

COURSE: INVESTMENTS | CHAPTER 19

INTERNATIONAL INVESTING AND DIVERSIFICATION

Why This Chapter Matters

Your country is only one part of the world economy.

- Different markets lead at different times.
- Foreign assets can add return opportunities.
- Currency movements can help or hurt.
- Political, legal, and market risks differ by country.

International investing expands the opportunity set; it does not eliminate risk.

Learning Objectives

By the end of this chapter, students should be able to:

1. Explain why investors diversify internationally.
2. Calculate a foreign investment's home-currency return.
3. Interpret correlations across national markets.
4. Identify currency, country, liquidity, and governance risks.
5. Compare direct and indirect routes to international exposure.
6. Explain currency hedging and its trade-offs.
7. Design and evaluate a simple global portfolio.

The Central Idea—More Baskets

If all your eggs are in one national basket, one local shock can damage everything.

International diversification spreads investments across:

- Countries
- Currencies
- Industries
- Economic cycles
- Political and regulatory systems

Domestic Versus International Investing

Domestic investing	International investing
Assets issued in the home country	Assets issued outside the home country
Usually familiar rules and currency	Different rules, currencies, and conventions
Concentrated in the local economy	Broader economic and sector exposure
Lower information burden	Higher research and monitoring burden

What Counts as an International Investment?

- Foreign shares and bonds
- Global or international mutual funds
- Exchange-traded funds (ETFs)
- Depositary receipts
- Multinational companies
- Foreign real estate and infrastructure funds
- International private equity or venture capital

Three Sources of Return

A foreign investment can reward the investor through:

1. **Income:** dividends, interest, or rent
2. **Capital gain:** the asset price rises
3. **Currency effect:** the foreign currency strengthens against the home currency

The currency effect may also be negative.

Three Layers of Risk

International investors face:

- **Asset risk:** the company or bond may perform poorly.
- **Market risk:** the foreign market may fall.
- **Cross-border risk:** currencies, controls, taxes, politics, and settlement may change outcomes.

A good foreign company can still be a poor home-currency investment.

The Global Opportunity Set

Investing globally gives access to:

- More companies and issuers
- Industries underrepresented at home
- Different growth rates
- Different interest-rate environments
- Different currency exposures

The feasible set of portfolios may expand.

Chapter Road Map

1. Why invest internationally?
2. How home-currency return is calculated
3. How international diversification works
4. Ways to access foreign markets
5. Risks and currency hedging
6. Global portfolio construction
7. Practical investor case

Different Economies, Different Cycles

Countries do not always expand or contract together.

- Commodity exporters may benefit from rising commodity prices.
- Import-dependent economies may face higher costs.
- One region may tighten policy while another stimulates growth.

Lower synchronization creates diversification potential.

Access to Different Industries

A domestic market may be concentrated in only a few sectors. International exposure can add:

- Global technology
- Pharmaceuticals
- Advanced manufacturing
- Mining and energy
- Consumer brands
- Logistics and digital services

Access to Growth

Some economies grow faster because of:

- Population and urbanization
- Productivity gains
- Technology adoption
- Capital formation
- Trade integration

Faster economic growth does not automatically mean higher stock returns; price and valuation still matter.

Valuation Differences Across Markets

The same type of company may trade at different valuation multiples across countries. Possible reasons:

- Growth expectations
- Interest rates
- Governance quality
- Political risk
- Market liquidity
- Investor sentiment

Cheap may mean opportunity—or risk.

Diversifying Political and Policy Risk

Domestic-only investors depend heavily on one government and one policy system. International allocation can spread exposure across:

- Tax systems
- Monetary policies
- Regulations
- Political events
- Capital-market institutions

Currency Diversification

Holding assets in several currencies may reduce dependence on one currency. However:

- Currency gains are not guaranteed.
- Exchange rates can be volatile.
- Hedging has costs.
- Currency exposure can dominate short-term returns.

Better Risk–Return Possibilities

If foreign markets are not perfectly correlated with the domestic market, combining them may:

- Reduce portfolio volatility
- Preserve or improve expected return
- Improve risk-adjusted performance

This is the international version of Chapter 6 diversification.

What International Diversification Cannot Do

It cannot remove:

- Global recessions
- Worldwide financial crises
- Global interest-rate shocks
- Pandemics or geopolitical spillovers
- Common investor panic

Diversification manages risk; it does not promise safety.

Home Bias

Home bias is the tendency to invest too much in domestic assets. Common causes:

- Familiarity
- Confidence in local information
- Currency concerns
- Regulation and transaction costs
- Patriotism
- Fear of unfamiliar markets

Familiarity Is Not the Same as Safety

A familiar company may feel less risky because we recognize its name. But true risk depends on:

- Cash flows
- Debt
- Competition
- Valuation
- Governance
- Economic exposure

Comfort is a feeling; diversification is a portfolio property.

Domestic Multinationals—A Partial Substitute

A domestic multinational may earn revenue abroad. This provides some international economic exposure, but it is not identical to owning foreign securities because:

- Headquarters and listing remain domestic.
- Governance follows the home system.
- Sector exposure may remain narrow.
- Currency exposure may be hedged internally.

Decision Check—Why Go Global?

Before investing abroad, ask:

1. What exposure is missing from my current portfolio?
2. Is the expected benefit worth the added complexity?
3. Can I tolerate currency and country risk?
4. Is the investment accessible, liquid, and legal for me?

Two Returns in One Investment

For a home-country investor, a foreign asset produces:

1. A return in the foreign asset's local currency
2. A return from the exchange-rate movement

These combine multiplicatively—not by simple addition when precision matters.

Define the Exchange Rate Carefully

Let S_0 = initial ETB price of one unit of foreign currency, and S_1 = ending ETB price of one unit of foreign currency.

Currency return from the Ethiopian investor's perspective:

$$r(\text{FX}) = (S_1 - S_0) / S_0$$

If S rises, the foreign currency strengthens and the ETB weakens.

Home-Currency Return Formula

- $r(F)$ = foreign asset return in its local currency
- $r(FX)$ = foreign-currency return against ETB
- $r(H)$ = Ethiopian investor's ETB return

$$1 + r(H) = (1 + r(F)) \times (1 + r(FX))$$

$$r(H) = r(F) + r(FX) + r(F) \cdot r(FX)$$

The final interaction term is what simple addition leaves out.

Example 1—Inputs

An Ethiopian investor buys a foreign equity fund.

- Initial investment: ETB 100,000
- Foreign-market return: 10%
- Foreign currency appreciates against ETB: 8%

Find the investor's ETB return and ending value.

Example 1—Calculate the Return

$$r(H) = (1.10)(1.08) - 1$$

$$r(H) = 1.188 - 1 = 0.188 = 18.8\%$$

The interaction term is:

$$0.10 \times 0.08 = 0.008 = 0.8\%$$

So: $10\% + 8\% + 0.8\% = 18.8\%$.

Example 1—Ending Value

$$V_1 = \text{ETB } 100,000 \times (1.188)$$

$$V_1 = \text{ETB } 118,800$$

Interpretation: both the foreign asset and the foreign currency helped the Ethiopian investor.

Example 2—Currency Moves Against You

Suppose the foreign asset earns 10%, but the foreign currency depreciates 5% against the ETB.

$$r(H) = (1.10)(0.95) - 1$$

$$r(H) = 1.045 - 1 = 4.5\%$$

The asset gained, but currency weakness reduced the home-currency return.

Approximation Rule

For small returns:

$$r(H) \approx r(F) + r(FX)$$

In Example 1, the approximation gives 18%, while the exact return is 18.8%.

Use the exact formula for assessment, reporting, and large currency movements.

Income and Price Return

The foreign local-currency return may itself contain two parts:

$$r(F) = (D_1 + P_1 - P_0) / P_0$$

where D_1 is income, P_0 is the purchase price, and P_1 is the ending price.

Then combine $r(F)$ with the currency return.

Full Worked Example—Foreign Share

Inputs:

- Buy at USD 50
- Receive USD 2 dividend
- Sell at USD 54
- Initial exchange rate: ETB 56/USD
- Ending exchange rate: ETB 60/USD

Find the ETB holding-period return.

Foreign Share—Local Return

$$r(F) = (2 + 54 - 50) / 50$$

$$r(F) = 6 / 50 = 12\%$$

In USD terms, the share earned 12%: USD 2 of income plus USD 4 of price gain on a USD 50 purchase.

Foreign Share—Currency Return

$$r(\text{FX}) = (60 - 56) / 56$$

$$r(\text{FX}) = 7.1429\% \approx 7.14\%$$

The USD strengthened against the ETB, adding to the Ethiopian investor's return.

Foreign Share—ETB Return

$$r(H) = (1.12)(1.071429) - 1 = 1.20 - 1 = 20\%$$

Check using ETB cash flows:

- Cost: $50 \times 56 = \text{ETB } 2,800$
- Ending proceeds: $(54 + 2) \times 60 = \text{ETB } 3,360$
- Return: $(3,360 - 2,800) / 2,800 = 20\%$

Currency Can Reverse the Result

Suppose the same share earns 12% in USD, but the USD depreciates 15% against the ETB.

$$r(H) = (1.12)(0.85) - 1 = -4.8\%$$

A profitable foreign asset becomes a loss in ETB terms.

Inflation and Real Return

After finding the nominal ETB return, adjust for Ethiopian inflation:

$$1 + r(\text{real}) = (1 + r(\text{nominal})) / (1 + \pi)$$

If the nominal ETB return is 20% and inflation is 12%:

$$r(\text{real}) = 1.20 / 1.12 - 1 = 7.14\%$$

Multi-Period Currency Effects

Across several years, compound each year's asset and currency return.

$$1 + r(H, \text{total}) = \prod (1 + r(F, t)) \times (1 + r(FX, t)), t = 1 \dots T$$

Do not simply add annual percentage returns.

Student Quick Check

A foreign bond earns 6% in its local currency. The currency appreciates 4% against the ETB.

1. Estimate the ETB return.
2. Calculate the exact ETB return.
3. Explain the difference.

Answer: estimate = 10%; exact = $(1.06)(1.04) - 1 = 10.24\%$.

Return Measurement Checklist

Always identify:

- Investor's home currency
- Foreign asset's local currency
- Quote convention
- Asset income and price change
- Exchange-rate change
- Fees, taxes, and withholding
- Nominal or real return

Correlation Is the Engine

International diversification works when national-market returns are not perfectly positively correlated.

$$-1 \leq \rho(i,j) \leq +1$$

Lower correlation generally creates greater diversification benefit, holding other factors constant.

Why Correlations Differ

Countries differ in:

- Industry composition
- Commodity dependence
- Fiscal and monetary policy
- Demographics
- Political events
- Currency movements
- Stage of the business cycle

Correlation Is Not Constant

Historical correlation can change.

- Markets may integrate over time.
- Global firms share common revenue sources.
- Crises can push correlations upward.
- Policy changes can separate markets again.

A correlation estimate is evidence, not a promise.

Two-Market Portfolio Return

For domestic market D and foreign market F:

$$E(r(p)) = w(D) \cdot E(r(D)) + w(F) \cdot E(r(F)), \text{ with } w(D) + w(F) = 1$$

Expected return is the weighted average of component expected returns.

Two-Market Portfolio Risk

$$\sigma(p)^2 = w(D)^2\sigma(D)^2 + w(F)^2\sigma(F)^2 + 2 \cdot w(D) \cdot w(F) \cdot \rho(DF) \cdot \sigma(D) \cdot \sigma(F)$$

Portfolio risk depends on:

- Weights
- Each market's volatility
- Correlation between the markets

Diversification Example—Inputs

Consider a two-market portfolio:

Input	Domestic	Foreign
Weight	60%	40%
Expected return	12%	8%
Standard deviation	18%	12%

Correlation: $\rho(DF) = 0.25$

Diversification Example—Expected Return

$$E(r(p)) = 0.60 \times 12\% + 0.40 \times 8\%$$

$$E(r(p)) = 7.2\% + 3.2\% = 10.4\%$$

The portfolio's expected return is 10.4%.

Diversification Example—Variance

$$\sigma(p)^2 = (0.60)^2(0.18)^2 + (0.40)^2(0.12)^2$$

$$+ 2(0.60)(0.40)(0.25)(0.18)(0.12)$$

$$\sigma(p)^2 = 0.011664 + 0.002304 + 0.002592 = 0.01656$$

Diversification Example—Standard Deviation

$$\sigma(p) = \sqrt{0.01656} = 0.1287 = 12.87\%$$

Interpretation:

- Expected return = 10.4%
- Portfolio volatility = 12.87%
- Risk is below the 18% domestic-market volatility.

What If Correlation Were +1?

With the same weights and volatilities:

$$\sigma(p) = 0.60(18\%) + 0.40(12\%) = 15.6\%$$

At correlation +1, there is no correlation-based risk reduction beyond averaging the exposures. At correlation 0.25, volatility was only 12.87%.

What If Correlation Were Negative?

If correlation falls below zero, one market may partly offset the other.

But negative correlations are rarely stable across all periods.

Portfolio design should test several correlation scenarios—not just one historical estimate.

Global Efficient Frontier

Adding eligible international assets can expand the set of feasible portfolios. The global efficient frontier may offer:

- Higher expected return for the same risk
- Lower risk for the same expected return

Actual improvement depends on returns, volatility, correlations, costs, and constraints.

Currency and Diversification

Currency exposure can:

- Add volatility
- Reduce volatility if it offsets asset movements
- Change correlations measured in the investor's home currency

Therefore, analyze both:

1. Local-currency returns
2. Home-currency returns

Sector Versus Country Diversification

Suppose an investor buys banks in five countries. Country exposure is broad, but sector exposure remains concentrated.

Strong global diversification considers both:

- Where the asset is located
- What economic activity drives its cash flows

Revenue Geography Matters

A company's listing country may not equal its economic exposure. Review:

- Revenue by region
- Costs by currency
- Supply-chain locations
- Customer concentration
- Debt currency

Diversification Test

A new foreign asset is useful when it improves the portfolio—not merely because it is foreign. Ask:

- Does it add a new return driver?
- How does it correlate in normal and stressed markets?
- What risks and costs come with it?
- Does it improve expected risk-adjusted return?

Direct Foreign Investing

The investor buys securities directly on a foreign exchange. Potential benefits:

- Broad choice
- Direct ownership
- Precise security selection

Challenges include account access, custody, tax, settlement, research, currency conversion, and regulation.

International Mutual Funds

An international mutual fund pools investors' money and buys foreign assets. Advantages:

- Professional management
- Diversification
- Administrative convenience

Review fees, mandate, benchmark, currency policy, concentration, and liquidity.

International ETFs

ETFs can track:

- A country
- A region
- Developed markets
- Emerging markets
- A global sector
- Global bonds

Check bid–ask spread, expense ratio, index method, tracking difference, domicile, and tax treatment.

Depository Receipts

A depository receipt represents shares of a foreign company but trades in another market. Possible benefits:

- Familiar trading venue
- Convenient settlement
- Reporting in the host market

The investor still faces company, country, and currency exposure.

Global Versus International Funds

Global fund	International fund
May invest worldwide, including the investor's home market	Usually invests outside the investor's home market
One integrated allocation	Foreign allocation added to domestic holdings

Always read the mandate; fund names alone can mislead.

Developed Markets

Developed markets generally have:

- Higher income levels
- Mature institutions
- Deeper securities markets
- Stronger liquidity and disclosure

They can still experience recessions, bubbles, governance failures, and currency losses.

Emerging Markets

Emerging markets may offer:

- Faster structural growth
- Expanding consumer demand
- Financial deepening

But often carry greater:

- Political and currency risk
- Volatility
- Liquidity and governance risk

Frontier Markets

Frontier markets are smaller and less developed than emerging markets. They may have:

- Low foreign participation
- Limited liquidity
- Shorter data histories
- Trading and settlement constraints
- Potentially distinct return drivers

Allocation should reflect capacity and risk tolerance.

International Bonds

Investors can access:

- Foreign government bonds
- Foreign corporate bonds
- Supranational bonds
- Hard-currency emerging-market debt
- Local-currency emerging-market debt

Analyze interest rates, credit risk, duration, currency, and sovereign risk together.

Foreign Real Assets

International real-estate and infrastructure exposure may provide:

- Rental or usage income
- Inflation sensitivity
- Different economic drivers

Risks include illiquidity, leverage, regulation, taxation, valuation uncertainty, and currency movement.

Choosing an Access Route

Compare alternatives using:

- Diversification breadth
- Cost
- Liquidity
- Transparency
- Tax treatment
- Currency policy
- Operational complexity
- Legal eligibility

Currency Risk

Currency risk is uncertainty about the home-currency value of foreign cash flows. It affects:

- Dividends and coupons
- Sale proceeds
- Principal repayment
- Portfolio volatility

Country Risk

Country risk includes losses connected to a nation's political, economic, legal, or social environment.

Examples:

- Political instability
- Policy reversal
- Expropriation
- Conflict
- Weak rule of law
- Contract-enforcement problems

Sovereign Risk

Sovereign risk is the possibility that a government cannot or will not meet its obligations. Watch:

- Debt burden
- Fiscal balance
- Foreign reserves
- External debt
- Political capacity
- Credit spreads and ratings

Ratings are useful indicators—not guarantees.

Capital Controls and Convertibility

Governments may restrict:

- Currency conversion
- Cross-border transfers
- Foreign ownership
- Dividend repatriation
- Security purchases or sales

An investment can be profitable on paper but difficult to exit or convert.

Market Liquidity Risk

Some foreign markets have:

- Low trading volume
- Wide bid–ask spreads
- Few buyers
- Price limits
- Trading suspensions

The displayed price may not be the price at which a large position can be sold.

Information and Accounting Risk

Countries may differ in:

- Accounting standards
- Disclosure frequency
- Audit quality
- Language
- Timeliness
- Enforcement

Comparability requires careful adjustment—not automatic trust in reported numbers.

Corporate Governance Risk

Governance concerns may include:

- Weak minority-shareholder protection
- Controlling-family influence
- State ownership
- Related-party transactions
- Limited board independence
- Poor capital allocation

Tax Risk

International returns may be affected by:

- Withholding tax
- Capital-gains tax
- Double taxation
- Tax treaties
- Fund domicile
- Changing tax rules

Compare returns after fees and taxes whenever possible.

Settlement and Custody Risk

Operational questions matter:

- Who holds the securities?
- When does settlement occur?
- What happens if a counterparty fails?
- Are ownership records reliable?
- How are corporate actions processed?

Geopolitical Risk

War, sanctions, trade disputes, and diplomatic tensions can affect:

- Asset prices
- Supply chains
- Currency convertibility
- Market access
- Settlement and ownership rights

Scenario analysis is more useful than pretending to forecast every event.

Contagion

Contagion occurs when stress spreads across markets beyond direct economic links. Possible channels:

- Investor withdrawals
- Bank exposure
- Common creditors
- Trade links
- Fear and forced selling

International Risk Checklist

Before buying, assess:

1. Security and issuer
2. Market and sector
3. Currency
4. Country and sovereign
5. Governance and disclosure
6. Liquidity and operations
7. Tax, legal, and access constraints

What Is Currency Hedging?

Currency hedging uses a financial contract or matching position to reduce exchange-rate exposure. Common tools:

- Forward contracts
- Futures contracts
- Currency options
- Currency swaps
- Natural hedges

Forward Hedge—Simple Intuition

An investor expects to receive foreign currency later. Today, the investor agrees on the future conversion rate.

Result:

- Less uncertainty
- Less benefit if the currency moves favorably
- Possible cost and counterparty exposure

Forward Hedge Example

The investor will receive USD 100. Possible future spot rate: ETB 62/USD. Forward rate locked today: ETB 60/USD.

Unhedged: $100 \times 62 = \text{ETB } 6,200$

Hedged: $100 \times 60 = \text{ETB } 6,000$

The hedge removes uncertainty but gives up this favorable currency gain.

Hedge Ratio

The hedge ratio is the proportion of currency exposure hedged.

$$h = \text{Currency exposure hedged} / \text{Total currency exposure}$$

- $h = 0$: unhedged
- $h = 0.50$: half hedged
- $h = 1$: fully hedged

Should Every Currency Be Fully Hedged?

Not necessarily. The decision depends on:

- Investment horizon
- Risk tolerance
- Hedging cost
- Asset class
- Currency's portfolio role
- Liability currency
- Investor constraints

Hedging is a risk-management choice, not a guaranteed-return strategy.

Strategic Global Allocation

Strategic allocation sets long-term target weights across:

- Domestic and foreign assets
- Developed, emerging, and frontier markets
- Equities, bonds, and real assets
- Currencies

Targets should reflect objectives, horizon, liquidity, and risk capacity.

Market-Capitalization Weighting

One starting point is to weight markets by their share of the global investable market.

- **Benefits:** transparent, low turnover, broad exposure
- **Limitation:** may overweight expensive markets
- **Limitation:** may not match investor liabilities or constraints

Rebalancing a Global Portfolio

Market and currency movements change portfolio weights. Rebalancing restores target exposures by:

- Selling overweight assets
- Buying underweight assets
- Directing new cash flows

Consider trading costs, taxes, liquidity, and thresholds.

Evaluating Global Performance

Evaluate a global portfolio using:

- Home-currency return
- Appropriate global benchmark
- Risk and drawdown
- Sharpe ratio
- Allocation and selection effects
- Currency contribution
- Fees and taxes

Connect the analysis to Chapter 18 performance evaluation.

Practical Exercise—Investor Case

Meron has ETB 1,000,000 invested entirely in a domestic equity portfolio. She is considering moving 30% into a diversified foreign equity fund.

Input	Domestic	Foreign
Expected local return	14%	10%
Standard deviation	20%	15%
Correlation	$\rho = 0.30$	

Expected foreign-currency appreciation against ETB: 5%.

Practical Exercise—Tasks

1. Calculate the foreign fund's expected ETB return exactly.
2. Calculate the 70/30 portfolio's expected return.
3. Calculate portfolio variance and standard deviation.
4. Compare its risk with the all-domestic portfolio.
5. Identify four international risks Meron should investigate.
6. Explain whether a partial currency hedge might be reasonable.

Practical Exercise—Solution

$$\text{Foreign ETB return: } (1.10)(1.05) - 1 = 15.5\%$$

$$E(r(p)) = 0.70(14\%) + 0.30(15.5\%) = 14.45\%$$

$$\sigma(p)^2 = (0.70)^2(0.20)^2 + (0.30)^2(0.15)^2 + 2(0.70)(0.30)(0.30)(0.20)(0.15) = 0.025405$$

$$\sigma(p) = \sqrt{0.025405} = 15.94\%$$

Expected return rises from 14% to 14.45%, while estimated volatility falls from 20% to 15.94%—before fees, taxes, constraints, and estimation error.

Chapter Summary

- International investing expands the opportunity set.
- Diversification benefits come from imperfect correlation.
- Home-currency return combines asset and currency returns.
- Correlations and currencies can change, especially in crises.
- Foreign exposure can be obtained directly or through pooled vehicles.
- Country, sovereign, governance, liquidity, tax, and operational risks matter.
- Currency hedging reduces uncertainty but introduces costs and trade-offs.
- Global portfolios require strategic allocation, rebalancing, and suitable benchmarks.

Go global for portfolio reasons—not simply because an asset is foreign.

Discussion Questions

1. Why might international diversification reduce risk even when every market is individually risky?
2. Can currency exposure be both a risk and a diversifier? Explain.
3. Why can correlations rise during a global crisis?
4. Is home bias always irrational?
5. Should a long-term investor fully hedge foreign equity exposure?
6. Which is more important: country of listing or source of revenue?
7. What barriers are most relevant to an Ethiopian investor seeking foreign exposure?

Next Chapter Preview

CHAPTER 20 · INVESTMENT POLICY AND PORTFOLIO STRATEGY

Next, we bring the course together:

- Investor objectives and constraints
- Investment Policy Statement (IPS)
- Strategic asset allocation
- Risk budgeting
- Implementation and rebalancing
- Monitoring and governance

THANK YOU

Questions and Discussion

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