

Understanding World Currencies and Exchange Rates

Currencies

- For reasons of “part of being a country” and being able to control/influence an important part of the domestic economy, most countries have their own money
- When spoken of in the domestic context, this money is referred to as the money supply; when this money supply is traded with other money supplies internationally, the term currency is more often used

Exchange Rates

- Rates at which currencies exchange with other currencies are known as foreign exchange rates, or short hand of exchange rates
- The **most important exchange rates for currencies are exchange rates with the US**, by far the dominant exchange rate used in FX market.
- A **second, non FX market exchange rate, that is calculated for analysis purposes is so-called cross exchange rate**, an implicit rate between 2 non-\$ currencies. These rates are used to track exchange rate competitiveness between 2 non-US countries, such as Pound/Euro, Yen/SKWon, Yen/Renmembi, Peso/Real, Florint/Zloty, Indian Rupee / Pakistan Rupee.
- A **third calculated exchange rate, also used for analysis purposes ,is exchange rate of one currency on average against other important currencies**. These rates go by various names – average, effective, trade-weighted, etc. – and have as purpose tracking countries' overall exchange rate competitiveness against baskets of important world currencies.

Exchange Rate Movements

- Currencies frequently move in value against each other, or, their exchange rates change
 - When a **currency rises in value** against another currency / other currencies, the movement is called **appreciation**, or the currency might be said to have risen or gotten stronger
 - When a **currency falls in value** against another currency / other currencies, the movement is called **depreciation**, or the currency might be said to have fallen or weakened

Interpreting Numerical Exchange Rate Movements

- So we know that exchange rates appreciate and depreciate, but to know how to decide if particular numerical exchange rate movement means appreciation or depreciation is not totally straightforward because by foreign exchange trading conventions, not all exchange rates are expressed same way
- For nearly all world currencies, exchange rate with \$ is expressed as Numbers of Foreign Currency per US\$, as Yen 150 per \$, Mexican Pesos 15 per \$, Indonesian Rupiahs 9000 per \$, Canadian Dollars 1.04 per \$, etc.
- But, for 2 world currencies, Pound and Euro, convention is Numbers of \$ per Pound or Euro, as in \$1.22 per Pound and \$1.09 per Euro

Interpreting Numerical Exchange Rate Movements

- Whether a numerical movement means appreciation or depreciation therefore differs for the 2 forms of the exchange rates with dollar
- For Numbers of Foreign Currency per Dollar exchange rates – yen, peso, Canadian \$, ruble, in fact most exchange rates – when the numerical exchange rate rises, it means \$ has appreciated and foreign currency has depreciated, with opposite meaning for numerical rate falling
 - So when Japanese Yen / Dollar rate goes from 90 to 150 per Dollar, it means Yen has depreciated and Dollar has appreciated – from dollar perspective, I get more Yen for a Dollar – Dollar is of greater value – and from Yen perspective I have to pay more Yen for a Dollar – Yen is of lower value
 - Or when Russian Ruble / Dollar rate goes from 80 to 60 it means Ruble has appreciated and dollar has depreciated – from dollar perspective I get fewer Rubles for a Dollar – dollar is of lesser value – and from Ruble perspective I have to pay less for a Dollar – Ruble is of greater value

Interpreting Numerical Exchange Rate Movements

- For Pound and Euro, things work in reverse. When numerical exchange rate rises, movement means \$ has depreciated and Pound or Euro appreciated, with opposite meaning for numerical rate falling
 - When US\$ / Euro rate goes from 1.25 to 1.10, it means Dollar has appreciated and Euro depreciated – from dollar perspective, it takes fewer Dollars to buy a Euro – Dollar is of greater value (and my European trip is cheaper), and from Euro perspective a Euro gets fewer dollars and Euro is of less value
 - And when \$ / Pound rate for example goes from 1.22. to 1.35, means Dollar has depreciated and Pound appreciated – takes more Dollars to buy a Pound – Dollar of less value – and a Pound buys more dollars – Pound of greater value
- As overall principle, rises in a numerical exchange rate means numerator currency has depreciated and denominator currency has appreciated, and falls in a numerical exchange rate means numerator currency has appreciated and denominator currency has depreciated.
- For average exchange rates, because of how calculated, rises in index almost always means overall appreciation of currency and falls in index means overall depreciation in currency.

Examples of Recent Exchange Rate Movements

Value as of:	Jan 2020	Dec 2023	
• Euro (\$/E)	1.1076	1.0871	\$ Ap / E Dp
• Pound (\$/P)	1.3071	1.2635	\$ Ap / P Dp
• Mex Peso (P/\$)	18.802	17.257	\$ Dp / P Ap
• Can \$ (C\$/C\$)	1.3087	1.3471	\$ Ap / C\$ Dp
• Yen (Y/\$)	109.30	144.58	\$ Ap / Y Dp
• Aus \$ (A\$/A\$)	1.4594	1.5024	\$ Ap / A\$ Dp
• Kor Won (w/\$)	1167.9	1299.8	\$ Ap / W Dp
• Chn Rmb (R/\$)	6.9922	7.1424	\$ AP / W Dp

Implications of Appreciation/Depreciation

- Appreciation or depreciation of currency is not just a mathematical result, but has major economic impacts.
- When a country's currency **exchange rate appreciates**,
 - Makes country more expensive to rest of world and rest of world cheaper to country
 - Increases money going out and lowers money coming in
 - Helps country's importers and consumers, hurts country's exporters
 - Strong dollar helps Walmart and you and I, hurts, for example, Caterpillar
 - Helps entities in country who have borrowed in foreign currencies
- When a country's currency **exchange rate depreciates**,
 - Makes country cheaper to rest of world and rest of world more expensive to country
 - Lowers money going out and raises money coming in
 - Helps country's exporters, hurts country's consumers and importers
 - Weak dollar hurts Walmart and you and I, helps, for example Boeing
 - Hurts entities in country who have borrowed in foreign currencies

How Currency Markets Operate

- Currency markets are “run” by foreign exchange departments of international banks, and specialty foreign exchange trading firms
- These departments and firms acts as brokers / dealers / intermediaries between ultimate users of foreign trade exchange
- These ultimate users are entities who have operations in more than one currency / country, and need to trade currencies to move financial resources from one country to another. Examples include: exporters and importers, governments, international investors, currency speculators, multinational companies, tourists, etc.
- Each of them frequently or occasionally need to convert value in one currency into value in another currency.

How Currency Markets Operate

- Specific examples of types of economic actions that would go through these foreign exchange (FX) markets could include:
- American tourist exchanging dollars for euros at Paris airport
- Japanese tourist withdrawing dollars at an Arizona ATM
- US exporter converting the pounds it was paid with for dollars
- Brazilian investor converting reais for dollars to make US investment
- Russian wealth holder moving his rubles to British bank pound account
- Thai company converting bhat to euros for an interest payment on a loan
- Canadian importer buying US dollars to purchase US goods
- Walmart buying Chinese Remyimbi to purchase China goods

How Currency Markets Operate

- To carry out a needed exchange, user will go a foreign exchange broker/ dealer – one of entities mentioned earlier – and “offer” currency they have and “bid” for currency they want, at exchange rate being quoted.
- Because so much foreign exchange trading is going on – some say \$7-10 trillion a day – it will be almost certain that someone else will be “offering” currency they want and “bidding” for currency they have, and exchange is quickly completed, at least for major currencies.
- Foreign exchange traders make their money by profiting from small gaps between bid and offer prices for currency.

How Currency Markets Operate

- Currency trading goes on in two types of foreign exchange markets.
 - In spot market, the one most familiar, exchange of currencies is made instantly, or, to be exact, settled within 2 days.
 - In forward market, in some ways more important, a contract to exchange currencies, including amount and exchange rate, is made today, but actual exchange does not occur until a date in future specified in contract.
- Forward market is important because it allows international economic actors to hedge currency exposure or speculate in currencies, both important activities.
- Hedgers – exporters and importers, investors – use forward foreign exchange market to “lock in” exchange rate and eliminate FX risk on a future transaction. Without forward foreign exchange market, international trade would cease.
- Speculators use forward market to make “bets” on future movements of currencies more efficiently than if they had to actually had to buy or sell currency they thought was going to appreciate or depreciate, respectively.
- Major centers of currency trading in the world are in London, New York, and Tokyo.

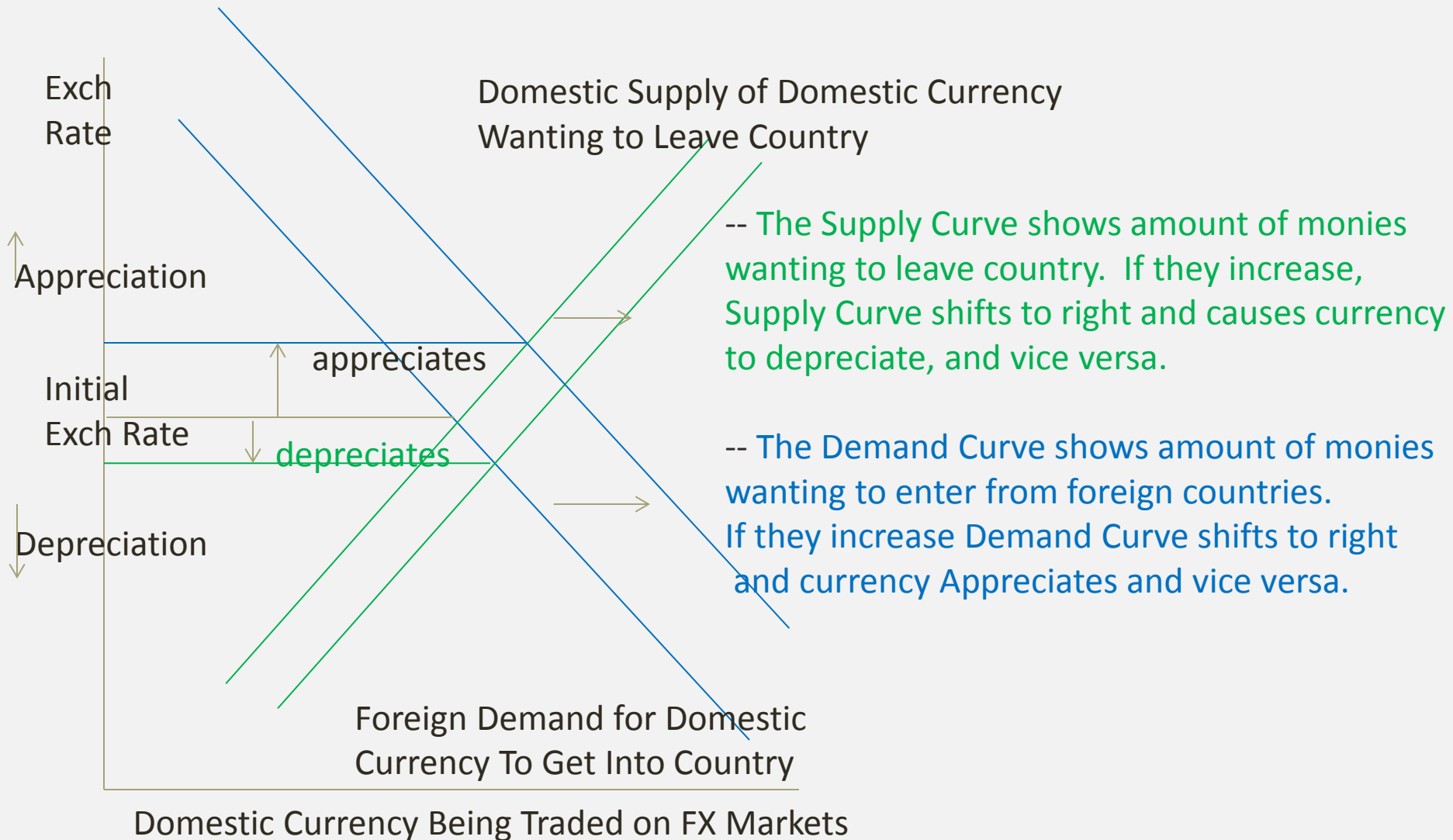
Why Exchange Rates Move

- While it is difficult to explain exactly why specific currency moves a specific direction at a specific time, basic forces are straightforward.
 - A currency **rises** in value, or **appreciates**, when there is **more money trying to get into the country** to buy its goods or invest in it, or, **less money trying to leave the country** to buy foreign goods or invest somewhere else.
 - A currency **falls** in value, or **depreciates**, when there is **less money trying to get into the country** to buy its goods or invest in it, or, **more money trying to leave the country** to buy foreign goods or invest somewhere else.

Why Exchange Rates Move

- A **wide variety of forces** drive these movements of money into/out of a country. Note that in all cases it is not absolute outcome for forces but what it is **Relative to Other Countries**.
- # **Stability** relative to other countries, with relatively more/less internal stability causing money to enter/leave. (*United States in, Argentina out*)
- # **Inflation** relative to other countries, with relatively more/less internal inflation causing money to leave/enter. (*Argentina out, US in*)
- # **Productive capabilities** relative to other countries, with relatively more/less internal productive capability causing money on enter/leave. (*China in, other countries out*)
- # **Economic policies** relative to other countries, with relatively better/poorer internal economic policies causing money enter/leave (*Singapore in, Venezuela out*)
- # **Interest Rates** relative to other countries, with relatively higher/lower internal interest rates causing money enter/leave. (*US in, EU out recently*)
- # **Rates of domestic spending** relative to other countries, with relatively more/less internal domestic spending causing money to leave/enter. (*US out, Russia in*)
- Following slide shows how economists graph these interactions.

Why Exchange Rates Move – Illustrative Graph



Impacts of Exchange Changes – A Reminder

- When a country's exchange rate appreciates,
 - Country becomes more expensive to the rest of the world and rest of world less expensive to country
 - Increases money going out and lowers money coming in
 - Helps country's importers and consumers, hurts country's exporters, and has opposite impacts in other countries
 - Helps entities in country who have borrowed in foreign currencies
 - Pushes a country's balance of payments toward deficit
- When a country's exchange rate depreciates,
 - Country becomes less expensive to rest of the world and rest of world more expensive to the country
 - Lowers money going out and raises money coming in
 - Helps country's exporters, hurts country's consumers and importers, and has opposite impacts in other countries
 - Hurts entities in country who have borrowed in foreign currencies
 - Pushes country's balance of payments toward surplus

Governments' Shaping of Exchange Rates

- As sovereign nations, countries can, within bounds, choose “type” of exchange rate they have.
- For most part, countries have chosen what are called **Floating or Flexible** exchange rates, of 2 types:
 - Pure float – government has no “correct” exchange rate and takes no action to affect exchange rate (US Dollar)
 - Managed float – government has no correct exchange rate but does on occasion take actions to affect speed of exchange rate movements (Japan Yen)
- Most major trading nations have one of these types of exchange rates
- Some countries choose to **Peg** their exchange rate against another currency, the Saudi Riyal peg against USD is an example; in this system, government chooses and announces a desired exchange rate, and when necessary takes actions to keep that rate
- Other countries **use another country's currency** as their formal currency, sometimes called dollarization; examples include Panama, El Salvador, and Ecuador using Dollar; Eurozone members using joint currency of the Euro; several East Caribbean countries jointly using East Caribbean \$; several West African countries jointly using West African Franc

How Exchange Rates are Pegged

- In case of floating exchange rate, actions required by government / central bank are minimal, as they allow the market to set the rate.
- In the case of a peg, however, a process must be followed
- First, a currency, or group of currencies, that is to be pegged against must be chosen; in case of Saudi Arabia, the dollar.
- Second, desired rate must be set and announced; for Saudi Riyal, presently at 3.75 riyals per dollar.
- Third, amount actual rate to be allowed to deviate from desired rate, called fluctuation bands, must be set.
- Fourth, if market pushes actual exchange rate to upper or lower fluctuation bands, actions, called foreign exchange market intervention, must be taken.
 - If currency is trying to appreciate, country's central bank uses domestic money to buy foreign exchange trying to enter and hold currency down to desired rate; can be done indefinitely (China)
 - If currency is trying to depreciate, country's central bank must use foreign exchange reserves to buy domestic currency trying to leave to hold currency up to desired rate; can be done only until reserves run out (many countries, most recently Argentina)

Floating versus Pegged

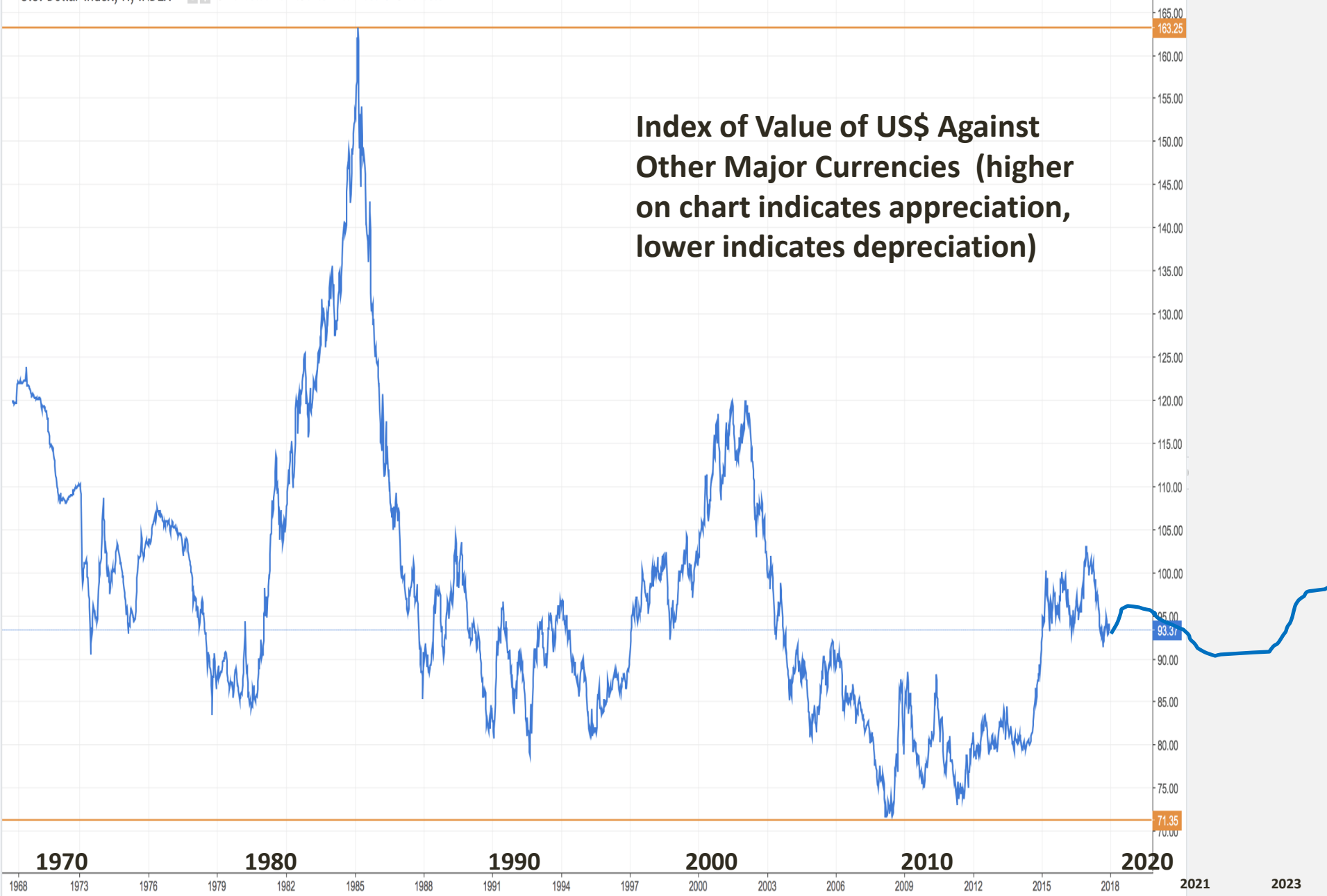
- Most economists believe that for most countries floating exchange rates are best
 - Causes exchange rate to adjust to where global market conditions place it
 - Eliminates need for foreign exchange market intervention by central bank
 - Most importantly, prevents currency collapses experienced by many countries
 - Argentina, Indonesia, Russia, Mexico, Ukraine, Thailand, Turkey, Venezuela
- Pegged exchange rates may work better if a country:
 - Trades heavily with one other country (Saudi Arabia)
 - Its exports are a single commodity that is not price sensitive (Saudi Arabia)
 - Does not have a forward market for its currency (Sub Saharan Africa)
 - If a country does peg its exchange rate, it must run its internal policies in a way that does not put downward pressure on that exchange rate

Applications to Recent Global Trends/Events

- Why is \$ Generally Rising Over Past 4 Years?
- Essentially because more money is trying to enter US than leave, perhaps as result of US economy being stronger than rest of world economy, of greater US economic and political stability, of faster and higher interest rate run up. For historical context on recent dollar movements, see second slide after this one.
- Why has Argentina Peso plunged of late – from 59 pesos to dollar at start of 2020 to 600 pesos to dollar at present?
- When exchange rates move this much this quickly – called a currency collapse – it is almost always the result of extremely poor or unstable economic or political policies, including attempting to hold untenable pegged exchange rate, printing too much money, and running out of international reserves.

Applications to Recent Global Trends/Events

- China's exchange rate with dollar appreciated then depreciated over the past 4 years. Why?
- Again, a result of changing strengths of the various forces that drive exchange rates.
 - Initially China seemed to managing Covid, and its economic effects, better, so China seemed a better place to put money and Remmimbi appreciated.
 - More recently however, China's economy has been experiencing problems, and policies have become less foreign-friendly, so less money flows into China and its exchange rate has depreciated.



Takeaways

- Without foreign exchange market, international economic connections would largely cease, since they could occur otherwise only through inefficient barter.
- Huge sums of money transit this market, and huge profits are made, but because of huge volumes, not huge margins. FX trading is a high-volume, low-margin business.
- Some countries have pegged exchange rate systems, but most of the major trading countries, including the US, have flexible or floating exchange rate systems.
- This latter system is viewed by economists as being by far the better of the two, as it prevents currency manipulation as practiced by China and countries' getting in currency collapse situations.
- Currency / Exchange Rate movements are difficult to predict, but are driven by relative interest rates, relative economic policies, relative stability situations, relative inflation rates, relative productive capabilities, etc.
- Over the time the dollar has floated, since 1971 more or less, it has alternately risen and fallen as the various forces described above ebbed and flowed.
- Over past 4 years, dollar has risen, likely due to stronger US economy, faster/higher runup in US interest rates, greater US economic and political stability.