

# ECON 4311 – Economy of Latin America

## Lecture 8: Exchange-Rate Policy

Luis Pérez

University of Minnesota

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# Outline

- 1 Introduction
- 2 The Balance of Payments
  - Current Account
  - Financial Account
- 3 Exchange Rates
  - Flexible Exchange Rates
  - Fixed Exchange Rates

# Introduction

- ▶ Macroeconomics is concerned with the movements of GDP, the level of unemployment, and the inflation rate (among other things.)
- ▶ We focus on the post-1945 period, due to data restrictions.
- ▶ We expand on what we've learned on the last couple of lectures about international trade.
- ▶ We'll give a more complete description of a country's economic interactions with the rest of the world.
  - More than just trade going on.

# Introduction

- ▶ Recall that, for the most part, Latin America is an important supplier of primary commodities to the rest of the world.
- ▶ Trade with other countries generates inflows and outflows of money.
- ▶ These flows of money can affect the price of domestic currency relative to foreign currencies—that is, exchange rates.
- ▶ We'll try to understand how inflows and outflows of money due to international trade can affect exchange rate determination.

# Balance of Payments

- ▶ We saw how countries keep detailed data on imports and exports.
- ▶ Countries also record inflows and outflows of money.
  - Much more than just trade-related flows.
- ▶ **Balance of payments.** Detailed records of all money inflows and outflows out of a country.
- ▶ The balance of payments has **two main components**:
  1. **Current account.** Records international transactions that include goods, services, investment income, and unilateral transfers.
  2. **Financial account.** Records the difference between holdings of foreign assets by domestic residents and of domestic assets by foreign residents.

# Balance of Payments

- ▶ We look at a representative country in Latin America (RCILA) to understand which transactions are included in the current account and which in the financial account.
- ▶ Restrict attention to a “normal year”.
  - Representative year of the economic relationships between LatAm and the rest of the world
  - Economic fluctuations are smoothed out.

# Balance of Payments

Figure: Balance of Payments (millions of pesos)

<i>Current account transactions</i>	
Exports of goods	200
Imports of goods	-180
Balance on trade	20
Exports of services	5
Imports of services	-20
Balance on services	-15
Balance on goods and services	5
Income receipts from RCILA assets abroad	5
Income payments of foreign assets in RCILA	-25
Balance on investment income	-20
Balance on goods, services, and income	-15
Unilateral transfers, net	5
Balance on current account	-10
<i>Financial account transactions</i>	
Change in RCILA assets abroad	-1
Official reserve assets	
Private assets	-2
Change in foreign-owned assets in RCILA	3
Official reserve assets	
Foreign private assets	10
Balance on financial account	10

# Balance of Payments

- ▶ Notice there are both current- and financial-account transactions.
- ▶ Inflows of money (+), outflows of money (-)
- ▶ Outflows not necessarily a bad thing.
  - Imports and investment abroad can help sustain a healthy economy.
- ▶ Balance current account (-10) = - balance financial account (10).



# Current Account

Records international transactions that include goods, services, investment income, and unilateral transfers

Figure: Balance of Current Account (millions of pesos)

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*Current account transactions*

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Imports of goods	-180
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Balance on investment income	-20
Balance on goods, services, and income	-15
Unilateral transfers, net	5
Balance on current account	-10

## Current Account (numbers are millions of pesos)

**Balance on current account:**  $-10$ .

▶ **Trade balance:** 5.

- Balance on trade of goods (**Exports** – **Imports**): 20.  
(oil, textiles, machines)
- Balance on trade of services (**Exports** – **Imports**):  $-15$ .  
(tourism, business- and financial services)

▶ **Balance on investment income:**  $-20$ .

- Income receipts from assets abroad (**profits, interests, dividends**): 5.
- Income payments of foreign assets (**profits, interests, dividends**):  $-25$ .

▶ **Unilateral transfers (net):** 5.

- Official development assistance, remittances from foreigners to home.

## Trade Balance and Current Account

- ▶ Argentina, Colombia and Mexico are running a trade deficit.
- ▶ No country is running a surplus on the current account.
- ▶ Typically, current accounts more balanced than trade accounts.

<i>Country</i>	<i>Balance on trade (billions of \$)</i>	<i>Current account balance (billions of \$)</i>
Argentina	-8.5	-31.3
Brazil	67.0	-9.8
Chile	4.2	-4.1
Colombia	-8.3	-10.6
Mexico	-10.9	-19.1
Venezuela	43.0	-3.9

Source: World Integrated Trade Solution and ECLAC-cepalstat.

Notes: Data for Venezuela is from 2013 BT and 2016 CAB.

# Financial Account

Records the difference between holdings of foreign assets by domestic residents and of domestic assets by foreign residents

Figure: Balance of Financial Account (millions of pesos)

*Financial account transactions*

Change in RCILA assets abroad	-1
Official reserve assets	
Private assets	-2
Change in foreign-owned assets in RCILA	3
Official reserve assets	
Foreign private assets	10
Balance on financial account	10

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## Financial Account (numbers are millions of pesos)

**Balance on financial account:** 10.

- ▶ **Change in assets abroad:**  $-1$ .
  - FDI and financial products abroad.
  
- ▶ **Official reserve assets abroad:**  $-2$ .
  - Pesos held by other countries.
  
- ▶ **Change in foreign-owned assets in RCILA:** 3.
  - FDI and financial products that foreigners own in RCILA.
  
- ▶ **Official reserve assets in RCILA:** 10.
  - Pesos-equivalent reserves held of international currency.

# Financial Accounts in Latin American Countries

- ▶ Change in assets abroad typically a small number.
  - LatAm countries are capital scarce.
- ▶ Typically positive changes in foreign-owned assets in RCILA.
  - We expect inflows of FDI and portfolio capital in well-managed middle-income countries.
    - ▶ Higher returns on capital in LatAm than in higher-income countries, since capital is scarce.
    - ▶ Higher returns on financial assets in LatAm than in higher-income countries, due to higher growth potential.
- ▶ Typically official reserves in Latin America larger than reserves abroad.

# Exchange Rates

- ▶ We saw that the balance of payments is balanced:

Balance of current account =  $-$ balance of financial account.

- ▶ Balancing inflows and outflows of money not always a smooth process.
- ▶ Countries must manage these flows.
- ▶ This management of money flows involves the choice of an exchange-rate system.
- ▶ **Two exchange-rate systems.**
  1. Flexible exchange rate. Most countries today.
  2. Fixed exchange rate. Countries in Bretton Woods system.

# Timeline of Exchange Rates

- 1. Gold standard.** Local currencies linked to gold.
  - $X$  units of local currency =  $Y$  units of gold.
- 2. Bretton Woods' system (1944–1971).**
  - Foreign currencies linked to USD. ( $X$  units of local currency = 1 USD)
    - ▶ Currencies to be kept within 1% of fixed exchange rate.
    - ▶ Dollar-pegged exchange rate. (some unstable countries today)
  - USD linked to gold. ( $35$  USD = 1oz gold).
- 3. Transition to flexible exchange rates starting in 1971.**
  - Exchange rates determined by market conditions (i.e., supply and demand of local vs. foreign currencies).
  - Most Latin American countries took some time to adopt flexible rates.



# Flexible Exchange Rates

- ▶ **Flexible-exchange rates.** Rates of exchange between local and foreign currencies that are determined by market conditions.
  - Market conditions: supply and demand of local vs. foreign currencies.
  - Exchange rates fluctuate as any other price.

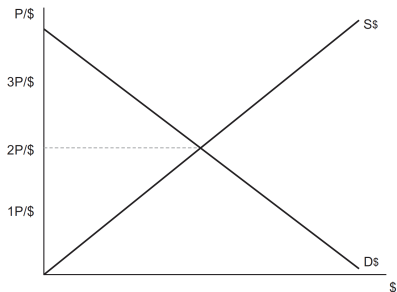


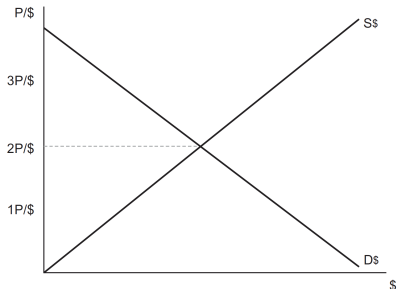
Figure: Demand and supply of foreign exchange ( $P =$  pesos;  $\$ =$  USD).

# Flexible Exchange Rates

- ▶ **Demand of USD.** Latin Americans sell local currency and buy USD.
  - To import goods/services. E.g., Mexican firm buys US machines.
  - To buy financial products. E.g., Mexican buys US T-bills.
  - To consume abroad. E.g., Mexicans go to Disney in Orlando.
- ▶ **Supply of USD.** US sells USD and buys Latin American currency.
  - Exports goods/services. E.g., US firm buys Mexican tortilla makers.
  - Financial products. E.g., US investors buy Mexican stocks or construct new factories in Mexico.
  - US citizens go to Latin America. E.g., some of you during Spring break.
- ▶ Very common transactions → lots of trading in foreign-exchange.

# Flexible Exchange Rates: Depreciation vs. Appreciation

- ▶ **Interpretation.** In equilibrium, it takes 2 pesos to buy 1 USD.
  - Suppose something causes an increase in the demand of USD, and we move to  $3P/\$$  equilibrium. *Does the peso appreciate or depreciate?*
    - ▶ **Peso depreciates:** it takes more pesos to buy 1 USD.
  - Suppose something causes a decrease in the demand of USD, and we move to  $1P/\$$  equilibrium.
    - ▶ **Peso appreciates:** it takes less pesos to buy 1 USD.



# Flexible Exchange Rates: Shifts in Demand

- ▶ **Shifts in demand of USD.** Increases in demand shift the curve right, and decreases in demand shift the curve left. Changes in:
  - **Income.**
    - ▶ Booming economies want to import more.
    - ▶ Depressed economies want to import less.
  - **Relative prices.**
    - ▶ Inflation differences between two countries (10% in LatAm; 2% in US) make (other things equal) US imports cheaper.
- ▶ **Tendencies:**
  - **Booms lead to currency depreciation** (more imports + higher inflation).
    - ▶ If everyone wants USD, more pesos needed to buy 1 USD.

## Flexible Exchange Rates: Shifts in Supply

- ▶ **Shifts in supply of USD.** Increases in supply shift the curve right, and decreases in supply shift the curve left. Changes in:
  - **Income.**
    - ▶ If US is booming, US wants to import more from Mexico, demands more pesos, supplies more USD.
    - ▶ If US income goes down, US wants to import less, demands less pesos, supplies less USD.
  - **Relative prices.**
    - ▶ Inflation differences between two countries (3% in LatAm; 5% in US) make (other things equal) Mexican exports cheaper.
- ▶ As always, we need to worry about both shifts in demand and supply of USD, as either would change the exchange rate.

# Fixed Exchange Rates

- ▶ **Fixed exchange rates.** Rates of exchange between local currency and foreign currencies are pegged against the value of another currency, a basket of other currencies, or other measures (e.g., gold).
- ▶ Countries started adopting flexible exchange rates after the collapse of Bretton Woods in 1971.
- ▶ Latin American countries moved away from fixed exchange rates only in the late 1970s and early 1980s.

# Mechanics of Fixed Exchange Rates

- ▶ Suppose equilibrium exchange rate is, just as before,  $2P/\$$ .
- ▶ Government commits to keep this exchange rate regardless of whatever goes on in the market (i.e., supply/demand of currency).
  - Easy to see that government intervention will be necessary (think of changes in supply or demand).
- ▶ Management of fixed exchange rates especially problematic for commodity-dependent countries.
  - Commodity booms and busts lead to abrupt changes in demand/supply.
- ▶ Let's think about what a country that is commodity-dependent must do to keep a fixed exchange rate.
  - Most Latin American countries fit in this category.

# Keeping Fixed Exchange Rates

- ▶ Suppose there is a commodity boom for avocados in the world.
  - World price of avocado increases.
- ▶ US consumers wanting to buy avocados would need more USD to get 1 avocado from Mexico.
  - Trade more USD to get  $X$  pesos.
  - Increase in supply of USD  $\rightarrow$  supply curve of USD shifts right.
  - If exchange rate were allowed to fluctuate, the peso would appreciate (more USD to buy same number of pesos).
- ▶ Since government it is committed to keep exchange rate at  $2P/\$$ , it must do something to counteract increases in the supply of USD.
  - **Hoard foreign reserves of USD.** Demand and accumulate USD to push demand curve right as to keep exchange rate at exactly  $2P/\$$ .



## Keeping Exchange Rates Fixed

- ▶ Now suppose there is a **commodity bust for avocados in the world.**
  - **World price of avocados goes down.**
- ▶ US consumers **need less USD to buy 1 avocado from Mexico.**
  - Trade less USD to get  $X$  pesos.
  - **Decrease in supply of USD** → supply curve of USD shifts left.
  - **If exchange rate were allowed to fluctuate, the peso would depreciate.**
- ▶ **Since government it is committed to keep exchange rate at  $2P/\$$ , it must do something to counteract decreases in the supply of USD.**
  - **Decumulate foreign reserves of USD.** Sell USD to push demand curve left as to keep exchange rate at exactly  $2P/\$$ .

# Keeping Exchange Rates Fixed

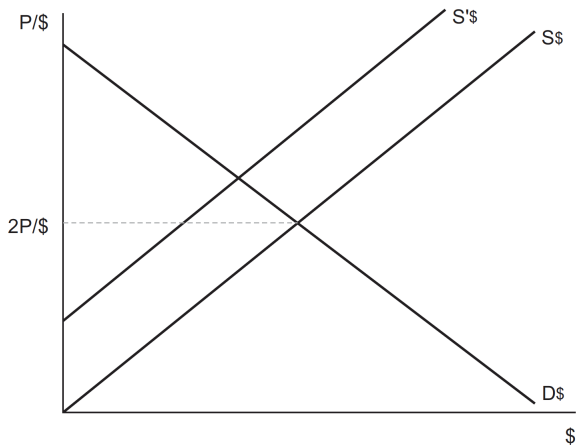


Figure: Avocado bust.

# Keeping Exchange Rates Fixed

- ▶ Hard to keep exchange rates fixed for commodity exporters.
- ▶ Typically it takes:
  - To accumulate foreign reserves (i.e., buy foreign currency) when commodity prices are high to keep local currency from appreciating.
  - To decumulate foreign reserves when commodity prices are low to keep local currency from depreciating.
- ▶ Generally a bad idea to keep prices fixed: either shortages or surpluses.

## Keeping Exchange Rates Fixed

- ▶ Hard to keep exchange rates fixed for commodity exporters.
- ▶ Typically countries cannot manage reserves of foreign exchange effectively and need to recur to other means.
  - During ISI, many Latin American countries run out of foreign reserves to cover periodic current-account deficits.
- ▶ In trying to keep exchange rates fixed, most countries end up using a combination of **foreign reserve accumulation/decumulation** and **exchange controls**.
- ▶ **Exchange controls**. Controls imposed by government/monetary authority on the purchase/sale of foreign currency by residents, and on the purchase/sale of local currency by non-residents.

# Exchange Controls

- ▶ **Most rigorous form of exchange control is government's monopoly on dealing in foreign exchange.**
  - Holders of foreign exchange obliged to sell it to the government at the official exchange rate.
  - Government must decide which goods to import/export (e.g., oil, food, medicines, . . .).
  - Beyond easy rationing, the rationing process becomes more difficult.
  - Government could set up multiple exchange rates:
    - ▶ Essential goods trade at 2P/\$.
    - ▶ Non-essential goods trade at 4P/\$.

Extremely complex system. Check [Argentina's multiple exchange rates](#).

# Exchange Controls

- ▶ **Less rigorous exchange controls impose restrictions on the amount of trade individuals can conduct in foreign exchange.**
  - E.g., Only able to buy  $X$  USD/day.
- ▶ Exchange controls typically in place when currencies are overvalued.
- ▶ Fixing prices (or banning trade in a product) typically results in the creation of black markets.
- ▶ Exchange controls on current account (e.g., ability to import/export) are almost economic history.. **except when it comes to Putin's Russia!**
- ▶ Exchange control on financial account (e.g., capital unable to leave the country in large scale) **are still present.**

## Example of Exchange Controls

- ▶ **Exchange controls in the financial account. Chile, 1991–1998.**
  - Chilean economy highly exposed to copper price fluctuations.
    - ▶ Chile produces 1/3 of world's copper.
    - ▶ Copper accounts for 40% of Chile's exports.
    - ▶ Chilean Economic and Social Stabilization Fund created with the sole purpose of attenuate copper's price fluctuations in Chilean economy.
  - Copper price is extremely volatile.
    - ▶ Chile highly exposed to exchange-rate volatility.
  - Exchange controls in financial account 1991–1998.
    - ▶ Inflows of FDI subjected to a minimum stay of 1 year.

# Taking Stock

## What have we learned?

- ▶ Balance of payments:
  - Current account.
  - Financial account.
  
- ▶ Exchange rates:
  - Fixed vs. flexible exchange rates and their mechanics.
  - Timeline of exchange rates throughout time.
  - How to keep exchange rates fixed.
  - Exchange controls: types and examples.
    - ▶ Connection to the current Ukraine–Russia crisis!

Why to keep fixed exchange rates instead of letting markets work?



# Thank You!