Econ 2203 | International Trade and Policy in Agriculture

Department of Development Economics

Introduction: Why the BoP Matters

Key questions for today:

- How does a country "pay" for its imports?
- What happens when a country consistently imports more than it exports?
- How do capital flows balance the external accounts?
- When does a BoP *crisis* occur?

BoP accounting identity:

$$\underbrace{CA}_{\text{trade + income}} + \underbrace{KA}_{\text{transfers}} + \underbrace{FA}_{\text{capital flows}} + \underbrace{\Delta R}_{\text{reserve change}} = 0$$

A current account deficit *must* be financed by capital/financial inflows or by running down foreign exchange reserves. If neither is available → **BoP crisis** (India 1991).

Balance of Trade (BoT): the idea

$$\text{BoT} = X_{goods} - M_{goods}$$

- BoT > 0: trade surplus
- BoT < 0: trade deficit
- India typically has a **goods deficit** (oil + gold + electronics)

India FY2024: why the goods deficit persists

- Goods exports ≈ **$437B**
- Goods imports ≈ **$677B**
- Goods trade balance ≈ **-$240B**

Structural drivers: crude oil dependence + gold demand + electronics import intensity.

Current Account identity (absorption approach)

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

Rearrange:

$$\boxed{\text{CA} \approx (X - M) = Y - A} \quad \text{where } A = C + I + G$$

- If $Y > A$: produce more than spend → net lender
- If $Y < A$: spend more than produce → net borrower

Current Account identity (saving–investment form)

$$\boxed{\text{CA} = (S - I) + (T - G)}$$

- CA deficit can reflect **high investment** (good) or **fiscal deficit** (risk)
- Devaluation alone won't fix CA if absorption stays high

India FY2024: why the CA deficit was small

- Goods trade deficit was large (≈ **-$240B**)
- Services trade surplus was large (≈ **+$163B**)
- Remittances were huge (≈ **+$120B**)
- Net result: CA ≈ **-$23B (-0.7% of GDP)**

In India, services + remittances are the “cushion” behind the external sector.

BoP accounts: Current vs Capital

- **Current Account (CA):** goods, services, income, transfers
- **Capital Account (KA):** capital transfers (usually small)
- **Financial Account (FA):** FDI, FPI, loans, deposits, reserves

Double-entry bookkeeping (2 examples)

- Import machines worth $10M: CA **-10** and FA **+10**
- Export software worth $5M: CA **+5** and FA **-5** (forex asset)

Every transaction has equal-and-opposite entries → accounts always add up.

Financial Account and BoP Identity

The Balance of Payments (BoP): Accounts + Identity

- **Current Account (CA):** goods, services, income, transfers
- **Capital Account (KA):** capital transfers (typically small)
- **Financial Account (FA):** FDI, FPI, loans, and reserve changes
- **Accounting identity:** CA + KA + FA + $\Delta R = 0$
- If a CA deficit cannot be financed → **BoP crisis** (India 1991)

India: BoP snapshot (FY2024)

Component	USD B
Current Account	-23
Financial Account	+20
Δ Reserves	+3
Total	**≈ 0**

India’s BoP Components: FY2020–FY2024

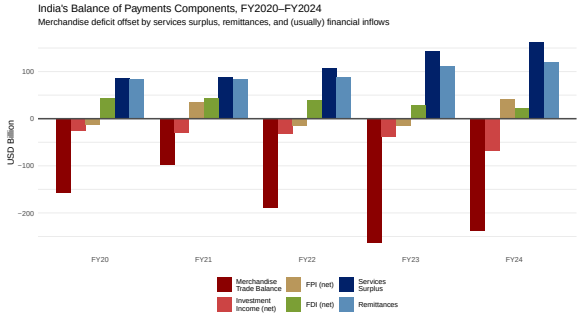

Figure 1: India’s Balance of Payments Components, FY2020–FY2024 (USD billion) Source: RBI, Balance of Payments Statistics.

India’s Current Account: FY2024 Decomposition

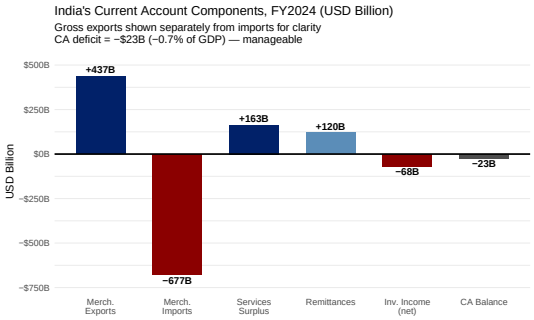

Figure 2: India’s Current Account, FY2024: Component Contributions (USD Billion) Source: RBI, Balance of Payments Statistics.

Financial Account (FA): India FY2024 (headline)

- FA inflows were positive (FDI + portfolio + loans + deposits)
- This helped finance the CA deficit and support reserves

BoP identity: $CA + KA + FA + \Delta R = 0$

FDI vs FPI (why it matters)

- **FDI:** long-term ownership, more stable
- **FPI:** liquid “hot money”, more volatile
- BoP vulnerability often comes from **sudden stops** in FPI/short-term flows

Forex reserves: what they are

- Foreign currency assets (USD/EUR/GBP/JPY, etc.)
- Gold
- SDRs + IMF reserve tranche
- Used for liquidity in crises and to smooth extreme volatility

A common adequacy benchmark is “months of import cover”.

RBI intervention under a managed float

- **Buy USD / sell INR** to resist sharp appreciation
- **Sell USD / buy INR** to resist sharp depreciation
- Goal is usually to **smooth volatility**, not to fix a peg
- Intervention affects reserves and domestic liquidity

BoP adjustment mechanisms (3 channels)

- **Price (exchange rate):** depreciation switches demand toward domestic goods
- **Income/absorption:** lower spending reduces imports
- **Monetary/financial:** reserve loss tightens liquidity; rates rise; capital flows respond

Typical policy instruments

- **Devaluation / depreciation** (expenditure-switching)
- **Fiscal/monetary tightening** (expenditure-reducing)
- **Interest rate policy** to stabilise capital flows
- **IMF financing** in reserve crises

India 1991 used a mix: devaluation + tightening + reforms.

Marshall–Lerner condition

$$\boxed{|e_X| + |e_M| > 1}$$

- Depreciation makes exports cheaper and imports costlier
- Trade balance improves only if **quantities respond enough**
- Short run: contracts + habits → weak quantity response

Elasticities: short run vs long run

- **Long run:** $|e_X|$ and $|e_M|$ tend to be higher → M–L more likely to hold
- **Short run:** elasticities are low → trade balance can worsen first

This is the logic behind the J-curve.

The J-Curve Effect

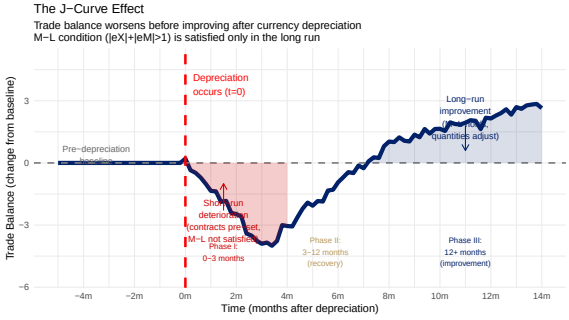

Figure 3: J-Curve: Trade Balance Initially Worsens After Currency Depreciation Source: Author's illustration.

J-curve: mechanisms (3 phases)

- **Phase I (0–3 months):** contracts fixed → values move before quantities
- Import bill can rise even if volumes don't
- **Phase II (3–12 months):** firms adjust sourcing and sales
- **Phase III (12+ months):** quantities respond fully
- Long run: M–L more likely to hold → TB improves

India: what we see in practice

- 1991: large devaluation; adjustment took time (rigidities)
- 2013: TB improved faster as trade was more integrated
- 2022: oil prices dominated → weaker TB response
- Agriculture adjusts faster than many manufactured goods (more spot pricing)

Absorption approach: policy implication

$$\boxed{CA = Y - A} \quad (A = C + I + G)$$

- Improve CA by **raising output** (Y) and/or **reducing absorption** (A)
- Devaluation helps only if it changes quantities and spending patterns
- Inflation can offset gains if real absorption doesn't fall

India 1991: adjustment mix

- Fiscal tightening reduced absorption ($\Delta G < 0$)
- Large devaluation switched demand toward domestic goods
- Reforms improved long-run output capacity
- CA improved over time, but growth fell temporarily
- Inflation spiked during adjustment

India’s 1991 BoP crisis: what happened

- Oil prices spiked and external financing dried up (1990–91)
- Forex reserves fell to **$5.8B** (~3 weeks imports), then **$1.2B** (~2 weeks)
- India pledged **67 tonnes of gold** to raise emergency foreign exchange
- IMF support followed (Aug 1991)
- Adjustment package triggered liberalisation and macro stabilisation

1991 crisis: root causes and policy response

- **Fiscal deficit + short-term external borrowing** (fragile financing)
- **Oil shock** (Kuwait crisis) worsened import bill
- **Remittance/NRI deposit outflows** amplified the squeeze
- **Trade liberalisation + industrial delicensing** reduced distortions
- **FDI opening** (automatic route) improved long-run financing

India FY2024 BoP Assessment

Current Account:

- CA deficit: $23.2B (-0.7% of GDP) — **comfortable**
- Merchandise trade deficit: $238B (oil, gold, electronics)
- Services surplus: $163B (IT/BPO dominance)
- Remittances: $120B — world's largest recipient (World Bank data)

Risks and concerns: (1) Oil price vulnerability: $10/barrel rise adds ~$15B to import bill; (2) FPI volatility: $41B inflow in FY24 could reverse quickly; (3) FDI decline from $55B (FY22) to $22B (FY24) — concerning for long-run financing. India's CA/GDP (-0.7%) « GDP growth (7%) — external position is **sustainable**.

BoP and agriculture: key linkages

- MSP and productivity can reduce **food imports** (import substitution)
- Export restrictions (rice/onion/sugar) affect **credibility** and export earnings
- Input policies affect **cost competitiveness**
- Edible oil dependence is a major **import bill** risk
- Migration/remittances matter for rural income and the CA

India's agri trade balance: surplus, with one big weakness

- Net agri balance is typically **positive** (order of ~$20B)
- Rice and spices are major surplus contributors
- **Edible oils** are the dominant structural deficit item (≈ -$20B)
- Pulses can be a smaller deficit item in some years

Policy takeaway: edible oils are the macro vulnerability; SPS/processing are the export upside.

India’s services exports: the external-sector cushion

- Services exports create a large surplus (IT/ITES is central)
- They are often more stable than goods exports
- This surplus helps offset the goods trade deficit

Why it matters for policy

- BoP resilience depends heavily on the IT/services engine
- Disruptions to services exports would widen the CA deficit quickly
- Services trade negotiations (Mode 4) are a key Indian interest

Remittances: India's largest CA credit (FY2024)

- Remittances ≈ **$120B** (World Bank)
- Major sources: **USA, UAE, Saudi Arabia, UK** (+ other Gulf)
- Often rise when INR is weaker (more rupees per dollar sent)

Why remittances matter for agriculture

- Smooth consumption during crop shocks
- Finance farm investment (irrigation, equipment, land)
- Enable shift toward higher-value crops (risk capacity)
- Outmigration raises rural wages (labour market effects)
- BoP stabiliser: remittances are large and relatively stable

India’s Forex Reserves: RBI Intervention Chart

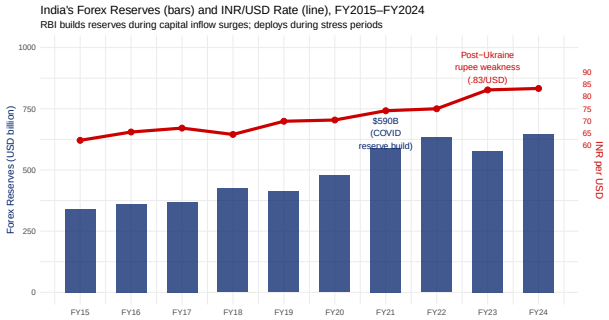

Figure 4: India’s Forex Reserves and INR/USD Exchange Rate, FY2015–FY2024 Source: RBI, Database on Indian Economy (DBIE).

Key Takeaways: Lecture 9

1. **National income identity:** CA $= Y - A = (S - I) + (T - G)$. A CA deficit means the country borrows from abroad — financed by FA inflows or reserve drawdown.

2. **BoP accounting:** CA + KA + FA + $\Delta R = 0$. The BoP always balances — surpluses and deficits are in *individual accounts*, not the overall BoP.

3. **India's external position (FY2024):** CA = -0.7% GDP (comfortable); remittances = $120B (world's largest); services surplus = $163B; forex reserves = $646B (11 months imports). External position is **strong**.

4. **Marshall-Lerner condition:** $|e_X| + |e_M| > 1$ must hold for depreciation to improve TB. In the short run, M-L is typically NOT satisfied → J-curve: TB worsens before improving.

5. **India 1991 crisis:** Reserves fell to $1.2B (2 weeks imports); India pledged 67 tonnes gold to the BoE. IMF bailout triggered liberalisation — delicensing, trade reform, FDI opening. Crisis → structural reform.

Next Lecture Preview

Lecture 10 — Exchange Rates and Agricultural Trade *June 27, 2026*

- Fixed vs flexible exchange rate systems
- Purchasing Power Parity (PPP): absolute and relative
- Real exchange rate: $q = eP^*/P$ and agricultural competitiveness
- How rupee depreciation affects Indian rice and wheat exports
- Dutch disease: can commodity booms harm agricultural exporters?

Additional Resources

Further reading

- Salvatore, *International Economics* (relevant chapters)
- Appleyard & Field, *International Economics* (relevant chapters)

Key data sources

- DGCI&S: merchandise trade
- RBI: balance of payments
- APEDA: agricultural export statistics
- WTO: tariff + trade databases