

§ 1 Introduction

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In our times, nations are more closely linked through economic relations than ever before; see Krugman/Obstfeld/Melitz (2022), p. 27 [or: 9th ed. (2012), p. 31]:

- relations in goods markets, usually only labeled trade (in a broader sense, goods markets refer to physical goods, services, and factor services):
- relations in non-monetary financial markets
 - (i) claims and liabilities from existing assets (stocks)
 - (ii) financial trade (flows): trading the existing assets and establishing new claims and liabilities
- stocks and flows of money (as counterparts to the relations in goods markets and non-monetary financial markets).

All of the three aspects not only comprise quantities (stocks or flows), but also prices, e. g., export prices, exchange rates.

1.1 What is “International Economics” All about?

(1) Economics, international

The term “International Economics” comprises two elements:

- economics: as we know from our basic courses, economists basically analyze the following topics:
 - (i) the allocation of scarce resources to competing uses, including the uses over time and across space
 - (ii) the level of employment of (seemingly) non-scarce resources
 - (iii) the distribution of income and wealth
 - (iv) the roles of the market mechanism (the “invisible hand”) and of government intervention in the allocation, employment-generating and distribution processes
- international: the term stems from the Latin expression “inter nationes”:
 - (i) this does not mean “between members of different peoples within one country”, e. g., between Italians and French that both reside in Switzerland
 - (ii) it rather means “between people residing in different countries” (who thus have different nationalities), e. g., between people living in Italy and people living in France: in other words, it means “across national borders”

In sum, “International Economics” deals with the relations of economic agents, both private and public, in cross-border allocation and distribution. As was already indicated in the very beginning of this paragraph, international economic relations are reflected in flows and stocks:

- they are created by transactions in both goods and assets between people from different countries, e. g., exports of cars from Germany to Russia, purchases of British shares bond by Japanese investors; these activities are measured by flow variables

- financial transactions lead to cross-border claims and liabilities: in the example just mentioned, Japanese investors now have claims on British companies; in addition, imbalances between goods transactions necessarily also result in cross-border claims and liabilities; these claims and liabilities are measured by stock variables.

In addition, international economic relations are reflected in prices used in cross-border business. Most of all, there is a very special price in the international field, the so-called exchange rate (e). This is the ratio at which national currencies are exchanged against each other; in other words, the exchange rate is the price of one currency in terms of another one, e. g. the price of the US dollar in terms of the euro is $e = 0,80$ [€/€].

(2) International economics as a field of its own

Why are international economic relations an important topic within the field of economics? Why are they even a separate topic at all? Answer: they change the country's economic situation in two respects:

- quantity: opening a country for cross-border economic relations leads to larger markets, thus allowing for increased specialization, cost reductions, and higher income
- quality: as countries are different from each other, international economic relations allow for benefits from exploiting these differences; as a simple example, consider Norway and Spain: while Spain has a warm climate and thus oranges, Norway has crude oil.

The differences between countries may be classified in two categories:

- natural differences: countries differ in climate and geography, but also in history and tradition; this leads to differences in resources and mentalities
- state-created differences: countries differ in institutions, most of all in jurisdictions and currencies.

These differences lead to differing economic performances between nations. This includes the level of development, be it technological, be it economic. The following graph illustrates these causalities.

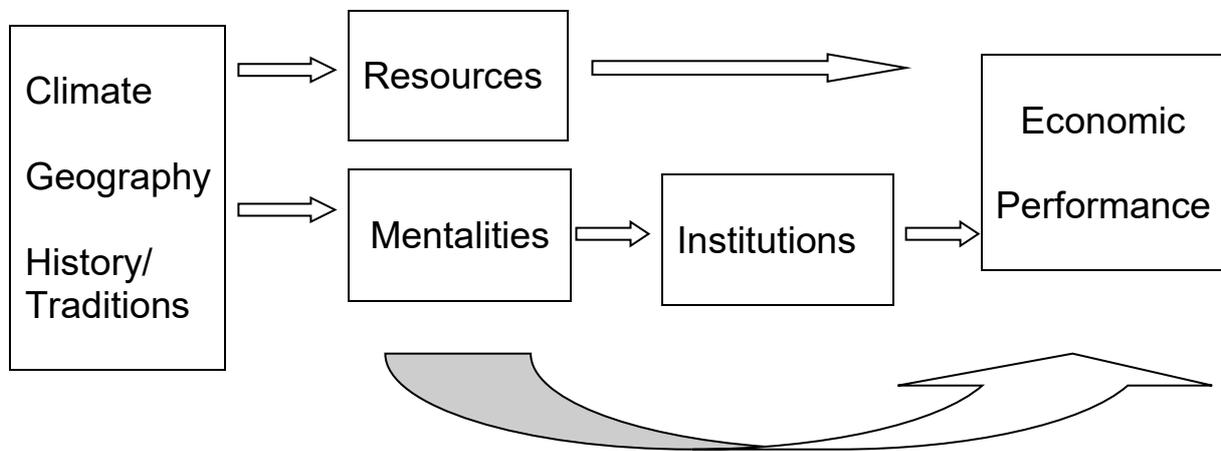


Exhibit 1.1: Determinants of Economic Performance

However, differences between countries not only create incentives to engage in cross-border economic relations. They may also constitute obstacles to these relations, leading to special transaction costs. Business with your foreign partner usually entails higher transaction costs because of ...

- ... geographic distance: transportation cost
- ... currency: cost of exchanging money
- ... institutions, e. g. legislation: cost of getting informed about a foreign legal system and of respecting it
- ... mentalities.

1.2 Overview of the Course

This course is organized in four parts: reporting international transactions, international micro, international finance, and international macro

1.2.1 International Microeconomics: Trade without Money

Part 2 of the course will deal with international relations in goods markets. Unless otherwise stated, we mean trade in goods when we simply speak of trade.

(1) Research questions

As a first guideline, let's state the topic of international trade by the following guiding question: "Who trades what and why?"

We can interpret and thus answer this question from various viewpoints:

- descriptive empirical viewpoint: this is the domain of trade statistics
- theoretical viewpoint: the pure theory of international trade mentioned above tries to explain ...
 - (i) ... the gains from trade: by analyzing the gains from trade, the theory tries to answer the question why people trade across borders. It does so not only with respect to welfare effects as the ultimate end of trade; it rather also discusses effects on the national and international economic structure of production, employment, income, and prices.
 - (ii) ... the pattern of trade: which country exports and imports which goods (who trades what?). As the simultaneous look at imported and exported goods includes a statement on the terms of trade, it is straightforward that trade theory also analyzes ...
 - (iii) ... the international price relation, the so-called terms of trade (Q^T): this is the ratio between export prices and import prices. As a simple example, assume that only two goods are traded with good 1 (2) being the export (import) good; then, the terms of trade would be $p_{EX}/p_{IM} = p_1/p_2$. In order to make both prices comparable, we have to express them in the same currency; to this

end, the price of the imported good, originally expressed in the foreign currency (p_2^f), is multiplied by the exchange rate (e):

$$(1.1) \quad Q^T = \frac{p_{EX}}{p_{IM}} = \frac{p_1}{p_2} = \frac{p_1 \left[\frac{\text{€}}{\text{unit}_1} \right]}{p_2^f \left[\frac{\text{\$}}{\text{unit}_2} \right] \cdot e \left[\frac{\text{€}}{\text{\$}} \right]} = \frac{p_{EX}}{p_{IM}} \left[\frac{\text{unit}_2}{\text{unit}_1} \right] .$$

We note that the terms of trade are in fact a pure quantity relation.

- Policy viewpoint: the theory of trade policy tries to answer the guiding question from a normative viewpoint: how should trade be regulated such that the gains from trade – in a very broad sense – materialize? Trade policy is thus concerned with the regulation of trade, first of all with the question of protectionism versus free trade, i.e. “how much trade”; see Krugman/Obstfeld/Melitz (2022), pp 31 n [or: 9th ed. (2012), pp 35 n].

In analyzing trade, we follow the tradition of the so-called pure theory of international trade in three respects: see the following “assumptions” (a) – (c).

(2) Assumptions

(a) No money

We will neglect the existence of money. This builds on the old classical belief that “money is a veil” which only blurs our view on the things that really matter:

- according to the so-called Quantity Theory of Money, the levels of production, employment, and income are independent from the quantity of money. This can be illustrated by re-interpreting the so-called Quantity Equation (Fisher Identity) $M \cdot V = P \cdot Y$ as an equilibrium condition of the money market, taking the money supply (M) and the income velocity of money (V) as exogenous variables while aggregate income (Y) is assumed to be constant at the full-employment level
- the independence from the quantity of money is all the more true for the structures of production, income, and prices.

Note that “real” trade may also include the exchange of goods over time. This leads to the creation of cross-border claims and liabilities; in the sequel, these stocks can also be traded. Thus, even in a model without money, we can analyze international (non-monetary) financial relations.

Neglecting money, the pure theory is neither capable of explaining the overall price level of a country nor its nominal exchange rate. It can only analyze price structures, i. e. relative prices; the most prominent example are the terms of trade defined above, as another example we may take the real wage rate. However, this is not considered to be a serious drawback as international trade is focused primarily on structural aspects.

(b) Microeconomic analysis

The focus on structural aspects means that international trade analysis is not concerned with the overall level of employment and production or the general price level. Instead, it deals with structural issues like the ratio of export and import prices (terms of trade), the pattern of trade, its effects on the domestic and international allocation of resources (the famous “division of labor”) and on the distribution of income and wealth. Just like relative prices - the price structure – these structures are traditionally analyzed with the tools of microeconomics. We know this kind of analysis from traditional price theory or from its modern version industrial economics.

(c) General equilibrium analysis

In analogy to industrial economics, international trade theory discusses many issues in a partial equilibrium setting. However, just like the so-called general equilibrium theory tries provide for a complete picture of the closed economy, trade theory endeavors to provide an all-embracing picture of countries related by trade: “The theory of international trade is the old home of general equilibrium theory”; Negishi (1972), p. 28.

Some authors even view this “general-equilibrium nature of the approach” as an important distinguishing characteristic of the whole field of international economics, not just of trade theory; see Marrewijk (2012), p. 4 [or 1st ed. 2007, p. 4].

1.2.2 International Financial Economics: Money, Interest Rates, and Exchange Rates

Part 3 of the course will treat cross-border financial relations. The term “financial” is a bit misleading as - in principle – all kinds of assets are considered that generate income over time:

- financial claims and liabilities against foreigners in the traditional sense, such as loans, bonds, equity
- real assets such as land or buildings.

A very special foreign asset is money denominated in a foreign currency. We call this “foreign exchange”. In a closed economy, money does not generate (nominal) income and is thus a sort of limit-case of an asset. In an open economy, this is different: the value of foreign currency in terms of our own currency usually changes over time; therefore, foreign money does generate gains or losses and thus can be seen as an income-generating asset, i. e. as financial capital!

In contrast to part 2, part 3 therefore explicitly takes money into account. The analysis is then no longer restricted to relative prices; much rather, nominal prices and thus the overall price level are now defined.

As the price of foreign currency – the nominal exchange rate – stands between any pair of domestic and foreign prices, we start part 3 with an exposition of the foreign exchange market. This is the market where the exchange rate is determined because there the domestic currency is exchanged against foreign currencies.

In principle, the analysis of international financial relations has to explain the existence of cross-border financial claims and liabilities: why do people hold foreign assets and take credit abroad? This requires a general equilibrium approach – and is thus quite in line with the general-equilibrium character of international economics. However, in part 3 we do not deal with the international allocation of capital. Instead, we take the existence of international financial relations as given. In other words: we confine ourselves to partial-equilibrium analysis. Concretely, we are going to discuss two particularly simple approaches to international price relations that both contain the nominal exchange rate, i. e. the price of the asset “foreign currency” in terms of domestic money. These approaches come under the heading of “international parities”:

- Interest Rate Parity: this is a purely financial price relation between four financial prices, i. e. two different exchange rates on the one hand and interest rates, both domestic and foreign, on the other hand
- Purchasing Power Parity: a triangular relation between the exchange rate (asset price) and the price levels in goods markets, both domestic and foreign.

Corresponding to their partial-equilibrium character, these parities take the national price levels and interest rates as given.

1.2.3 International Macroeconomics: Income and External Balances

Part 4 of the course will take us back to general equilibrium analysis. We are going to analyze the interplay of goods markets and financial markets. Thereby, we will also try to complement the partial-equilibrium analysis of part 3:

- we will try to explain the levels of goods prices and of interest rates.
- the general-equilibrium perspective will allow to have a look at the sources of cross-border assets and debts.

As part 4 takes a macroeconomic perspective, we shall concentrate on a nation's overall foreign claims and liabilities; that includes the balance of the two, the so-called net foreign assets. In this field, the net foreign assets of the central bank are of special interest because they are in close relation to a nation's money supply.

A change of a country's net external assets constitutes an imbalance in its financial trade. This is mirrored by an offsetting imbalance in its real trade. International macroeconomics looks at the interaction of these external imbalances.

Moreover, the field of international macro is concerned with such Keynesian questions as unemployment and the overall level of production and income of a country. This complements the structural issues that are at the forefront of international trade theory in part 1.