Lecture 11
Neutralizing Dutch Disease and Exchange Rate Policy
Neutralizing the tendency to cyclical and chronic currency overvaluation is necessary for developing countries to grow and catch up.

Currency overvaluation has two main causes:
- A structural cause associated with the value of the exchange rate (Dutch disease)
- A policy cause related to the price of the exchange rate (excessive capital inflows and use of the exchange rate to anchor inflation)

We will discuss now the neutralization of Dutch disease and the policies required to avoid currency overvaluation.
A country goes through three stages in its transit towards economic development.

First stage: Primitive accumulation

- Precedes the country’s industrial revolution
- Exploitation of natural resources is a blessing
- No industrial sector yet and thus no Dutch disease
- Export taxes as a form of government revenue required for development
- Export tax too low to create an environment for industrialization
- Wages remain low and thus elite appropriates most of the Ricardian rents
The Three Stages of Economic Development (cont’d)

- **Second stage: Industrial revolution**
  - Condition for *development* implies certain levels of education, infrastructure, bureaucracy, middle class, nationalist elite, etc.
  - *Dutch disease* becomes now an obstacle to *industrialization* and needs to be neutralized
  - Country produces low per capita value-added *manufactured goods* for domestic market
  - Transfer of labour from agricultural/mining sector to manufacturing sector implies *productivity gains*
  - *Neutralization* of *Dutch disease* becomes crucial now to allow growth of “*infant industry*”
The Three Stages of Economic Development (cont’d)

- **Third stage: Export of manufactured goods**
  - Countries need to continue *neutralizing* their *Dutch disease* through firm management of the exchange rate.
  - Only countries that continued *neutralizing* their *Dutch disease* advanced to this stage (East Asian countries, Mexico, Brazil, etc.)
  - Following the *Washington consensus*, some developing countries started to *liberalize* their current and capital accounts in the 1980s and 1990s:
    - They gradually *deindustrialized* (e.g., Mexico, Brazil)
  - Other countries (e.g., Argentina) continued neutralizing *Dutch disease* and experienced rapid *growth* in the 2000s.
Dutch Disease and the Equilibrium Exchange Rate

- There are two equilibrium exchange rates when a country is facing Dutch disease
  - The current account equilibrium exchange rate \( (e_{cc}) \)
  - The industrial equilibrium exchange rate \( (e_{ind}) \)

- The industrial equilibrium exchange rate is the competitive equilibrium
  - It guarantees a reasonable profit rate to efficient firms in the non-commodity tradable sector

- In the absence of Dutch disease, there is a unique exchange rate equilibrium
  - \( e_{cc} = e_{ind} \)
Neutralizing the Dutch Disease

- Consider a small developing countries experiencing *Dutch disease*
  - The country is a *price-taker* in the international market

  - *Dutch disease* could be *neutralized* through an *export tax* on the commodity benefitting from Ricardian rents
    - The tax must *correspond* to the *severity* of the disease
    - The tax must *adjust* with the *international price* of the commodity

- The *export tax* increases the exporter’s *costs* of production
  - The *supply curve* relating the quantity to the *exchange rate* (i.e., not the *price*) shifts up
  - If the tax is equal to the *severity* of the disease, the *Dutch disease* is fully neutralized
The export tax causes the depreciation of the domestic currency.

- We need to distinguish the market exchange rate from the value of the exchange rate.
- While the former is determined by demand and supply, the latter is determined by the cost of production.

Both $e_{cc}$ and $e_{ind}$ are equilibriums in value terms, and thus they are determined by costs of production.
- The export tax increases the cost of production.
- The tax increases the value of the exchange around which the market exchange rate fluctuates.
- The value of the exchange rate is the long-term determinant of the supply curve of the good.
If the export tax is equal to the severity of Dutch disease, the equilibrium exchange rate will increase from $e_{cc}$ to $e_{ind}$

- With Dutch disease, the equilibrium exchange rate is $e_{cc}$
- When Dutch disease is neutralized, the equilibrium exchange rate is $e_{ind}$

The exchange rate appreciates because of the increase in the value of the exchange rate

The export tax causes the supply curve to shift up and thus the quantity supplied at $e_{cc}$ decreases

- The supply of foreign currency falls and the exchange rate appreciates
- The appreciation of the exchange rate increases the quantity supplied and the excess demand is eliminated
Neutralization of the Dutch Disease by Means of an Export Tax

- $q_1$
- $q_2$
- $e_{ind}$
- $e_{cc}$

Graph showing:
- Demand curve $D_1$
- Supply curves $S_1$, $S_2$

Prices and quantities:
- $e$
- $q_1$ to $q_2$

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The Appreciation of the Exchange Rate

The graph illustrates the relationship between the exchange rate (e) and the quantity of a currency (US$) in different periods (Q1, Q2, Q3). The supply curves are labeled $S_1$ and $S_2$, and the demand curve is labeled $D_1$. The exchange rates of domestic currency (e) and the international exchange rate (e$_{ind}$) are indicated. The graph shows the movement from Q2 to Q3, indicating the appreciation of the exchange rate.
The neutralization of the Dutch disease is completed by the creation of a sovereign wealth fund with the revenues derived from the export tax.

- This prevents the re-appreciation of the domestic currency.
- Norway has imposed an export tax and has created a sovereign wealth fund.
  - It has fully neutralized the Dutch disease.

But what neutralizes the Dutch disease is the export tax and not the sovereign wealth fund.

- The sovereign wealth funds has the same effect as controlling for capital inflows.
Who Pays for the Neutralization?

- Although *exporters* formally pay the *tax*, they will not end up bearing its *cost*
  - The *value* of the *currency* falls by the amount of the tax and *exporters* continue earning the same *profit*
- But until the *depreciation* of the currency occurs, the *profits* of the *exporters* are reduced
  - Thus *exporters* will oppose the imposition of such a *tax*
- *Labour* also bears some costs because real *wages* fall for some time
  - But *wages* will eventually rise above the original level

Therefore, it is the country’s *population* that ends up paying the tax through higher *prices* for *tradable* goods
What Will the Government Do with the Tax Revenues?

- Given the exporters’ opposition to the tax, the government might need to speed up the process:
  - Impose capital controls to reduce capital inflows
  - Buy foreign currency in the exchange market

- The government can do several things with the tax revenues
  - Set a sovereign wealth fund
  - Spend revenues on necessary public investment or social services
  - Maintain low taxes
  - Set up stabilization fund to guarantee commodity prices
  - Allow revenues to be captured by corrupt politicians
Second-Best Form of Neutralizing Dutch Disease

- System of *multiple exchange rates*
  - Usually one for imports of *necessities* and another for *exports* and imports of *luxury* goods

- Imposing high *tariffs* on *manufacturing* goods
  - Based on theories of *infant-industry* protection and deterioration of *terms of trade*
  - Only partial *neutralization*: stimulates *import* substitution but not *exports* of manufactured goods

- A combination of import *tariffs* and export *subsidies*
  - Only when the country already producing *manufacturing* goods for *exports*
Effects of Neutralization of Dutch Disease

- There will be a *current account surplus* and its size will depend on severity of Dutch disease
- It will stimulate domestic *savings, investment, and growth*
- Real *wages* will initially fall but will grow further as a result of higher investment and economic growth
- The government will have a (small) *budget surplus*
- If a *sovereign wealth fund* is set:
  - There will be a rather large government *budget surplus*
  - There will be no need for *sterilization* policies
Neutralizing Dutch disease is not sufficient

- Policies associated with immediate consumption or exchange rate populism must be rejected
- There must be a managed exchange rate regime

To manage the exchange rate, the central bank might need to purchase foreign currency and impose capital controls.

Governments should abandon perverse policies affecting the exchange rate such as:

- Growth with foreign savings
- High interest rates to fight inflation
- Using the exchange rate as anchor to inflation
- Exchange rate populism