Japanese yen
  - Chinese renminbi

43

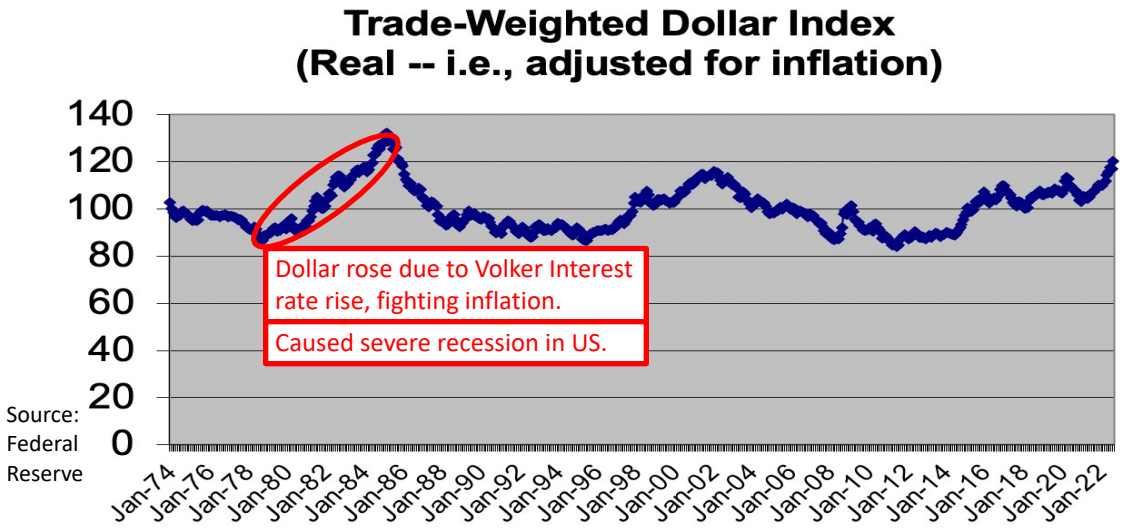
US Exchange Rate



Source: Federal Reserve

44

US Exchange Rate



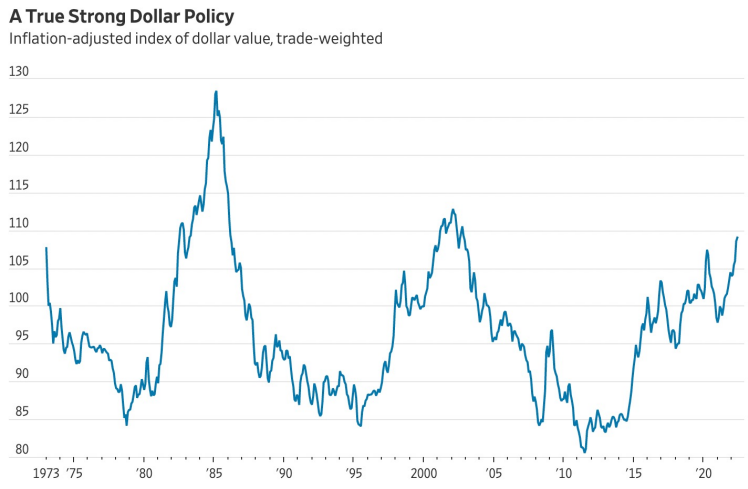
Source: Federal Reserve

NATIONAL ECONOMIC EDUCATION DELEGATION

45

45

US Exchange Rate



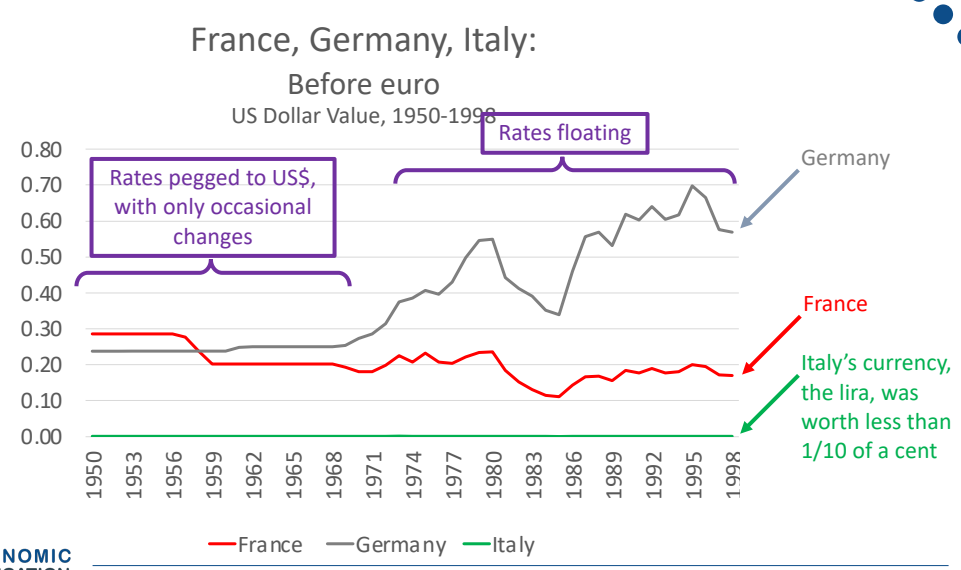
Source: WSJ, 7/11/22

NATIONAL ECONOMIC EDUCATION DELEGATION

46

46

Dollar Value of Other Currencies



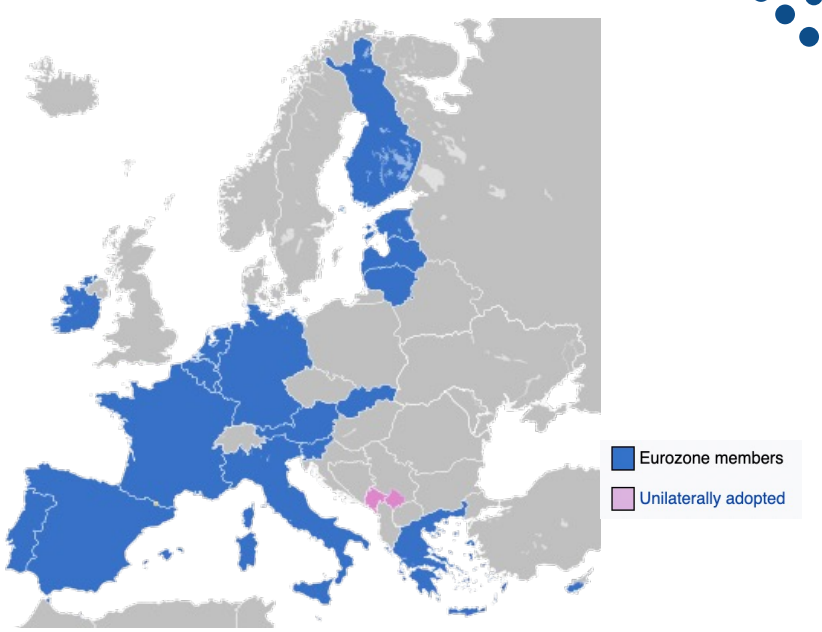
Source:
IMF
International Financial Statistics

NATIONAL ECONOMIC EDUCATION DELEGATION

47

47

Euro Area



NATIONAL ECONOMIC EDUCATION DELEGATION

48

48

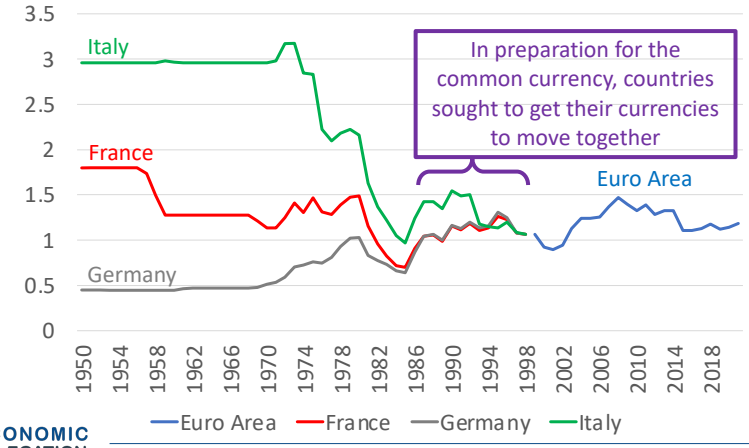
Dollar Value of Other Currencies

France, Germany, Italy + Euro

US Dollar Value

Rates here are scaled up to match value of euro in 1998.

Source: IMF *International Financial Statistics*



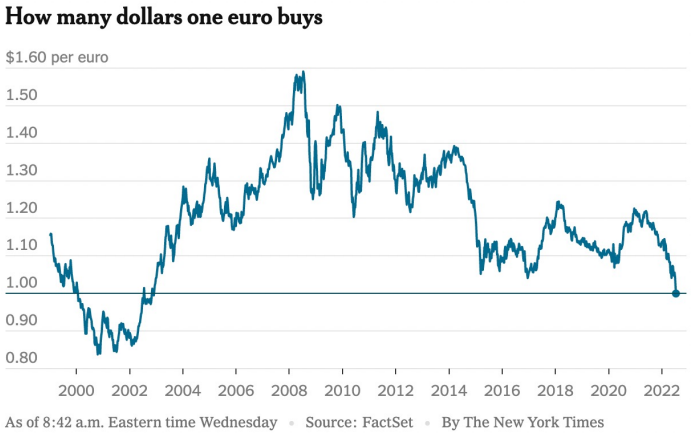
NATIONAL ECONOMIC EDUCATION DELEGATION

Dollar Value of Other Currencies

Euro Falls to Equal the U.S. Dollar for the First Time in 20 Years

The New York Times

July 14, 2022



NATIONAL ECONOMIC EDUCATION DELEGATION

Dollar Value of Other Currencies

Euro

X-rates.com
Oct 22, 2022

51

Dollar Value of Other Currencies

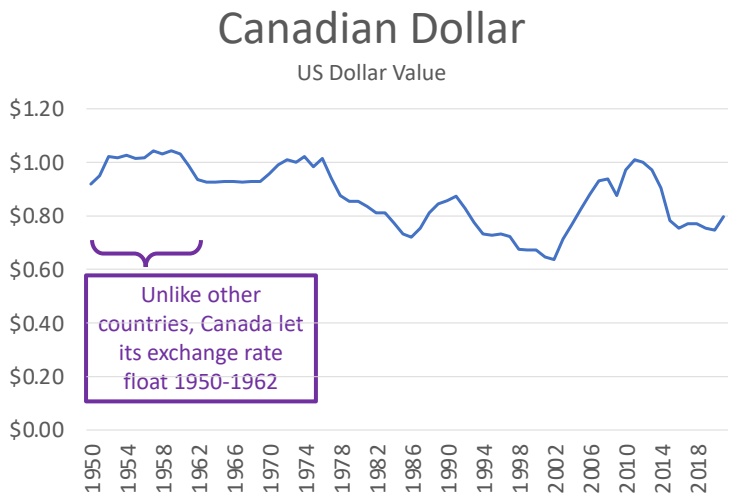
Percentage change of select currencies versus dollar

THE WALL STREET JOURNAL.
July 18, 2022

Source: Tullett Prebon

52

Dollar Value of Other Currencies



Source:
IMF
International Financial Statistics

53

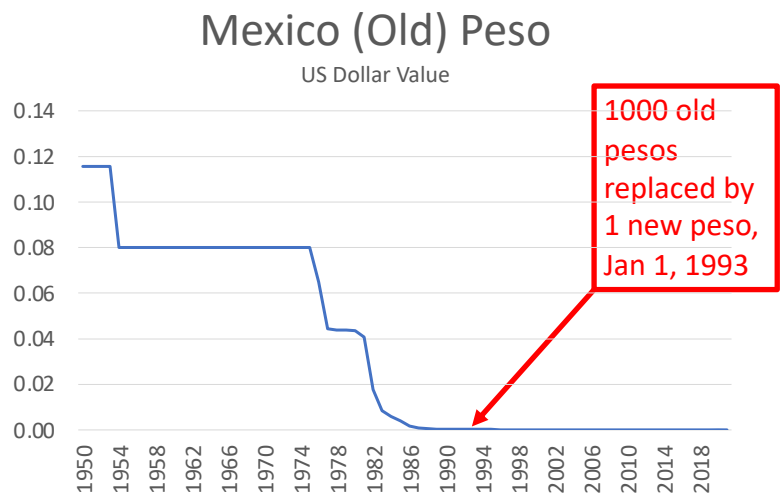
Dollar Value of Other Currencies

Canadian dollar

X-rates.com
Oct 22, 2022

54

Dollar Value of Other Currencies



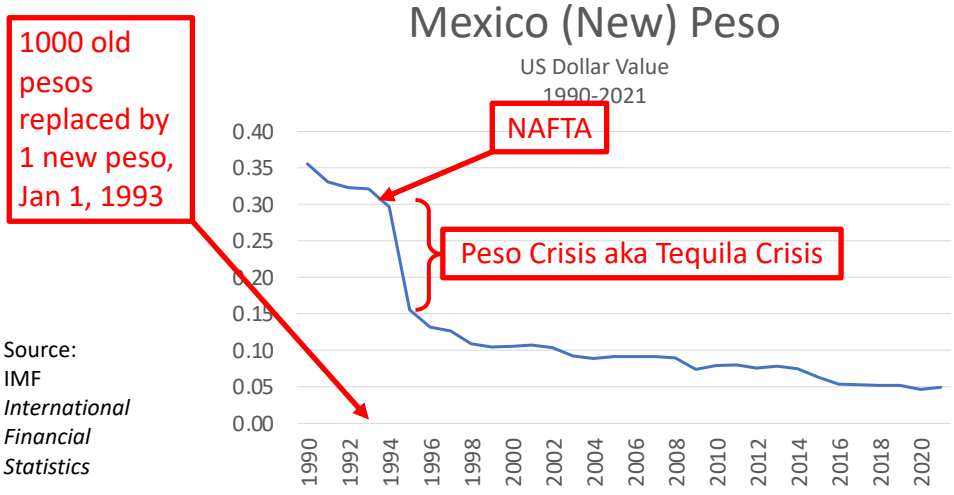
Source:
IMF
International Financial Statistics

NATIONAL ECONOMIC EDUCATION DELEGATION

55

55

Dollar Value of Other Currencies



Source:
IMF
International Financial Statistics

NATIONAL ECONOMIC EDUCATION DELEGATION

56

56

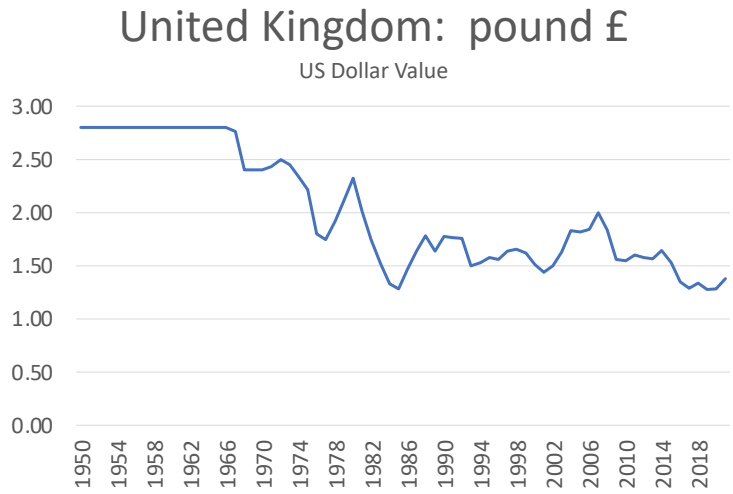
Dollar Value of Other Currencies

Mexican peso

X-rates.com
Oct 22, 2022

57

Dollar Value of Other Currencies



Source:
IMF
International Financial Statistics

58

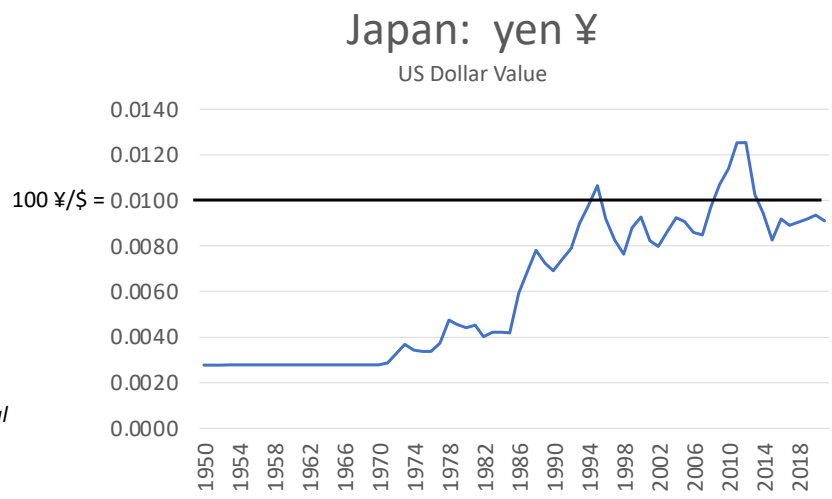
Dollar Value of Other Currencies

UK pound

X-rates.com
Oct 22, 2022

59

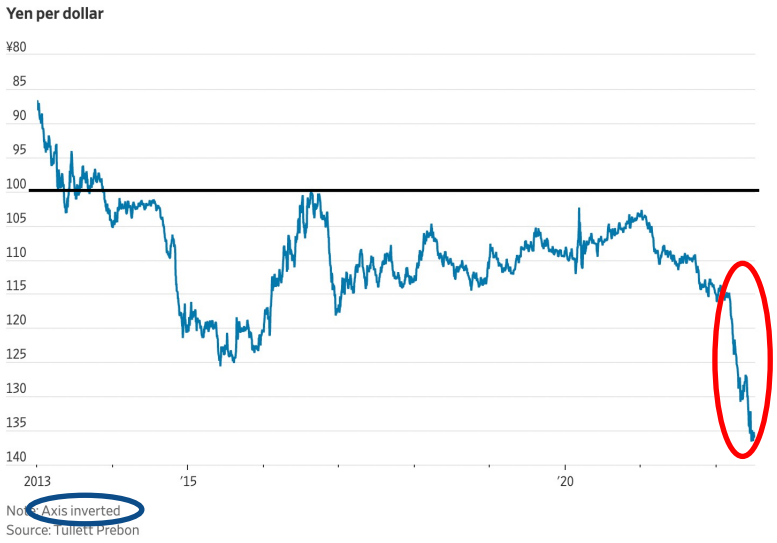
Dollar Value of Other Currencies



Source:
IMF
International Financial Statistics

60

Dollar Value of Other Currencies



Source:
WSJ, 7/11/22

NATIONAL ECONOMIC EDUCATION DELEGATION

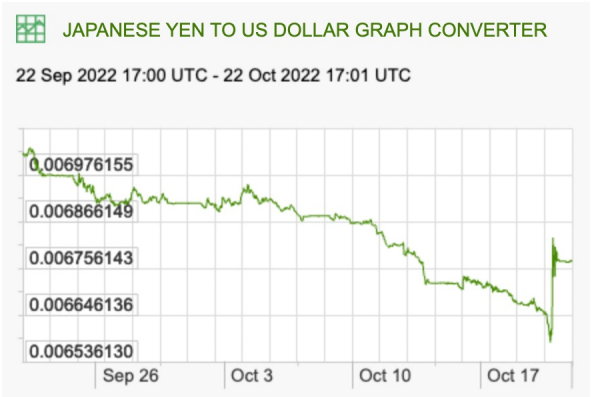
61

61

Dollar Value of Other Currencies

Japanese yen

X-rates.com
Oct 22, 2022

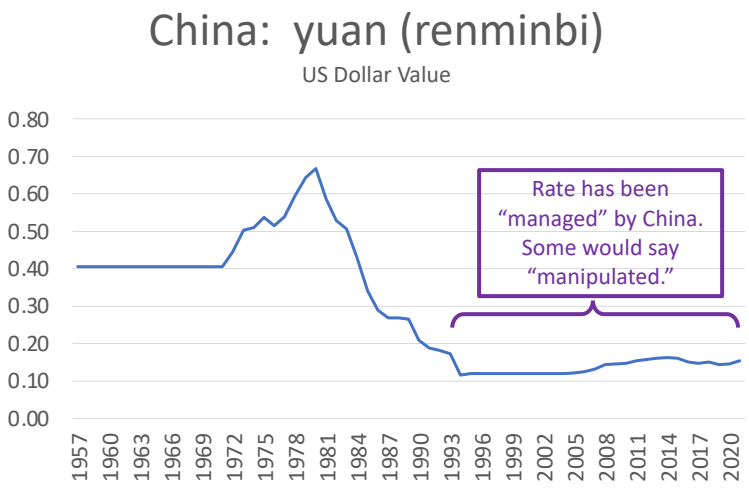


NATIONAL ECONOMIC EDUCATION DELEGATION

62

62

Dollar Value of Other Currencies



Source:
IMF
International Financial Statistics

63

Dollar Value of Other Currencies

Chinese yuan

X-rates.com
Oct 22, 2022

64

How Exchange Rates Matter

- **Effects of an exchange rate depreciation**
  - (fall in value of the country's currency)
  - Trade
    - Exports become less expensive and quantity likely rises
    - Imports become more expensive and quantity likely falls
    - Trade balance likely improves (surplus ↗ or deficit ↘)
  - Macroeconomic
    - Raises domestic prices of imports and thus inflation
    - If at full employment, real income falls, causing less spending
    - If in recession, increased demand for products increases employment

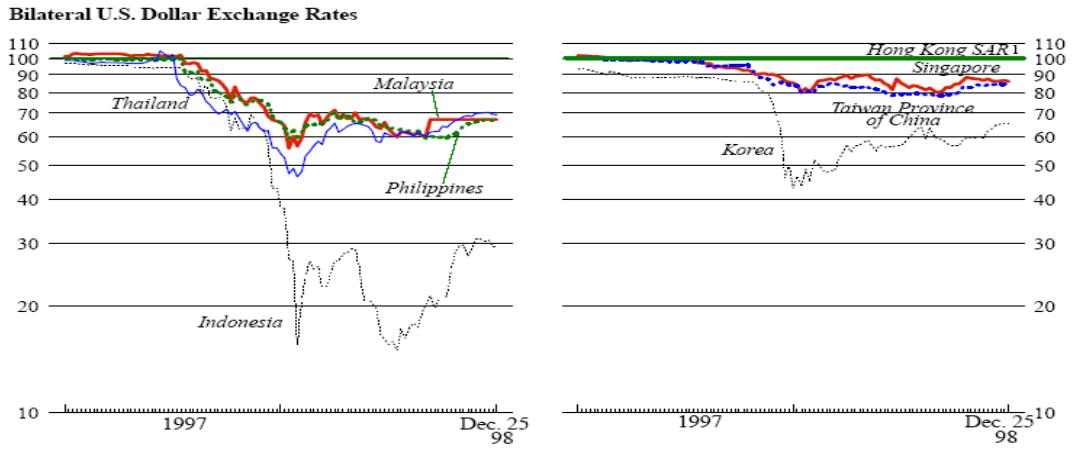
65

How Exchange Rates Matter

- **More effects of an exchange rate depreciation**
  - (fall in value of the country's currency)
  - Domestic value of foreign assets and debts rises
    - Net creditors gain, net debtors lose
      - Effect on interest/dividend payments is opposite
    - Those who have borrowed abroad to finance investment at home lose
      - May go bankrupt
- **Effects of expectation of exchange rate depreciation**
  - Holders of assets in domestic currency try to sell and move abroad
    - ↳ This speculative attack causes greater depreciation
  - Example from 1997 Asian Crisis

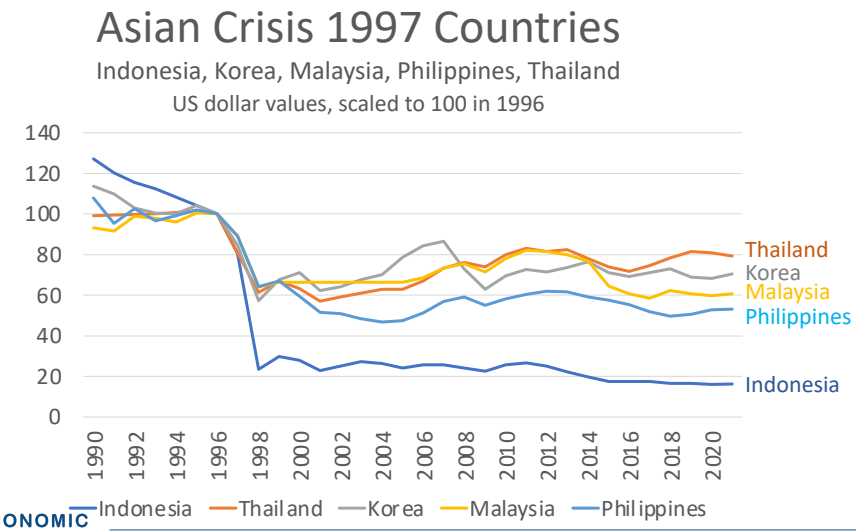
66

The Asian Crisis of 1997



67

The Asian Crisis of 1997



68

Currency Manipulation

- **Currency Manipulation**
  - Defined as
    - Intervention in the exchange market by Central Bank or Government
    - In order to push down, or keep down, the value of the currency
  - Presumed purposes: To…
    - Increase exports
    - "Gain unfair advantage" in international trade and competitiveness
    - Stimulate the domestic economy
    - Accumulate foreign assets

69

Currency Manipulation

- **US Definition of Currency Manipulation**
  - US Treasury issues report on currency manipulation twice each year
  - Criteria for manipulation
    1. Persistent net official purchases of foreign currency (more than 2 percent of GDP)
    2. A material trade (current account) surplus (more than 2 percent of GDP)
    3. A significant bilateral trade surplus with the United States (more than $20 billion per year)

70

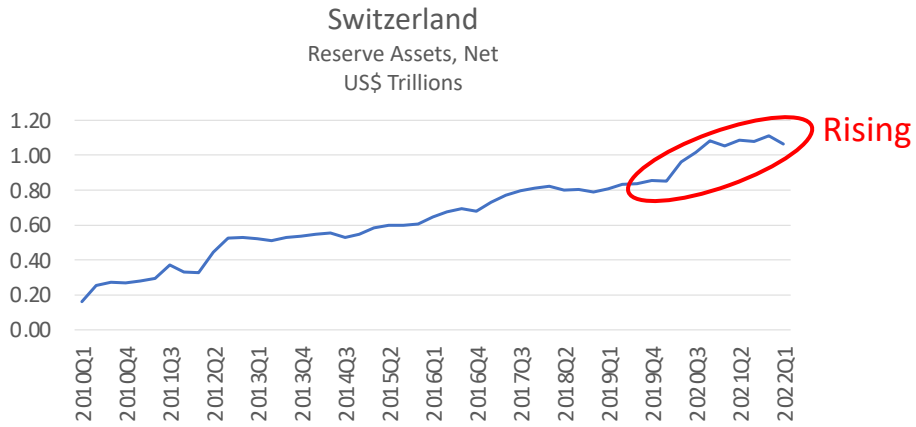
Currency Manipulation

- **US Treasury Report June 10, 2022**
  - "No major U.S. trading partner during 2021 manipulated the rate of exchange between its currency and the U.S. dollar for purposes of preventing effective balance of payments adjustments or gaining unfair competitive advantage in international trade."
  - "Switzerland meets all three criteria … over the four quarters through December 2021, and therefore Treasury is conducting enhanced analysis of Switzerland's macroeconomic and exchange rate policies in this Report.
  - 12 economies are on "Monitoring List": China, Japan, Korea, Germany, Italy, India, Malaysia, Singapore, Thailand, Taiwan, Vietnam, and Mexico
- **Look at data for two: Switzerland and China**

71

Currency Manipulation

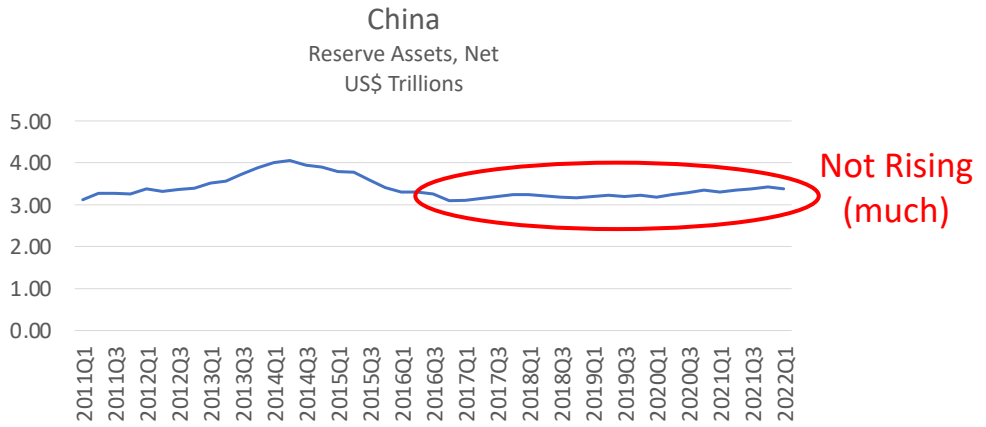
Manipulation Criteria: Net Official Purchases of Foreign Currency (Reserves)



72

Currency Manipulation

Manipulation Criteria: Net Official Purchases of Foreign Currency (Reserves)

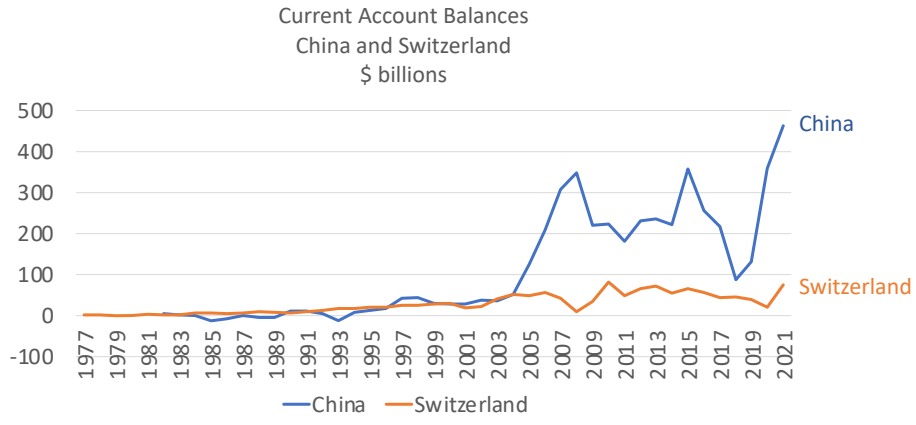


NATIONAL ECONOMIC EDUCATION DELEGATION

73

Currency Manipulation

Manipulation Criteria: Current Account Surpluses



NATIONAL ECONOMIC EDUCATION DELEGATION

74

Currency Manipulation

Manipulation Criteria: US Bilateral Deficits

US Bilateral Trade Deficits larger than $20 billion	
China	-923.2
Mexico	-365.8
Japan	-236.5
Germany	-104.9
Vietnam	-70.1
Ireland	-58.8
Italy	-58.5
Canada	-53.0
Malaysia	-33.7
Switzerland	-33.3
India	-28.4
Korea, Rep.	-25.5
Thailand	-24.7

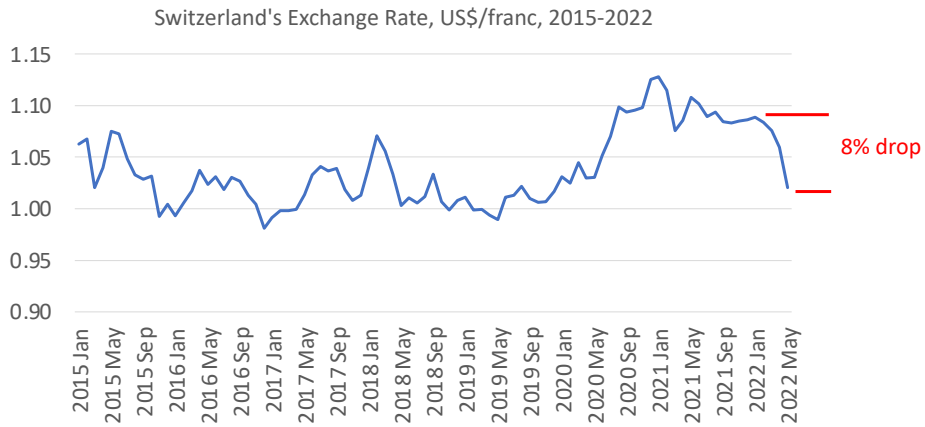
US Bilateral Trade Surpluses larger than $20 billion	
Netherlands	20.3
Hong Kong, China	25.9

NATIONAL ECONOMIC EDUCATION DELEGATION

75

Currency Manipulation

Not Manipulation Criteria: Exchange Rates

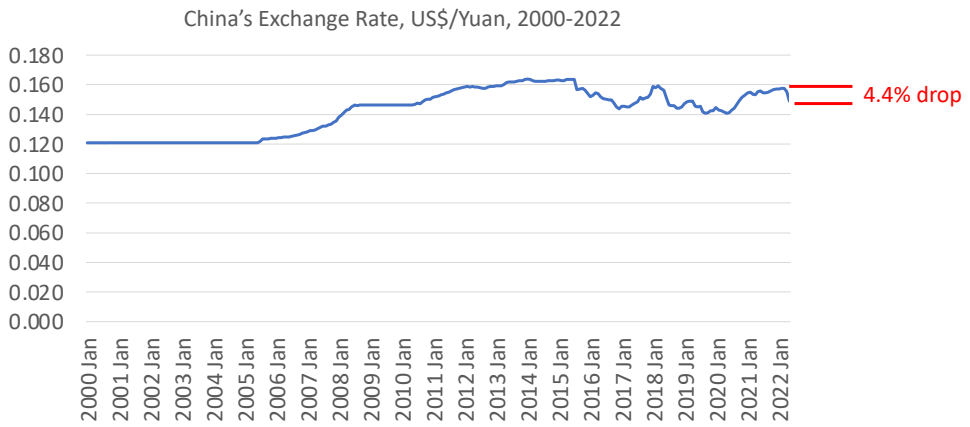


NATIONAL ECONOMIC EDUCATION DELEGATION

76

Currency Manipulation

Not Manipulation Criteria:
Exchange Rates



NATIONAL ECONOMIC EDUCATION DELEGATION

77

77

Trade Deficits and Exchange Rates

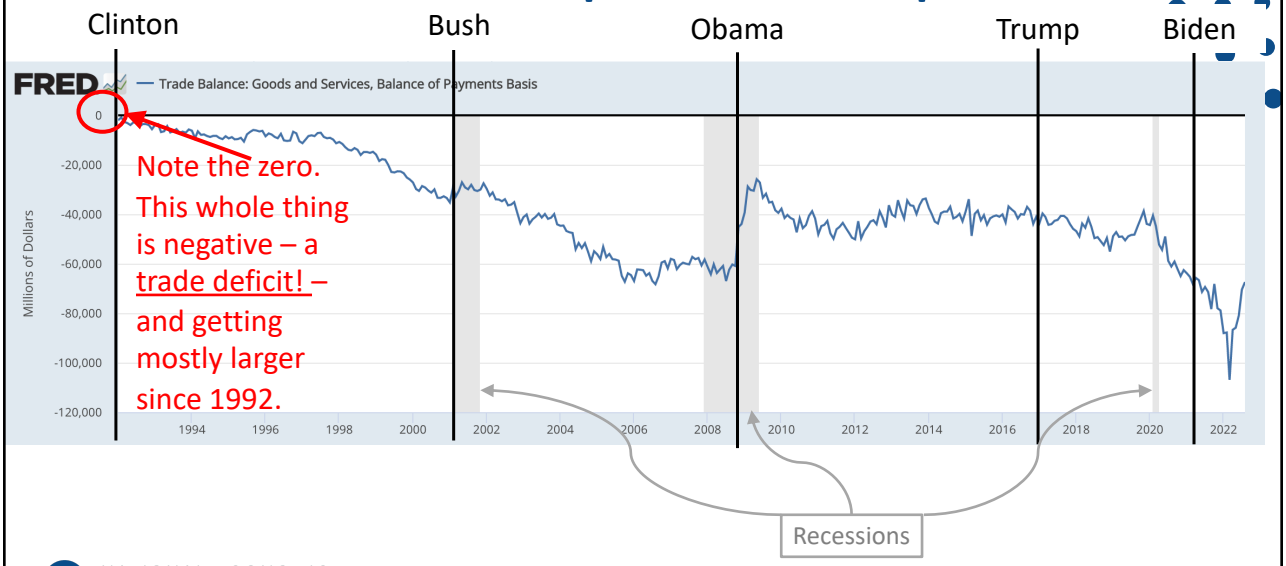
Alan Deardorff
University of Michigan

NATIONAL ECONOMIC EDUCATION DELEGATION

78

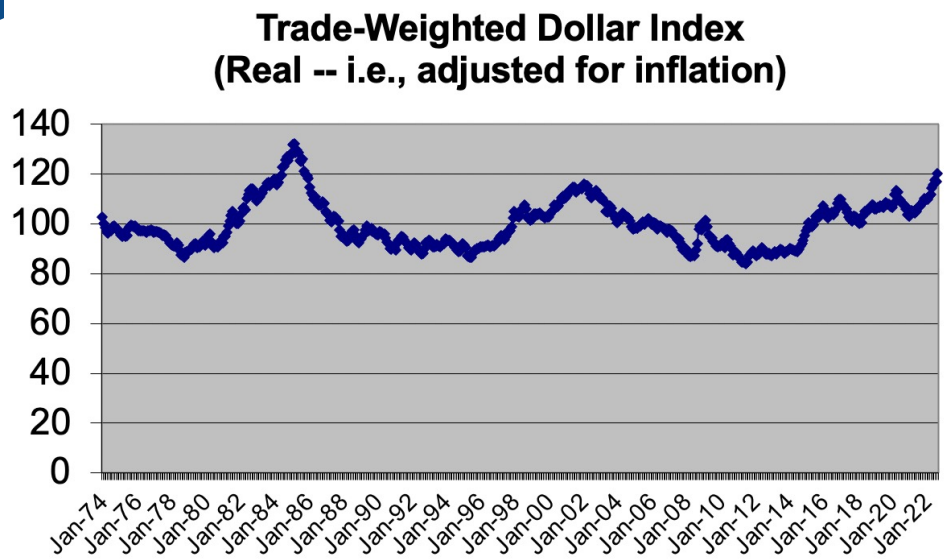
78

US Trade Balance = Exports minus Imports



79

US Exchange Rate



80

Outline

- **The trade deficit**
  - How it's defined
  - How it has changed over time, US and other
  - What it means and does not mean
- **Exchange rates**
  - What they are
  - How they are determined
  - How they have changed over time, US and other
  - How they matter
  - Currency manipulation (if time allows)

NATIONAL ECONOMIC EDUCATION DELEGATION

81

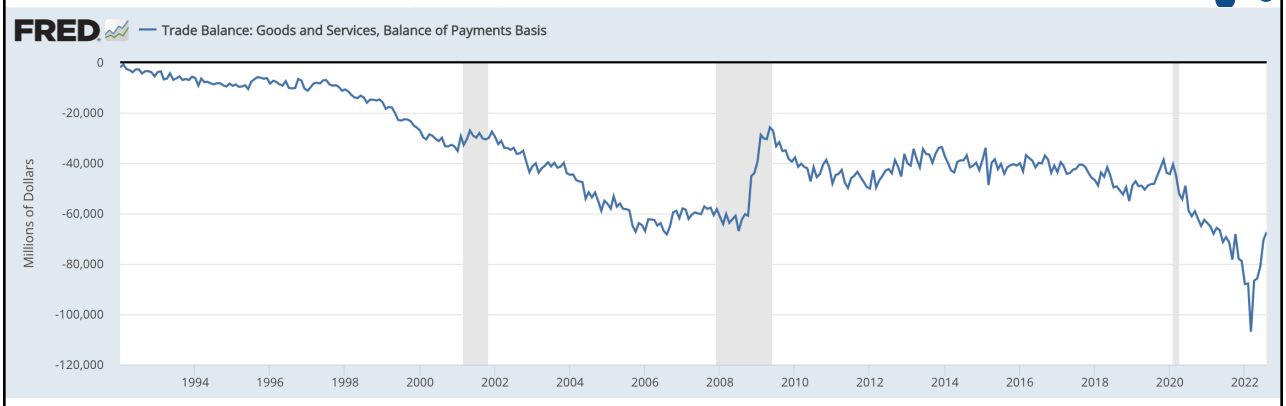
Trade Deficit

- **The trade balance**
  - Defined as Exports minus Imports, X–M
  - May be reported for goods only, or for goods and services
- **When trade balance is negative, that's a trade deficit**
  - Thus trade deficit is Imports minus Exports, M–X
- **The US:**
  - Has had a deficit for many decades
  - It has grown substantially in recent years
  - Has had a surplus for trade in services

NATIONAL ECONOMIC EDUCATION DELEGATION

82

US Trade Balance: Goods and Services



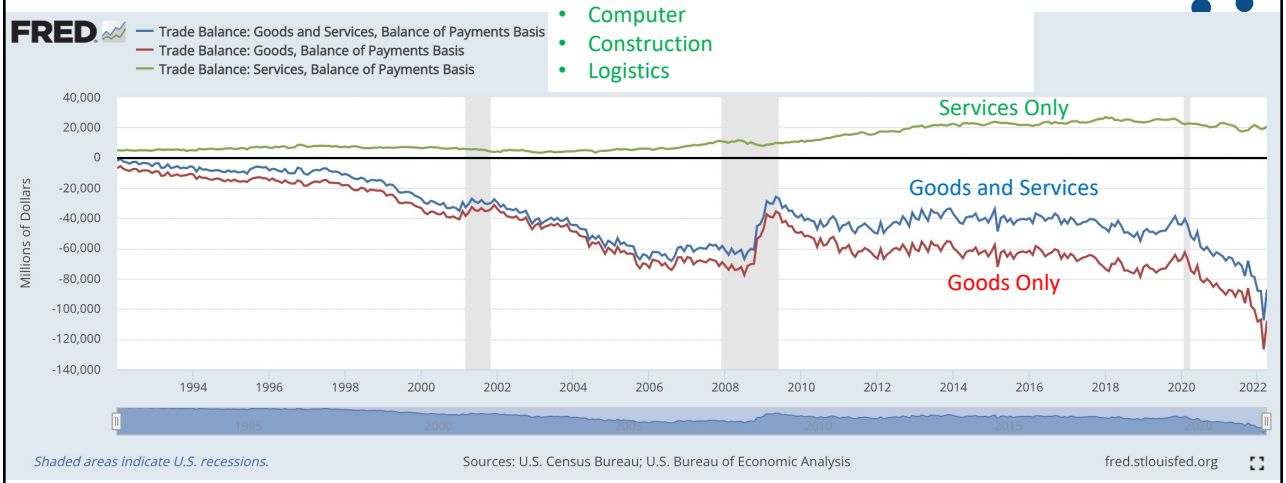
NATIONAL ECONOMIC EDUCATION DELEGATION

83

83

US Trade Balances

Services trade examples:
- Professional (legal, engineering, accounting)
- Banking
- Computer
- Construction
- Logistics



NATIONAL ECONOMIC EDUCATION DELEGATION

84

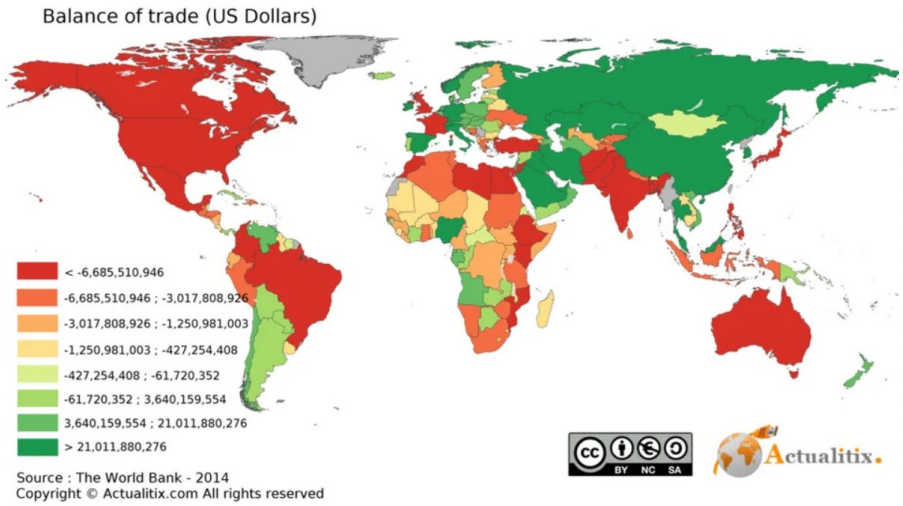
84

Trade Deficit

- **For the World as a Whole**
  - Since one country's imports are another's exports
    - ↳ The sum of all deficits and surpluses must be zero
- **Therefore US deficit implies rest of world has surplus**
- **But many countries have deficits**

85

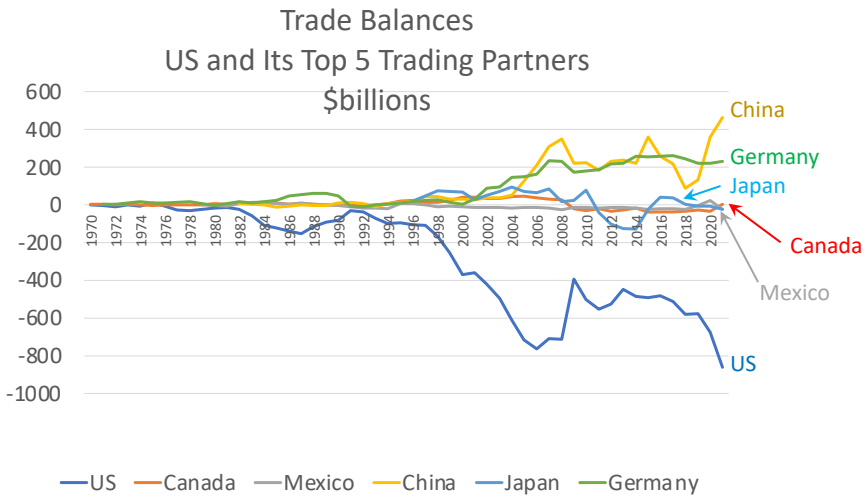
World Map: Balance of trade (US Dollars)



Source: Reddit

86

Trade Balances Over Time



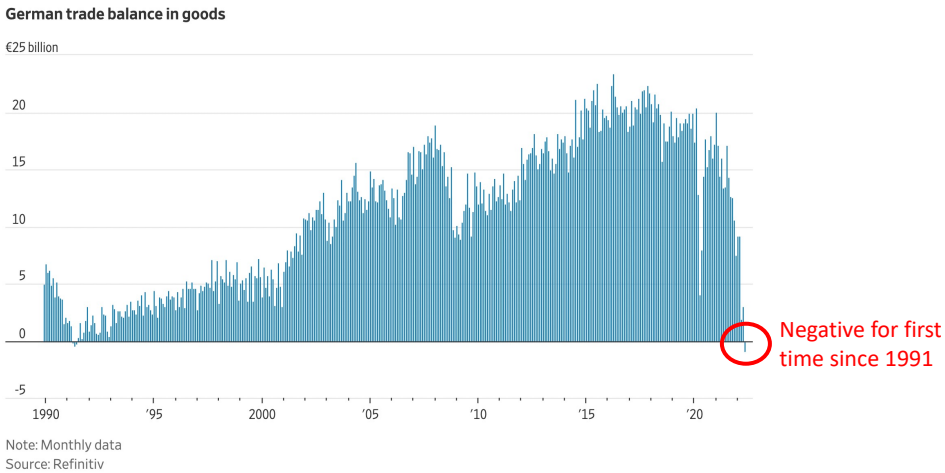
Source:
IMF
International Financial Statistics

NATIONAL ECONOMIC EDUCATION DELEGATION

87

Trade Balances Over Time

But note the recent data for Germany:



Source:
WSJ, 7/11/22

NATIONAL ECONOMIC EDUCATION DELEGATION

88

Trade Deficit

- **What a trade deficit means**
  - Imports > Exports
  - The gap must be paid for somehow. By
    - Capital inflows (borrowing, sale of stocks & bonds)
    - Sale of property (real estate, companies)
    - Gifts from foreigners (not relevant for US)
    - Others willing to hold more or our currency (very relevant for US)
  - What explains the gap? Look at GDP (Gross Domestic Product), which measures both production and income in a country:

$$GDP = C + I + G + X - M$$

What a Trade Deficit Means

Production → $GDP = C + I + G + X - M$

- Consumption = Household spending
- Investment = Business spending on equipment and inventories (not inputs)
- Government = Purchases by government at all levels
- Exports
- Imports (Subtracted because C, I, and G all include imports)

What a Trade Deficit Means

$$\overbrace{GDP}^{\text{Income}} = \overbrace{C + I + G}^{\text{Expenditure}} + \overbrace{X - M}^{\text{Trade Balance}}$$

OR:

$$\overbrace{X - M}^{\text{Trade Balance}} = \overbrace{GDP}^{\text{Income}} - \overbrace{(C + I + G)}^{\text{Expenditure}}$$

- **Therefore**
  - Trade Surplus = Income minus Expenditure
  - Trade Deficit = Expenditure minus Income
- **Running a trade deficit means we are spending more than our income**

91

What a Trade Deficit Means

- **For another interpretation, subtract net taxes from both sides**

T = Net Taxes = Taxes – Transfers

$$GDP - T = C + I + G - T + X - M$$

$$\underbrace{(GDP - T - C)}_{\text{Private Saving}} + \underbrace{(T - G)}_{\text{Gov't Saving}} - I = \underbrace{(X - M)}_{\text{Trade Balance}}$$

Total Saving

92

What a Trade Deficit Means

- **For another interpretation, subtract net taxes from both sides**

T = Net Taxes = Taxes – Transfers

GDP – T = C + I + G – T + X – M

(GDP – T – C) + (T – G) – I= (X – M)

93

Private Saving | Gov't Saving | Trade Balance

Total Saving

Trade Balance = Saving minus Investment

93

What a Trade Deficit Means

Trade Balance = Saving minus Investment

- **Therefore**
  - If a country is saving more than needed to finance domestic investment, it will, by definition, run a trade surplus
  - If a country is saving less than needed to finance domestic investment, it will, by definition, run a trade deficit
- **That gap is also, as before, the difference between total income and total expenditure**
- **It therefore also appears as**
  - Net borrowing and lending
  - Plus net acquisition or sales of assets

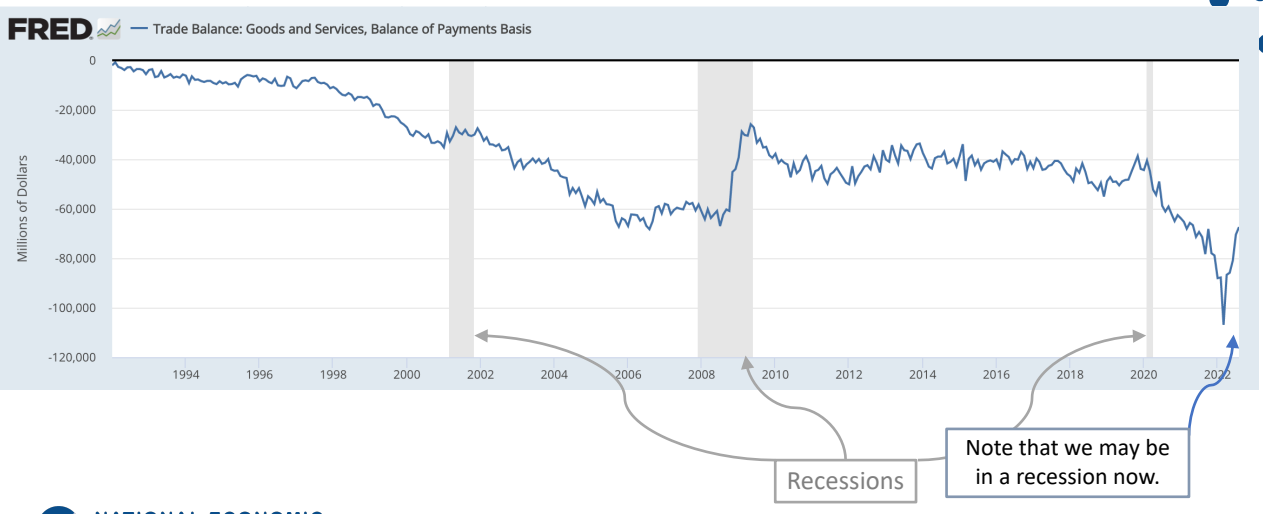
94

What a Trade Deficit Does NOT Mean

- **There are several very popular interpretations of trade deficits that are <u>not</u> valid, even though many politicians believe them:**
  - That foreign trade barriers are hurting our exports
  - That other countries are engaged in unfair trade
  - That our firms are not competitive
  - That we are losing jobs to other countries
  - That we need to restrict trade
- **To understand why these are wrong, think about whether they could change**
  - Expenditure relative to income, or
  - Saving relative to investment
- **Possible exception: If we are in recession and these may change income**
  - But note that trade deficit typically <u>falls</u> during recession, <u>due to</u> recession reducing expenditure

95

US Trade Balance: Goods and Services



96

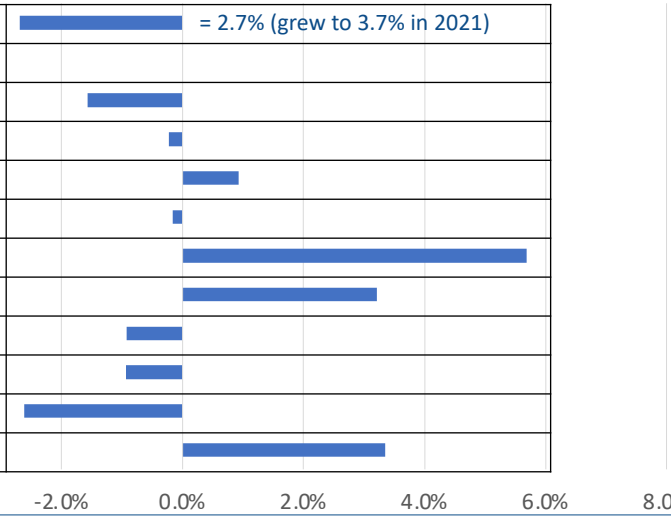
US Trade Deficit

- **The US trade deficit means that the US is spending more than its income. How much?**
  - $861 billion in 2021, according to the IMF
  - How does that compare to US GDP? GDP was $23 trillion.
  - So US trade deficit was about 3.7% of US GDP
  - Collectively, we and our government are spending almost 4% above our income.
  - How does that compare to other countries?

97

Trade Balance / GDP of US and It's Top Ten Trading Partners, 2019

US	Trade w US $ billions
Canada	619.0
Mexico	617.7
China	579.1
Japan	221.6
Germany	189.7
S. Korea	136.8
UK	133.2
France	97.2
India	94.3
Italy	82.5



Source: IMF *International Financial Statistics*

98

Trade Balance / GDP
Sample countries, 2019

Singapore	36.9 %
Ireland	12.4%
Switzerland	9.8%
Germany	5.7%
China	0.9%
Japan	–0.2%
US	–2.7%
Romania	–4.1%
Ukraine	–8.1%
Philippines	–9.6%
Haiti	–24.5%
Guyana	–62.2%

Source:
IMF
International Financial Statistics

99

US Trade Deficit

- **Is it a problem?**
  - Yes, if others are unwilling to lend to us or to hold our assets (& our money)
  - But US, at least for now, has both a strong currency and a strong economy
    - Others trust assets in the US more than others
    - They also rely on US dollars for transactions and reserves
    - We have an "Exorbitant Privilege" because of the US dollar's role in the world economy (said by Valery Giscard d'Estaing in the 1960s) when most currencies were pegged to dollars, but still valid today)

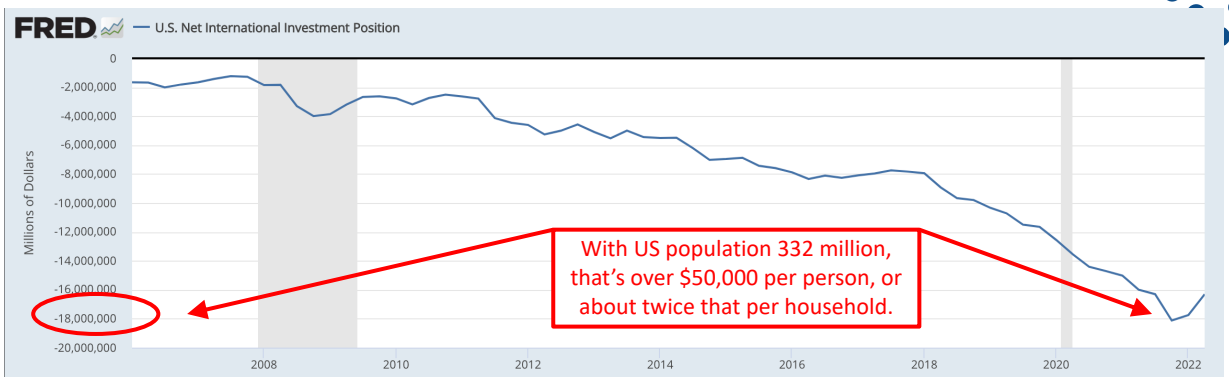
100

US Trade Deficit

- **Is it a problem?**
  - It does mean that US net debt to foreigners grows every year.
  - What if other countries decide to dump their dollar assets? Their value would plumet and they would lose. (But runs on currencies, like runs on banks, do happen.)
  - US net international investment position recently reached –$18 trillion!

101

US Net International Investment Position



102

US Trade Deficit

- **Is it a problem?**
  - Yes, in my view, but <u>not</u> because it might hurt us. Because it takes advantage of others.
  - The US, one of the richest countries in the world, is
    - Spending more than its income
    - Being funded, in part, by much poorer countries
  - We are enjoying
    - More goods and services than we produce
    - Produced by often lower-wage and poorer workers abroad
    - Without, at least in the foreseeable future, paying for them
  - That just feels wrong to me,
    - Especially if others are financing us not by choice but because they have no other option.

103

US Trade Deficit

- **Could a trade deficit ever hurt us?**
  - Yes, if we are in a recession.
  - Then by demanding foreign goods and services instead of our own, we support jobs abroad instead of at home
  - That is when using trade policy and/or exchange-rate policy to promote demand and higher employment at home seems to make sense.
    - But it helps us only at the expense of others, if they are also in recession
    - And it is likely to cause retaliation, cancelling all or more than any benefit

104

Trade Deficits and Exchange Rates

- **Do exchange rates matter for trade deficits?**
  - Yes.
  - If your currency falls in value, it makes
    - Exports cheaper
    - Imports more expensive
    - Lowers real income and therefore expenditure
    - Result: Trade balance "improves"
      - Deficit shrinks, or
      - Surplus grows
  - Example: Volker policy in 1980-81
    - Raised US interest rates
      - ↳ Attracted capital from abroad
        - ↳Caused the US dollar to rise in value by about 50%
          - ↳Hurt US exports, helped imports, and increased the US trade deficit

105

Pause

- **Pause for**
  - Questions
  - 5-Minute Break
- **Next: Exchange Rates**

106

Exchange Rates

- **What they are**
  - The price of one currency in terms of another
  - Thus, for example
    - The number of dollars you pay for one euro: $/€
    - Or, the number or euros you'll get for one dollar: €/$
  - Rates reported in data are those between major banks
  - Rates you see in banks, stores, and currency exchanges will be worse for you
    - To cover cost and make profit for them

107

Exchange Rates

- **What they are**
  - Confusing! Hard to know what is up and what is down
    - i.e., "The Japanese yen rose today from 95 to 90"
    - Makes sense because the numbers are understood to be ¥/$, not $/¥, so the change from 95 to 90 is in fact a rise in the value of the yen
  - Yen is reported that way because alternative would be
    - "The Japanese yen rose today from $0.0105 to $0.0111"
  - For currencies worth much less than $1, scales often show currency/$
    - Graphs of rates over time may be drawn on an "inverted scale"
    - Or "strength" may appear as drop on the graph

108

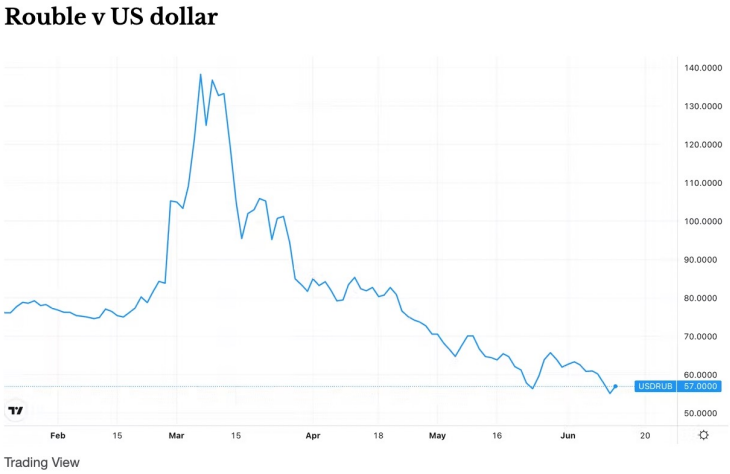
Russia's Surprising Economic Headache: A Strong Ruble

Wall Street Journal
June 29, 2022

NATIONAL ECONOMIC EDUCATION DELEGATION

109

Russia's rouble is now stronger than before the war



The Conversation
June 13, 2022

NATIONAL ECONOMIC EDUCATION DELEGATION

110

What Determines Exchange Rates

- **Exchange rates are determined in markets**
- **Thus they respond to changes in demand and supply**

111

What Determines Exchange Rates

- **Main sources of <u>demand</u> for our country's currency**

  Increases that cause our currency to rise (or "appreciate"):

  - Exports, i.e., foreign purchases of our
    - Goods
    - Services
  - "Capital inflows," i.e., foreign purchases of our
    - Stocks
    - Bonds
    - Currency

112

What Determines Exchange Rates

- **Main sources of <u>supply</u> of our country's currency**

  Increases that cause our currency to fall (or "depreciate"):

  - Imports, i.e., our purchases of foreign
    - Goods
    - Services
  - "Capital outflows," i.e., our purchases of foreign
    - Stocks
    - Bonds

113

What Determines Exchange Rates

- **Changes that cause our currency, the $, to rise in value**
  - More US exports and/or less US imports
  - Rise in US interest rates and or fall in foreign interest rates
  - New expectation that dollar will rise
    - Causes wealth holders to buy more of $ assets
  - Central banks choose to hold more $ in reserves
- **Opposites of above cause the $ to fall**

114

What Determines Exchange Rates

- **Historic Roles of Governments and Central Banks**
  - Define the value of currency in terms of gold or silver
    - The Gold Standard of the 19th and early 20th century
  - Intervene in markets to "peg" their currency to another
    - The Dollar Standard of 1945-1973
      - Most currencies were pegged to the US $
      - Other central Banks bought and sold dollars to achieve this.
  - Let major currencies "float" since 1973
    - Many weaker countries still intervene in markets, buying or selling to
      - Peg to another currency
      - Reduce currency fluctuations
    - A few intervene in markets to "manipulate" their currencies
      - Reduce their value to encourage exports

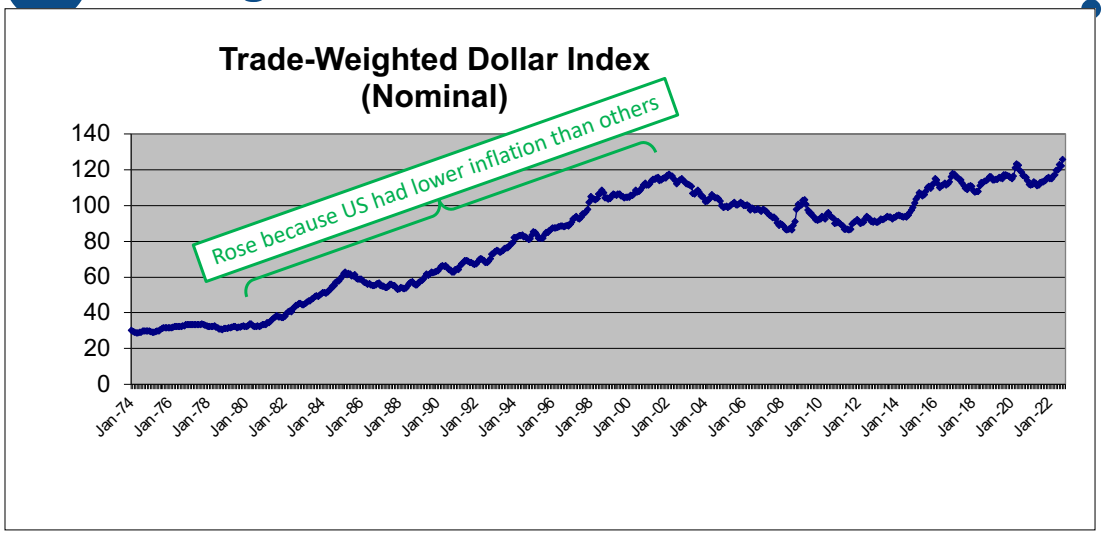
115

How Have Exchange Rates Changed

- **We'll look at**
  - US dollar
  - France, Germany, Italy, and Euro Area's euro
  - Canadian dollar
  - Mexican peso
  - British pound
  - Japanese yen
  - Chinese renminbi

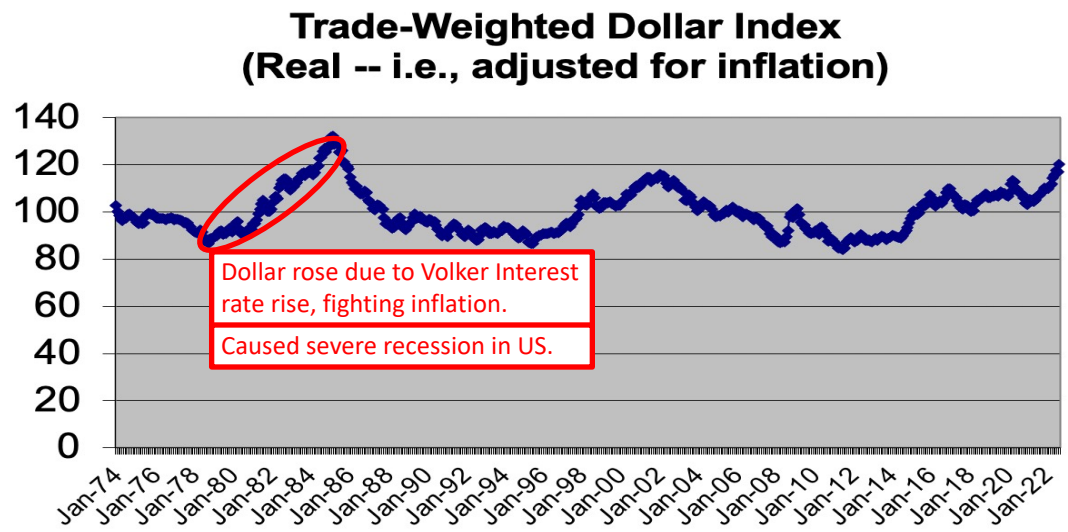
116

US Exchange Rate



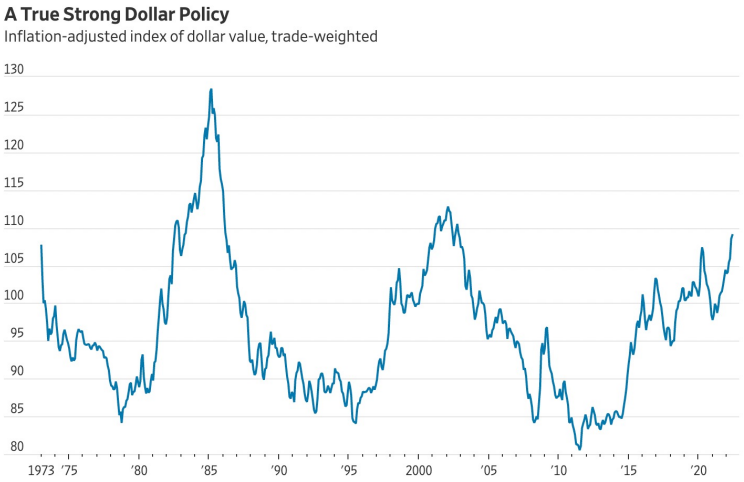
117

US Exchange Rate



118

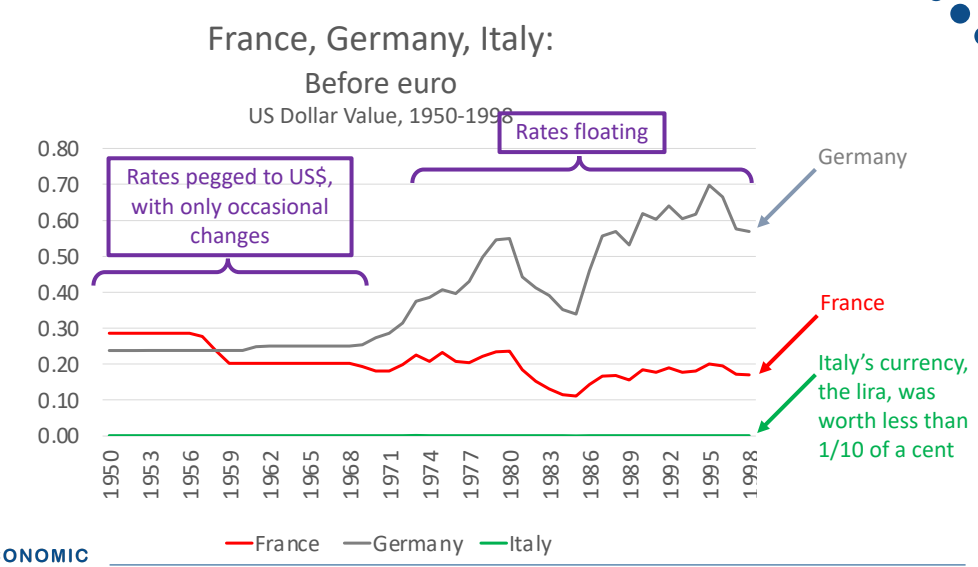
US Exchange Rate



Source:
WSJ, 7/11/22

119

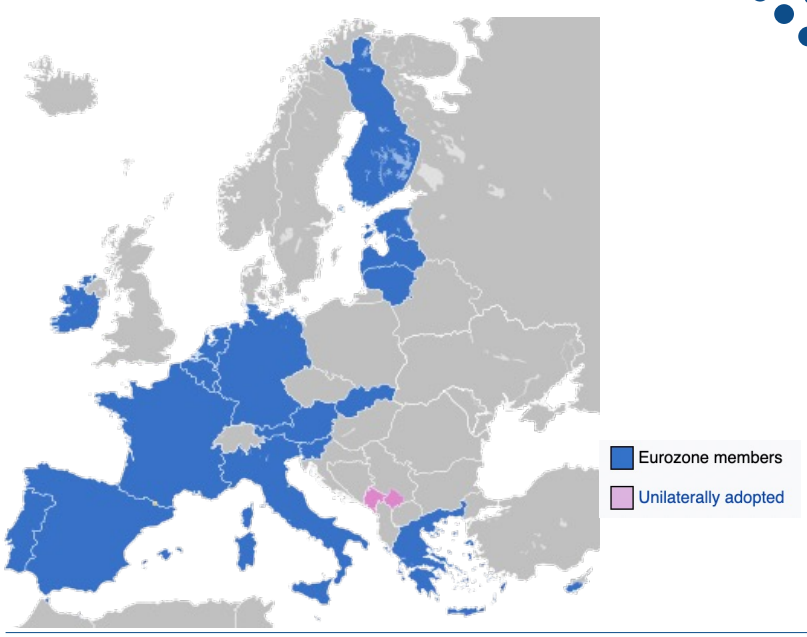
Dollar Value of Other Currencies



Source:
IMF
International Financial Statistics

120

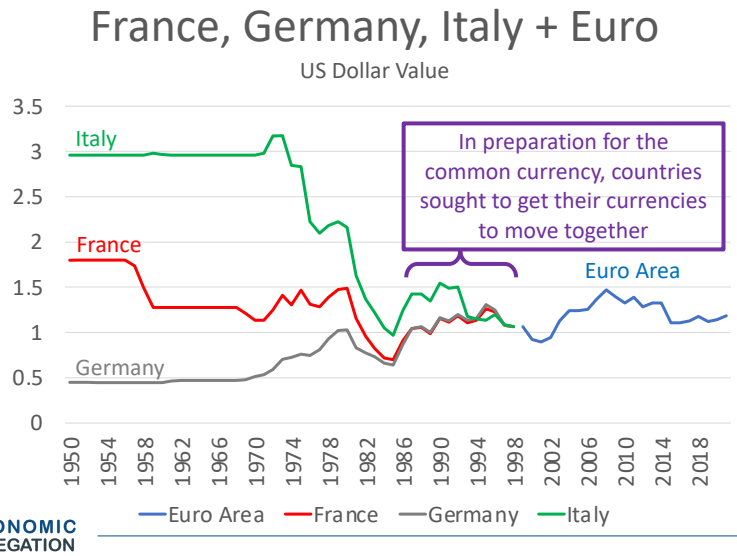
Euro Area



NATIONAL ECONOMIC EDUCATION DELEGATION

121

Dollar Value of Other Currencies



Rates here are scaled up to match value of euro in 1998.

Source: IMF *International Financial Statistics*

NATIONAL ECONOMIC EDUCATION DELEGATION

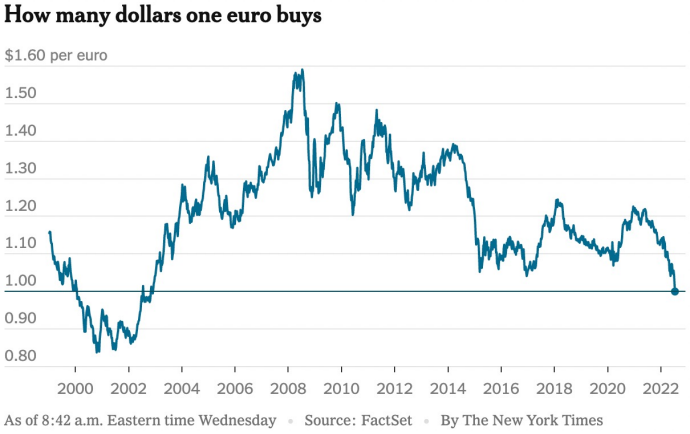
122

Dollar Value of Other Currencies

Euro Falls to Equal the U.S. Dollar for the First Time in 20 Years

The New York Times

July 14, 2022



123

Dollar Value of Other Currencies

Euro

X-rates.com

Nov 7, 2022

124

Dollar Value of Other Currencies

Percentage change of select currencies versus dollar

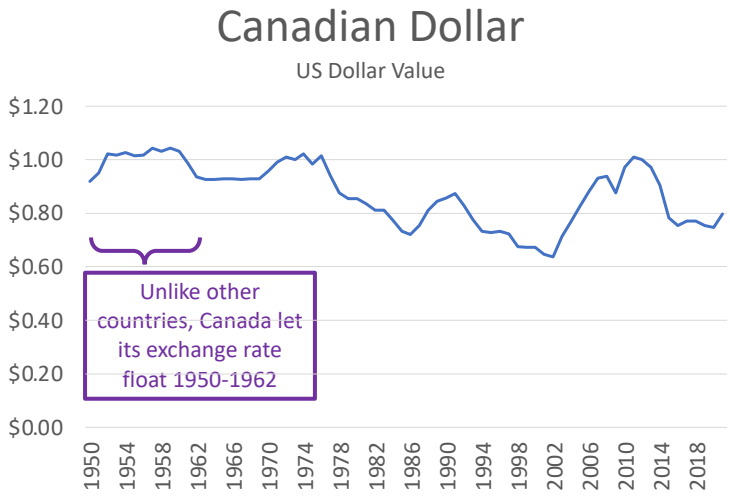
THE WALL STREET JOURNAL.
July 18, 2022

Source: Tullett Prebon

NATIONAL ECONOMIC EDUCATION DELEGATION

125

Dollar Value of Other Currencies



Source:
IMF
International Financial Statistics

NATIONAL ECONOMIC EDUCATION DELEGATION

126

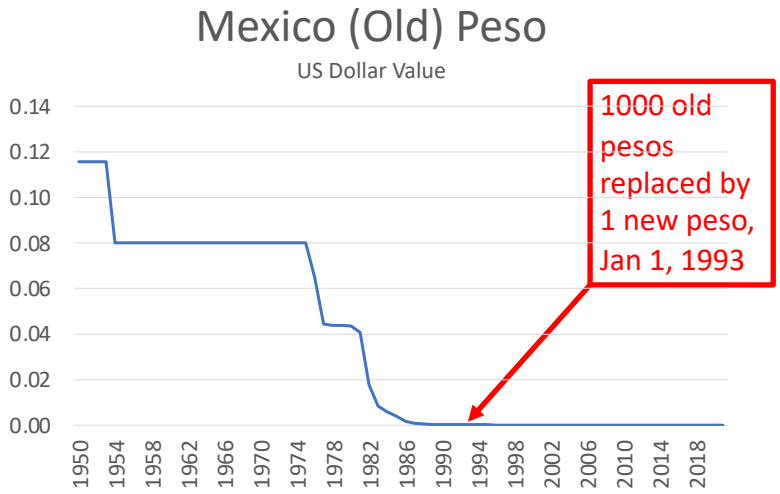
Dollar Value of Other Currencies

Canadian dollar

X-rates.com
Nov 7, 2022

127

Dollar Value of Other Currencies

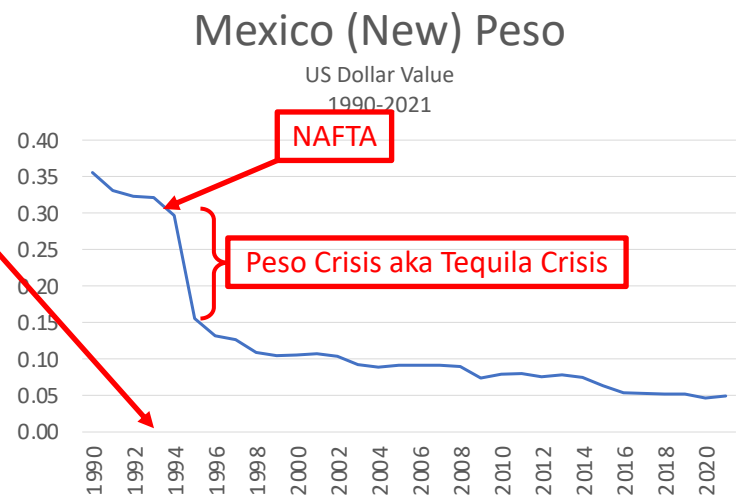


Source:
IMF
International Financial Statistics

128

Dollar Value of Other Currencies

1000 old pesos replaced by 1 new peso, Jan 1, 1993



Source:
IMF
International Financial Statistics

129

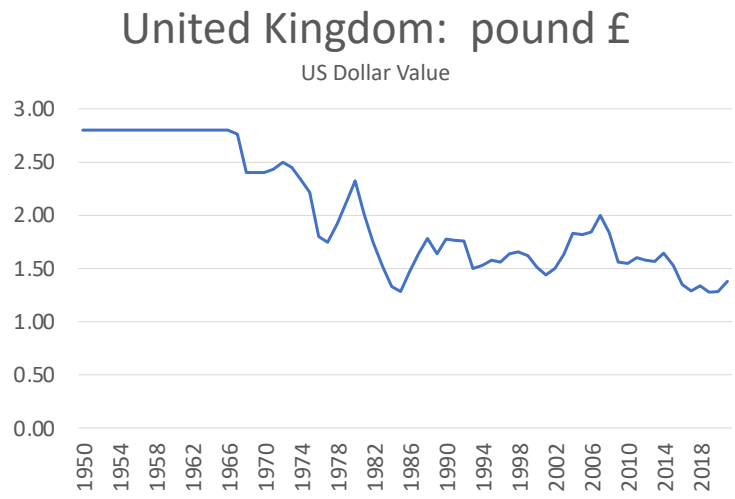
Dollar Value of Other Currencies

Mexican peso

X-rates.com
Nov 7, 2022

130

Dollar Value of Other Currencies



Source:
IMF
International Financial Statistics

131

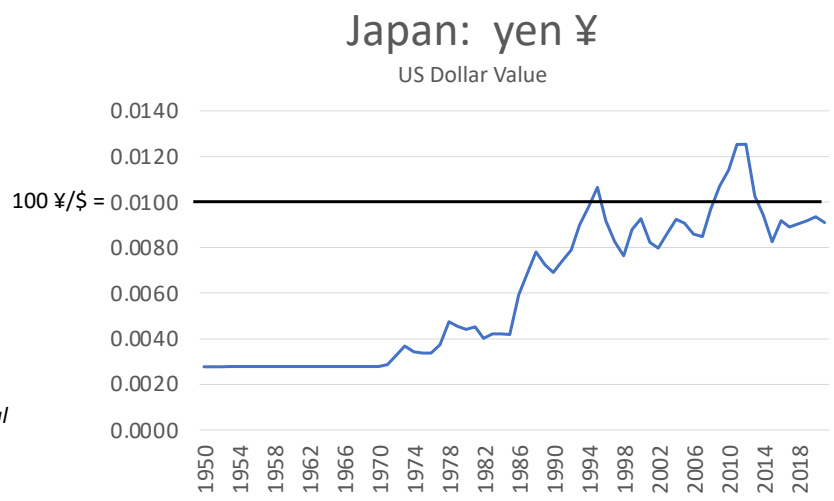
Dollar Value of Other Currencies

UK pound

X-rates.com
Nov 7, 2022

132

Dollar Value of Other Currencies



Source:
IMF
International Financial Statistics

NATIONAL ECONOMIC EDUCATION DELEGATION

133

Dollar Value of Other Currencies

Source:
WSJ, 7/11/22

NATIONAL ECONOMIC EDUCATION DELEGATION

134

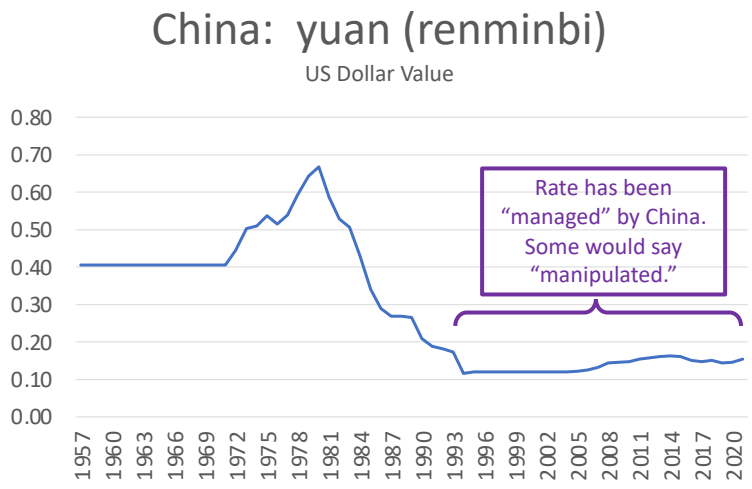
Dollar Value of Other Currencies

Japanese yen

X-rates.com
Nov 7, 2022

135

Dollar Value of Other Currencies



Source:
IMF
International Financial Statistics

136

Dollar Value of Other Currencies

Chinese yuan

X-rates.com
Nov 7, 2022

137

How Exchange Rates Matter

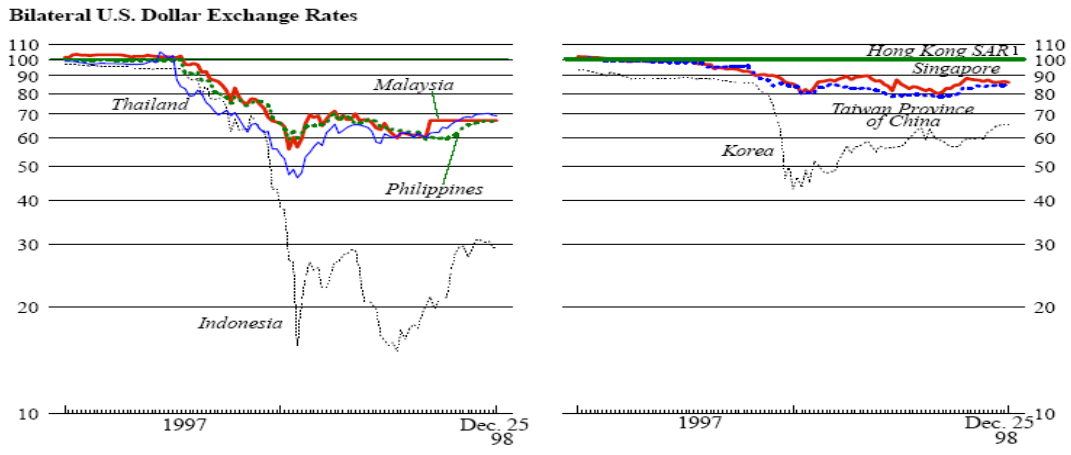
- **Effects of an exchange rate depreciation**
  - (fall in value of the country's currency)
  - Trade
    - Exports become less expensive and quantity likely rises
    - Imports become more expensive and quantity likely falls
    - Trade balance likely improves (surplus ↗ or deficit ↘)
  - Macroeconomic
    - Raises domestic prices of imports and thus inflation
    - If at full employment, real income falls, causing less spending
    - If in recession, increased demand for products increases employment

138

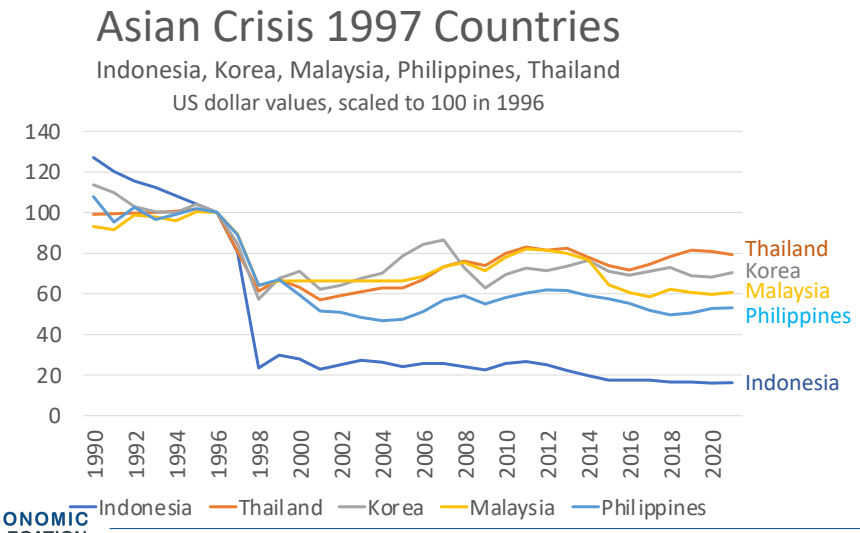
How Exchange Rates Matter

- **More effects of an exchange rate depreciation**
  - (fall in value of the country's currency)
  - Domestic value of foreign assets and debts rises
    - Net creditors gain, net debtors lose
      - Effect on interest/dividend payments is opposite
    - Those who have borrowed abroad to finance investment at home lose
      - May go bankrupt
- **Effects of expectation of exchange rate depreciation**
  - Holders of assets in domestic currency try to sell and move abroad
    - ↳ This speculative attack causes greater depreciation
  - Example from 1997 Asian Crisis

The Asian Crisis of 1997



The Asian Crisis of 1997



NATIONAL ECONOMIC EDUCATION DELEGATION

141

141

Currency Manipulation

- **Currency Manipulation**
  - Defined as
    - Intervention in the exchange market by Central Bank or Government
    - In order to push down, or keep down, the value of the currency
  - Presumed purposes: To…
    - Increase exports
    - "Gain unfair advantage" in international trade and competitiveness
    - Stimulate the domestic economy
    - Accumulate foreign assets

NATIONAL ECONOMIC EDUCATION DELEGATION

142

142

Currency Manipulation

- **US Definition of Currency Manipulation**
  - US Treasury issues report on currency manipulation twice each year
  - Criteria for manipulation
    1. Persistent net official purchases of foreign currency
       (more than 2 percent of GDP)
    2. A material trade (current account) surplus
       (more than 2 percent of GDP)
    3. A significant bilateral trade surplus with the United States
       (more than $20 billion per year)

143

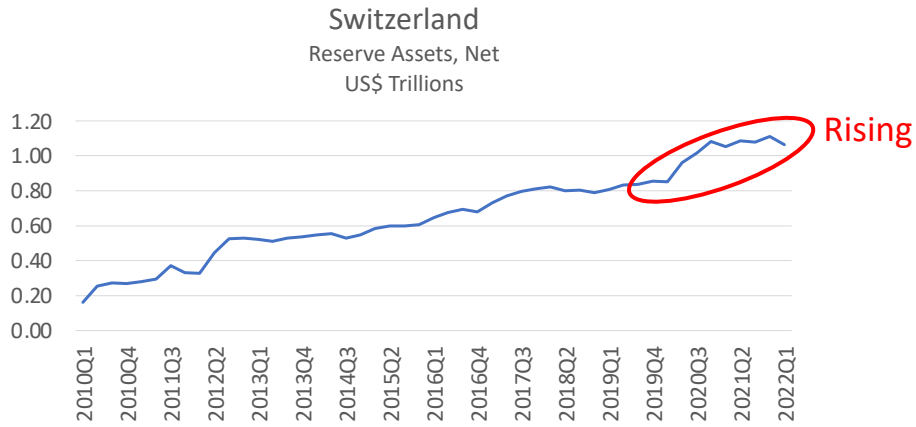
Currency Manipulation

- **US Treasury Report June 10, 2022**
  - "No major U.S. trading partner during 2021 manipulated the rate of exchange between its currency and the U.S. dollar for purposes of preventing effective balance of payments adjustments or gaining unfair competitive advantage in international trade."
  - "Switzerland meets all three criteria … over the four quarters through December 2021, and therefore Treasury is conducting enhanced analysis of Switzerland's macroeconomic and exchange rate policies in this Report.
  - 12 economies are on "Monitoring List": China, Japan, Korea, Germany, Italy, India, Malaysia, Singapore, Thailand, Taiwan, Vietnam, and Mexico
- **Look at data for two: Switzerland and China**

144

Currency Manipulation

Manipulation Criteria: Net Official Purchases of Foreign Currency (Reserves)



NATIONAL ECONOMIC EDUCATION DELEGATION

145

Currency Manipulation

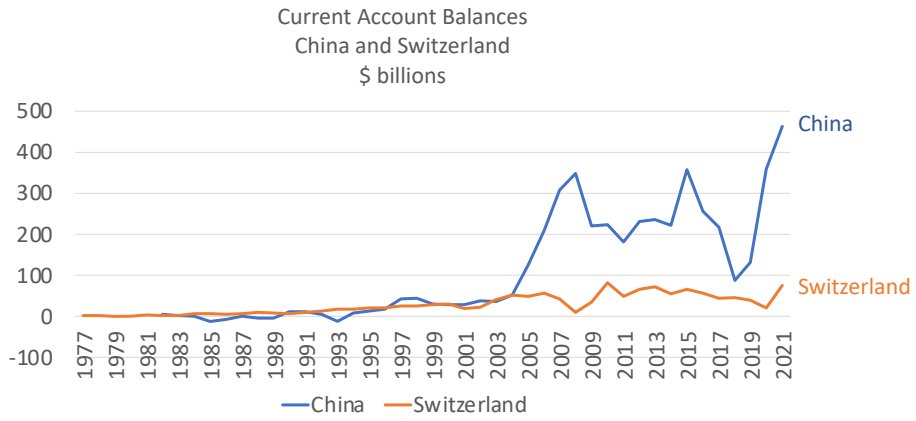
Manipulation Criteria: Net Official Purchases of Foreign Currency (Reserves)

NATIONAL ECONOMIC EDUCATION DELEGATION

146

Currency Manipulation

Manipulation Criteria: Current Account Surpluses



NATIONAL ECONOMIC EDUCATION DELEGATION

147

Currency Manipulation

Manipulation Criteria: US Bilateral Deficits

US Bilateral Trade Deficits larger than $20 billion	
China	-923.2
Mexico	-365.8
Japan	-236.5
Germany	-104.9
Vietnam	-70.1
Ireland	-58.8
Italy	-58.5
Canada	-53.0
Malaysia	-33.7
Switzerland	-33.3
India	-28.4
Korea, Rep.	-25.5
Thailand	-24.7

US Bilateral Trade Surpluses larger than $20 billion	
Netherlands	20.3
Hong Kong, China	25.9

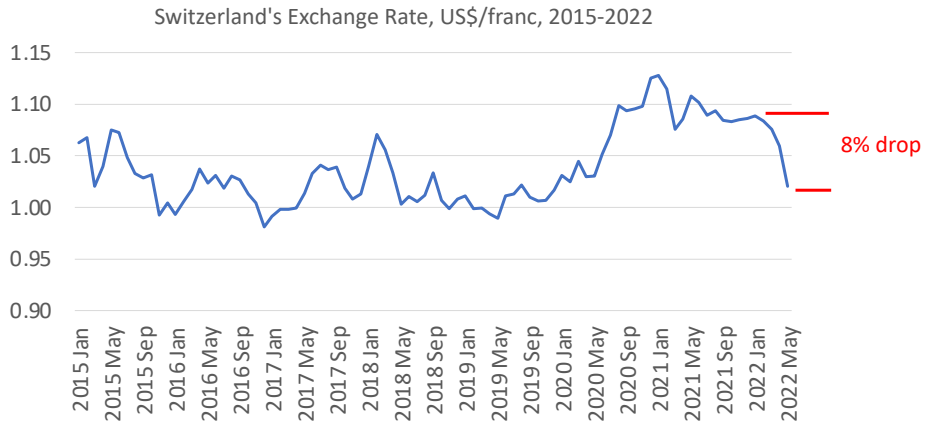
NATIONAL ECONOMIC EDUCATION DELEGATION

148

148

Currency Manipulation

Not Manipulation Criteria:
Exchange Rates



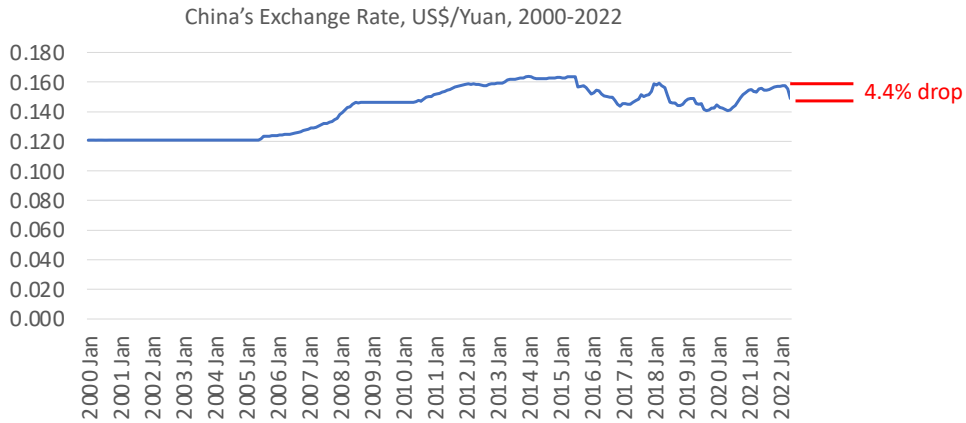
NATIONAL ECONOMIC EDUCATION DELEGATION

149

149

Currency Manipulation

Not Manipulation Criteria:
Exchange Rates



NATIONAL ECONOMIC EDUCATION DELEGATION

150

150

Thank you!

Any Questions?

www.NEEDelegation.org
Alan Deardorff
alandear@umich.edu

Contact NEED: info@NEEDelegation.org

Submit a testimonial: www.NEEDelegation.org/testimonials.php

Become a Friend of NEED: www.NEEDelegation.org/friend.php

151