International Trade

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PREFACE

The purpose of this book is to help students understand the fundamental concepts of this discipline. It is designed to motivate students to learn and prosper. I am grateful for the support of my colleagues. I would also like to acknowledge the encouragement of my family.

The exchange of capital, goods and services, across international borders is referred to as international trade. It is a complex process that takes place between two or more nations. Various factors like currency, government policies, judicial system, economy, laws and markets have a significant influence on international trade. Global trading provides consumers and countries with exposure to new markets and products. There are various theories and models which are used to analyze and explain the factors behind international trade. A few of them are Heckscher–Ohlin model, specific factors model, Ricardian model and Adam Smith's model. This book unfolds the innovative aspects of international trade which will be crucial for the holistic understanding of the subject matter. It picks up individual branches and explains their need and contribution in the context of a growing economy. Through this book, we attempt to further enlighten the readers about the new concepts in this field.

A foreword for all the chapters is provided below:

Chapter – Introduction

The exchange of goods, capital and services across international borders and territories is known as international trade. This chapter has been carefully written to provide an easy understanding of the various aspects of international trade including its characteristics, importance, advantages and disadvantages.

Chapter – Theories and Models of International Trade

There are numerous theories related to international trade such as international trade theory, mercantilism, absolute advantage theory, new trade theory, internalization theory and location theory. Prominent models of international trade include gravity model of trade and Hecksher-Ohlin-model. This chapter discusses in detail these theories and models related to international trade.

Chapter – International Trade: Types and Challenges

International trade is classified into various types such as bilateral trade, export and import. Some of the challenges that international trade has to face are ethical barriers, cultural barriers and technological barriers. The chapter closely examines these challenges and types of international trade.

Chapter – Monetary Approaches to International Trade

Monetary approach in international trade assumes that the rates are pegged, economy is in long-run full-employment equilibrium and that changes in the money supply do not affect real variables. It includes international monetary system which is a set of internationally acknowledged rules and supporting institutions that facilitate international trade. This chapter discusses in detail the diverse aspects of monetary approaches to international trade.

Chapter – Economic Impact of Globalization

Globalization refers to the process of interaction and integration among governments, companies and people across the world. It has a profound impact on the growth of international trade. This chapter has been carefully written to provide an easy understanding of the impact of globalization on different economies.

Chapter – International Trade Laws, Agreements and Policies

International trade law refers to the rules and customs which govern trade between countries. It includes agreements such as trade bloc, and trade policies such as green box policy. This chapter has been carefully written to provide an easy understanding of various trade laws, agreements and policies.

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Introduction 1

- **International Trade**
- **Importance of International Trade**
- **Characteristics of International Trade**
- **Advantages and Disadvantages of International Trade**
- **International Business**

The exchange of goods, capital and services across international borders and territories is known as international trade. This chapter has been carefully written to provide an easy understanding of the various aspects of international trade including its characteristics, importance, advantages and disadvantages.

International Trade

International trade refers to economic transactions that are made between countries. Among the items commonly traded are consumer goods, such as television sets and clothing; capital goods, such as machinery; and raw materials and food. Other transactions involve services, such as travel services and payments for foreign patents. International trade transactions are facilitated by international financial payments, in which the private banking system and the central banks of the trading nations play important roles.

International trade and the accompanying financial transactions are generally conducted for the purpose of providing a nation with commodities it lacks in exchange for those that it produces in abundance; such transactions, functioning with other economic policies, tend to improve a nation's standard of living. Much of the modern history of international relations concerns efforts to promote freer trade between nations.

The barter of goods or services among different peoples is an age-old practice, probably as old as human history. International trade, however, refers specifically to an exchange between members

of different nations, and accounts and explanations of such trade begin (despite fragmentary earlier discussion) only with the rise of the modern nation-state at the close of the European Middle Ages. As political thinkers and philosophers began to examine the nature and function of the nation, trade with other countries became a particular topic of their inquiry. It is, accordingly, no surprise to find one of the earliest attempts to describe the function of international trade within that highly nationalistic body of thought now known as mercantilism.

Mercantilism

Mercantilist analysis, which reached the peak of its influence upon European thought in the 16th and 17th centuries, focused directly upon the welfare of the nation. It insisted that the acquisition of wealth, particularly wealth in the form of gold, was of paramount importance for national policy. Mercantilists took the virtues of gold almost as an article of faith; consequently, they never sought to explain adequately why the pursuit of gold deserved such a high priority in their economic plans.

Mercantilism was based on the conviction that national interests are inevitably in conflict—that one nation can increase its trade only at the expense of other nations. Thus, governments were led to impose price and wage controls, foster national industries, promote exports of finished goods and imports of raw materials, while at the same time limiting the exports of raw materials and the imports of finished goods. The state endeavoured to provide its citizens with a monopoly of the resources and trade outlets of its colonies.

The trade policy dictated by mercantilist philosophy was accordingly simple: encourage exports, discourage imports, and take the proceeds of the resulting export surplus in gold. Mercantilists' ideas often were intellectually shallow, and indeed their trade policy may have been little more than a rationalization of the interests of a rising merchant class that wanted wider markets—hence the emphasis on expanding exports—coupled with protection against competition in the form of imported goods.

A typical illustration of the mercantilist spirit is the English Navigation Act of 1651, which reserved for the home country the right to trade with its colonies and prohibited the import of goods of non-European origin unless transported in ships flying the English flag. This law lingered until 1849. A similar policy was followed in France.

Liberalism

A strong reaction against mercantilist attitudes began to take shape toward the middle of the 18th century. In France, the economists known as Physiocrats demanded liberty of production and trade. In England, economist Adam Smith demonstrated in his book The Wealth of Nations (1776) the advantages of removing trade restrictions. Economists and businessmen voiced their opposition to excessively high and often prohibitive customs duties and urged the negotiation of trade agreements with foreign powers. This change in attitudes led to the signing of a number of agreements embodying the new liberal ideas about trade, among them the Anglo-French Treaty of 1786, which ended what had been an economic war between the two countries.

After Adam Smith, the basic tenets of mercantilism were no longer considered defensible. This did not, however, mean that nations abandoned all mercantilist policies. Restrictive economic policies were now justified by the claim that, up to a certain point, the government should keep foreign

merchandise off the domestic market in order to shelter national production from outside competition. To this end, customs levies were introduced in increasing number, replacing outright bans on imports, which became less and less frequent.

In the middle of the 19th century, a protective customs policy effectively sheltered many national economies from outside competition. The French tariff of 1860, for example, charged extremely high rates on British products: 60 percent on pig iron; 40 to 50 percent on machinery; and 600 to 800 percent on woolen blankets. Transport costs between the two countries provided further protection.

A triumph for liberal ideas was the Anglo-French trade agreement of 1860, which provided that French protective duties were to be reduced to a maximum of 25 percent within five years, with free entry of all French products except wines into Britain. This agreement was followed by other European trade pacts.

Resurgence of Protectionism

A reaction in favour of protection spread throughout the Western world in the latter part of the 19th century. Germany adopted a systematically protectionist policy and was soon followed by most other nations. Shortly after 1860, during the Civil War, the United States raised its duties sharply; the McKinley Tariff Act of 1890 was ultraprotectionist. The United Kingdom was the only country to remain faithful to the principles of free trade.

But the protectionism of the last quarter of the 19th century was mild by comparison with the mercantilist policies that had been common in the 17th century and were to be revived between the two world wars. Extensive economic liberty prevailed by 1913. Quantitative restrictions were unheard of, and customs duties were low and stable. Currencies were freely convertible into gold, which in effect was a common international money. Balance-of-payments problems were few. People who wished to settle and work in a country could go where they wished with few restrictions; they could open businesses, enter trade, or export capital freely. Equal opportunity to compete was the general rule, the sole exception being the existence of limited customs preferences between certain countries, most usually between a home country and its colonies. Trade was freer throughout the Western world in 1913 than it was in Europe in 1970.

The New Mercantilism

World War I wrought havoc on these orderly trading conditions. By the end of the hostilities, world trade had been disrupted to a degree that made recovery very difficult. The first five years of the postwar period were marked by the dismantling of wartime controls. An economic downturn in 1920, followed by the commercial advantages that accrued to countries whose currencies had depreciated (as had Germany's), prompted many countries to impose new trade restrictions. The resulting protectionist tide engulfed the world economy, not because policy makers consciously adhered to any specific theory but because of nationalist ideologies and the pressure of economic conditions. In an attempt to end the continual raising of customs barriers, the League of Nations organized the first World Economic Conference in May 1927. Twenty-nine states, including the main industrial countries, subscribed to an international convention that was the most minutely detailed and balanced multilateral trade agreement approved to date. It

was a precursor of the arrangements made under the General Agreement on Tariffs and Trade (GATT) of 1947.

However, the 1927 agreement remained practically without effect. During the Great Depression of the 1930s, unemployment in major countries reached unprecedented levels and engendered an epidemic of protectionist measures. Countries attempted to shore up their balance of payments by raising their customs duties and introducing a range of import quotas or even import prohibitions, accompanied by exchange controls.

From 1933 onward, the recommendations of all the postwar economic conferences based on the fundamental postulates of economic liberalism were ignored. The planning of foreign trade came to be considered a normal function of the state. Mercantilist policies dominated the world scene until after World War II, when trade agreements and supranational organizations became the chief means of managing and promoting international trade.

Importance of International Trade

The importance of international trade in the world has been widely studied and also examines the role of international trade in the various issues. International trade is an activity of strategies importance in the development process of a developing economy. International specialization means that different countries of the world specialize in producing different goods. Trade policy formulation and implementation covering issues such as tariffs, incentives, quotas, taxes, customs and administration, subsidies, rules of origin, public procurement regimes, aid and investment, export promotion, trade facilitation and diversification. The role of foreign trade in achieving a quicker pace of economic development is thus well recognized. Hence, planning of foreign trade cannot be divorced from the strategy of overall development. The disadvantage of international trade is that the welfare of the people in nations that produce goods and services is sometimes ignored for the sake of profits. In conclusion it can be said that, international trade leads to economic growth provided the policy measures and economic infrastructure are accommodative enough to cope with the changes in social and financial scenario that result from it.

In the modern world, there is mutual interdependence of the various national economies. Today it is hard to find the example of a closed economy. All economies of the world have become open. But the degree of openness varies from one country to another. Thus, in the modern world no country is completely self-sufficient. Self-sufficiency, in the sense used here, means the proportion of the goods and services consumed to their total output produced with in a country. But the degree of self-sufficiency varies from one country to another.

Equally important are the roles of the regional and international specialization. Regional specialization means that various regions or areas in a country specialize themselves in the production of different products. International specialization means that different countries of the world specialize in producing different goods. Factors which determine regional specialization are more or less the same as those which determine international specialization. A country which produces surplus of a good, i.e produces more than its requirements, will export it to other countries in exchange for the surplus produces of those countries.

Objectives

1. To study the importance of International Trade in the World.
2. To examine the relationship between International Trade and Economic Development.
3. To evaluate the disadvantages of International Trade.

Foreign Trade

Trade is essentially an international transformation of commodities, inputs and technology which promotes welfare in two ways. It extends the market of a country's output beyond national frontiers and may ensure better prices through exports. Through imports, it makes available commodities, inputs and technology which are either not available or are available only at higher prices, thus taking consumers to a higher level of satisfaction.

The foremost principle of foreign trade, viz., "the law of comparative costs", signifies that what a country exports and imports is determined not by its character in isolation but only in relation to those of its trading partners.

According to Samuelson "Foreign Trade offers a Consumption possibility frontier that can give us more of all goods than can own domestic production possibility frontier". The extension of foreign trade, according to Ricardo "will very powerfully contribute to increase the mass of commodities, and therefore, the sum of enjoyments". This will be true for each trading nation. In modern terminology, "trade is a p positive sum game".

Under developed countries are concerned with their international trade position, because for all of them, international trade position, because for all of them, international trade-how, skills, capita, machinery and implements which are essential for their economic development.

Need of International Trade

There is always a need for because the countries have different capabilities and they specialize in producing different things. To compensate for what they don't produce, then have to involve trade with other countries. For ex: not all the countries have oil resources, the rest of the countries import oil from the oil producers. Most of the oil producers on the other hand import finished goods because, they don't produce enough. So in the modern world no country is completely self-sufficient. Thus International Trade is very important for all the countries in the world.

Importance of International Trade

Economics deals with the proper allocation and efficient use of scarce resources. International Trade is also concerned with allocation of economic resources among countries. Such allocation is done in the world markets by means of international trade under the concept of free trade, the best products are produced and sold in competitive market, and benefits of efficient production like better quality and lower price are available to all people of the world.

One fundamental principle international trade is that one should buy and services from a country which has the lowest price and sell his goods and services to a country which has the highest price.

This is good for buyers and sellers and also the developed countries have the opportunities to accelerate the pace of their economic development. They can import machines and adapt foreign technology. They can send their scholars and technocrats to more progressive countries to gain more knowledge and skills which are relevant to the particular needs of their developing economies.

In the final analysis, no country in the world can be economically independent without a decline in its economic growth. Even the richest countries buy raw material for their industries from the poorest countries. If every country produces only for its own needs, the production and consumption of goods would be limited. Clearly, such situation hampers economic progress. Furthermore, the standard of living of the people all over the world would have no chance to improve. Because of internal trade, people with money can acquire goods and services which are not available in their own countries. Hence satisfaction of consumers can be maximized.

International Trade is that kind of trade that give s rise to the economy of the world. In this the demand and supply and the prices are affected by the global; events. Global trading provides countries and consumers the chance to be exposed to those services and goods that are not available in their own country. Clothes, food, stocks, wines, spare parts etc and many more products have international market. Trading of services is also done like: banking and transportation tourism. The goods and services that are bought from the global market are called imports and the goods and services that are sold in the overseas marked are called exports. Exports and Imports are recorded in a country's of BOP (current Account).

International trading lets the developed countries use their resources effectively like technology, capital and labour. As many of the countries are gifted with natural resources and different assets (labour, technology, land and capital) they can produce many products more efficiently. Sell at cheaper prices than other countries. A country can obtain an item from another country if it can't effectively produce it within the national boundaries. This is the specialty of international trade. Global trading allows the different countries to participate in global economy encouraging the foreign direct investors. These individuals invest their money in the foreign companies and other assets. Hence, the countries can become competitive global participates.

International Trade has exerted a profound influence on the economic growth of a country. It has been observed that with the opening up of the economy and liberalization of trade restrictions, the developing countries, especially India and China, have grown over the years.

International trade has positively influenced the economic growth of a country in the following ways:

- International trade injects global competitiveness and hence the domestic business units tend to become very efficient being exposed international competition. Due to the integration with the world economy the entrepreneurs can have easy access to the technological innovations. They can utilize the latest technologies to enhance their productivity.
- The developing countries have higher trade protectionism measures as compared to the developed countries. The countries that have adopted such measures are seen to reap the benefits of an open trade regime.
- The products that are labour intensive like clothing, footwear, textiles etc are exported by

the developing countries to both developed and underdeveloped countries. Such exports earn heavy tax revenue in countries like Mexico, India, China and many more.

- International Trade has also brought in a reduction in the poverty level. India was a closed economy in the 1960s and 70s. There was not even 1% decline in the poverty level. The entire scenario changed with globalisation and international trade. According to Prof. Jagadish Bhagwati the reduction in the poverty level is due to a pull up rather than a trickledown effect. The economic growth brought about by international trade can generate financial resources. Such resources can be used to set up anti poverty programs. Better education and health facilities can also be provided to the poor.
- The exclusion of all types of trade barriers in the agricultural products of the developed countries will lead to a decline and rise in production and world prices respectively. The developing countries profit by selling or exporting these products at escalated world prices.

Characteristics of International Trade

Separation of Buyers and Producers

In inland trade producers and buyers are from the same country but in foreign trade they belong to different countries.

Foreign Currency

Foreign trade involves payments in foreign currency. Different foreign currencies are involved while trading with other countries.

Restrictions

Imports and exports involve a number of restrictions but by different countries. Normally, imports face many import duties and restrictions imposed by importing country. Similarly, various rules and regulations are to be followed while sending goods outside the country.

Need for Middlemen

The rules, regulations and procedures involved in foreign trade are so complicated that there is a need to take the help of middle men. They render their services for smooth conduct of trade.

Risk Element

The risk involved in foreign trade is much higher since the goods are taken to long distances and even cross the oceans.

Law of Comparative Cost

A country will specialise in the production of those goods in which it has cost advantage. Such

goods are exported to other countries. On the other hand, it will import those goods which have cost disadvantage or it has no specific advantage.

Governmental Control

In every country, government controls the foreign trade. It gives permission for imports and exports may influence the decision about the countries with which trade is to take place.

Advantages and Disadvantages of International Trade

Advantages

- It Provides a Foundation for International Growth.

Companies that are involved in exporting can achieve levels of growth that may not be possible if they only focus on their domestic markets. This allows brands and businesses an opportunity to achieve sustained revenues from a diversified portfolio of customers in several markets instead of a limited customer base in a single home market.

- International Trade Improves Financial Performance.

Brands and businesses which assert themselves in foreign trade work can increase their financial performance. This allows them to augment the returns they achieve on their investments into research and development. By rotating the products or services through the global market, the commercial lifespan of each opportunity can be amplified, expanding what existing products and services can provide. This benefit can even be achieved if a domestic market is no longer interested.

- It Spreads out the Risk a Brand and Business must Assume.

Organizations can better protect themselves from risk thanks to international trade because of the amount of diversification that can be achieved. Whether it is a financial disaster, like the Great Recession of 2007-2009, or a natural disaster like Hurricane Katrina, a company with an international presence can survive and even maintain profitability without domestic customer support. A home market may be unstable, but international trade can still let the brand and business be stable.

- International Trade Encourages Market Competitiveness.

When a brand and business competes in several markets simultaneously, then it must focus on its competitiveness for it to be able to thrive. By observing a larger range of trends because of their greater level of global market access, brands and businesses can focus on quality, design, and product development improvements so that they can continuously improve and diversify.

- International Exchange Rates Can be Beneficial to a Business.

Brands and businesses involved with international trade can further reduce their risk by taking advantage of monetary exchange rates. If a company does most of its trading in US dollars, then

trading with Japan to spread the risk of the exchange rate between the yen and the dollar can potentially add to the profits of the company. The same could be said of the euro or the pound to the dollar.

- Revenue Streams have Some Protection.

Although all risk cannot be eliminated from international trade, a series of contracts, insurance, and financial instrument trading can help to protect the revenue streams a brand and business is able to develop.

- It can be used as a way to Get Around High Levels of Domestic Competition.

A domestic market can have several products or services that are like what a new brand and business is trying to offer. Instead of competing for a small sliver of that domestic market, going through international trade can help an organization target similar foreign markets where competition may be much lower. Over time, the experiences gained in the foreign market can help an organization be able to establish a stronger domestic presence as well.

Disadvantages

- There is always a Political Risk Involved with International Trade.

If you were a brand and business that was counting on the TPP, then the words of Donald Trump represent a high political risk. Different countries provide their own political risks at varying levels, while domestic politics changes over time and presents an ongoing challenge. A government can change laws in a discriminatory fashion or create regulations that directly impact a specific organization.

- There can be Severe Exchange Rate Risks.

Many businesses focus on emerging markets for their products or services because it can greatly extend the lifespan of them. This also means the exchange rates in those emerging markets may fluctuate wildly, making it difficult to forecast finances for budgeting purposes. The value of assets and liabilities that are in foreign currencies creates the potential of a brand and business becoming immediately less competitive overnight, resulting in steep revenue losses.

- International trade also presents cultural complications.

Different cultures have different attitudes, standards, and expectations that can create problems for a brand and business. Failing to consider the expectation a different culture may have can lead to mistakes that damage the reputation of the brand and can be very costly to the bottom line. Any step of the sales process could create an offense. Something as simple as inappropriate packaging can be enough to permanently damage a brand's reputation.

- It has a Credit Risk that must be Specifically Managed.

Many brands and businesses tend to overlook the risk of non-payment when they begin to operate in the world of international trade. Credit risks can be managed by obtaining insurance or a letter of credit, but customer finances and credit can still impact the number of potential

sales that can be received within a market. Without an understanding of the B2B and B2C credit potential of an international market, the success a brand and business can receive will be hit or miss at best.

- International Trade Increases the Risk of Proprietary Information Theft.

Going into an international market with a product or service increases the risk of another brand or business stealing proprietary information, marketing concepts, or even a personal identity. China has a reputation of doing this, even if there isn't a business presence in the local market.

International Business

International business refers to the trade of goods, services, technology, capital and/or knowledge across national borders and at a global or transnational level.

It involves cross-border transactions of goods and services between two or more countries. Transactions of economic resources include capital, skills, and people for the purpose of the international production of physical goods and services such as finance, banking, insurance, and construction. International business is also known as globalization.

To conduct business overseas, multinational companies need to bridge separate national markets into one global marketplace. There are two macro-scale factors that underline the trend of greater globalization. The first consists of eliminating barriers to make cross-border trade easier (e.g. free flow of goods and services, and capital, referred to as "free trade"). The second is technological change, particularly developments in communication, information processing, and transportation technologies.

"International business" is also defined as the study of the internationalization process of multinational enterprises. A multinational enterprise (MNE) is a company that has a worldwide approach to markets, production and operations in several countries. Well-known MNEs include fast-food companies such as: McDonald's (MCD), YUM (YUM), Starbucks Coffee Company (SBUX), Microsoft (MSFT), etc. Other industrial MNEs leaders include vehicle manufacturers such as: Ford Motor Company, and General Motors (GMC). Some consumer electronics producers such as Samsung, LG and Sony, and energy companies such as Exxon Mobil, and British Petroleum (BP) are also multinational enterprises.

Multinational enterprises range from any kind of business activity or market, from consumer goods to machinery manufacture; a company can become an international business. Therefore, to conduct business overseas, companies should be aware of all the factors that might affect any business activities, including, but not limited to: difference in legal systems, political systems, economic policy, language, accounting standards, labor standards, living standards, environmental standards, local cultures, corporate cultures, foreign-exchange markets, tariffs, import and export regulations, trade agreements, climate, and education. Each of these factors may require changes in how companies operate from one country to another. Each factor makes a difference and a connection.

One of the first scholars to engage in developing a theory of multinational companies was Canadian

economist Stephen Hymer. Throughout his academic life, he developed theories that sought to explain foreign direct investment (FDI) and why firms become multinational.

There were three phases of internationalization according to Hymer's work. The first phase of Hymer's work was his dissertation in 1960 called the International Operations of National Firms. In this thesis, the author departs from neoclassical theory and opens up a new area of international production. At first, Hymer started analyzing neoclassical theory and financial investment, where the main reason for capital movement is the difference in interest rates. After this analysis, Hymer analyzed the characteristics of foreign investment by large companies for production and direct business purposes, calling this Foreign Direct Investment (FDI). By analyzing the two types of investments, Hymer distinguished financial investment from direct investment. The main distinguishing feature was control. Portfolio investment is a more passive approach, and the main purpose is financial gain, whereas in foreign direct investment a firm has control over the operations abroad. So, the traditional theory of investment based on differential interest rates does not explain the motivations for FDI.

According to Hymer, there are two main determinants of FDI; where an imperfect market structure is the key element. The first is the firm-specific advantages which are developed at the specific companies home country and, profitably, used in the foreign country. The second determinant is the removal of control where Hymer wrote: "When firms are interconnected, they compete in selling in the same market or one of the firms may sell to the other," and because of this "it may be profitable to substitute centralized decision-making for decentralized decision-making".

Hymer's second phase is his neoclassical article in 1968 that includes a theory of internationalization and explains the direction of growth of the international expansion of firms. In a later stage, Hymer went to a more Marxist approach where he explains that MNC as agents of an international capitalist system causing conflict and contradictions, causing among other things inequality and poverty in the world. Hymer is the "father of the theory of MNEs", and explains the motivations for companies doing direct business abroad.

Among modern economic theories of multinationals and foreign direct investment are internalization theory and John Dunning's OLI paradigm (standing for *ownership, location and internationalization*). Dunning was widely known for his research in economics of international direct investment and the multinational enterprise. His OLI paradigm, in particular, remains as the predominant theoretical contribution to study international business topics. Hymer and Dunning are considered founders of international business as a specialist field of study.

Physical and Social Factors of Competitive Business and Social Environment

The conduct of international operations depends on a company's objectives and the means with which they carry them out. The operations affect and are affected by the physical and societal factors and the competitive environment.

Operations

All firms that want to go international have one goal in common; the desire to increase their respective economic values when engaging in international trade transactions. To accomplish this

goal, each firm must develop its individual strategy and approach to maximize value, lower costs, and increase profits. A firm's value creation is the difference between *V* (the value of the product being sold) and *C* (the cost of production per each product sold).

Value creation can be categorized as: *primary activities* (research and development, production, marketing and sales, customer service) and as *support activities* (information systems, logistics, human resources). All of these activities must be managed effectively and be consistent with the firm strategy. However, the success of firms that extend internationally depends on the goods or services sold and on the firm's core competencies (Skills within the firm that competitors cannot easily match or imitate). For a firm to be successful, the firm's strategy must be consistent with the environment in which the firm operates. Therefore, the firm needs to change its organizational structure to reflect changes in the setting in which they are operating and the strategy they are pursuing.

Once a firm decides to enter a foreign market, it must decide on a mode of entry. There are six different modes to enter a foreign market, and each mode has pros and cons that are associated with it. The firm must decide which mode is most appropriately aligned with the company's goals and objectives. The six different modes of entry are exporting, turnkey projects, licensing, franchising, establishing joint ventures with a host-country firm, or setting up a new wholly owned subsidiary in the host country.

The first entry mode is exporting. Exporting is the sale of a product in a different national market than a centralized hub of manufacturing. In this way, a firm may realize a substantial scale of economies from its global sales revenue. As an example, many Japanese automakers made inroads into the U.S. market through exporting. There are two primary advantages to exporting: avoiding high costs of establishing manufacturing in a host country (when these are higher) and gaining an experience curve. Some possible disadvantages to exporting are high transport costs and high tariff barriers.

The second entry mode is a turnkey project. In a turnkey project, an independent contractor is hired by the company to oversee all of the preparation for entering a foreign market. Once the preparation is complete and the end of the contract is reached, the plant is turned over to the company fully ready for operation.

Licensing and franchising are two additional entry modes that are similar in operation. Licensing allows a licensor to grant the rights to an intangible property to the licensee for a specified period of time for a royalty fee. Franchising, on the other hand, is a specialized form of licensing in which the "franchisor" sells the intangible property to the franchisee, and also requires the franchisee operate as dictated by the franchisor.

Lastly, a joint venture and wholly owned subsidiary are two more entry modes in international business. A joint venture is when a firm created is jointly owned by two or more companies (Most joint venture are 50-50 partnerships). This is in contrast with a wholly owned subsidiary, when a firm owns 100 percent of the stock of a company in a foreign country because it has either set up a new operation or acquires an established firm in that country.

Types of Operations

Exports and import:

- Merchandise exports: goods exported—not including services.

- Merchandise imports: The physical good or product that is imported into the respective country. Countries import products or goods that their country lacks in. An example of this is that Colombia must import cars since there is no Colombian car company.
- Service exports: As of 2018, the fastest growing export sector. The majority of the companies create a product that requires installation, repairs, and troubleshooting, Service exports is simply a resident of one country providing a service to another country. A cloud software platform used by people or companies outside the home country.
- "Tourism and transportation, service performance, asset use".
- Exports and Imports of products, goods or services are usually a country's most important international economic transactions.

Choice of Entry Mode in International Business

Strategic variables affect the choice of entry mode for multinational corporation expansion beyond their domestic markets. These variables are global concentration, global synergies, and global strategic motivations of MNC.

- Global concentration: Many MNEs share and overlap markets with a limited number of other corporations in the same industry.
- Global synergies: The reuse or sharing of resources by a corporation and may include marketing departments or other inputs that can be used in multiple markets. This includes, among other things, brand name recognition.
- Global strategic motivations: Other factors beyond entry mode that are the basic reasons for corporate expansion into an additional market. These are strategic reasons that may include establishing a foreign outpost for expansion, developing sourcing sites among other strategic reasons.

Means of Businesses

Entry modes export/import, wholly owned subsidiary, merger or acquisition, alliances and joint ventures, licensing.

- Modes: Importing and exporting, tourism and transportation, licensing and franchising, turnkey operations, management contracts, direct investment and portfolio investments.
- Functions: Marketing, global manufacturing and supply chain management, accounting, finance, human resources.
- Overlaying alternatives: Choice of countries, organization and control mechanisms.

Physical and Social Factors

Geographical influences: There are many different geographic factors that affect international

business. These factors are: the geographical size, the climatic challenges happening throughout the world, the natural resources available on a specific territory, the population distribution in a country, etc.

- Social factors: Political policies: Political disputes, particularly those that result in the military confrontation, can disrupt trade and investment.
- Legal policies: Domestic and international laws play a big role in determining how a company can operate overseas.
- Behavioral factors: In a foreign environment, the related disciplines such as anthropology, psychology, and sociology are helpful for managers to get a better understanding of values, attitudes, and beliefs.
- Economic forces: Economics explains country differences in costs, currency values, and market size.

Risks

Faulty Planning

To achieve success in penetrating a foreign market and remaining profitable, efforts must be directed towards the planning and execution of Phase I. The use of conventional SWOT analysis, market research, and cultural research, will give a firm appropriate tools to reduce risk of failure abroad. Risks that arise from poor planning include: large expenses in marketing, administration and product development (with no sales); disadvantages derived from local or federal laws of a foreign country, lack of popularity because of a saturated market, vandalism of physical property due to instability of country; etc. There are also cultural risks when entering a foreign market. Lack of research and understanding of local customs can lead to alienation of locals and brand dissociation. Strategic risks can be defined as the uncertainties and untapped opportunities embedded in your strategic intent and how well they are executed. As such, they are key matters for the board and impinge on the whole business, rather than just an isolated unit.

- Operational risk

A company has to be conscious about the production costs to not waste time and money. If the expenditures and costs are controlled, it will create an efficient production and help the internationalization. Operational risk is the prospect of loss resulting from inadequate or failed procedures, systems or policies; employee errors, systems failure, fraud or other criminal activity, or any event that disrupts business processes.

- Political risk

How a government governs a country (governance) can affect the operations of a firm. The government might be corrupt, hostile, or totalitarian; and may have a negative image around the globe. A firm's reputation can change if it operates in a country controlled by that type of government. Also, an unstable political situation can be a risk for multinational firms. Elections or any unexpected political event can change a country's situation and put a firm in an awkward position. Political risks are the likelihood that political forces will cause drastic changes in a country's business

environment that hurt the profit and other goals of a business enterprise. Political risk tends to be greater in countries experiencing social unrest. When political risk is high, there is a high probability that a change will occur in the country's political environment that will endanger foreign firms there. Corrupt foreign governments may also take over the company without warning, as seen in Venezuela.

- Technological risk

Technological improvements bring many benefits, but some disadvantages as well. Some of these risks include "lack of security in electronic transactions, the cost of developing new technology the fact that this new technology may fail, and, when all of these are coupled with the outdated existing technology, the fact that result may create a dangerous effect in doing business in the international arena."

- Environmental risk

Companies that establish a subsidiary or factory abroad need to be conscious about the externalizations they will produce, as some may have negative effects such as noise or pollution. This may cause aggravation to the people living there, which in turn can lead to a conflict. People want to live in a clean and quiet environment, without pollution or unnecessary noise. If a conflict arises, this may lead to a negative change in customer's perception of the company. Actual or potential threat of adverse effects on living organisms and environment by effluents, emissions, wastes, resource depletion, etc., arising out of an organization's activities is considered to be risks of the environment. As new business leaders come to fruition in their careers, it will be increasingly important to curb business activities and externalizations that may hurt the environment.

- Economic risk

These are the economic risks explained by Professor Okolo: "This comes from the inability of a country to meet its financial obligations. The changing of foreign-investment or/and domestic fiscal or monetary policies. The effect of exchange-rate and interest rate make it difficult to conduct international business." Moreover, it can be a risk for a company to operate in a country and they may experience an unexpected economic crisis after establishing the subsidiary. Economic risks is the likelihood that economic management will cause drastic changes in a country's business environment that hurt the profit and other goals of a business enterprise. In practice, the biggest problem arising from economic mismanagement has been inflation. Historically many governments have expanded their domestic money supplying misguided attempts to stimulate economic activity.

- Financial risk

According to Professor Okolo: "This area is affected by the currency exchange rate, government flexibility in allowing the firms to repatriate profits or funds outside the country. The devaluation and inflation will also affect the firm's ability to operate at an efficient capacity and still be stable." Furthermore, the taxes that a company has to pay might be advantageous or not. It might be higher or lower in the host countries. Then "the risk that a government will indiscriminately change the laws, regulations, or contracts governing an investment—or will fail to enforce them—in a way that reduces an investor's financial returns is what we call 'policy risk.'"

- Terrorism

Terrorism is a voluntary act of violence towards a group(s) of people. In most cases, acts of terrorism is derived from hatred of religious, political and cultural beliefs. An example was the infamous 9/11 attacks, labeled as terrorism due to the massive damages inflicted on American society and the global economy stemming from the animosity towards Western culture by some radical Islamic groups. Terrorism not only affects civilians, but it also damages corporations and other businesses. These effects may include: physical vandalism or destruction of property, sales declining due to frightened consumers and governments issuing public safety restrictions. Firms engaging in international business will find it difficult to operate in a country that has an uncertain assurance of safety from these attacks.

- Bribery

Bribery is the act of receiving or soliciting of any items or services of value to influence the actions of a party with public or legal obligations. This is considered to an unethical form of practicing business and can have legal repercussions. Firm that want to operate legally should instruct employees to not involve themselves or the company in such activities. Companies should avoid doing business in countries where unstable forms of government exist as it could bring unfair advantages against domestic business and/or harm the social fabric of the citizens.

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Theories and Models of International Trade

2

- International Trade Theory
- Mercantilism
- Absolute Advantage Theory
- Comparative Advantages
- New Trade Theory
- Internalization Theory
- Location Theory
- Marginal Intra-industry Trade
- Gravity Model of Trade
- Heckscher-Ohlin-Model

There are numerous theories related to international trade such as international trade theory, mercantilism, absolute advantage theory, new trade theory, internalization theory and location theory. Prominent models of international trade include gravity model of trade and Hecksher-Ohlin-model. This chapter discusses in detail these theories and models related to international trade.

International Trade Theory

The only really systematic theory of international trade we possess is the' so-called classical theory, of which practically all the component parts were worked out by such early writers as Hume,. Adam Smith and Ricardo. It is eharacterised, on the one hand, by the doctrine of' comparative\ costs and, on the other hand, by the principle that prices, exchange rates and money flows provide a mechanism which links together the monetary systems of different countries and ensures the automatic adjustment of the balance of payments. In England the classical theory still holds the field and it is accepted by the more theoretically-minded economists in the United States. In continental 'countries, however, with the partial exception of Italy, it has never found much favour.

Criticisms have been frequent, but the critics have not succeeded in substituting for it anything that deserves to be called a new theory of international trade. Certain details of the classical theory have had to be modified, and there has been, of course, much interesting statistical and. descriptive work. But the only important theoretical advance has been the application, notably by Pareto, of general equilibrium analysis to the problems of international trade. The classical doctrine-in particular the theory of comparative costs-is exhibited as a special case of the more general theory.

The classical theory starts from the fact that in international trade, as in all other economic activities, it is the individual economic subject who buys and sells, pays and is paid, grants and receives loans, and, in short, carries on the activities which, taken as a whole, constitute international trade.' It is not, for example, Germany and England, but individuals or firms located in Germany and England, who carry on trade with one another. The first question, therefore, which has to be answered is whether these economic activities call for a special theory at all. The mere fact that apolitical boundary is involved and that the persons in question are nationals of different countries and, perhaps, speak different languages, is economically irrelevant. It cannot therefore be taken as the criterion of demarcation between one branch of economic theory and another.

The classical school believed nevertheless that there was a fundamental difference between home trade and foreign trade. They pointed out that labour and capital moved freely from one branch of production and from one district to another within a single country. Between different countries, on the other hand, mobility was totally, or at any rate to a great extent, lacking. In the latter case, complete adjustment (i.e. the establishment of the same rate of wages and the same rate of interest everywhere) did not take place. Immobility was accepted quite naively by the classical school as the criterion of international trade. They based their argument upon it without attempting to justify its selection on methodological grounds and thus laid themselves open to various objections which have been raised from time to time, particularly in recent years.

An obvious criticism, which certainly has some truth in' it, is that the difference in question can only be one of degree. On the one hand, the factors of production are not perfectly mobile within national boundaries; on the other hand, large and, indeed, enormous movements of the factors of production do sometimes take place across these boundaries.

Of course, the classical school did not overlook this fact. Adam Smith stressed the importance of emigration; and J. S. Mill recognised that capital was becoming steadily more mobile and cosmopolitan. Moreover, it is common knowledge that Cairnes introduced the conception of 'non-competing groups' (i.e. sharply defined groups of labour between which there was no free movement) and pointed out that where such groups existed within a country, the theory of international trade applied to them. Professor Taussig, to whom we owe the latest and most carefully worked-out version of the classical theory, devotes a good deal of space to the imperfect mobility of labour and to the consequent differences of wages rates. It can, perhaps, be maintained that the classical school and their successors have paid too little. attention to the significance of these phenomena for the economic development of the modern world. One may speak with Nicholson of a " lost idea" -lost, that is to say, since the days of Adam Smith. There can, however, be no question of a logical error on their part. If the mobility of labour and capital between different countries were to increase in the further course of economic development, there would be, according to the classical school, no need for a separate theory of international trade. For the phenomena which it tries to explain would have disappeared and with them the distinction between home and. foreign trade. But one

must be careful to distinguish between the empirical question whether the assumptions of the classical school apply to any particular epoch, and the logical question whether their conclusions follow from those assumptions.

It has been argued that, even within the bounds of a single country, real capital cannot readily be transferred from one line of production to another/and, further, that the cost of transporting capital goods from one part of a country to another is sometimes much greater than from one country to another. But this argument is irrelevant, since it refers only to specific capital goods already in existence. For capital theory, however, the criterion of perfect mobility is the equality of interest rates. This refers to alternative ways of investing liquid or money capital. If the cost of transporting capital goods from ·one place to another is high, considerable differences in the price of capital goods will probably exist. But, nevertheless, interest rates may very well tend to equality. The rate of interest need not be higher in San Francisco than in New York, because there is a mountain range and' a distance of 2500 miles between them. It must, however, be granted that, if a country is completely shut off from the rest of the world-in the sense that' there can be neither movements of labour nor trade in commodities of any kind-no capital can be transferred, even if money as such is able to flow in and out. The necessary and sufficient condition is the existence of some international trade, even if it consists entirely of consumption goods and services (e.g. tourist, traffic) and sufficient flexibility to allow an import or export surplus to develop. As will be shown later" capital may then move in the shape of increased imports or decreased exports of consumption goods, thus releasing factors of production for employment in other directions.

The international mobility of capital is restricted not by trans port costs but by obstacles of an entirely different character. These consist in the diffi6ulty of legal redress, political uncertainty, ignorance of the prospects of investment in a foreign country, imperfection of the banking system, instability of foreign currencies, mistrust of the foreigner.

In actual fact, there is to-day very considerable immobility of the factors of production, particularly of labour. Apart from the' natural' obstacles, such as the cost of emigration, ignorance of foreign languages, and lack of initiative, nearly all countries impose restrictions on immigration. Moreover, the War and the post-war inflations have seriously restricted the international mobility of capital. This is proved by the persistence of large discrepancies between the rates of interest in different countries. The chief reason is, undoubtedly, that owners of capital have lost faith in the political stability of the debtor countries, where rates are high. Hence they fear expropriation by a depreciation of the exchanges or by exchange restrictions, moratoria, standstill agreements, and other devices of the same kind now in vogue.

Mercantilism

Mercantilism is a national economic policy that is designed to maximize the exports of a nation. Mercantilism was dominant in modernized parts of Europe from the 16th to the 18th centuries, a period of proto-industrialization, before falling into decline, although some commentators argue that it is still practiced in the economies of industrializing countries, in the form of economic interventionism.

It promotes government regulation of a nation's economy for the purpose of augmenting state power at the expense of rival national powers. Mercantilism includes a national economic policy aimed at accumulating monetary reserves through a positive balance of trade, especially of finished goods. Historically, such policies frequently led to war and also motivated colonial expansion.

Mercantilist theory varies in sophistication from one writer to another and has evolved over time. High tariffs, especially on manufactured goods, were an almost universal feature of mercantilist policy. These policies aim to reduce a possible current account deficit or reach a current account surplus. With the efforts of supranational organizations such as the World Trade Organization to reduce tariffs globally, non-tariff barriers to trade have assumed a greater importance in neomercantilism.

Most of the European economists who wrote between 1500 and 1750 are today generally considered mercantilists; this term was initially used solely by critics, such as Mirabeau and Smith, but was quickly adopted by historians. Originally the standard English term was "mercantile system". The word "mercantilism" was introduced into English from German in the early 19th century.

The bulk of what is commonly called "mercantilist literature" appeared in the 1620s in Great Britain. Smith saw the English merchant Thomas Mun as a major creator of the mercantile system, especially in his posthumously published Treasure by Foreign Trade, which Smith considered the archetype or manifesto of the movement. Perhaps the last major mercantilist work was James Steuart's Principles of Political Economy, published in 1767.

Mercantilist literature also extended beyond England. Italy and France produced noted writers of mercantilist themes, including Italy's Giovanni Botero and Antonio Serra and, in France, Jean Bodin and Colbert. Themes also existed in writers from the German historical school from List, as well as followers of the American system and British free-trade imperialism, thus stretching the system into the 19th century. However, many British writers, including Mun and Misselden, were merchants, while many of the writers from other countries were public officials. Beyond mercantilism as a way of understanding the wealth and power of nations, Mun and Misselden are noted for their viewpoints on a wide range of economic matters.

The Austrian lawyer and scholar Philipp Wilhelm von Hornick, one of the pioneers of Cameralism, detailed a nine-point program of what he deemed effective national economy in his Austria Over All, If She Only Will of 1684, which comprehensively sums up the tenets of mercantilism:

- That every little bit of a country's soil be utilized for agriculture, mining or manufacturing.
- That all raw materials found in a country be used in domestic manufacture, since finished goods have a higher value than raw materials.
- That a large, working population be encouraged.
- That all exports of gold and silver be prohibited and all domestic money be kept in circulation.
- That all imports of foreign goods be discouraged as much as possible.

- That where certain imports are indispensable they be obtained at first hand, in exchange for other domestic goods instead of gold and silver.
- That as much as possible, imports be confined to raw materials that can be finished [in the home country].
- That opportunities be constantly sought for selling a country's surplus manufactures to foreigners, so far as necessary, for gold and silver.
- That no importation be allowed if such goods are sufficiently and suitably supplied at home.

Other than Von Hornick, there were no mercantilist writers presenting an overarching scheme for the ideal economy, as Adam Smith would later do for classical economics. Rather, each mercantilist writer tended to focus on a single area of the economy. Only later did non-mercantilist scholars integrate these "diverse" ideas into what they called mercantilism. Some scholars thus reject the idea of mercantilism completely, arguing that it gives "a false unity to disparate events". Smith saw the mercantile system as an enormous conspiracy by manufacturers and merchants against consumers, a view that has led some authors, especially Robert E. Ekelund and Robert D. Tollison, to call mercantilism "a rent-seeking society". To a certain extent, mercantilist doctrine itself made a general theory of economics impossible. Mercantilists viewed the economic system as a zero-sum game, in which any gain by one party required a loss by another. Thus, any system of policies that benefited one group would by definition harm the other, and there was no possibility of economics being used to maximize the commonwealth, or common good. Mercantilists' writings were also generally created to rationalize particular practices rather than as investigations into the best policies.

Mercantilist domestic policy was more fragmented than its trade policy. While Adam Smith portrayed mercantilism as supportive of strict controls over the economy, many mercantilists disagreed. The early modern era was one of letters patent and government-imposed monopolies; some mercantilists supported these, but others acknowledged the corruption and inefficiency of such systems. Many mercantilists also realized that the inevitable results of quotas and price ceilings were black markets. One notion that mercantilists widely agreed upon was the need for economic oppression of the working population; laborers and farmers were to live at the "margins of subsistence". The goal was to maximize production, with no concern for consumption. Extra money, free time, and education for the lower classes were seen to inevitably lead to vice and laziness, and would result in harm to the economy.

The mercantilists saw a large population as a form of wealth that made possible the development of bigger markets and armies. Opposite to mercantilism was the doctrine of physiocracy, which predicted that mankind would outgrow its resources. The idea of mercantilism was to protect the markets as well as maintain agriculture and those who were dependent upon it.

Wars and Imperialism

Mercantilism was the economic version of warfare using economics as a tool for warfare by other means backed up by the state apparatus and was well suited to an era of military warfare. Since the level of world trade was viewed as fixed, it followed that the only way to increase a nation's trade was to take it from another. A number of wars, most notably the Anglo-Dutch Wars and the Franco-Dutch

Wars, can be linked directly to mercantilist theories. Most wars had other causes but they reinforced mercantilism by clearly defining the enemy, and justified damage to the enemy's economy.

Mercantilism fueled the imperialism of this era, as many nations expended significant effort to conquer new colonies that would be sources of gold (as in Mexico) or sugar (as in the West Indies), as well as becoming exclusive markets. European power spread around the globe, often under the aegis of companies with government-guaranteed monopolies in certain defined geographical regions, such as the Dutch East India Company or the British Hudson's Bay Company (operating in present-day Canada).

With the establishment of overseas colonies by European powers early in the 17th century, mercantile theory gained a new and wider significance, in which its aim and ideal became both national and imperialistic.

Mercantilism as a weapon has continued to be used by nations through the 21st century by way of modern tariffs as it puts smaller economies in a position to conform to the larger economies goals or risk economic ruin due to an imbalance in trade. Trade wars are often dependent on such tariffs and restrictions hurting the opposing economy.

The term "mercantile system" was used by its foremost critic, Adam Smith, but Mirabeau had used "mercantilism" earlier. Mercantilism functioned as the economic counterpart of the older version of political power: divine right of kings and absolute monarchy. Scholars debate over why mercantilism dominated economic ideology for 250 years. One group, represented by Jacob Viner, sees mercantilism as simply a straightforward, common-sense system whose logical fallacies remained opaque to people at the time, as they simply lacked the required analytical tools.

The second school, supported by scholars such as Robert B. Ekelund, portrays mercantilism not as a mistake, but rather as the best possible system for those who developed it. This school argues that rent-seeking merchants and governments developed and enforced mercantilist policies. Merchants benefited greatly from the enforced monopolies, bans on foreign competition, and poverty of the workers. Governments benefited from the high tariffs and payments from the merchants. Whereas later economic ideas were often developed by academics and philosophers, almost all mercantilist writers were merchants or government officials.

Monetarism offers a third explanation for mercantilism. European trade exported bullion to pay for goods from Asia, thus reducing the money supply and putting downward pressure on prices and economic activity. The evidence for this hypothesis is the lack of inflation in the British economy until the Revolutionary and Napoleonic Wars, when paper money came into vogue.

A fourth explanation lies in the increasing professionalisation and technification of the wars of the era, which turned the maintenance of adequate reserve funds (in the prospect of war) into a more and more expensive and eventually competitive business.

Mercantilism developed at a time of transition for the European economy. Isolated feudal estates were being replaced by centralized nation-states as the focus of power. Technological changes in shipping and the growth of urban centers led to a rapid increase in international trade. Mercantilism focused on how this trade could best aid the states. Another important change was the introduction of double-entry bookkeeping and modern accounting. This accounting made extremely clear the inflow and outflow of trade, contributing to the close scrutiny given to the balance of

trade. Of course, the impact of the discovery of America cannot be ignored. New markets and new mines propelled foreign trade to previously inconceivable volumes, resulting in "the great upward movement in prices" and an increase in "the volume of merchant activity itself".

Prior to mercantilism, the most important economic work done in Europe was by the medieval scholastic theorists. The goal of these thinkers was to find an economic system compatible with Christian doctrines of piety and justice. They focused mainly on microeconomics and on local exchanges between individuals. Mercantilism was closely aligned with the other theories and ideas that began to replace the medieval worldview. This period saw the adoption of the very Machiavellian realpolitik and the primacy of the *raison d'état* in international relations. The mercantilist idea of all trade as a zero-sum game, in which each side was trying to best the other in a ruthless competition, was integrated into the works of Thomas Hobbes. This dark view of human nature also fit well with the Puritan view of the world, and some of the most stridently mercantilist legislation, such as the Navigation Ordinance of 1651, was enacted by the government of Oliver Cromwell.

Jean-Baptiste Colbert's work in 17th-century France came to exemplify classical mercantilism. In the English-speaking world, its ideas were criticized by Adam Smith with the publication of *The Wealth of Nations* in 1776 and later by David Ricardo with his explanation of comparative advantage. Mercantilism was rejected by Britain and France by the mid-19th century. The British Empire embraced free trade and used its power as the financial center of the world to promote the same. The Guyanese historian Walter Rodney describes mercantilism as the period of the worldwide development of European commerce, which began in the 15th century with the voyages of Portuguese and Spanish explorers to Africa, Asia, and the New World.

Criticisms

Adam Smith and David Hume were the founding fathers of anti-mercantilist thought. A number of scholars found important flaws with mercantilism long before Smith developed an ideology that could fully replace it. Critics like Hume, Dudley North and John Locke undermined much of mercantilism and it steadily lost favor during the 18th century.

In 1690, Locke argued that prices vary in proportion to the quantity of money. Locke's *Second Treatise* also points towards the heart of the anti-mercantilist critique: that the wealth of the world is not fixed, but is created by human labor (represented embryonically by Locke's labor theory of value). Mercantilists failed to understand the notions of absolute advantage and comparative advantage (although this idea was only fully fleshed out in 1817 by David Ricardo) and the benefits of trade.

For instance, imagine that Portugal was a more efficient producer of wine than England, yet in England, cloth could be produced more efficiently than it could in Portugal. Thus if Portugal specialized in wine and England in cloth, both states would end up better off if they traded. This is an example of the reciprocal benefits of trade (whether due to comparative or absolute advantage). In modern economic theory, trade is not a zero-sum game of cutthroat competition, because both sides can benefit from it.

Hume famously noted the impossibility of the mercantilists' goal of a constant positive balance of trade. As bullion flowed into one country, the supply would increase, and the value of bullion in

that state would steadily decline relative to other goods. Conversely, in the state exporting bullion, its value would slowly rise. Eventually, it would no longer be cost-effective to export goods from the high-price country to the low-price country, and the balance of trade would reverse. Mercantilists fundamentally misunderstood this, long arguing that an increase in the money supply simply meant that everyone gets richer.

The importance placed on bullion was also a central target, even if many mercantilists had themselves begun to de-emphasize the importance of gold and silver. Adam Smith noted that at the core of the mercantile system was the "popular folly of confusing wealth with money", that bullion was just the same as any other commodity, and that there was no reason to give it special treatment. More recently, scholars have discounted the accuracy of this critique. They believe Mun and Misselden were not making this mistake in the 1620s, and point to their followers Josiah Child and Charles Davenant, who in 1699 wrote, "Gold and Silver are indeed the Measures of Trade, but that the Spring and Original of it, in all nations is the Natural or Artificial Product of the Country; that is to say, what this Land or what this Labour and Industry Produces." The critique that mercantilism was a form of rent seeking has also seen criticism, as scholars such Jacob Viner in the 1930s pointed out that merchant mercantilists such as Mun understood that they would not gain by higher prices for English wares abroad.

The first school to completely reject mercantilism was the physiocrats, who developed their theories in France. Their theories also had several important problems, and the replacement of mercantilism did not come until Adam Smith published *The Wealth of Nations* in 1776. This book outlines the basics of what is today known as classical economics. Smith spent a considerable portion of the book rebutting the arguments of the mercantilists, though often these are simplified or exaggerated versions of mercantilist thought.

Scholars are also divided over the cause of mercantilism's end. Those who believe the theory was simply an error hold that its replacement was inevitable as soon as Smith's more accurate ideas were unveiled. Those who feel that mercantilism amounted to rent-seeking hold that it ended only when major power shifts occurred. In Britain, mercantilism faded as the Parliament gained the monarch's power to grant monopolies. While the wealthy capitalists who controlled the House of Commons benefited from these monopolies, Parliament found it difficult to implement them because of the high cost of group decision making.

Mercantilist regulations were steadily removed over the course of the 18th century in Britain, and during the 19th century, the British government fully embraced free trade and Smith's laissez-faire economics. On the continent, the process was somewhat different. In France, economic control remained in the hands of the royal family, and mercantilism continued until the French Revolution. In Germany, mercantilism remained an important ideology in the 19th and early 20th centuries, when the historical school of economics was paramount.

Legacy

Adam Smith rejected the mercantilist focus on production, arguing that consumption was paramount to production. He added that mercantilism was popular among merchants because it was what is now called rent seeking. However, John Maynard Keynes argued that encouraging production was just as important as encouraging consumption, and he favored the "new

mercantilism". Keynes also noted that in the early modern period the focus on the bullion supplies was reasonable. In an era before paper money, an increase in bullion was one of the few ways to increase the money supply. Keynes said mercantilist policies generally improved both domestic and foreign investment—domestic because the policies lowered the domestic rate of interest, and investment by foreigners by tending to create a favorable balance of trade.

Keynes and other economists of the 20th century also realized that the balance of payments is an important concern. Keynes also supported government intervention in the economy as necessity, as did mercantilism.

As of 2010, the word "mercantilism" remains a pejorative term, often used to attack various forms of protectionism. The similarities between Keynesianism (and its successor ideas) and mercantilism have sometimes led critics to call them neo-mercantilism. Paul Samuelson, writing within a Keynesian framework, wrote of mercantilism, "With employment less than full and Net National Product suboptimal, all the debunked mercantilist arguments turn out to be valid."

Some other systems that copy several mercantilist policies, such as Japan's economic system, are also sometimes called neo-mercantilist. In an essay appearing in the 14 May 2007 issue of *Newsweek*, business columnist Robert J. Samuelson wrote that China was pursuing an essentially neo-mercantilist trade policy that threatened to undermine the post–World War II international economic structure.

Murray Rothbard, representing the Austrian School of economics, describes it this way:

> "Mercantilism, which reached its height in the Europe of the seventeenth and eighteenth centuries, was a system of statism which employed economic fallacy to build up a structure of imperial state power, as well as special subsidy and monopolistic privilege to individuals or groups favored by the state. Thus, mercantilism held exports should be encouraged by the government and imports discouraged".

In specific instances, protectionist mercantilist policies also had an important and positive impact on the state that enacted them. Adam Smith, for instance, praised the Navigation Acts, as they greatly expanded the British merchant fleet and played a central role in turning Britain into the world's naval and economic superpower from the 18th century onward. Some economists thus feel that protecting infant industries, while causing short-term harm, can be beneficial in the long term.

Absolute Advantage Theory

In economics, the principle of absolute advantage refers to the ability of a party (an individual, or firm, or country) to produce a greater quantity of a good, product, or service than competitors, using the same amount of resources. Adam Smith first described the principle of absolute advantage in the context of international trade, using labor as the only input. Since absolute advantage is determined by a simple comparison of labor productiveness, it is possible for a party to have no absolute advantage in anything.

The main concept of absolute advantage is generally attributed to Adam Smith for his 1776 publication *The Wealth of Nations* in which he countered mercantilist ideas. Smith argued that it was impossible for all nations to become rich simultaneously by following mercantilism because the export of one nation is another nation's import and instead stated that all nations would gain simultaneously if they practiced free trade and specialized in accordance with their absolute advantage.

Smith also stated that the wealth of nations depends upon the goods and services available to their citizens, rather than their gold reserves.

Because Smith only focused on comparing labor productivities to determine absolute advantage, he did not develop the concept of comparative advantage. While there are possible gains from trade with absolute advantage, the gains may not be mutually beneficial. Comparative advantage focuses on the range of possible mutually beneficial exchanges.

Examples:

Hours of work necessary to produce one unit		
Country	Cloth	Wine
England	80	100
Portugal	120	90

Hours of work to commit after the specialization		
Country	Cloth	Wine
England	80 + 100	0
Portugal	0	90 + 120

According to table above, England commits 80 hours of labor to produce one unit of cloth, which is fewer than Portugal's hours of work necessary to produce one unit of cloth. England is able to produce one unit of cloth with fewer hours of labor, therefore England has an absolute advantage in the production of cloth. On the other hand, Portugal commits 90 hours to produce one unit of wine, which is fewer than England's hours of work necessary to produce one unit of wine. Therefore, Portugal has an absolute advantage in the production of wine.

If the two countries specialize in producing the good for which they have the absolute advantage, and if they exchange part of the good with each other, both of the two countries can end up with more of each good than they would have in the absence of trade. In the absence of trade, each country produces one unit of cloth and one unit of wine, i.e. a combined total production of 2 units of cloth and 2 units of wine.

Here, if England commits all of its labor (80+100) for the production of cloth for which England has the absolute advantage, England produces (80+100)÷80=2.25 units of cloth. On the other hand, if Portugal commits all of its labor (90+120) for the production of wine, Portugal produces (90+120)÷90=2.33 units of wine. The combined total production in this case is 2.25 units of cloth and 2.33 units of wine which is greater than the total production of each good had there been no specialization. Assuming free trade this will lead to cheaper prices for both goods for both countries.

You and your friends decided to help with fundraising for a local charity group by printing T-shirts and making birdhouses.

- Scenario: One of your friends, Gina, can print 5 T-shirts or build 3 birdhouses an hour. Your other friend, Mike, can print 3 T-shirts an hour or build 2 birdhouses an hour. Because your friend Gina is more productive at printing T-shirts and building birdhouses compared to Mike, she has an absolute advantage in both printing T-shirts and building birdhouses.
- Scenario: Suppose Gina wasn't as agile with the hammer and could only make 1 birdhouse an hour, but she took a sewing class and could print 10 T-shirts an hour. Mike on the other hand takes woodworking and so he can build 5 birdhouses an hour, but he doesn't know the first thing about making T-shirts so he can only print 2 T-shirts an hour. While Gina would have the absolute advantage in printing shirts, Mike would have an absolute advantage in building birdhouses.

Comparative Advantages

The law or principle of comparative advantage holds that under free trade, an agent will produce more of and consume less of a good for which they have a comparative advantage. Comparative advantage is the economic reality describing the work gains from trade for individuals, firms, or nations, which arise from differences in their factor endowments or technological progress. In an economic model, agents have a comparative advantage over others in producing a particular good if they can produce that good at a lower relative opportunity cost or autarky price, i.e. at a lower relative marginal cost prior to trade. One shouldn't compare the monetary costs of production or even the resource costs (labor needed per unit of output) of production. Instead, one must compare the opportunity costs of producing goods across countries.

David Ricardo developed the classical theory of comparative advantage in 1817 to explain why countries engage in international trade even when one country's workers are more efficient at producing *every* single good than workers in other countries. He demonstrated that if two countries capable of producing two commodities engage in the free market, then each country will increase its overall consumption by exporting the good for which it has a comparative advantage while importing the other good, provided that there exist differences in labor productivity between both countries. Widely regarded as one of the most powerful yet counter-intuitive insights in economics, Ricardo's theory implies that comparative advantage rather than absolute advantage is responsible for much of international trade.

Classical Theory and David Ricardo's Formulation

Adam Smith first alluded to the concept of *absolute advantage* as the basis for international trade in *The Wealth of Nations*:

> "If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it off them with some part of the produce of our own industry employed in a

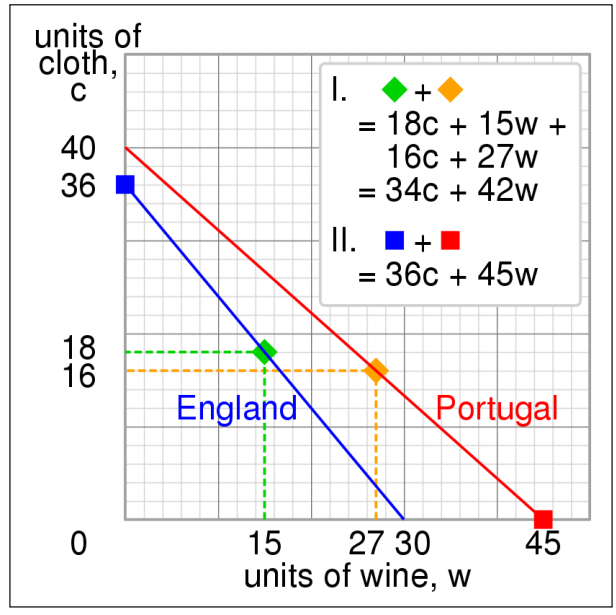
> way in which we have some advantage. The general industry of the country, being always in proportion to the capital which employs it, will not thereby be diminished but only left to find out the way in which it can be employed with the greatest advantage."

Writing several decades after Smith in 1808, Robert Torrens articulated a preliminary definition of comparative advantage as the loss from the closing of trade:

> "If you have to wish to know extent of the advantage, which arises to England, from her giving France a hundred pounds of broadcloth, in exchange for a hundred pounds of lace, take the quantity of lace which she has acquired by this transaction, and compare it with the quantity which she might, at the same expense of labour and capital, have acquired by manufacturing it at home. The lace that remains, beyond what the labour and capital employed on the cloth, might have fabricated at home, is the amount of the advantage which England derives from the exchange."

In 1817, David Ricardo published what has since become known as the theory of comparative advantage in his book On the Principles of Political Economy and Taxation.

Ricardo's Example



Graph illustrating Ricardo's example: In case I (diamonds), each country spends 3600 hours to produce a mixture of cloth and wine.In case II (squares), each country specializes in its comparative advantage, resulting in greater total output.

In a famous example, Ricardo considers a world economy consisting of two countries, Portugal and England, which produce two goods of identical quality. In Portugal, the *a priori* more efficient country, it is possible to produce wine and cloth with less labor than it would take to produce the same quantities in England. However, the relative costs of producing those two goods differ between the countries.

In this illustration, England could commit 100 hours of labor to produce one unit of cloth, or produce 5/6 units of wine. Meanwhile, in comparison, Portugal could commit 90 hours of labor

to produce one unit of cloth, or produce 9/8 units of wine. So, Portugal possesses an absolute advantage in producing cloth due to fewer labor hours, and England has a comparative advantage due to lower opportunity cost.

Hours of work necessary to produce one unit		
Produce Country	Cloth	Wine
England	100	120
Portugal	90	80

In the absence of trade, England requires 220 hours of work to both produce and consume one unit each of cloth and wine while Portugal requires 170 hours of work to produce and consume the same quantities. England is more efficient at producing cloth than wine, and Portugal is more efficient at producing wine than cloth. So, if each country specializes in the good for which it has a comparative advantage, then the global production of both goods increases, for England can spend 220 labor hours to produce 2.2 units of cloth while Portugal can spend 170 hours to produce 2.125 units of wine. Moreover, if both countries specialize in the above manner and England trades a unit of its cloth for 5/6 to 9/8 units of Portugal's wine, then both countries can consume at least a unit each of cloth and wine, with 0 to 0.2 units of cloth and 0 to 0.125 units of wine remaining in each respective country to be consumed or exported. Consequently, both England and Portugal can consume more wine and cloth under free trade than in autarky.

Ricardian Model

The Ricardian model is a general equilibrium mathematical model of international trade. Although the idea of the Ricardian model was first presented in the *Essay on Profits* (a single-commodity version) and then in the *Principles* (a multi-commodity version) by David Ricardo, the first mathematical Ricardian model was published by William Whewell in 1833. The earliest test of the Ricardian model was performed by G.D.A MacDougall, In the Ricardian model, trade patterns depend on productivity differences.

The following is a typical modern interpretation of the classical Ricardian model. In the interest of simplicity, it uses notation and definitions, such as opportunity cost, unavailable to Ricardo.

The world economy consists of two countries, Home and Foreign, which produce wine and cloth. Labor, the only factor of production, is mobile domestically but not internationally; there may be migration between sectors but not between countries. We denote the labor force in Home by L, the amount of labor required to produce one unit of wine in Home by, and the amount of labor required to produce one unit of cloth in Home by a_{LC}. The total amount of wine and cloth produced in Home are Q_W and Q_C respectively. We denote the same variables for Foreign by appending a prime. For instance, a'_{LW} is the amount of labor needed to produce a unit of wine in Foreign.

We don't know if Home is more productive than Foreign in making cloth. That is, we don't know that $a_{LC} < a'_{LC}$. Similarly, we don't know if Home has an absolute advantage in wine. However, we will assume that Home is more *relatively* productive in cloth than Foreign:

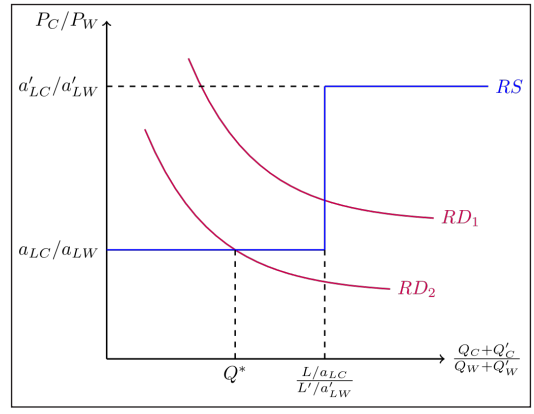
$$a_{LC} / a'_{LC} < a_{LW} / a'_{LW}.$$

Equivalently, we may assume that Home has a comparative advantage in cloth in the sense that it has a lower opportunity cost for cloth in terms of wine than Foreign:

$$a_{LC} / a_{LW} < a'_{LC} / a'_{LW}.$$

In the absence of trade, the relative price of cloth and wine in each country is determined solely by the relative labor cost of the goods. Hence the relative autarky price of cloth is a_{LC} / a_{LW} in Home and a'_{LC} / a'_{LW} in Foreign. With free trade, the price of cloth or wine in either country is the world price $P_C or P_W$.

Instead of considering the world demand (or supply) for cloth and wine, we are interested in the world relative demand (or relative supply) for cloth and wine, which we define as the ratio of the world demand (or supply) for cloth to the world demand (or supply) for wine. In general equilibrium, the world relative price P_C / P_W will be determined uniquely by the intersection of world relative demand *RD* and world relative supply *RS* curves.

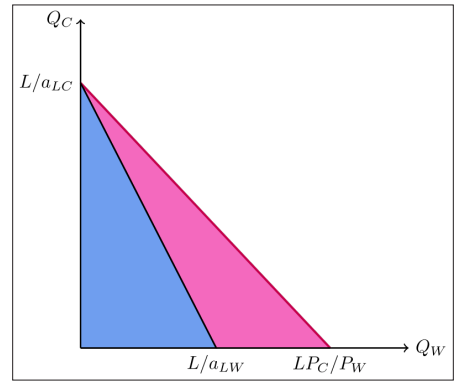


The demand for cloth relative to wine decreases with the relative price of cloth in terms of wine; the supply *RS* of cloth relative to wine increases with relative price. Two relative demand curves RD_1 and RD_2 are drawn for illustrative purposes.

We assume that the relative demand curve reflects substitution effects and is decreasing with respect to relative price. The behavior of the relative supply curve, however, warrants closer study. Recalling our original assumption that Home has a comparative advantage in cloth, we consider five possibilities for the relative quantity supplied at a given price.

- If $P_C / P_W = a_{LC} / a_{LW} < a'_{LC} / a'_{LW}$, then Foreign specializes in wine, for the wage P'_W / a'_{LW} in the wine sector is greater than the wage P'_C / a'_{LC} in the cloth sector. However, Home workers are indifferent between working in either sector. As a result, the quantity supplied can take any value.
- If $P_C / P_W < a_{LC} / a_{LW} < a'_{LC} / a'_{LW}$, then both Home and Foreign specialize in wine, for similar reasons as above, and so the quantity supplied is zero.
- If $a_{LC} / a_{LW} < P_C / P_W < a'_{LC} / a'_{LW}$, then Home specializes in cloth whereas Foreign specializes in wine. The quantity supplied is given by the ratio $\frac{L / a_{LC}}{L' / a'_{LW}}$ of the world production of cloth to the world production of wine.

- If $a_{LC} / a_{LW} < a'_{LC} / a'_{LW} < P_C / P_W$, then both Home and Foreign specialize in cloth. The quantity supplied tends to infinity as the quantity of wine supplied approaches zero.
- If $a_{LC} / a_{LW} < a'_{LC} / a'_{LW} < P_C / P_W$, then Home specializes in cloth while Foreign workers are indifferent between sectors. Again, the relative quantity supplied can take any value.



The blue triangle depicts Home's original production (and consumption) possibilities. By trading, Home can also consume bundles in the pink triangle despite facing the same productions possibility frontier.

As long as the relative demand is finite, the relative price is always bounded by the inequality,

$$a_{LC} / a_{LW} \leq P_C / P_W \leq a'_{LC} / a'_{LW}.$$

In autarky, Home faces a production constraint of the form,

$$a_{LC}Q_C + a_{LW}Q_W \leq L,$$

from which it follows that Home's cloth consumption at the production possibilities frontier is,

$$Q_C = L / a_{LC} - (a_{LW} / a_{LC})Q_W.$$

With free trade, Home produces cloth exclusively, an amount of which it exports in exchange for wine at the prevailing rate. Thus Home's overall consumption is now subject to the constraint:

$$a_{LC}Q_C + a_{LC}(P_W / P_C)Q_W \leq L$$

while its cloth consumption at the *consumption possibilities* frontier is given by,

$$Q_C = L / a_{LC} - (P_W / P_C)Q_W \geq L / a_{LC} - (a_{LW} / a_{LC})Q_W.$$

A symmetric argument holds for Foreign. Therefore, by trading and specializing in a good for which it has a comparative advantage, each country can expand its consumption possibilities. Consumers can choose from bundles of wine and cloth that they could not have produced themselves in closed economies.

Terms of Trade

Terms of trade is the rate at which one good could be traded for another. If both countries specialize

in the good for which they have a comparative advantage then trade, the terms of trade for a good (that benefit both entities) will fall between each entities opportunity costs. In the example above one unit of cloth would trade for between $\frac{5}{6}$ units of wine and $\frac{9}{8}$ units of wine.

Haberler's Opportunity Costs Formulation

In 1930 Gottfried Haberler detached the doctrine of comparative advantage from Ricardo's labor theory of value and provided a modern opportunity-cost formulation. Haberler's reformulation of comparative advantage revolutionized the theory of international trade and laid the conceptual groundwork of modern trade theories.

Haberler's innovation was to reformulate the theory of comparative advantage such that the value of good X is measured in terms of the forgone units of production of good Y rather than the labor units necessary to produce good X, as in the Ricardian formulation. Haberler implemented this opportunity-cost formulation of comparative advantage by introducing the concept of a production possibility curve into international trade theory.

Modern Theories

Since 1817, economists have attempted to generalize the Ricardian model and derive the principle of comparative advantage in broader settings, most notably in the neoclassical *specific factors* Ricardo-Viner and *factor proportions* Heckscher–Ohlin models. Subsequent developments in the new trade theory, motivated in part by the empirical shortcomings of the H–O model and its inability to explain intra-industry trade, have provided an explanation for aspects of trade that are not accounted for by comparative advantage. Nonetheless, economists like Alan Deardorff, Avinash Dixit, Gottfried Haberler, and Victor D. Norman have responded with weaker generalizations of the principle of comparative advantage, in which countries will only *tend* to export goods for which they have a comparative advantage.

- Dornbusch et al.'s Continuum of Goods Formulation

In both the Ricardian and H–O models, the comparative advantage theory is formulated for a 2 countries/2 commodities case. It can be extended to a 2 countries/many commodities case, or a many countries/2 commodities case. Adding commodities in order to have a smooth continuum of goods is the major insight of the seminal paper by Dornbusch, Fisher, and Samuelson. In fact, inserting an increasing number of goods into the chain of comparative advantage makes the gaps between the ratios of the labor requirements negligible, in which case the three types of equilibria around any good in the original model collapse to the same outcome. It notably allows for transportation costs to be incorporated, although the framework remains restricted to two countries. But in the case with many countries (more than 3 countries) and many commodities (more than 3 commodities), the notion of comparative advantage requires a substantially more complex formulation.

- Deardorff's General Law of Comparative Advantage

Skeptics of comparative advantage have underlined that its theoretical implications hardly hold when applied to individual commodities or pairs of commodities in a world of multiple commodities. Deardorff argues that the insights of comparative advantage remain valid if the theory is

restated in terms of averages across all commodities. His models provide multiple insights on the correlations between vectors of trade and vectors with relative-autarky-price measures of comparative advantage. What has become to be known as the "Deardorff's general law of comparative advantage" is a model incorporating multiple goods, and which takes into account tariffs, transportation costs, and other obstacles to trade.

Alternative Approaches

Recently, Y. Shiozawa succeeded in constructing a theory of international value in the tradition of Ricardo's cost-of-production theory of value. This was based on a wide range of assumptions: Many countries; Many commodities; Several production techniques for a product in a country; Input trade (intermediate goods are freely traded); Durable capital goods with constant efficiency during a predetermined lifetime; No transportation cost (extendable to positive cost cases).

In a famous comment McKenzie pointed that "A moment's consideration will convince one that Lancashire would be unlikely to produce cotton cloth if the cotton had to be grown in England." However, McKenzie and later researchers could not produce a general theory which includes traded input goods because of the mathematical difficulty. As John Chipman points it, McKenzie found that "introduction of trade in intermediate product necessitates a fundamental alteration in classical analysis." Durable capital goods such as machines and installations are inputs to the productions in the same title as part and ingredients.

In view of the new theory, no physical criterion exists. The competitive patterns are determined by the traders trials to find cheapest products in a world. The search of cheapest product is achieved by world optimal procurement. Thus the new theory explains how the global supply chains are formed.

Empirical Approach to Comparative Advantage

Comparative advantage is a theory about the benefits that specialization and trade would bring, rather than a strict prediction about actual behavior. (In practice, governments restrict international trade for a variety of reasons; under Ulysses S. Grant, the US postponed opening up to free trade until its industries were up to strength, following the example set earlier by Britain.) Nonetheless there is a large amount of empirical work testing the predictions of comparative advantage. The empirical works usually involve testing predictions of a particular model. For example, the Ricardian model predicts that technological differences in countries result in differences in labor productivity. The differences in labor productivity in turn determine the comparative advantages across different countries. Testing the Ricardian model for instance involves looking at the relationship between relative labor productivity and international trade patterns. A country that is relatively efficient in producing shoes tends to export shoes.

Direct Test: Natural Experiment of Japan

Assessing the validity of comparative advantage on a global scale with the examples of contemporary economies is analytically challenging because of the multiple factors driving globalization: indeed, investment, migration, and technological change play a role in addition to trade. Even if

we could isolate the workings of open trade from other processes, establishing its causal impact also remains complicated: it would require a comparison with a counterfactual world without open trade. Considering the durability of different aspects of globalization, it is hard to assess the sole impact of open trade on a particular economy.

Daniel Bernhofen and John Brown have attempted to address this issue, by using a natural experiment of a sudden transition to open trade in a market economy. They focus on the case of Japan. The Japanese economy indeed developed over several centuries under autarky and a quasi-isolation from international trade but was, by the mid-19th century, a sophisticated market economy with a population of 30 million. Under Western military pressure, Japan opened its economy to foreign trade through a series of unequal treaties.

In 1859, the treaties limited tariffs to 5% and opened trade to Westerners. Considering that the transition from autarky, or self-sufficiency, to open trade was brutal, few changes to the fundamentals of the economy occurred in the first 20 years of trade. The general law of comparative advantage theorizes that an economy should, on average, export goods with low self-sufficiency prices and import goods with high self-sufficiency prices. Bernhofen and Brown found that by 1869, the price of Japan's main export, silk and derivatives, saw a 100% increase in real terms, while the prices of numerous imported goods declined of 30-75%. In the next decade, the ratio of imports to gross domestic product reached 4%.

Structural Estimation

Another important way of demonstrating the validity of comparative advantage has consisted in 'structural estimation' approaches. These approaches have built on the Ricardian formulation of two goods for two countries and subsequent models with many goods or many countries. The aim has been to reach a formulation accounting for both multiple goods and multiple countries, in order to reflect real-world conditions more accurately. Jonathan Eaton and Samuel Kortum underlined that a convincing model needed to incorporate the idea of a 'continuum of goods' developed by Dornbusch et al. for both goods and countries. They were able to do so by allowing for an arbitrary (integer) number i of countries, and dealing exclusively with unit labor requirements for each good (one for each point on the unit interval) in each country.

Earlier Empirical Work

Two of the first tests of comparative advantage were by MacDougall. A prediction of a two-country Ricardian comparative advantage model is that countries will export goods where output per worker (i.e. productivity) is higher. That is, we expect a positive relationship between output per worker and number of exports. MacDougall tested this relationship with data from the US and UK, and did indeed find a positive relationship. The statistical test of this positive relationship was replicated with new data by Stern and Balassa.

Dosi et al. conduct a book-length empirical examination that suggests that international trade in manufactured goods is largely driven by differences in national technological competencies.

One critique of the textbook model of comparative advantage is that there are only two goods. The

results of the model are robust to this assumption. Dornbusch et al. generalized the theory to allow for such a large number of goods as to form a smooth continuum. Based in part on these generalizations of the model, Davis provides a more recent view of the Ricardian approach to explain trade between countries with similar resources.

More recently, Golub and Hsieh presents modern statisticsssal analysis of the relationship between relative productivity and trade patterns, which finds reasonably strong correlations, and Nunn finds that countries that have greater enforcement of contracts specialize in goods that require relationship-specific investments.

Taking a broader perspective, there has been work about the benefits of international trade. Zimring & Etkes finds that the Blockade of the Gaza Strip, which substantially restricted the availability of imports to Gaza, saw labor productivity fall by 20% in three years. Markusen et al. reports the effects of moving away from autarky to free trade during the Meiji Restoration, with the result that national income increased by up to 65% in 15 years.

Development Economics

The theory of comparative advantage, and the corollary that nations should specialize, is criticized on pragmatic grounds within the import substitution industrialization theory of development economics, on empirical grounds by the Singer–Prebisch thesis which states that terms of trade between primary producers and manufactured goods deteriorate over time, and on theoretical grounds of infant industry and Keynesian economics. In older economic terms, comparative advantage has been opposed by mercantilism and economic nationalism. These argue instead that while a country may initially be comparatively disadvantaged in a given industry (such as Japanese cars in the 1950s), countries should shelter and invest in industries until they become globally competitive. Further, they argue that comparative advantage, as stated, is a static theory – it does not account for the possibility of advantage changing through investment or economic development, and thus does not provide guidance for long-term economic development.

Much has been written since Ricardo as commerce has evolved and cross-border trade has become more complicated. Today trade policy tends to focus more on "competitive advantage" as opposed to "comparative advantage". One of the most in-depth research undertakings on "competitive advantage" was conducted in the 1980s as part of the Reagan administration's Project Socrates to establish the foundation for a technology-based competitive strategy development system that could be used for guiding international trade policy.

Criticism

Several arguments have been advanced against using comparative advantage as a justification for advocating free trade, and they have gained an audience among economists. For example, James Brander and Barbara Spencer demonstrated how, in a strategic setting where a few firms compete for the world market, export subsidies and import restrictions can keep foreign firms from competing with national firms, increasing welfare in the country implementing these so-called strategic trade policies.

However, the overwhelming consensus of the economics profession remains that while these arguments are theoretically valid under certain assumptions, these assumptions do not usually hold

and should not be used to guide trade policy. Gregory Mankiw, chairman of the Harvard Economics Department, has said: ″Few propositions command as much consensus among professional economists as that open world trade increases economic growth and raises living standards."

Economist James K. Galbraith disputes these claims of the benefit of comparative advantage. He states that "free trade has attained the status of a god" and that "none of the world's most successful trading regions, including Japan, Korea, Taiwan, and now mainland China, reached their current status by adopting neoliberal trading rules." He argues that "comparative advantage is based upon the concept of constant returns: the idea that you can double or triple the output of any good simply by doubling or tripling the inputs. But this is not generally the case. For manufactured products, increasing returns, learning, and technical change are the rule, not the exception; the cost of production falls with experience. With increasing returns, the lowest cost will be incurred by the country that starts earliest and moves fastest on any particular line. Potential competitors have to protect their own industries if they wish them to survive long enough to achieve competitive scale."

Galbraith then explains that nations trapped into specializing in agriculture are condemned to perpetual poverty. Agriculture is dependent on a finite natural resource called land. People can't make more of it. As the population increases the per capita land resources decreases. Also the average farm size has also been increasing. If a nation is not allowed to expand into manufacturing and only specialize in agriculture, that nation is condemned to an ever expanding poverty. Galbraith summarizes: "Comparative advantage has very little practical use for trade strategy. Diversification, not specialization, is the main path out of underdevelopment, and effective diversification requires a strategic approach to trade policy. It cannot mean walling off the outside world, but it is also a goal not easily pursued under a dogmatic commitment to free trade."

According to historian Cecil Woodham-Smith, Ireland in the 1800s is an example of the dangers of specialization. When the union with Great Britain was formed in 1800, Irish textile industries protected by tariffs were exposed to world markets where England had a comparative advantage in technology, experience and scale of operation which devastated the Irish industry. Ireland was forced to specialize in the export of grain while the displaced Irish labor was forced into subsistence farming and relying on the potato for survival. When the potato blight occurred the resulting famine killed at least one million Irish in one of the worst famines in European history. As Woodham-Smith would later comment, "the Irish peasant was told to replace the potato by eating his grain, but Trevelyan once again refused to take any steps to curb the export of food from Ireland. 'Do not encourage the idea of prohibiting exports,' he wrote, on September 3, (1846) 'perfect free trade is the right course'."

The classical and neoclassical formulations of comparative advantage theory differ in the tools they use but share the same basis and logic. Comparative advantage theory says that market forces lead all factors of production to their best use in the economy. It indicates that international free trade would be beneficial for all participating countries as well as for the world as a whole because they could increase their overall production and consume more by specializing according to their comparative advantages. Goods would become cheaper and available in larger quantities. Moreover, this specialization would not be the result of chance or political intent, but would be automatic. However, the theories of free trade and comparative advantage are based on assumptions that are neither theoretically nor empirically valid:

- Unrealistic Assumption 1: Capital and Labour are not Internationally Mobile.

The international immobility of labour and capital is essential to the theory of comparative advantage. Without this, there would be no reason for international free trade to be regulated by comparative advantages. Classical and neoclassical economists all assume that labour and capital do not circulate between nations. At the international level, only the goods produced can move freely, with capital and labour trapped in countries. David Ricardo was aware that the international immobility of labour and capital is an indispensable hypothesis. He devoted half of his explanation of the theory to it in his book. He even explained that if labour and capital could move internationally, then comparative advantages could not determine international trade. Ricardo assumed that the reasons for the immobility of the capital would be:

> "The fancied or real insecurity of capital, when not under the immediate control of its owner, together with the natural disinclination which every man has to quit the country of his birth and connexions, and intrust himself with all his habits fixed, to a strange government and new laws."

Neoclassical economists, for their part, argue that the scale of these movements of workers and capital is negligible. They developed the theory of price compensation by factor that makes these movements superfluous. In practice, however, workers move in large numbers from one country to another. Today, labour migration is truly a global phenomenon. And, with the reduction in transport and communication costs, capital has become increasingly mobile and frequently moves from one country to another. Moreover, the neoclassical assumption that factors are trapped at the national level has no theoretical basis and the assumption of factor price equalisation cannot justify international immobility. Moreover, there is no evidence that factor prices are equal worldwide. Comparative advantages cannot therefore determine the structure of international trade.

If they are internationally mobile and the most productive use of factors is in another country, then free trade will lead them to migrate to that country. This will benefit the nation to which they emigrate, but not necessarily the others.

- Unrealistic Assumption 2: There are no Externalities.

An externality is the term used when the price of a product does not reflect its cost or real economic value. The classic negative externality is environmental degradation, which reduces the value of natural resources without increasing the price of the product that has caused them harm. The classic positive externality is technological encroachment, where one company's invention of a product allows others to copy or build on it, generating wealth that the original company cannot capture. If prices are wrong due to positive or negative externalities, free trade will produce sub-optimal results.

For example, goods from a country with lax pollution standards will be too cheap. As a result, its trading partners will import too much. And the exporting country will export too much, concentrating its economy too much in industries that are not as profitable as they seem, ignoring the damage caused by pollution.

On the positive externalities, if an industry generates technological spinoffs for the rest of the economy, then free trade can let that industry be destroyed by foreign competition because the economy ignores its hidden value. Some industries generate new technologies, allow improvements

in other industries and stimulate technological advances throughout the economy; losing these industries means losing all industries that would have resulted in the future.

- Unrealistic Assumption 3: Productive Resources Move Easily from one Industry to Another.

Comparative advantage theory deals with the best use of resources and how to put the economy to its best use. But this implies that the resources used to manufacture one product can be used to produce another object. If they cannot, imports will not push the economy into industries better suited to its comparative advantage and will only destroy existing industries.

For example, when workers cannot move from one industry to another - usually because they do not have the right skills or do not live in the right place - changes in the economy's comparative advantage will not shift them to a more appropriate industry, but rather to unemployment or precarious and unproductive jobs.

- Unrealistic Assumption 4: The Gains Resulting from International Trade are Only Static Gains.

Comparative advantage theory allows for a "static" and not a "dynamic" analysis of the economy. That is, it examines the facts at a single point in time and determines the best response to those facts at that point in time, given our productivity in various industries. But when it comes to long-term growth, it says nothing about how the facts can change tomorrow and how they can be changed in someone's favour. It does not indicate how best to transform factors of production into more productive factors in the future.

According to theory, the only advantage of international trade is that goods become cheaper and available in larger quantities. Improving the static efficiency of existing resources would therefore be the only advantage of international trade. And the neoclassical formulation assumes that the factors of production are given only exogenously. Exogenous changes can come from population growth, industrial policies, the rate of capital accumulation (propensity for security) and technological inventions, among others. Dynamic developments endogenous to trade such as economic growth are not integrated into Ricardo's theory. And this is not affected by what is called "dynamic comparative advantage". In these models, comparative advantages develop and change over time, but this change is not the result of trade itself, but of a change in exogenous factors.

However, the world, and in particular the industrialized countries, are characterized by dynamic gains endogenous to trade, such as technological growth that has led to an increase in the standard of living and wealth of the industrialized world. In addition, dynamic gains are more important than static gains.

- Unrealistic Assumption 5: Trade will always be Balanced and there is an Adjustment Mechanism.

A crucial assumption in both the classical and neoclassical formulation of comparative advantage theory is that trade is balanced, which means that the value of imports is equal to the value of each country's exports. The volume of trade may change, but international trade will always be balanced at least after a certain adjustment period. The balance of trade is essential for theory because the

resulting adjustment mechanism is responsible for transforming the comparative advantages of production costs into absolute price advantages. And this is necessary because it is the absolute price differences that determine the international flow of goods. Since consumers buy a good from the one who sells it cheapest, comparative advantages in terms of production costs must be transformed into absolute price advantages. In the case of floating exchange rates, it is the exchange rate adjustment mechanism that is responsible for this transformation of comparative advantages into absolute price advantages. In the case of fixed exchange rates, neoclassical theory suggests that trade is balanced by changes in wage rates.

So if trade were not balanced in itself and if there were no adjustment mechanism, there would be no reason to achieve a comparative advantage. However, trade imbalances are the norm and balanced trade is in practice only an exception. In addition, financial crises such as the Asian crisis of the 1990s show that balance of payments imbalances are rarely benign and do not self-regulate. There is no adjustment mechanism in practice. Comparative advantages do not turn into price differences and therefore cannot explain international trade flows.

Thus, theory can very easily recommend a trade policy that gives us the highest possible standard of living in the short term but none in the long term. This is what happens when a nation runs a trade deficit, which necessarily means that it goes into debt with foreigners or sells its existing assets to them. Thus, the nation applies a frenzy of consumption in the short term followed by a long-term decline.

- Unrealistic Assumption 6: International Trade is Understood as Bartering.

The assumption that trade will always be balanced is a corollary of the fact that trade is understood as barter. The definition of international trade as barter trade is the basis for the assumption of balanced trade. Ricardo insists that international trade takes place as if it were purely a barter trade, a presumption that is maintained by subsequent classical and neoclassical economists. The quantity of money theory, which Ricardo uses, assumes that money is neutral and neglects the velocity of a currency. Money has only one function in international trade, namely as a means of exchange to facilitate trade.

In practice, however, the velocity of circulation is not constant and the quantity of money is not neutral for the real economy. A capitalist world is not characterized by a barter economy but by a market economy. The main difference in the context of international trade is that sales and purchases no longer necessarily have to coincide. The seller is not necessarily obliged to buy immediately. Thus, money is not only a means of exchange. It is above all a means of payment and is also used to store value, settle debts and transfer wealth. Thus, unlike the barter hypothesis of the comparative advantage theory, money is not a commodity like any other. Rather, it is of practical importance to specifically own money rather than any commodity. And money as a store of value in a world of uncertainty has a significant influence on the motives and decisions of wealth holders and producers.

- Unrealistic Assumption 7: Labour or Capital is Used to its Full Potential.

Ricardo and later classical economists assume that labour tends towards full employment and that capital is always fully used in a liberalized economy, because no capital owner will leave its capital unused but will always seek to make a profit from it. That there is no limit to the use of capital is

a consequence of Jean-Baptiste Say's law, which presumes that production is limited only by resources and is also adopted by neoclassical economists.

From a theoretical point of view, comparative advantage theory must assume that labour or capital is used to its full potential and that resources limit production. There are two reasons for this: the realization of gains through international trade and the adjustment mechanism. In addition, this assumption is necessary for the concept of opportunity costs. If unemployment (or underutilized resources) exists, there are no opportunity costs, because the production of one good can be increased without reducing the production of another good. Since comparative advantages are determined by opportunity costs in the neoclassical formulation, these cannot be calculated and this formulation would lose its logical basis.

If a country's resources were not fully utilized, production and consumption could be increased at the national level without participating in international trade. The whole raison d'être of international trade would disappear, as would the possible gains. In this case, a State could even earn more by refraining from participating in international trade and stimulating domestic production, as this would allow it to employ more labour and capital and increase national income. Moreover, any adjustment mechanism underlying the theory no longer works if unemployment exists.

In practice, however, the world is characterised by unemployment. Unemployment and underemployment of capital and labour are not short-term phenomena, but are common and widespread. Unemployment and untapped resources are more the rule than the exception.

New Trade Theory

New trade theory (NTT) is a collection of economic models in international trade which focuses on the role of increasing returns to scale and network effects, which were developed in the late 1970s and early 1980s.

New trade theorists relaxed the assumption of constant returns to scale, and some argue that using protectionist measures to build up a huge industrial base in certain industries will then allow those sectors to dominate the world market.

Less quantitative forms of a similar "infant industry" argument against totally free trade have been advanced by trade theorists since at least 1791.

The Theory's Impact

The value of protecting "infant industries" has been defended at least since the 18th century; for example, Alexander Hamilton proposed in 1791 that this be the basis for US trade policy. What was "new" in new trade theory was the use of mathematical economics to model the increasing returns to scale, and especially the use of the network effect to argue that the formation of important industries was path dependent in a way which industrial planning and judicious tariffs might control.

The models developed predicted the national specialization-by-industry observed in the industrial world (movies in Hollywood, watches in Switzerland, etc.). The model also showed how

path-dependent industrial concentrations can sometimes lead to monopolistic competition or even situations of oligopoly.

Some economists, such as Ha-Joon Chang, had argued that protectionist policies had facilitated the development of the Japanese auto industries in the 1950s, when quotas and regulations prevented import competition. Japanese companies were encouraged to import foreign production technology but were required to produce 90% of parts domestically within five years. Japanese consumers suffered in the short term by being unable to buy superior vehicles produced by the world market, but eventually gained by having a local industry that could out-compete their international rivals.

Econometric Testing

The econometric evidence for NTT was mixed, and highly technical. Due to the timescales required, and the particular nature of production in each 'monopolizable' sector, statistical judgements were hard to make. In many ways, the available data have been too limited to produce a reliable test of the hypothesis, which doesn't require arbitrary judgements from the researchers.

Japan is cited as evidence of the benefits of "intelligent" protectionism, but critics of NTT have argued that the empirical support post-war Japan offers for beneficial protectionism is unusual, and that the NTT argument is based on a selective sample of historical cases. Although many examples (like Japanese cars) can be cited where a 'protected' industry subsequently grew to world status, regressions on the outcomes of such "industrial policies" (which include failures) have been less conclusive; some findings suggest that sectors targeted by Japanese industrial policy had decreasing returns to scale and did not experience productivity gains.

Development of New Theory

The theory was initially associated with Paul Krugman in the late 1970s; Krugman claims that he heard about monopolistic competition from Robert Solow. Looking back in 1996 Krugman wrote that International economics a generation earlier had completely ignored *returns to scale*. "The idea that trade might reflect an overlay of increasing-returns specialization on comparative advantage was not there at all: instead, the ruling idea was that increasing returns would simply alter the pattern of comparative advantage." In 1976, however, MIT-trained economist Victor Norman had worked out the central elements of what came to be known as the Helpman–Krugman theory. He wrote it up and showed it to Avinash Dixit. However, they both agreed the results were not very significant. Indeed, Norman never had the paper typed up, much less published. Norman's formal stake in the race comes from the final chapters of the famous Dixit–Norman book.

James Brander, a PhD student at Stanford at the time, was undertaking similarly innovative work using models from industrial organisation theory—cross-hauling—to explain two-way trade in similar products.

"New" New Trade Theory

Marc Melitz and Pol Antràs started a new trend in the study of international trade. While new trade theory put emphasis on the growing trend of intermediate goods, this new trend emphasizes

firm level differences in the same industry of the same country and this new trend is frequently called 'new' new trade theory (NNTT). NNTT stresses the importance of firms rather than sectors in understanding the challenges and the opportunities countries face in the age of globalization.

As international trade is increasingly liberalized, industries of comparative advantage are expected to expand, while those of comparative disadvantage are expected to shrink, leading to an uneven spatial distribution of the corresponding economic activities. Within the very same industry, some firms are not able to cope with international competition while others thrive. The resulting intra-industry reallocations of market shares and productive resources are much more pronounced than inter-industry reallocations driven by comparative advantage.

Trade in Intermediate Products

A new conspicuous phenomenon in the recent world trade is the rise of trade of in intermediate goods and services. A study of OECD has found that "intermediate inputs represent 56% of goods trade and 73% of services trade." This is a result of fragmentation of production and the increasing importance of outsourcing, which were in turn a result of rapid decrease of trade costs (including transportation costs, transaction costs and tariffs) and revolutionary development of information and communications technologies. Trade in intermediate products are related to many phenomena such as offshoring, vertical specialization, global sourcing, the Second Unbundling, trade in value added, trade in tasks, global supply chains, global value chains, global optimal procurement. In short it is one of motive powers of internationalization and globalization.

Traditional trade theories including Heckscher-Ohlin-Samuelson theory and the New trade theory à la Krugman exclude trade of intermediates products by assumption and cannot explain fragmentation of production across countries. Fragmentation was first studied by Ronald Jones and Henryk Kierzowski. They explained the fragmentation by the decrease of service link costs. Yoshinori Shiozawa presented a new explanation by the decrease of trade costs. The service link explains how fragmentation occurs but does not explain how a pattern of specialization emerges. Trade cost explanation is naturally incorporated in Shiozawa's theory of international trade and can be used in the account of global value chain emergence, because it is a general framework which permits trade of intermediate goods and services.

Theoretical Foundations

New trade theory and "new" new trade theory (NNTT) need their own trade theory. New trade theories are often based on assumptions such as monopolistic competition and increasing returns to scale. One of the typical explanations, given by Paul Krugman, depends on the assumption that all firms are symmetrical, meaning that they all have the same production coefficients. This is too strict as an assumption and deprived general applicability of Krugman's explanation. Shiozawa, based on much more general model, succeeded in giving a new explanation on why the traded volume increases for intermediates goods when the transport cost decreases.

"New" new trade theory (NNTT) also needs new theoretical foundation. Melitz and his followers concentrate on empirical aspects and pay little interest on theoretical aspects of NNTT. Shiozawa's new construction, or Ricardo-Sraffa trade theory, enables Ricardian trade theory to include choice of techniques. Thus the theory can treat a situation where there are many firms with different production

processes. Based on this new theory, Fujimoto and Shiozawa analyze how different production sites, either of competing firms or of the same firms locating in the different countries, compete.

Internalization Theory

Internalization theory is a branch of economics that is used to analyse international business behaviour.

Internalization theory focuses on imperfections in intermediate product markets. Two main kinds of intermediate product are distinguished: knowledge flows linking research and development (R&D) to production, and flows of components and raw materials from an upstream production facility to a downstream one. Most applications of the theory focus on knowledge flow. Proprietary knowledge is easier to appropriate when intellectual property rights such as patents and trademarks are weak. Even with strong protections firms protect their knowledge through secrecy. Instead of licensing their knowledge to independent local producers, firms exploit it themselves in their own production facilities. In effect, they internalise the market in knowledge within the firm. The theory claims the internalization leads to larger, more multinational enterprises, because knowledge is a public good. Development of a new technology is concentrated within the firm and the knowledge then transferred to other facilities.

Refinements

Internalization occurs only when firms perceive the benefits to exceed the costs. When internalization leads to foreign investment the firm may incur political and commercial risks due to unfamiliarity with the foreign environment. These are known as 'costs of doing business abroad', arising from the 'liability of foreignness'. When such costs are high a firm may license or outsource production to an independent firm; or it may produce at home and export to the country instead.

Firms without special knowledge may become multinational to internalise supplies of components or raw materials in order to guarantee quality or continuity of supply, or for tax advantages from transfer pricing.

Variants

Buckley and Casson was a seminal work. Two Canadian economists, Stephen Hymer and John McManus, independently noted the relevance of internalization, and their contribution is the subject of debate. Alan M. Rugman linked internalization theory to his earlier work on market imperfections, applying it empirically in a North American context. Jean-Francois Hennart subsequently developed a variant of the theory that emphasised the interplay of headquarters authority and local autonomy within the firm. Internalization theory is also closely related to Stephen Magee's appropriability theory.

Controversies

Internalization theory was used by John Harry Dunning as one of the components of his eclectic

paradigm or OLI model. Dunning referred to knowledge as an 'ownership advantage' and claimed that ownership advantage was necessary for a firm to become a multinational. This was disputed by internalization theorists on the grounds that if quality control and transfer pricing are sufficient, then ownership advantage cannot be necessary. Dunning argued that the firm's ability to internalise could also be described as an ownership advantage, which led internalization theorists to suggest that his concept of ownership advantage had become tautological. Internalization theory is related to transaction cost theory through common dependence on the seminal work of Ronald Coase. They are not the same however. Internalization theory focuses on links between R&D and production whereas transaction cost theory focuses on links between one production facility and another. Transaction cost theory typically attributes market imperfections to bounded rationality and 'lock in', whilst internalization theory emphasises asymmetric information and weaknesses in property rights. Transaction cost theory is typically applied in a domestic context, whereas internalization theory was developed specifically for an international context.

Links to International Business Theory

Prior to internalization theory, the study of international business was largely focused on the environment, and in particular the economic, financial, political and cultural dimensions of doing business abroad. Internalization theory provided a theory of the international firm and thus augmented the international business field by demonstrating the interaction between the external environmental and the internal knowledge flows between MNE parent firm and subsidiaries. This interaction between external country-specific advantages (CSAs) and internal MNE firm-specific advantages (FSAs) is the nexus for strategic managerial international business decisions.

Policy Implications

The view that multinationals transfer technology and not capital provided a major boost to the process of globalisation. The United Nations Conference on Trade and Development (UNCTAD) was strongly influenced by internalization theory and the eclectic paradigm. It persuaded political leaders to encourage inward investment as a source of the new technologies required for economic development, thereby reversing their previous attitudes. Multinational profits were increasingly viewed as payments for knowledge and technology rather than as interest paid on capital, and foreign ownership became accepted, in certain cases, as a necessary safeguard for foreign investors' intellectual property.

Location Theory

Location theory has become an integral part of economic geography, regional science, and spatial economics. Location theory addresses questions of what economic activities are located where and why. Location theory or microeconomic theory generally assumes that agents act in their own self-interest. Firms thus choose locations that maximize their profits and individuals choose locations that maximize their utility.

While others should get some credit for earlier work (e.g., Richard Cantillon, Etienne Bonnot de Condillac, David Hume, Sir James D. Steuart, and David Ricardo), it was not until the publication

of Johann Heinrich von Thünen's first volume of *Der Isolierte Staat* in 1826 that location theory can be said to have really gotten underway. Indeed, the prominent regional scientist Walter Isard has called von Thünen "the father of location theorists." In *Der Isolierte Staat*, von Thünen notes that the costs of transporting goods consumes some of Ricardo's economic rent. He notes that because these transportation costs and, of course, economic rents, vary across goods, different land uses and use intensities will result with increased distance from the marketplace. However, the discussion was criticized since Johann Heinrich von Thünen oversimplified the problem with his assumptions of, for example, isolated states or single cities.

A German hegemony of sorts seems to have taken hold in location theory from the time of von Thünen through to Walter Christaller's 1933 book Die Zentralen Orte in Sűddeutschland, which formulated much of what is now understood as central place theory. An especially notable contribution was made by Alfred Weber, who published Über den Standort der Industrien in 1909. Working from a model akin to a physical frame adapted from some ideas by Pierre Varignon (a Varignon frame), Weber applies freight rates of resources and finished goods, along with the finished good's production function, to develop an algorithm that identifies the optimal location for manufacturing plant. He also introduces distortions induced by labor and both agglomerative and deglomerative forces. Weber then discusses groupings of production units, anticipating Lösch's market areas.

Carl Wilhelm Friedrich Launhardt conceived much of that for which Alfred Weber received credit, prior to Weber's work. Moreover, his contributions are surprisingly more modern in their analytical content than are Weber's. This suggests that Launhardt was ahead of his time and not readily understood by many of his contemporaries. Whether Weber was familiar with Launhardt's publications remains unclear. Weber was most certainly influenced by others, most notably Wilhelm Roscher and Albert Schäffle, who seem likely to have read Launhardt's work.

Literature on site selection theory used to look until recent years at the various issues only from a national point of view. By large, there are no international reviews to be found in these publications. In the US, a country in which industrial site selection played a role very early on, resulting in a very early search for methodical approaches, Edgar M. Hoover was one of the leading pioneers in the field of site analysis. In his book "The Location of Economic Activity", Hoover compiled crucial criteria of industrial site selection as early as 1948 that still apply today. There were, however, some quite early attempts to combine theories of international trade with nationally oriented site theories in order to develop a site theory with an international perspective. One of these early authors was Ohlin, followed by Sabathil, Moore, Tesch, and Goette.

Nevertheless, even to this day, this situation has only changed to some extent. Even though since the 1990s it has no longer been only major corporations that expand abroad, and any foreign direct investment results in a site selection, there are still very few well-researched studies on this topic. A specifically international site selection theory is still not discernible. Many current and more recent publications either review site decisions made by individual corporations or analyze them as reference cases. Other publications focus on a cost-specific approach largely driven by site relocations in the context of cost structure optimization within major corporations. However, these publications only rarely and at best cursorily deal with issues of construction and real estate aspects.

Theodor Sabathil's 1969 dissertation is considered one of the early in-depth studies in the area of international site selection. Therein, Sabathil largely focused on country selection, which is part of the site selection process. In this context, Sabathil compiled a comprehensive catalogue of site factors and a theoretical approach to site selection; the latter does not go into great detail. Neither does Sabathil take any legal, natural, or cultural site factors into consideration. However, he discusses in particular company-specific framework conditions and psychological factors.

The dissertation submitted in 1980 by Peter Tesch constitutes another milestone in the further development of international site theory. Tesch combines theories of international trade and investment with site theories. He is the first to include country-specific framework conditions in his analysis. The main basis for his comments on the various types of internationalization are location-specific competitive advantages. In this context, Tesch developed a catalogue of criteria for international site decisions grouped into three categories: (1) site factors affecting all company activities (2) availability and costs of the site factors impacting on the production factors (3) turnover-related site factors.

Thomas Goette's 1994 study tries to classify important international site factors and to structure the process of international site selection. Goette distinguishes between economic site conditions (sales potential, competitive conditions, infrastructure and transportation costs, labor, monetary conditions), political site conditions (tax legislation, environmental protection, institutional market entry barriers, support of business, political risks), cultural site conditions (differences in language, mentality, religion, and the lack of acceptancy of foreign companies), and geographical site conditions (climate, topography). This study again demonstrates that an attempt to cover all aspects will result in loss of quality as all factors were not or could not be taken into consideration. Goette also theorizes that, in particular, industrial site decisions within companies are usually once-off and division-related decision-making processes. Based on this, Goette assumes a relatively low learning curve, and hence little potential for improvement for subsequent projects.

As one of the last major contributions, Thomas Glatte aimed to enhance and globalize the known systems in his book "International Production Site Selection" by providing a 10-staged selection process, suggesting selected methods for each selection stage and offering a comprehensive list of criteria for the practitioner.

Marginal Intra-Industry Trade

Marginal Intra-Industry Trade, a concept originating in international economics, refers to the degree to which the change in a country's exports over a certain period of time are essentially of the same products as its change in imports over the same period. The concept is therefore closely related to that of intra-industry trade, that being the export and import of the same items, but concerns changes in exports and imports between two points in time as opposed to their values at a given point in time. The concept is thought to be useful for ascertaining the amount of adjustment costs associated with changing trade flows or the degree to which changes in trade might be responsible for changes in the distribution of income. Several formulas have been proposed to quantify this concept but the most widely used is that of Shelburne.

$$MIIT=1-(|\Delta X-\Delta M|/(|\Delta X|+|\Delta M|))$$

where ΔX represents the change in exports between two points in time and ΔM represents the change in imports over the same period of time. The absolute values are needed because these changes in trade flows can sometimes be negative. Thus when exports and imports of a good change by the same amount the index would be one while if exports increase while imports do not (or vice versa) then the index would be zero. Generally adjustment costs or distribution effects are thought to be small if the MIIT index is high. The choice of the time period to use in making this calculation is somewhat arbitrary but can nevertheless significantly affect the results. The index is usually calculated as a sum of the different changes in imports and exports in the different sub-sectors. Thus more formally the index is:

$$MIIT=1-\sum_i(|\Delta X_i-\Delta M_i|)/(|\Delta X_i|+|\Delta M|_i)$$

Brülhart has further analyzed the properties of this index and popularized its use.

Gravity Model of Trade

The gravity model of international trade in international economics is a model that, in its traditional form, predicts bilateral trade flows based on the economic sizes and distance between two units.

The model was first introduced in economics world by Walter Isard in 1954. The basic model for trade between two countries (*i* and *j*) takes the form of,

$$F_{ij} = G * M_i * M_j / D_{ij}$$

In this formula G is the constant, F stands for trade flow, D stands for the distance and M stands for the economic dimensions of the countries that are being measured. The equation can be changed into a linear form for the purpose of econometric analyses by employing logarithms. The model has been used by economists to analyse the determinants of bilateral trade flows such as common borders, common languages, common legal systems, common currencies, common colonial legacies, and it has been used to test the effectiveness of trade agreements and organizations such as the North American Free Trade Agreement (NAFTA) and the World Trade Organization (WTO). The model has also been used in international relations to evaluate the impact of treaties and alliances on trade.

The model has also been applied to other bilateral flow data (also 'dyadic' data) such as migration, traffic, remittances and foreign direct investment.

Theoretical Justifications and Research

The model has been an empirical success in that it accurately predicts trade flows between countries for many goods and services, but for a long time some scholars believed that there was no theoretical justification for the gravity equation. However, a gravity relationship can arise in almost any trade model that includes trade costs that increase with distance.

The gravity model estimates the pattern of international trade. While the model's basic form consists

of factors that have more to do with geography and spatiality, the gravity model has been used to test hypotheses rooted in purer economic theories of trade as well. One such theory predicts that trade will be based on relative factor abundances. One of the common relative factor abundance models is the Heckscher–Ohlin model. Those countries with a relative abundance of one factor would be expected to produce goods that require a relatively large amount of that factor in their production. While a generally accepted theory of trade, many economists in the Chicago School believed that the Heckscher–Ohlin model alone was sufficient to describe all trade, while Bertil Ohlin himself argued that in fact the world is more complicated. Investigations into real-world trading patterns have produced a number of results that do not match the expectations of comparative advantage theories. Notably, a study by Wassily Leontief found that the United States, the most capital-endowed country in the world, actually exports more in labor-intensive industries. Comparative advantage in factor endowments would suggest the opposite would occur. Other theories of trade and explanations for this relationship were proposed in order to explain the discrepancy between Leontief's empirical findings and economic theory. The problem has become known as the Leontief paradox.

An alternative theory, first proposed by Staffan Linder, predicts that patterns of trade will be determined by the aggregated preferences for goods within countries. Those countries with similar preferences would be expected to develop similar industries. With continued similar demand, these countries would continue to trade back and forth in differentiated but similar goods since both demand and produce similar products. For instance, both Germany and the United States are industrialized countries with a high preference for automobiles. Both countries have automobile industries, and both trade cars. The empirical validity of the Linder hypothesis is somewhat unclear. Several studies have found a significant impact of the Linder effect, but others have had weaker results. Studies that do not support Linder have only counted countries that actually trade; they do not input zero values for the dyads where trade could happen but does not. This has been cited as a possible explanation for their findings. Also, Linder never presented a formal model for his theory, so different studies have tested his hypothesis in different ways.

Elhanan Helpman and Paul Krugman asserted that the theory behind comparative advantage does not predict the relationships in the gravity model. Using the gravity model, countries with similar levels of income have been shown to trade more. Helpman and Krugman see this as evidence that these countries are trading in differentiated goods because of their similarities. This casts some doubt about the impact Heckscher–Ohlin has on the real world. Jeffrey Frankel sees the Helpman–Krugman setup here as distinct from Linder's proposal. However, he does say Helpman–Krugman is different from the usual interpretation of Linder, but, since Linder made no clear model, the association between the two should not be completely discounted. Alan Deardorff adds the possibility, that, while not immediately apparent, the basic gravity model can be derived from Heckscher–Ohlin as well as the Linder and Helpman–Krugman hypotheses. Deardorff concludes that, considering how many models can be tied to the gravity model equation, it is not useful for evaluating the empirical validity of theories.

Bridging economic theory with empirical tests, James Anderson and Jeffrey Bergstrand develop econometric models, grounded in the theories of differentiated goods, which measure the gains from trade liberalizations and the magnitude of the border barriers on trade. A recent synthesis of empirical research using the gravity equations, however, shows that the effect of border barriers on trade is relatively modest.

Adding to the problem of bridging economic theory with empirical results, some economists have pointed to the possibility of intra-industry trade not as the result of differentiated goods, but because of "reciprocal dumping." In these models, the countries involved are said to have imperfect competition and segmented markets in homogeneous goods, which leads to intra-industry trade as firms in imperfect competition seek to expand their markets to other countries and trade goods that are not differentiated yet for which they do not have a comparative advantage, since there is no specialization. This model of trade is consistent with the gravity model as it would predict that trade depends on country size.

The reciprocal dumping model has held up to some empirical testing, suggesting that the specialization and differentiated goods models for the gravity equation might not fully explain the gravity equation. Feenstra, Markusen, and Rose provided evidence for reciprocal dumping by assessing the *home market effect* in separate gravity equations for differentiated and homogeneous goods. The home market effect showed a relationship in the gravity estimation for differentiated goods, but showed the inverse relationship for homogeneous goods. The authors show that this result matches the theoretical predictions of reciprocal dumping playing a role in homogeneous markets.

Past research using the gravity model has also sought to evaluate the impact of various variables in addition to the basic gravity equation. Among these, price level and exchange rate variables have been shown to have a relationship in the gravity model that accounts for a significant amount of the variance not explained by the basic gravity equation. According to empirical results on price level, the effect of price level varies according to the relationship being examined. For instance, if exports are being examined, a relatively high price level on the part of the importer would be expected to increase trade with that country. A non-linear system of equations are used by Anderson and van Wincoop to account for the endogenous change in these price terms from trade liberalization. A more simple method is to use a first order log-linearization of this system of equations, or exporter-country-year and importer-country-year dummy variables. For counterfactual analysis, however, one would still need to account for the change in world prices.

Econometric Estimation of Gravity Equations

Since the gravity model for trade does not hold exactly, in econometric applications it is customary to specify,

$$F_{ij} = G\frac{M_i^{\beta_1} M_j^{\beta_2}}{D_{ij}^{\beta_3}}\eta_{ij}$$

where F_{ij} represents volume of trade from country i to country j, M_i and M_j typically represent the GDPs for countries i and j, D_{ij} denotes the distance between the two countries, and η represents an error term with expectation equal to 1.

The traditional approach to estimating this equation consists in taking logs of both sides, leading to a log-log model of the form (note: constant G becomes part of β_0):

$$\ln(F_{ij}) = \beta_0 + \beta_1 \ln(M_i) + \beta_2 \ln(M_j) - \beta_3 \ln(D_{ij}) + \varepsilon_{ij}.$$

However, this approach has two major problems. First, it obviously cannot be used when there are observations for which F_{ij} is equal to zero. Second, Santos Silva and Tenreyro argued that estimating the log-linearized equation by least squares (OLS) can lead to significant biases. As an alternative, these authors have suggested that the model should be estimated in its multiplicative form, i.e.,

$$F_{ij} = \exp[\beta_0 + \beta_1 \ln(M_i) + \beta_2 \ln(M_j) - \beta_3 \ln(D_{ij})]\eta_{ij},$$

A Poisson pseudo-maximum likelihood (PPML) estimator usually used for count data. This is despite the fact that simpler methods, such as taking simple averages of trade shares of countries with and without former colonial ties suggest that countries with former colonial ties continue to trade more. Santos Silva and Tenreyro did not explain where their result came from and even failed to realize their results were highly anomalous. Martin and Pham argued that using PPML on gravity severely biases estimates when zero trade flows are frequent. However, their results were challenged by Santos Silva and Tenreyro, who argued that the simulation results of Martin and Pham are based on misspecified models and showed that the PPML estimator performs well even when the proportions of zeros is very large.

In applied work, the model is often extended by including variables to account for language relationships, tariffs, contiguity, access to sea, colonial history, and exchange rate regimes. Yet the estimation of structural gravity, based on Anderson and van Wincoop, requires the inclusion of importer and exporter fixed effects, thus limiting the gravity analysis to bilateral trade costs.

Heckscher-Ohlin Model

The Heckscher–Ohlin model (H–O model) is a general equilibrium mathematical model of international trade, developed by Eli Heckscher and Bertil Ohlin at the Stockholm School of Economics. It builds on David Ricardo's theory of comparative advantage by predicting patterns of commerce and production based on the factor endowments of a trading region. The model essentially says that countries export products that use their abundant and cheap factors of production, and import products that use the countries' scarce factors.

Features of the Model

Relative endowments of the factors of production (land, labor, and capital) determine a country's comparative advantage. Countries have comparative advantages in those goods for which the required factors of production are relatively abundant locally. This is because the profitability of goods is determined by input costs. Goods that require inputs that are locally abundant are cheaper to produce than those goods that require inputs that are locally scarce.

For example, a country where capital and land are abundant but labor is scarce has a comparative advantage in goods that require lots of capital and land, but little labor—grains. If capital and land are abundant, their prices are low. As they are the main factors in the production of grain, the price of grain is also low—and thus attractive for both local consumption and export. Labor-intensive

goods on the other hand are very expensive to produce since labor is scarce and its price is high. Therefore, the country is better off importing those goods.

Theoretical Development

The Ricardian model of comparative advantage has trade ultimately motivated by differences in labour productivity using different "technologies". Heckscher and Ohlin did not require production technology to vary between countries, so (in the interests of simplicity) the "H–O model has identical production technology everywhere". Ricardo considered a single factor of production (labour) and would not have been able to produce comparative advantage without technological differences between countries (all nations would become autarkic at various stages of growth, with no reason to trade with each other). The H–O model removed technology variations but introduced variable capital endowments, recreating endogenously the inter-country variation of labour productivity that Ricardo had imposed exogenously. With international variations in the capital endowment like infrastructure and goods requiring different factor "proportions", Ricardo's comparative advantage emerges as a profit-maximizing solution of capitalist's choices from *within* the model's equations. The decision that capital owners are faced with is between investments in differing production technologies; the H–O model assumes capital is privately held.

Original Publication

Bertil Ohlin first explained the theory in a book published in 1933. Ohlin wrote the book alone, but he credited Heckscher as co-developer of the model because of his earlier work on the problem, and because many of the ideas in the final model came from Ohlin's doctoral thesis, supervised by Heckscher.

Interregional and International Trade itself was verbose, rather than being pared down to the mathematical, and appealed because of its new insights.

2×2×2 Model

The original H–O model assumed that the only difference between countries was the relative abundances of labour and capital. The original Heckscher–Ohlin model contained two countries, and had two commodities that could be produced. Since there are two (homogeneous) factors of production this model is sometimes called the "2×2×2 model".

The model has "variable factor proportions" between countries—highly developed countries have a comparatively high capital-to-labor ratio compared to developing countries. This makes the developed country capital-abundant relative to the developing country, and the developing nation labor-abundant in relation to the developed country.

With this single difference, Ohlin was able to discuss the new mechanism of comparative advantage, using just two goods and two technologies to produce them. One technology would be a capital-intensive industry, the other a labor-intensive business.

Extensions

The model has been extended since the 1930s by many economists. These developments did not change the fundamental role of variable factor proportions in driving international trade, but added

to the model various real-world considerations (such as tariffs) in the hopes of increasing the model's predictive power, or as a mathematical way of discussing macroeconomic policy options.

Notable contributions came from Paul Samuelson, Ronald Jones, and Jaroslav Vanek, so that variations of the model are sometimes called the Heckscher-Ohlin-Samuelson model (HOS) or the Heckscher-Ohlin-Vanek model in the neo-classical economics.

Theoretical Assumptions

The original, 2×2×2 model was derived with restrictive assumptions, partly for the sake of mathematical simplicity. Some of these have been relaxed for the sake of development. These assumptions and developments are listed here.

Both Countries have Identical Production Technology

This assumption means that producing the same output of either commodity *could* be done with the same level of capital and labour in either country. Actually, it would be inefficient to use the same balance in either country (because of the relative availability of either input factor) but, in principle this would be possible. Another way of saying this is that the per-capita productivity is the same in both countries in the same technology with identical amounts of capital.

Countries have natural advantages in the production of various commodities in relation to one another, so this is an "unrealistic" simplification designed to highlight the effect of variable factors. This meant that the original H–O model produced an alternative explanation for free trade to Ricardo's, rather than a complementary one; in reality, both effects may occur due to differences in technology and factor abundances.

In addition to natural advantages in the production of one sort of output over another (wine vs. rice, say) the infrastructure, education, culture, and "know-how" of countries differ so dramatically that the idea of identical technologies is a theoretical notion. Ohlin said that the H–O model was a long-run model, and that the conditions of industrial production are "everywhere the same" in the long run.

Production Output is Assumed to Exhibit Constant Returns to Scale

In a simple model, both countries produce two commodities. Each commodity in turn is made using two factors of production. The production of each commodity requires input from both factors of production—capital (K) and labor (L). The technologies of each commodity is assumed to exhibit constant returns to scale (CRS). CRS technologies implies that when inputs of both capital and labor is multiplied by a factor of k, the output also multiplies by a factor of k. For example, if both capital and labor inputs are doubled, output of the commodities is doubled. In other terms the production function of both commodities is "homogeneous of degree 1".

The assumption of constant returns to scale CRS is useful because it exhibits a diminishing returns in a factor. Under constant returns to scale, doubling both capital and labor leads to a doubling of the output. Since outputs are increasing in both factors of production, doubling capital while holding labor constant leads to less than doubling of an output. Diminishing returns to capital and diminishing returns to labor are crucial to the Stolper–Samuelson theorem.

Technologies used to Produce the Two Commodities Differ

The CRS production functions must differ to make trade worthwhile in this model. For instance if the functions are Cobb–Douglas technologies the parameters applied to the inputs must vary. An example would be:

Arable industry: $A = K^{1/3} L^{2/3}$

Fishing industry: $F = K^{1/2} L^{1/2}$

Where A is the output in arable production, F is the output in fish production, and K, L are capital and labor in both cases.

In this example, the marginal return to an extra unit of capital is higher in the fishing industry, assuming units of fish (F) and arable output (A) have equal value. The more capital-abundant country may gain by developing its fishing fleet at the expense of its arable farms. Conversely, the workers available in the relatively labor-abundant country can be employed relatively more efficiently in arable farming.

Factor Mobility within Countries

Within countries, capital and labor can be reinvested and reemployed to produce different outputs. Similar to Ricardo's comparative advantage argument, this is assumed to happen without cost. If the two production technologies are the arable industry and the fishing industry it is assumed that farmers can shift to work as fishermen with no cost and vice versa.

It is further assumed that capital can shift easily into either technology, so that the industrial mix can change without adjustment costs between the two types of production. For instance, if the two industries are farming and fishing it is assumed that farms can be sold to pay for the construction of fishing boats with no transaction costs.

Factor Immobility between Countries

The basic Heckscher–Ohlin model depends upon the relative availability of capital and labor differing internationally, but if capital can be freely invested anywhere, competition (for investment) makes relative abundances identical throughout the world. Essentially, free trade in capital provides a single worldwide investment pool.

Differences in labour abundance would not produce a difference in *relative* factor abundance (in relation to mobile capital) because the labour/capital ratio would be identical everywhere. (A large country would receive twice as much investment as a small one, for instance, maximizing capitalist's return on investment).

As capital controls are reduced, the modern world has begun to look a lot less like the world modelled by Heckscher and Ohlin. It has been argued that capital mobility undermines the case for free trade itself.

Capital is mobile when:

- There are limited exchange controls.

- Foreign direct investment (FDI) is permitted between countries, or foreigners are permitted to invest in the commercial operations of a country through a stock or corporate bond market.

Like capital, labor movements are not permitted in the Heckscher–Ohlin world, since this would drive an equalization of relative abundances of the two production factors, just as in the case of capital immobility. This condition is more defensible as a description of the modern world than the assumption that capital is confined to a single country.

Commodity Prices are the Same Everywhere

The 2×2×2 model originally placed no barriers to trade, had no tariffs, and no exchange controls (capital was immobile, but repatriation of foreign sales was costless). It was also free of transportation costs between the countries, or any other savings that would favor procuring a local supply.

If the two countries have separate currencies, this does not affect the model in any way—purchasing power parity applies. Since there are no transaction costs or currency issues the law of one price applies to both commodities, and consumers in either country pay exactly the same price for either good.

In Ohlin's day this assumption was a fairly neutral simplification, but economic changes and econometric research since the 1950s have shown that the local prices of goods tend to correlate with incomes when both are converted at money prices (though this is less true with traded commodities).

Perfect Internal Competition

Neither labor nor capital has the power to affect prices or factor rates by constraining supply; a state of perfect competition exists. The results of this work has been the formulation of certain named conclusions arising from the assumptions inherent in the model.

Heckscher–Ohlin Theorem

Exports of a capital-abundant country come from capital-intensive industries, and labour-abundant countries import such goods, exporting labour-intensive goods in return. Competitive pressures within the H–O model produce this prediction fairly straightforwardly. Conveniently, this is an easily testable hypothesis.

Rybczynski Theorem

When the amount of one factor of production increases, the production of the good that uses that particular production factor intensively increases relative to the increase in the factor of production, as the H–O model assumes perfect competition where price is equal to the costs of factors of production. This theorem is useful in explaining the effects of immigration, emigration, and foreign capital investment. However, Rybczynski suggests that a fixed quantity of the two factors of production are required. This could be expanded to consider factor substitution, in which case the increase in production is more than proportional.

Stolper–Samuelson Theorem

Relative changes in output goods prices drive the relative prices of the factors used to produce them. If the world price of capital-intensive goods increases, it increases the relative rental rate and decreases the relative wage rate (the return on capital as against the return to labor). Also, if the price of labor-intensive goods increases, it increases the relative wage rate and decreases the relative rental rate.

Factor–price Equalization Theorem

Free and competitive trade makes factor prices converge along with traded goods prices. The FPE theorem is the most significant conclusion of the H–O model, but also has found the least agreement with the economic evidence. Neither the rental return to capital, nor the wage rates seem to consistently converge between trading partners at different levels of development.

Implications of Factor-proportion Changes

The *Stolper–Samuelson theorem* concerns nominal rents and wages. The Magnification effect on prices considers the effect of output-goods price-changes on the real return to capital and labor. This is done by dividing the nominal rates with a price index, but took thirty years to develop completely because of the theoretical complexity involved.

- The Magnification effect shows that trade liberalization actually makes the locally-scarce factor of production *worse off* (because increased trade makes the price index fall by less than the drop in returns to the scarce-factor induced by the *Stolper–Samuelson theorem*).
- The Magnification effect on production quantity-shifts induced by endowment changes (via the Rybczynski theorem) predicts a larger proportionate shift in output-quantity than in the corresponding endowment factor shift that induced it. This has implications to both labor and capital:
    - Assuming fixed capital, population growth dilutes the scarcity of labor in relation to capital. If the population growth outpaces the growth in capital by 10% this may translate into a 20% shift in the balance of employment to the labor-intensive industries.
    - In the modern world, money is much more mobile than labor, so import of capital to a country almost certainly shifts the relative factor-abundances in favor of capital. The magnification effect says that a 10% increase in national capital may lead to a redistribution of labor amounting to a fifth of the entire economy (towards capital-intensive, high-tech production). Notably, employment patterns in very poor countries can be dramatically affected by a small amount of FDI, in this model.

Econometric Testing of H–O Model Theorems

Heckscher and Ohlin considered the Factor-Price Equalization theorem an econometric success because the large volume of international trade in the late 19th and early 20th centuries coincided with the convergence of commodity *and* factor prices worldwide.

Modern econometric estimates have shown the model to perform poorly, however, and adjustments have been suggested, most importantly the assumption that technology is not the same everywhere. This change would mean abandoning the pure H–O model.

Leontief Paradox

In 1954 an econometric test by Wassily W. Leontief of the H–O model found that the United States, despite having a relative abundance of capital, tended to export labor-intensive goods and import capital-intensive goods. This problem became known as the Leontief paradox. Alternative trade models and various explanations for the paradox have emerged as a result of the paradox. One such trade model, the Linder hypothesis, suggests that goods are traded based on similar demand rather than differences in supply side factors (i.e., H–O's factor endowments).

The Vanek Formula

Various attempts in the 1960s and 1970s have been made to "solve" the Leontief paradox and save the Heckscher–Ohlin Theory from failing. From the 1980s a new series of statistical tests had been tried. The new tests depended on Vanek's formula. It takes a simple form:

$$\mathrm{F_C} = \mathrm{V_C} - s_C \mathrm{V}$$

where $\mathrm{F_C}$ is the net trade of factor service vector for country c, $\mathrm{V_C}$ the factor endowment vector for country c, and s_C the country $c's$ share of the world consumption and V the world total endowment vector of factors. For many countries and many factors, it is possible to estimate the left hand sides and right hand sides independently. To put it another way, the left hand side tells the direction of factor service trade. Thus it is possible to ask how this system of equations holds. The results obtained by Bowen, Leamer and Sveiskaus was disastrous. They examined the cases of 12 factors and 27 countries for the year 1967. They found that the both sides of the equations had the same sign only for 61% of 324 cases. For the year 1983, the result was more disastrous. Both sides had the same sign only for 148 cases out of 297 cases (or the rate of correct predictions was 49.8%). The results of Bowen, Leamer, and Sveiskaus mean that the Heckscher–Ohlin–Vanek (HOV) theory has no predictive power concerning the direction of trade.

Criticism

The critical assumption of the Heckscher–Ohlin model is that the two countries are identical, except for the difference in resource endowments. This also implies that the aggregate preferences are the same. The relative abundance in capital leads the capital-abundant country to produce the capital-intensive good cheaper than the labor-abundant country, and vice versa.

Initially, when the countries are not trading: The price of the capital-intensive good in the capital-abundant country will be bid down relative to the price of the good in the other country, the price of the labor-intensive good in the labor-abundant country will be bid down relative to the price of the good in the other country. Once trade is allowed, profit-seeking firms move their products to the markets that have (temporary) higher prices.

As a result: the capital-abundant country will export the capital-intensive good,the labor-abundant country will export the labor-intensive good.

Poor Predictive Power

The original Heckscher–Ohlin model and extended model such as the Vanek model performs poorly, as it is shown in the section "Econometric testing of H–O model theorems". Daniel Trefler and Susan Chun Zhu summarizes their paper that "It is hard to believe that factor endowments theory could offer an adequate explanation of international trade patterns".

A common understanding exists that in the national level HOV model fits well. In fact, Davis and others found that HOV model fitted extremely well with the regional data of Japan. Even when the HOV formula fits well, it does not mean that Heckscher–Ohlin theory is valid. Indeed, Heckscher–Ohlin theory claims that the state of factor endowments of each country (or each region) determines the production of each country (respectively of each region) but Bernstein and Weinstein found that the factor endowments have little predictive power. The factor-endowments-driven model (FED model) has errors much greater than the HOV model.

No Unemployment

Unemployment is the vital question in any trade conflict. Heckscher–Ohlin theory excludes unemployment by the very formulation of the model, in which all factors (including labour) are employed in the production.

Leontief Paradox

The Leontief paradox, presented by Wassily Leontief in 1953, found that the U.S. (the most capital-abundant country in the world by any criterion) exported labor-intensive commodities and imported capital-intensive commodities, contrary to the Heckscher–Ohlin theory.

However, if labor is separated into two distinct factors, skilled labor and unskilled labor, the Heckscher–Ohlin theorem is more accurate. The U.S. tends to export skilled-labor-intensive goods, and tends to import unskilled-labor-intensive goods.

Factor Equalization Theorem

The factor equalization theorem (FET) applies only to the most advanced countries. The average wage in Japan was once as big as 70 times the wage in Vietnam. These wage discrepancies are not normally in the scope of the H–O model analysis.

Heckscher–Ohlin theory is badly adapted to the analyze South-North trade problems. The assumptions of H–O are unrealistic with respect to North-South trade. Income differences between North and South is the concern that third world cares most. The factor price equalization theorem has not shown a sign of realization, even for a long time lag of a half century.

Identical Production Function

The standard Heckscher–Ohlin model assumes that the production functions are identical for all countries concerned. This means that all countries are in the same level of production and have the same technology, yet this is highly unrealistic. Technological gap between developed and developing countries is the main concern for the development of poor countries. The standard

Heckscher–Ohlin model ignores all these vital factors when one wants to consider development of less developed countries in the international context. Even between developed countries, technology differs from industry to industry and firm to firm base. Indeed, this is the very basis of the competition between firms, inside the country and across the country.

Capital as Endowment

In the modern production system, machines and apparatuses play an important role. What is referred to as capital is nothing other than these machines and apparatuses, together with materials and intermediate products consumed in the production process. Capital is the most important of factors, or one should say as important as labor. By the help of machines and apparatuses, the human being got a tremendous production capability. These machines, apparatuses and tools are classified as capital, or more precisely as durable capital, for one uses these items for many years. Their quantity is not changed at once. But the capital is not an endowment given by the nature. It is composed of goods manufactured in the production and often imported from foreign countries. In this sense, capital is internationally mobile and the result of past economic activity. The concept of capital as natural endowment distorts the real role of capital. Capital is a production power accumulated by the past investment.

Homogeneous Capital

Capital goods take different forms. It may take the form of a machine-tool such as lathe, the form of a transfer-machine, which you can see under the belt-conveyors. It may take the form of oil or iron core. Despite these facts, capital in the Heckscher–Ohlin model is assumed as homogeneous and transferable to any form if necessary. This assumption is not only far from the reality, but also it includes logical flaw. Capital has a measure, just like anything has weight. How can an amount of various goods be measured?

Usually by a system of prices. But prices depend on profit rate. In the Heckscher–Ohlin model, the rate of profit is determined according to how abundant capital is. If capital is scarce, it has a high rate of profit. If it is abundant, the profit rate is low. Here is a logical circle. Before the profit rate is determined, the amount of capital is not measured. This logical difficulty was the subject of academic controversy many years ago—sometimes called the Cambridge Capital Controversies. The conclusion of the controversies was that the concept of homogeneous capital was untenable. Heckscher–Ohlin theorists ignore all these stories without providing any explanation how capital is measured theoretically.

No Room for Firms

Standard Heckscher–Ohlin theory assumes the same production function for all countries. This implies that all firms are identical. The theoretical consequence is that there is no room for firms in the H–O model. By contrast, the New Trade Theory emphasizes that firms are heterogeneous.

Political Background

From the middle of the 19th century to 1930s, giant flow of immigration took place from Europe to

North America. It is estimated that more than 60 million people crossed the Atlantic Ocean. Some politicians worried if these immigrants may cause various troubles (including cultural conflicts). For those politicians HO-theory provided a good reason "in support of both restrictions on labor migration and free trade in goods".

Leontief Paradox

Leontief's paradox in economics is that a country with a higher capital per worker has a *lower* capital/labor ratio in exports than in imports.

This econometric find was the result of Wassily W. Leontief's attempt to test the Heckscher–Ohlin theory ("H–O theory") empirically. In 1953, Leontief found that the United States—the most capital-abundant country in the world—exported commodities that were more labor-intensive than capital-intensive, contrary to H-O theory. Leontief inferred from this result that the U.S. should adapt its competitive policy to match its economic realities.

Responses to the Paradox

For many economists, Leontief's paradox undermined the validity of the Heckscher–Ohlin theorem (H–O) theory, which predicted that trade patterns would be based on countries' comparative advantage in certain factors of production (such as capital and labor). Many economists have dismissed the H-O theory in favor of a more Ricardian model where technological differences determine comparative advantage. These economists argue that the United States has an advantage in highly skilled labor more so than capital. This can be seen as viewing "capital" more broadly, to include human capital. Using this definition, the exports of the United States are very (human) capital-intensive, and not particularly intensive in (unskilled) labor.

Some explanations for the paradox dismiss the importance of comparative advantage as a determinant of trade. For instance, the Linder hypothesis states that demand plays a more important role than comparative advantage as a determinant of trade—with the hypothesis that countries which share similar demands will be more likely to trade. For instance, both the United States and Germany are developed countries with a significant demand for cars, so both have large automotive industries. Rather than one country dominating the industry with a comparative advantage, both countries trade different brands of cars between them. Similarly, New Trade Theory argues that comparative advantages can develop separately from factor endowment variation (e.g., in industrial increasing returns to scale).

Kravis Theory of Trade

An important extension of international trade theory given by Heckscher and Ohlin is the availability approach to international trade. This approach was given by Irving B. Kravis in 1956. According to Kravis, it is the domestic availability or non-availability of goods that governs the pattern of trade. Kravis, while attempting to test the generalisation of H-O theory that labour-abundant countries export labour-intensive goods, found that the exporting-industries invariably had been paying relatively high wage rates even in those countries.

Kravis, therefore, asserted that the nations would export those products which were readily

available in the home country. They would tend to import, on the contrary, such products the domestic supply of which had been short of their demand. According to him, the essential basis of international trade has been the 'non-availability of goods at home'. The non-availability of goods in the home country may either be in the absolute or the relative sense.

In the former case, certain goods may not be available at all in the home country such as diamonds in the U.S. economy. The non-availability in the relative sense signifies that the domestic supply of products is short of their demand and the additional output of those goods can be possible in the home country at much higher costs. The principle of comparative advantage in such a case comes into its own and countries prefer to import such products from abroad rather than to produce them at home at the prohibitive costs.

Kravis maintains that the domestic availability or otherwise of certain specified products in a particular country is governed by:

Natural Resources

If a country is well- endowed with minerals like iron ore, bauxite and oil, the products which involve the use of such materials will be produced in large quantity in the home country. A part of production of these products will be exported abroad. On the opposite, if there is scarcity of forest products in a given country, the scarcity thereof can be met by importing them from abroad. Thus the pattern of trade of a given country is influenced by the relative abundance or scarcity of natural resources.

Technical Progress

The technical progress can have a significant impact upon factor utilisation, factor costs, expansion in the scale of production and improvement in the quality of product. In general, technical progress can increase considerably the domestic availability of certain categories of products, the surplus quantities of which can be exported abroad.

Product Differentiation

The producers in different countries are inclined to produce different varieties of products. The production of such goods confers temporary monopoly to a specific innovating country and it disposes of its special product variety in the foreign markets.

Government Policy

The tariff and non- tariff trade restrictions tend to restrict the international flows of goods. The international cartels like OPEC too follow restrictive policy measures and the availability of a large range of products gets affected on the international plane.

While natural resources, technical progress and product differentiation together lead probably to expansion in the volume of international trade, the trade restrictions imposed by the countries tend to have a limiting impact upon trade.

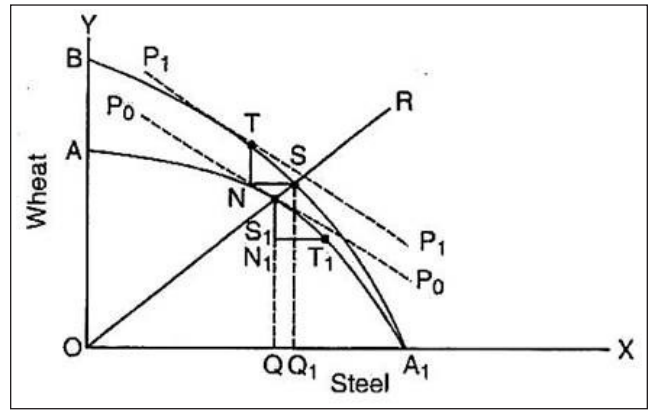
Kravis' availability theory of trade can be explained through a hypothetical example. It is supposed that there are four countries—A, B, C and D. There are two commodities, wheat and steel. The production of both the commodities requires labour and capital. In addition, the production of wheat

requires fertile agricultural land whereas the production of steel requires iron ore. Out of the four countries. A, B and C are endowed with agricultural land.

The countries B, C and D are endowed with iron ore. Given these factor endowments, country A can produce only wheat and country D can produce only steel. The countries C and D can produce both wheat and steel. Now according to the availability doctrine, country A will export wheat to country D and latter will export steel to the former. Since B and C are capable of producing both the commodities, the trade between them will be governed by their respective comparative cost advantages.

Suppose the domestic exchange ratio between wheat and steel in country B is 6 units of wheat = 1 unit of steel. It is 3 units of wheat = 1 unit of steel in country C. If the international exchange ratio is settled at 4 units of wheat = 1 unit of steel, country B will export wheat to country C and latter will export steel to country B.

The availability approach has been discussed by R. Findlay in relation to the factor proportions approach. It is supposed that two countries A and B can produce two commodities, wheat and steel. They have equal endowments of labour, capital and iron ore. However, country B has more agricultural land than the country A. The pattern of trade between these two countries may be explained through figure.



Commodity steel is measured along the horizontal scale and commodity wheat is measured along the vertical scale. Given the equal availability of labour, capital and iron ore in two countries and relatively large availability of wheat- producing land in country B, AA_1 is the production possibility curve of country A and A_1B is the production possibility curve of country B. P_0P_0 and P_1P_1 are the terms of trade lines which have the same slope.

The line OR starting from origin indicates the demand proportions of two commodities in these countries. OR intersects AA_1 and A_1B at S_1 and S respectively. The point S1 indicates that country A requires OQ quantity of steel and S_1Q quantity of wheat. The point S indicates that country B requires OQ_1 quantity of steel and SQ_1 quantity of wheat. The point of production in country A is T_1.

Thus country A has T_jN_1 quantity of steel over and above the quantity required by it. The excess availability of steel in this country will be exported to country B. The point of production in country B is T. At this point country B has TN quantity of wheat over and above its domestic requirement. The excess availability of wheat in this country will be exported to country A.

Findley argues that availability approach has superiority over the factor proportions approach. Although two countries have equal endowments of labour and capital, yet country A produces and exports the capital-intensive commodity steel and country B produces and exports the relatively less capital-intensive commodity wheat. It is not fully consistent with the factor proportions theory.

However, the availability theory recognises that the trade pattern between these two countries is governed by the availability of more land in country B and iron ore in country A. Thus Kravis' availability theory seems to be better than the factor proportions theory.

Weaknesses

No doubt, Kravis' availability theory provides a more precise and specific explanation of the pattern of trade. It is, in some respects, even better than both comparative costs and factor proportions approaches. But there are certain weaknesses in this model of trade.

Limited Applicability

In this model, the pattern of trade is explained on the basis of availability of more land in one country and more iron ore in the other country. The number of product- specific resources may be quite large. The determination of the trade pattern, in such a situation, is likely to be very difficult and complex. The multi- commodity approach based on comparative advantage may seem to be more appropriate in such a situation.

Methodological Weakness

Although Jagdish Bhagwati attempted to derive a number of hypothesis concerning the availability theory such as:

- Domestic inelasticity of supply of importable goods.
- Excess of foreign over domestic elasticity of supply of importable goods.
- Higher rate of technical progress in export industries of the home country than the overall average rate of technical progress in the country.
- The excess of rate of technical progress in domestic export industries than the rate of technical progress in the same industries in the foreign countries.
- The intensity of use in export goods of those materials which are relatively abundant in the home country.

However, neither such hypotheses have been systematically formulated, nor these have been scientifically tested.

Neglect of Demand Pattern

This theory recognises that the bases of availability factor are natural resources, technical progress, product differentiation and the government policies. The pattern of demand or consumer

preferences in foreign countries is a very crucial factor in influencing trade pattern. This factor, however, has been overlooked in Kravis' approach.

Not Relevant to Trade among Advanced Countries

The advanced countries generally have similar factor endowments and technical know-how. The availability factor may not exercise a significant impact upon their pattern of trade. In the same way, the trade among less developed countries may also not be based on availability factor as they also generally have similar factor endowments. It is only in the case of trade between the North and the South that the availability factor may have some relevance.

Limited Empirical Support

Kravis' theory of availability has doubtful validity as there has been very limited empirical support for it.

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International Trade: Types and Challenges

3

- **Bilateral Trade**
- **Export**
- **Import**
- **Barriers and Challenges**
- **Balance of Trade**

International trade is classified into various types such as bilateral trade, export and import. Some of the challenges that international trade has to face are ethical barriers, cultural barriers and technological barriers. The chapter closely examines these challenges and types of international trade.

Bilateral Trade

Bilateral trade is the exchange of goods between two nations promoting trade and investment. The two countries will reduce or eliminate tariffs, import quotas, export restraints, and other trade barriers to encourage trade and investment. In the United States, the Office of Bilateral Trade Affairs minimizes trade deficits through negotiating free trade agreements with new countries, supporting and improving existing trade agreements, promoting economic development abroad, and other actions.

The goals of bilateral trade agreements are to expand access between two countries' markets and increase their economic growth. Standardized business operations in five general areas prevent one country from stealing another's innovative products, dumping goods at a small cost, or using unfair subsidies. Bilateral trade agreements standardize regulations, labor standards, and environmental protections.

The United States has signed bilateral trade agreements with 20 countries. It formed bilateral, free trade agreements with Israel, Jordan, Australia, Chile, Singapore, Bahrain, Morocco, Oman, Peru, and with Panama, Colombia, South Korea. The Dominican Republic - Central America FTR (CAFTA - DR) is a free trade agreement signed between the United States and

smaller economies of Central America. These are El Salvador, Dominican Republic, Guatemala, Costa Rica, Nicaragua, and Honduras. NAFTA replaced the bilateral agreements with Canada and Mexico in 1994.

Advantages and Disadvantages of Bilateral Trade

Compared to multilateral trade agreements, bilateral trade agreements are easily negotiated, because only two nations are party to the agreement. Bilateral trade agreements initiate and reap trade benefits faster than multilateral agreements. When negotiations for a multilateral trade agreement are unsuccessful, many nations will negotiate bilateral treaties instead. However, new agreements often result in competing agreements between other countries, eliminating the advantages the Free Trade Agreement (FTA) confers between the original two nations.

Bilateral trade agreements also expand the market for a country's goods. The United States vigorously pursued free trade agreements with a number of countries under the Bush administration during the early 2000s. In addition to creating a market for US goods, the expansion help spread the mantra of trade liberalization and encouraged open borders for trade. However, bilateral trade agreements can skew a country's markets when large multinational corporations, which have significant capital and resources to operate at scale, enter a market dominated by smaller players. As a result, the latter might need to close shop when they are competed out of existence.

Examples of Bilateral Trade

In October 2014, the United States and Brazil settled a longstanding cotton dispute in the World Trade Organization (WTO). Brazil terminated the case, relinquishing its rights to countermeasures against U.S. trade or further proceedings in the dispute. Brazil also agreed to not bring new WTO actions against U.S. cotton support programs while the current U.S. Farm Bill is in force, or against agricultural export credit guarantees under the GSM-102 program. Because of the agreement, American businesses are no longer subject to countermeasures such as increased tariffs totaling hundreds of millions of dollars annually.

In March 2016, the U.S. government and the government of Peru reached an agreement removing barriers for U.S. beef exports to Peru that had been in effect since 2003. The agreement opened one of the fastest-growing markets in Latin America. In 2015, the United States exported $25.4 million in beef and beef products to Peru. Removal of Peru's certification requirements, known as the export verification program, assured American ranchers expanded market access.

The agreement reflects the U.S. negligible risk classification for bovine spongiform encephalopathy (BSE) by the World Organization for Animal Health (OIE). The United States and Peru agreed to amendments in certification statements making beef and beef products from federally inspected U.S. establishments eligible for export to Peru, rather than just beef and beef products from establishments participating in the USDA Agricultural Marketing Service (AMS) Export Verification (EV) programs under previous certification requirements.

Export

An export in international trade is a good or service produced in one country that is bought by someone in another country. The seller of such goods and services is an *exporter*; the foreign buyer is an *importer*.

Export of goods often requires involvement of customs authorities. An export's reverse counterpart is an import.

Exporting

Many manufacturing firms began their global expansion as exporters and only later switched to another mode for serving a foreign market. Exporting refers to sending of goods and services from the home country to foreign country.

Process

Methods of exporting a product or good or information include mail, hand delivery, air shipping, shipping by vessel, uploading to an internet site, or downloading from an internet site. Exports also include distribution of information sent as email, an email attachment, fax or in a telephone conversation.

Barriers

Trade barriers are government laws, regulations, policy, or practices that either protect domestic products from foreign competition or artificially stimulate exports of particular domestic products. While restrictive business practices sometimes have a similar effect, they are not usually regarded as trade barriers. The most common foreign trade barriers are government-imposed measures and policies that restrict, prevent, or impede the international exchange of goods and services.

Strategic

International agreements limit trade in and the transfer of, certain types of goods and information e.g. goods associated with weapons of mass destruction, advanced telecommunications, arms and torture, and also some art and archaeological artefacts. For example:

- Nuclear Suppliers Group limits trade in nuclear weapons and associated goods (45 countries participate).
- The Australia Group limits trade in chemical & biological weapons and associated goods (39 countries).
- Missile Technology Control Regime limits trade in the means of delivering weapons of mass destruction (35 countries).
- The Wassenaar Arrangement limits trade in conventional arms and technological developments (40 countries).

Tariffs

A tariff is a tax placed on a specific good or set of goods exported from or imported to a country, creating an economic barrier to trade. Usually the tactic is used when a country's domestic output of the good is falling and imports from foreign competitors are rising, particularly if the country has strategic reasons to retain a domestic production capability. Some failing industries receive a protection with an effect similar to subsidies; tariffs reduce the industry's incentives to produce goods quicker, cheaper, and more efficiently. The third reason for a tariff involves addressing the issue of dumping. Dumping involves a country producing highly excessive amounts of goods and *dumping* the goods on another country at prices that are "too low", for example, pricing the good lower in the export market than in the domestic market of the country of origin. In dumping the producer sells the product at a price that returns no profit, or even amounts to a loss. The purpose and expected outcome of a tariff is to encourage spending on domestic goods and services rather than imports.

Tariffs can create tension between countries. Examples include the United States steel tariff of 2002 and when China placed a 14% tariff on imported auto parts. Such tariffs usually lead to a complaint with the World Trade Organization (WTO). If that fails, the country may put a tariff of its own against the other nation in retaliation, and to increase pressure to remove the tariff.

Advantages of Exporting

- Exporting has two distinct advantages. First, it avoids the often substantial cost of establishing manufacturing operations in the host country.
- Second, exporting may help a company achieve experience curve effects and location economies.

Ownership advantages are the firm's specific assets, international experience, and the ability to develop either low-cost or differentiated products within the contacts of its value chain. The locational advantages of a particular market are a combination of market potential and investment risk. Internationalization advantages are the benefits of retaining a core competence within the company and threading it though the value chain rather than to license, outsource, or sell it.

In relation to the eclectic paradigm, companies that have low levels of ownership advantages do not enter foreign markets. If the company and its products are equipped with ownership advantage and internalization advantage, they enter through low-risk modes such as exporting. Exporting requires significantly lower level of investment than other modes of international expansion, such as FDI. The lower risk of export typically results in a lower rate of return on sales than possible though other modes of international business. In other words, the usual return on export sales may not be tremendous, but neither is the risk. Exporting allows managers to exercise operation control but does not provide them the option to exercise as much marketing control. An exporter usually resides far from the end consumer and often enlists various intermediaries to manage marketing activities. After two straight months of contraction, exports from India rose by 11.64% at $25.83 billion in July 2013 against $23.14 billion in the same month of the previous year.

Disadvantages of Exporting

- Exporting from the firm's home base may not be appropriate if lower-cost locations for manufacturing the product can be found abroad. It may be preferable to manufacture where conditions are most favorable to value creation, and to export to the rest of the world from that location.
- A second drawback to exporting, is that high transport cost can make exporting uneconomical, particularly for bulk products. One way to fix this, is to manufacture bulk products regionally.
- Another drawback, is that high tariff barriers can make exporting uneconomical and very risky.

For small and medium enterprises (SMEs) with fewer than 250 employees, selling goods and services to foreign markets can be more difficult than serving the domestic market. The lack of knowledge of trade regulations, cultural differences, different languages and foreign-exchange situations, as well as the strain of resources and staff, interact like a block for exporting. Indeed, there are some SMEs which are exporting, but nearly two-thirds of them sell to only one foreign market.

Export Motivations and Perceptions

Motivational factors are "all those factors triggering the decision of the firm to initiate and develop export activities". In the literature, export barriers are divided into four large categories: motivational, informational, operational/resource-based, and knowledge. Export motivators can be separated into specific dimensions leading to potential selection bias. In addition, the importance of size, knowledge of foreign markets, and unsolicited orders show an association with the perceptions of motivator stimuli toward specific dimensions (research, external, reactive).

In Macroeconomics

In macroeconomics, exports demanded by a country's foreign customers are one of the components of the demand for the country's gross domestic product, the other components being domestic consumption, physical investment, and government spending. Foreign demand for a country's exports depends positively on income in foreign countries and negatively on the strength of the producing country's currency (i.e., on how expensive it is for foreign customers to buy the producing country's currency in the foreign exchange market).

Import

An import is a good brought into a jurisdiction, especially across a national border, from an external source. The party bringing in the good is called an importer. An import in the receiving country is an export from the sending country. Importation and exportation are the defining financial transactions of international trade.

In international trade, the importation and exportation of goods are limited by import quotas and

mandates from the customs authority. The importing and exporting jurisdictions may impose a tariff (tax) on the goods. In addition, the importation and exportation of goods are subject to trade agreements between the importing and exporting jurisdictions.

"Imports" consist of transactions in goods and services to a resident of a jurisdiction (such as a nation) from non-residents. The exact definition of imports in national accounts includes and excludes specific "borderline" cases. Importation is the action of buying or acquiring products or services from another country or another market other than own. Imports are important for the economy because they allow a country to supply nonexistent, scarce, high cost or low quality of certain products or services, to its market with products from other countries.

A general delimitation of imports in national accounts is given below:

- An import of a good occurs when there is a change of ownership from a non-resident to a resident; this does not necessarily imply that the good in question physically crosses the frontier. However, in specific cases national accounts impute changes of ownership even though in legal terms no change of ownership takes place (e.g. cross border financial leasing, cross border deliveries between affiliates of the same enterprise, goods crossing the border for significant processing to order or repair). Also smuggled goods must be included in the import measurement.
- Imports of services consist of all services rendered by non-residents to residents. In national accounts any direct purchases by residents outside the economic territory of a country are recorded as imports of services; therefore all expenditure by tourists in the economic territory of another country are considered part of the imports of services. Also international flows of illegal services must be included.

Basic trade statistics often differ in terms of definition and coverage from the requirements in the national accounts:

- Data on international trade in goods are mostly obtained through declarations to custom services. If a country applies the general trade system, all goods entering the country are recorded as imports. If the special trade system (e.g. extra-EU trade statistics) is applied goods which are received into customs warehouses are not recorded in external trade statistics unless they subsequently go into free circulation of the importing country.
- A special case is the intra-EU trade statistics. Since goods move freely between the member states of the EU without customs controls, statistics on trade in goods between the member states must be obtained through surveys. To reduce the statistical burden on the respondents small scale traders are excluded from the reporting obligation.
- Statistical recording of trade in services is based on declarations by banks to their central banks or by surveys of the main operators. In a globalized economy where services can be rendered via electronic means (e.g. internet) the related international flows of services are difficult to identify.
- Basic statistics on international trade normally do not record smuggled goods or international flows of illegal services. A small fraction of the smuggled goods and illegal services

may nevertheless be included in official trade statistics through dummy shipments or dummy declarations that serve to conceal the illegal nature of the activities.

Balance of Trade

A country has demand for an import when the price of the good (or service) on the world market is less than the price on the domestic market.

The balance of trade, usually denoted, is the difference between the value of all the goods (and services) a country exports and the value of the goods the country imports. A trade deficit occurs when imports are larger than exports. Imports are impacted principally by a country's income and its productive resources. For example, the US imports oil from Canada even though the US has oil and Canada uses oil. However, consumers in the US are willing to pay more for the marginal barrel of oil than Canadian consumers are, because there is more oil demanded in the US than there is oil produced.

In macroeconomic theory, the value of imports can be modeled as a function of domestic absorption (spending on everything, regardless of source) and the real exchange rate. These are the two most important factors affecting imports and they both affect imports positively.

Types of Import

There are two basic types of import:

1. Industrial and consumer goods.
2. Intermediate goods and services.

Companies import goods and services to supply to the domestic market at a cheaper price and better quality than competing goods manufactured in the domestic market. Companies import products that are not available in the local market.

There are three broad types of importers:

1. Looking for any product around the world to import and sell.
2. Looking for foreign sourcing to get their products at the cheapest price.
3. Using foreign sourcing as part of their global supply chain.

Direct-import refers to a type of business importation involving a major retailer (e.g. Wal-Mart) and an overseas manufacturer. A retailer typically purchases products designed by local companies that can be manufactured overseas. In a direct-import program, the retailer bypasses the local supplier (colloquial *middle-man*) and buys the final product directly from the manufacturer, possibly saving in added cost data on the value of imports and their quantities often broken down by detailed lists of products are available in statistical collections on international trade published by the statistical services of intergovernmental organisations (e.g. UNSTAT, FAOSTAT, OECD), supranational statistical institutes (e.g. Eurostat) and national statistical institutes. Industrial and consumer goods.

Barriers and Challenges

Trade barriers are government-induced restrictions on international trade, which generally decrease overall economic efficiency.

Trade barriers are government-induced restrictions on international trade. Man-made trade barriers come in several forms, including:

- Tariffs,
- Non-tariff barriers to trade,
- Import licenses,
- Export licenses,
- Import quotas,
- Subsidies,
- Voluntary Export Restraints,
- Local content requirements,
- Embargo,
- Currency devaluation,
- Trade restriction.

Most trade barriers work on the same principle–the imposition of some sort of cost on trade that raises the price of the traded products. If two or more nations repeatedly use trade barriers against each other, then a trade war results.

Economists generally agree that trade barriers are detrimental and decrease overall economic efficiency. This can be explained by the theory of comparative advantage. In theory, free trade involves the removal of all such barriers, except perhaps those considered necessary for health or national security. In practice, however, even those countries promoting free trade heavily subsidize certain industries, such as agriculture and steel. Trade barriers are often criticized for the effect they have on the developing world. Because rich-country players set trade policies, goods, such as agricultural products that developing countries are best at producing, face high barriers. Trade barriers, such as taxes on food imports or subsidies for farmers in developed economies, lead to overproduction and dumping on world markets, thus lowering prices and hurting poor-country farmers. Tariffs also tend to be anti-poor, with low rates for raw commodities and high rates for labor-intensive processed goods. The Commitment to Development Index measures the effect that rich country trade policies actually have on the developing world. Another negative aspect of trade barriers is that it would cause a limited choice of products and, therefore, would force customers to pay higher prices and accept inferior quality.

In general, for a given level of protection, quota-like restrictions carry a greater potential for

reducing welfare than do tariffs. Tariffs, quotas, and non-tariff barriers lead too few of the economy's resources being used to produce tradeable goods. An export subsidy can also be used to give an advantage to a domestic producer over a foreign producer. Export subsidies tend to have a particularly strong negative effect because in addition to distorting resource allocation, they reduce the economy's terms of trade. In contrast to tariffs, export subsidies lead to an over allocation of the economy's resources to the production of tradeable goods.

Ethical Barriers

Despite international trading laws and declarations, countries continue to face challenges around ethical trading and business practices.

International trade is the exchange of goods and services across national borders. In most countries, it represents a significant part of gross domestic product (GDP). The rise of industrialization, globalization, and technological innovation has increased the importance of international trade, as well as its economic, social, and political effects on the countries involved. Internationally recognized ethical practices such as the UN Global Compact have been instituted to facilitate mutual cooperation and benefit between governments, businesses, and public institutions. Nevertheless, countries continue to face challenges around ethical trading and business practices, especially regarding economic inequalities and human rights violations.

Arguments against International Trade

Capital markets involve the raising and investing money in various enterprises. Although some argue that the increasing integration of these financial markets between countries leads to more consistent and seamless trading practices, others point out that capital flows tend to favor the capital owners more than any other group. Likewise, owners and workers in specific sectors in capital-exporting countries bear much of the burden of adjusting to increased movement of capital. The economic strains and eventual hardships that result from these conditions lead to political divisions about whether or not to encourage or increase integration of international trade markets. Moreover, critics argue that income disparities between the rich and poor are exacerbated, and industrialized nations grow in power at the expense of under-capitalized countries.

Anti-globalization Movements

The anti-globalization movement is a worldwide activist movement that is critical of the globalization of capitalism. Anti-globalization activists are particularly critical of the undemocratic nature of capitalist globalization and the promotion of neoliberalism by international institutions such as the International Monetary Fund (IMF) and the World Bank. Other common targets of anti-corporate and anti-globalization movements include the Organisation for Economic Co-operation and Development (OECD), the WTO, and free trade treaties like the North American Free Trade Agreement (NAFTA), Free Trade Area of the Americas (FTAA), the Multilateral Agreement on Investment (MAI), and the General Agreement on Trade in Services (GATS). Meetings of such bodies are often met with strong protests, as demonstrators attempt to bring attention to the often devastating effects of global capital on local conditions.

On November 30, 1999, close to fifty thousand people gathered to protest the WTO meetings in

Seattle, Washington. Labor, economic, and environmental activists succeeded in disrupting and closing the meetings due to their disapproval of corporate globalization. This event came to symbolize the increased debate and growing conflict around the ethical questions on international trade, globalization and capitalization.

Cultural Barriers

It is typically more difficult to do business in a foreign country than in one's home country due to cultural barriers.

Culture and Global Business

It is typically more difficult to do business in a foreign country than in one's home country, especially in the early stages when a firm is considering either physical investment in or product expansion to another country. Expansion planning requires an in-depth knowledge of existing market channels and suppliers, of consumer preferences and current purchase behavior, and of domestic and foreign rules and regulations. Language and cultural barriers present considerable challenges, as well as institutional differences among countries.

With the process of globalization and increasing global trade, it is unavoidable that different cultures will meet, conflict, and blend together. People from different cultures find it hard to communicate not only due to language barriers but also because of cultural differences.

In a survey of Texas agricultural exporting firms, Hollon found that from a firm management perspective, the initial entry into export markets was significantly more difficult than either the handling of ongoing export activities or the consideration of expansion to new export product lines or markets. From a list of 38 items in three categories (knowledge gaps, marketing aspects, and financial aspects) over three time horizons (start-up, ongoing, and expansion), the three problems rated most difficult were all start-up phase marketing items:

- Poor knowledge of emerging markets or lack of information on potentially profitable markets.
- Foreign market entry problems and overseas product promotion and distribution.
- Complexity of the export transaction, including documentation and "red tape."

Two of these items, market entry and transaction complexity, remained problematic in ongoing operations and in new product market expansion. Import restrictions and export competition became more problematic in later phases, while financial problems were pervasive at all phases of the export operation.

Tools for Understanding Cultural Deviations in Business

Recognizing that different geographic regions and/or nationalities represent vastly different business operating characteristics, often due to differences in cultural predisposition, is a critical building block for successful global business leaders. As a result, various researchers in global business have generated business models to illustrate key cultural considerations between different

countries. The most recognized and utilized in the field is Geert Hofstede's Cultural Dimensions Theory, which encompasses six cultural deviations highly relevant to business managers.

To briefly explain each dimension:

- PDI rating represents a stronger acceptance of authority in a given culture.
- IDV (individualism) rating indicates the degree to which individuals are focused upon as opposed to the broader group.
- UAI represents the degree to which risk-taking is commonplace (a higher rating meaning a lower propensity for risk).
- MAS represents the scale between competitiveness, materialism and aggressiveness (high rating) compared to focusing on relationships and quality of life.
- LTO indicates the tendency to plan for longer-term agenda items as opposed to pursuing short-term goals.
- IVR is simply the frugal (or spendthrift) habits of the average individual in a culture (purchasing beyond necessity).

Technological Barriers

Standards-related trade measures, known in WTO parlance as technical barriers to trade play a critical role in shaping global trade.

U.S. companies, farmers, ranchers, and manufacturers increasingly encounter non- tariff trade barriers in the form of product standards, testing requirements, and other technical requirements as they seek to sell products and services around the world. As tariff barriers to industrial and agricultural trade have fallen, standards-related measures of this kind have emerged as a key concern. Governments, market participants, and other entities can use standards-related measures as an effective and efficient means of achieving legitimate commercial and policy objectives. But when standards-related measures are outdated, overly burdensome, discriminatory, or otherwise inappropriate, these measures can reduce competition, stifle innovation, and create unnecessary technical barriers to trade. These kinds of measures can pose a particular problem for small- and medium-sized enterprises (SMEs), which often do not have the resources to address these problems on their own. Significant foreign trade barriers in the form of product standards, technical regulations and testing, certification, and other procedures are involved in determining whether or not products conform to standards and technical regulations.

These standards-related trade measures, known in World Trade Organization (WTO) parlance as "technical barriers to trade," play a critical role in shaping the flow of global trade. Standards-related measures serve an important function in facilitating global trade, including by enabling greater access to international markets by SMEs. Standards-related measures also enable governments to pursue legitimate objectives, such as protecting human health and the environment and preventing deceptive practices. But standards-related measures that are non-transparent, discriminatory, or otherwise unwarranted can act as significant barriers to U.S. trade. These kinds of measures can pose a particular problem for SMEs, which often do not have the resources to address these problems on their own.

Argument for Barriers

Some argue that imports from countries with low wages has put downward pressure on the wages of Americans and therefore we should have trade barriers.

It is asserted that trade has created jobs for foreign workers at the expense of American workers. It is more accurate to say that trade both creates and destroys jobs in the economy in line with market forces.

Economy-wide trade creates jobs in industries that have comparative advantage and destroys jobs in industries that have a comparative disadvantage. In the process, the economy's composition of employment changes; but, according to economic theory, there is no net loss of jobs due to trade. Over the course of the last economic expansion, from 1992 to 2000, U.S. imports increased nearly 240%. Over that same period, total employment grew by 22 million jobs,and the unemployment rate fell from 7.5% to 4.0% (the lowest unemployment rate in more than 30 years.). Foreign outsourcing by American firms, which has been the object of much recent attention, is a form of importing and also creates and destroys jobs, leaving the overall level of employment unchanged. There is no denying that with international trade there will be short-run hardship for some, but economists maintain the whole economy's living standard is raised by such exchange. They view these adverse effects as qualitatively the same as those induced by purely domestic disruptions, such as shifting consumer demand or technological change. In that context, economists argue that easing adjustment of those harmed is economically more fruitful than protection given the net economic benefit of trade to the total economy. Many people believe that imports from countries with low wages has put downward pressure on the wages of Americans.

There is no doubt that international trade can have strong effects, good and bad, on the wages of American workers. The plight of the worker adversely affected by imports comes quickly to mind. But it is also true that workers in export industries benefit from trade. Moreover, all workers are consumers and benefit from the expanded market choices and lower prices that trade brings. Yet, concurrent with the large expansion of trade over the past 25 years, real wages (i.e., inflation adjusted wages) of American workers grew more slowly than in the earlier post-war period, and the inequality of wages between the skilled and less skilled worker rose sharply. Was trade the force behind this deteriorating wage performance? Some industries, or at least components of some industries, are vital to national security and possibly may need to be insulated from the vicissitudes of international market forces. This determination needs to be made on a case-by-case basis since the claim is made by some who do not meet national security criteria. Such criteria may also vary from case to case. It is also true that national security could be compromised by the export of certain dual-use products that, while commercial in nature, could also be used to produce products that might confer a military advantage to U.S. adversaries. Controlling such exports is clearly justified from a national security standpoint; but, it does come at the cost of lost export sales and an economic loss to the nation. Minimizing the economic welfare loss from such export controls hinges on a well- focused identification and regular re-evaluation of the subset of goods with significant national security potential that should be subject to control.

Most trade barriers work on the same principle: the imposition of some sort of cost on trade that raises the price of the traded products. If two or more nations repeatedly use trade barriers against each other, then a trade war results.

Economists generally agree that trade barriers are detrimental and decrease overall economic efficiency, this can be explained by the theory of comparative advantage. In theory, free trade involves the removal of all such barriers, except perhaps those considered necessary for health or national security. In practice, however, even those countries promoting free trade heavily subsidize certain industries, such as agriculture and steel.

Trade barriers are often criticized for the effect they have on the developing world. Because rich-country players call most of the shots and set trade policies, goods, such as crops that developing countries are best at producing, still face high barriers. Trade barriers, such as taxes on food imports or subsidies for farmers in developed economies, lead to overproduction and dumping on world markets, thus lowering prices and hurting poor-country farmers. Tariffs also tend to be anti-poor, with low rates for raw commodities and high rates for labor-intensive processed goods.

If international trade is economically enriching, imposing barriers to such exchanges will prevent the nation from fully realizing the economic gains from trade and must reduce welfare. Protection of import-competing industries with tariffs, quotas, and non-tariff barriers can lead to an over-allocation of the nation's scarce resources in the protected sectors and an under-allocation of resources in the unprotected tradeable goods industries. In the terms of the analogy of trade as a more efficient productive process used above, reducing the flow of imports will also reduce the flow of exports. Less output requires less input. Clearly, the exporting sector must lose as the protected import-competing activities gain. But, more importantly, from this perspective the overall economy that consumed the imported goods must also lose, because the more efficient production process–international trade–cannot be used to the optimal degree, and, thereby, will have generally increased the price and reduced the array of goods available to the consumer. Therefore, the ultimate economic cost of the trade barrier is not a transfer of well-being between sectors, but a permanent net loss to the whole economy arising from the barriers distortion toward the less efficient the use of the economy's scarce resources.

Balance of Trade

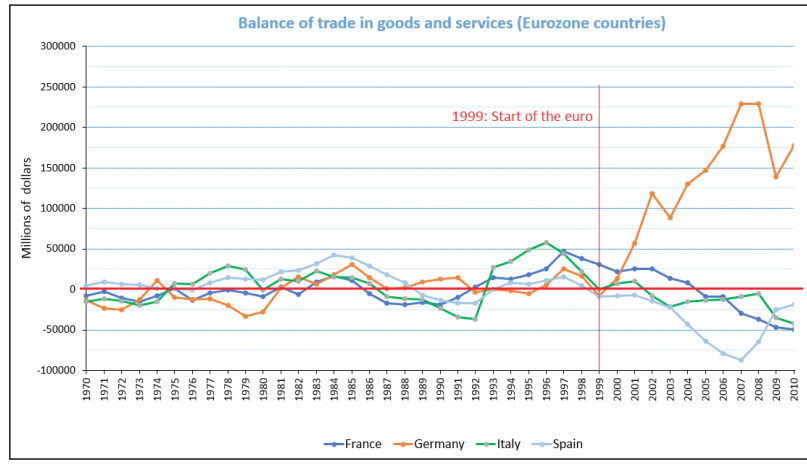
The balance of trade, commercial balance, or net exports (sometimes symbolized as NX), is the difference between the monetary value of a nation's exports and imports over a certain time period. Sometimes a distinction is made between a balance of trade for goods versus one for services. The balance of trade measures a flow of exports and imports over a given period of time. The notion of the balance of trade does not mean that exports and imports are "in balance" with each other.

If a country exports a greater value than it imports, it has a trade surplus or positive trade balance, and conversely, if a country imports a greater value than it exports, it has a trade deficit or negative trade balance**.** As of 2016, about 60 out of 200 countries have a trade surplus. The notion that bilateral trade deficits are bad in and of themselves is overwhelmingly rejected by trade experts and economists.

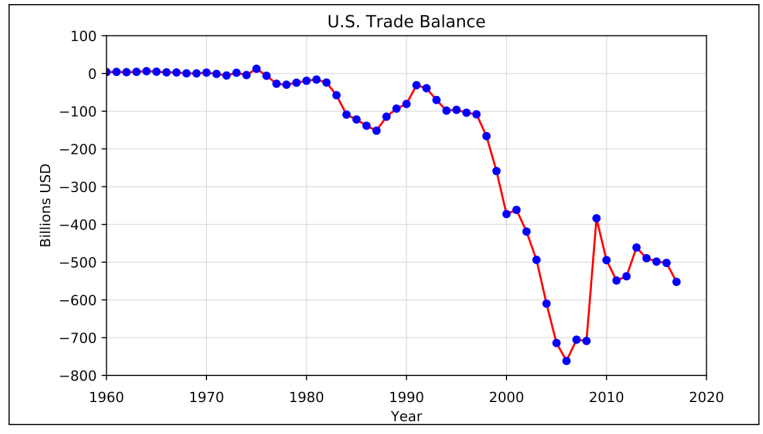
Explanation

The balance of trade forms part of the current account, which includes other transactions such as income from the net international investment position as well as international aid. If the current

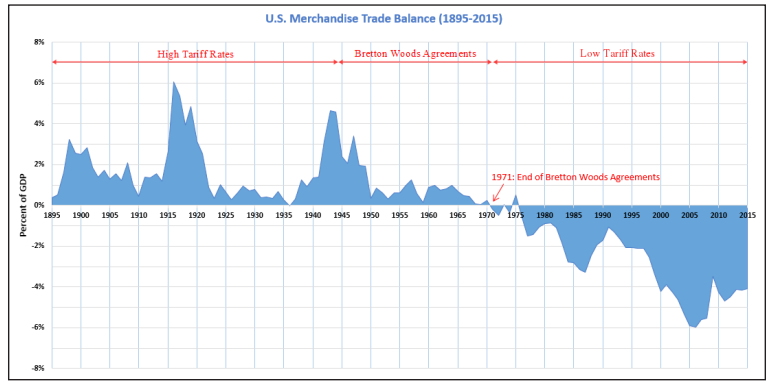
account is in surplus, the country's net international asset position increases correspondingly. Equally, a deficit decreases the net international asset position.



Balance of trade in goods and services (Eurozone countries).

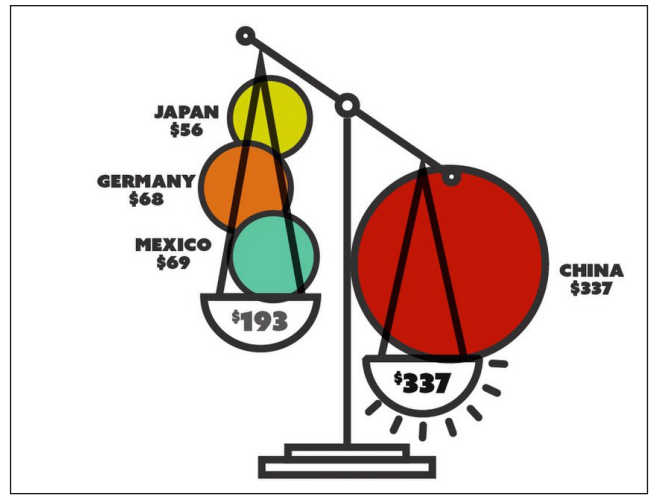


US trade balance from 1960.

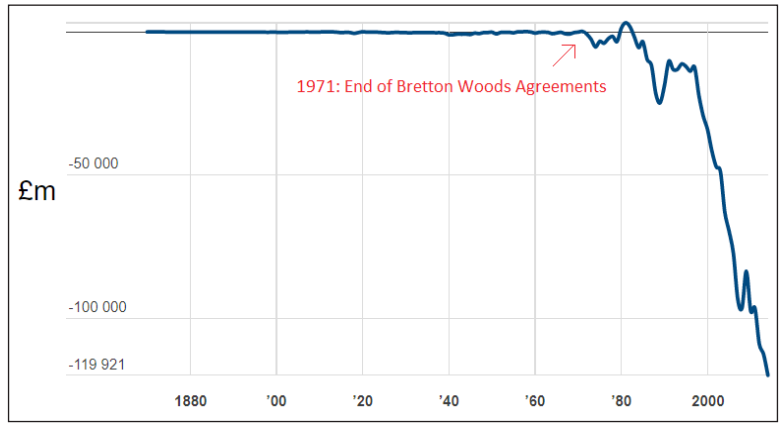


U.S. trade balance and trade policy.

The trade balance is identical to the difference between a country's output and its domestic demand (the difference between what goods a country produces and how many goods it buys from abroad; this does not include money re-spent on foreign stock, nor does it factor in the concept of importing goods to produce for the domestic market).



U.S. trade deficit (in billions, goods and services) by country in 2017.



U.K. balance of trade in goods (since 1870).

Measuring the balance of trade can be problematic because of problems with recording and collecting data. As an illustration of this problem, when official data for all the world's countries are added up, exports exceed imports by almost 1%; it appears the world is running a positive balance of trade with itself. This cannot be true, because all transactions involve an equal credit or debit in the account of each nation. The discrepancy is widely believed to be explained by transactions intended to launder money or evade taxes, smuggling and other visibility problems. Especially for developing countries, the transaction statistics are likely to be inaccurate.

Factors that can affect the balance of trade include:

- The cost of production (land, labor, capital, taxes, incentives, etc.) in the exporting economy *vis-à-vis* those in the importing economy.
- The cost and availability of raw materials, intermediate goods and other inputs.
- Currency exchange rate movements.
- Multilateral, bilateral and unilateral taxes or restrictions on trade.
- Non-tariff barriers such as environmental, health or safety standards.

- The availability of adequate foreign exchange with which to pay for imports.
- Prices of goods manufactured at home (influenced by the responsiveness of supply).

In addition, the trade balance is likely to differ across the business cycle. In export-led growth (such as oil and early industrial goods), the balance of trade will shift towards exports during an economic expansion. However, with domestic demand-led growth (as in the United States and Australia) the trade balance will shift towards imports at the same stage in the business cycle.

The monetary balance of trade is different from the physical balance of trade (which is expressed in amount of raw materials, known also as Total Material Consumption). Developed countries usually import a substantial amount of raw materials from developing countries. Typically, these imported materials are transformed into finished products, and might be exported after adding value. Financial trade balance statistics conceal material flow. Most developed countries have a large physical trade deficit, because they consume more raw materials than they produce. Many civil society organisations claim this imbalance is predatory and campaign for ecological debt repayment.

Examples:

Many countries in early modern Europe adopted a policy of mercantilism, which theorized that a trade surplus was beneficial to a country, among other elements such as colonialism and trade barriers with other countries and their colonies. Bullionism was an early philosophy supporting mercantilism.

Table: Merchandise exports (1870–1992).

Merchandise exports as a percentage of GDP, 1870-1992 (Three year annual average, except for 1950)				
	Western developed countries	United States	Western Europe	Japan
1870	...	5.4	13.6	...
1890	11.7	6.7	14.9	5.1
1913	12.9	6.4	18.3	12.5
1929	9.8	5.0	14.5	13.6
1938	6.2	3.7	7.1	13.0
1950	7.8	3.8	13.4	6.8
1970	10.0	4.0	17.4	9.7
1992	14.3	7.5	21.7	8.8

The practices and abuses of mercantilism led the natural resources and cash crops of British North America to be exported in exchange for finished goods from Great Britain, a factor leading to the American Revolution. An early statement appeared in Discourse of the Common Wealth of this Realm of England, 1549: “We must always take heed that we buy no more from strangers than we sell them, for so should we impoverish ourselves and enrich them.” Similarly a systematic and coherent explanation of balance of trade was made public through Thomas Mun’s 1630 “England’s treasure by foreign trade, or, The balance of our foreign trade is the rule of our treasure”.

Table: Trade policy, exports and growth in selected European countries.

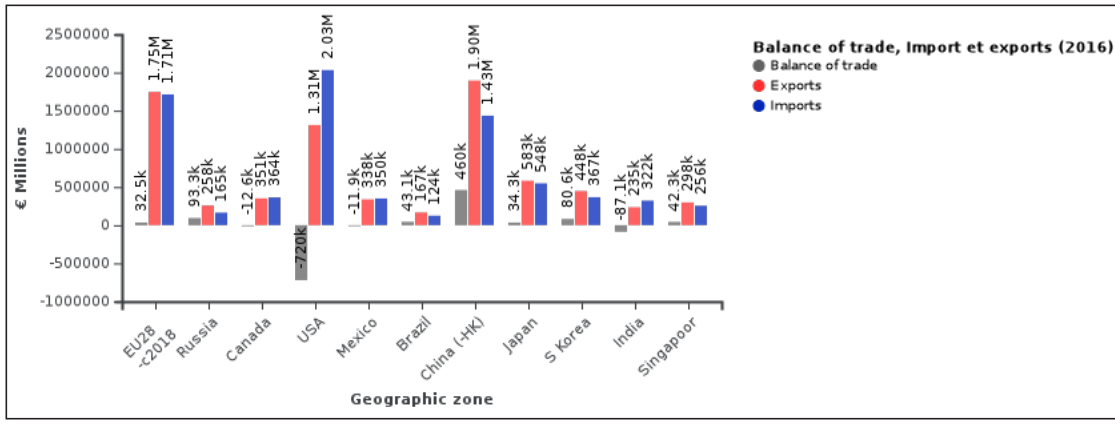
The pattern of trade policy reform, exports and growth in selected European countries (Annual growth rates based in three-year annual average)							
	Date of policy change	Ten-year period preceeding protectionist move		Periods following protectionist move First 10 years		Second 10 years	
		Exports	GNP	Exports	GNP	Exports	GNP
Belgium	1887	409	1.2	2.3	2.0	2.7	2.8
Denmark	1889	1.4	3.3	4.3	3.8	4.1	3.0
France	1892	2.1	1.2	1.9	1.3	2.7	1.5
Germany	1885	3.0	1.3	2.4	3.1	5.2	2.9
Italy	1887	0.4	0.7	1.7	0.5	4.5	2.7
Sweden	1888	3.4	1.5	2.8	3.5	2.4	3.3
Switzerland	1887	0.4	...	-0.6	...	3.8	...
Continental Europe	1889	3.0	1.1	2.6	2.3	3.7	2.3

Since the mid-1980s, the United States has had a growing deficit in tradeable goods, especially with Asian nations (China and Japan) which now hold large sums of U.S debt that has in part funded the consumption. The U.S. has a trade surplus with nations such as Australia. The issue of trade deficits can be complex. Trade deficits generated in tradeable goods such as manufactured goods or software may impact domestic employment to different degrees than do trade deficits in raw materials.

Economies which have savings surpluses, such as Japan and Germany, typically run trade surpluses. China, a high-growth economy, has tended to run trade surpluses. A higher savings rate generally corresponds to a trade surplus. Correspondingly, the U.S. with its lower savings rate has tended to run high trade deficits, especially with Asian nations.

Some have said that China pursues a mercantilist economic policy. Russia pursues a policy based on protectionism, according to which international trade is not a “win-win” game but a zero-sum game: surplus countries get richer at the expense of deficit countries.

In 2016, balance of trade in some geographic zones.



Country Example: Armenia

In March 2019, Armenia recorded a Trade deficit of 203.90 USD Million. For the last two decades, the Armenian Trade balance has been negative, reaching the all time high of -33.98 USD Million in August, 2003. The reason of trade deficit is because Armenia's foreign trade is limited due to landlocked location and border disputes with Turkey and Azerbaijan, from the west and east sides respectively. The situation results in the country's usual report of high trade deficits.

Views on Economic Impact

The notion that bilateral trade deficits are bad in and of themselves is overwhelmingly rejected by trade experts and economists. According to the IMF trade deficits can cause a balance of payments problem, which can affect foreign exchange shortages and hurt countries. On the other hand, Joseph Stiglitz points out that countries running surpluses exert a "negative externality" on trading partners, and pose a threat to global prosperity, far more than those in deficit. Ben Bernanke argues that "persistent imbalances within the euro zone are unhealthy, as they lead to financial imbalances as well as to unbalanced growth. The fact that Germany is selling so much more than it is buying redirects demand from its neighbors (as well as from other countries around the world), reducing output and employment outside Germany."

A 2018 National Bureau of Economic Research paper by economists at the International Monetary Fund and University of California, Berkeley, found in a study of 151 countries over 1963-2014 that the imposition of tariffs had little effect on the trade balance.

Classical Theory

Adam Smith on the Balance of Trade

"In the foregoing part of this chapter I have endeavoured to show, even upon the principles of the commercial system, how unnecessary it is to lay extraordinary restraints upon the importation of goods from those countries with which the balance of trade is supposed to be disadvantageous. Nothing, however, can be more absurd than this whole doctrine of the balance of trade, upon which, not only these restraints, but almost all the other regulations of commerce are founded. When two places trade with one another, this [absurd] doctrine supposes that, if the balance be even, neither of them either loses or gains; but if it leans in any degree to one side, that one of them loses and the other gains in proportion to its declension from the exact equilibrium."

Keynesian Theory

In the last few years of his life, John Maynard Keynes was much preoccupied with the question of balance in international trade. He was the leader of the British delegation to the United Nations Monetary and Financial Conference in 1944 that established the Bretton Woods system of international currency management. He was the principal author of a proposal – the so-called Keynes Plan – for an International Clearing Union. The two governing principles of the plan were that the problem of settling outstanding balances should be solved by 'creating' additional 'international money', and that debtor and creditor should be treated almost alike as disturbers of equilibrium. In the event, though, the plans were rejected, in part because "American opinion was naturally reluctant to accept the principle of equality of treatment so novel in debtor-creditor relationships".

The new system is not founded on free-trade (liberalisation of foreign trade) but rather on the regulation of international trade, in order to eliminate trade imbalances: the nations with a surplus would have a powerful incentive to get rid of it, and in doing so they would automatically clear other nations deficits. He proposed a global bank that would issue its own currency – the bancor – which was exchangeable with national currencies at fixed rates of exchange and would become the unit of account between nations, which means it would be used to measure a country's trade deficit or trade surplus. Every country would have an overdraft facility in its bancor account at the International Clearing Union. He pointed out that surpluses lead to weak global aggregate demand – countries running surpluses exert a "negative externality" on trading partners, and posed far more than those in deficit, a threat to global prosperity.

His view, supported by many economists and commentators at the time, was that creditor nations may be just as responsible as debtor nations for disequilibrium in exchanges and that both should be under an obligation to bring trade back into a state of balance. Failure for them to do so could have serious consequences. In the words of Geoffrey Crowther, then editor of The Economist, "If the economic relationships between nations are not, by one means or another, brought fairly close to balance, then there is no set of financial arrangements that can rescue the world from the impoverishing results of chaos."

These ideas were informed by events prior to the Great Depression when – in the opinion of Keynes and others – international lending, primarily by the U.S., exceeded the capacity of sound investment and so got diverted into non-productive and speculative uses, which in turn invited default and a sudden stop to the process of lending.

Influenced by Keynes, economics texts in the immediate post-war period put a significant emphasis on balance in trade. For example, the second edition of the popular introductory textbook, *An Outline of Money*, devoted the last three of its ten chapters to questions of foreign exchange management and in particular the 'problem of balance'. However, in more recent years, since the end of the Bretton Woods system in 1971, with the increasing influence of monetarist schools of thought in the 1980s, and particularly in the face of large sustained trade imbalances, these concerns – and particularly concerns about the destabilising effects of large trade surpluses – have largely disappeared from mainstream economics discourse and Keynes' insights have slipped from view. They are receiving some attention again in the wake of the financial crisis of 2007–08.

Monetarist Theory

Prior to 20th century monetarist theory, the 19th century economist and philosopher Frédéric Bastiat expressed the idea that trade deficits actually were a manifestation of profit, rather than a loss. He proposed as an example to suppose that he, a Frenchman, exported French wine and imported British coal, turning a profit. He supposed he was in France, and sent a cask of wine which was worth 50 francs to England. The customhouse would record an export of 50 francs. If, in England, the wine sold for 70 francs (or the pound equivalent), which he then used to buy coal, which he imported into France, and was found to be worth 90 francs in France, he would have made a profit of 40 francs. But the customhouse would say that the value of imports exceeded that of exports and was trade deficit against the ledger of France.

By *reductio ad absurdum*, Bastiat argued that the national trade deficit was an indicator of a

successful economy, rather than a failing one. Bastiat predicted that a successful, growing economy would result in greater trade deficits, and an unsuccessful, shrinking economy would result in lower trade deficits. This was later, in the 20th century, echoed by economist Milton Friedman.

In the 1980s, Milton Friedman, a Nobel Memorial Prize-winning economist and a proponent of monetarism, contended that some of the concerns of trade deficits are unfair criticisms in an attempt to push macroeconomic policies favorable to exporting industries.

Friedman argued that trade deficits are not necessarily important, as high exports raise the value of the currency, reducing aforementioned exports, and vice versa for imports, thus naturally removing trade deficits *not due to investment*. Since 1971, when the Nixon administration decided to abolish fixed exchange rates, America's Current Account accumulated trade deficits have totaled $7.75 trillion as of 2010. This deficit exists as it is matched by investment coming into the United States – purely by the definition of the balance of payments, any current account deficit that exists is matched by an inflow of foreign investment.

In the late 1970s and early 1980s, the U.S. had experienced high inflation and Friedman's policy positions tended to defend the stronger dollar at that time. He stated his belief that these trade deficits were not necessarily harmful to the economy at the time since the currency comes back to the country (country A sells to country B, country B sells to country C who buys from country A, but the trade deficit only includes A and B). However, it may be in one form or another including the possible tradeoff of foreign control of assets. In his view, the "worst-case scenario" of the currency never returning to the country of origin was actually the best possible outcome: the country actually purchased its goods by exchanging them for pieces of cheaply made paper. As Friedman put it, this would be the same result as if the exporting country burned the dollars it earned, never returning it to market circulation.

This position is a more refined version of the theorem first discovered by David Hume. Hume argued that England could not permanently gain from exports, because hoarding gold (i.e., currency) would make gold more plentiful in England; therefore, the prices of English goods would rise, making them less attractive exports and making foreign goods more attractive imports. In this way, countries' trade balances would balance out.

Friedman presented his analysis of the balance of trade in *Free to Choose*, widely considered his most significant popular work.

Trade Balance's effects upon a Nation's GDP

Exports directly increase and imports directly reduce a nation's balance of trade (i.e. net exports). A trade surplus is a positive net balance of trade, and a trade deficit is a negative net balance of trade. Due to the balance of trade being explicitly added to the calculation of the nation's gross domestic product using the expenditure method of calculating gross domestic product (i.e. GDP), trade surpluses are contributions and trade deficits are "drags" upon their nation's GDP.

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Monetary Approaches to International Trade

4

- **Monetary Approach**
- **International Monetary System**
- **Exchange Rate**
- **Exchange Rate Mechanism**
- **Effective Rate of Protection**
- **Dumping (Pricing Policy)**

Monetary approach in international trade assumes that the rates are pegged, economy is in long-run full-employment equilibrium and that changes in the money supply do not affect real variables. It includes international monetary system which is a set of internationally acknowledged rules and supporting institutions that facilitate international trade. This chapter discusses in detail the diverse aspects of monetary approaches to international trade.

Monetary Approach

Our problem is to examine on the one hand the factors which determine the rates of foreign exchange, i.e., the exchange ratio between the currencies of different countries, and on the other hand the mechanism which brings the balance of payments into equilibrium.

Let us imagine a closed economy in static equilibrium. All economic processes have. been repeating themselves' year by year. Supply and demand? consumption and production, capital depreciation and investment exactly balance one another in every branch of industry and each individual firm is itself in static equilibrium.

Suppose, now, that a political frontier is drawn through the middle of this area, so that it no longer forms a single country, but two countries! with separate administrative organs. Clearly this change creates no new economic problem. From the economic point of view, the redistribution and increase of taxation due to the reorganisation and partial duplication of the administrative machine is the same thing as a redistribution of the burden of taxation between taxes and rates. Either one

can ignore this change altogether, or one can assume that the new static equilibrium appropriate to it has already been reached.

Suppose, next, that each of the new countries decides to have a separate currency of its own. A law is passed providing that, whereas in one· country" payments shall continue to be made in 'crowns,' in the other country the crowns which are in circulation shall be changed into 'dollars' at the fixed rate of five crowns to one dollar; in the dollar country, debts must henceforward be contracted and payments made in dollars. As a result, all prices and all liabilities expressed in money will be divided by five.

The new situation, thus created, differs from the preceding one only in the fact that every payment from one place to another across the political boundary now involves an extra act of exchange. A. payment from the dollar country to the crown country will require an exchange of dollars into crowns, whereas, beforehand, the amount was simply made payable in terms of the single currency then existing.

It is clear that, under the assumption of static equilibrium, the introduction of a second currency need not in itself produce any economic change. No matter where the boundary is drawn, all economic activities will proceed as before. At the rate of exchange originally fixed the demand for· dollars is equal to their supply, and equilibrium will therefore be maintained at this rate. A moment's reflection shows that this must be the case. It has been assumed that each individual's balance of payments is in equilibrium; his receipts exactly equal his expenditure over the appropriate period of time. This implies that the balance of payments between any economic group and the rest of the economy must also be in equilibrium; for the external balance of payments of a group is merely an aggregate of the balances of payments between members of the group and persons outside it.

Of course, this does not imply that the same firms which make payments to the foreigner necessarily receive the payments which balance them. It only implies that, when an individual A in the dollar country pays 100 to the crown country, there must be an individual B in the dollar country whether he is identical with A or not, who is in receipt of 100 from the crown country. This is an obvious corollary of the postulate that every individual balance of payments is in equilibrium.

It is also a matter of indifference whether the debtor or the creditor actually changes dollars into crowns. The importer in the dollar country normally sells the imported commodity for dollars, and the exporter in the crown country pays for his means of production in crowns. The dollars must, therefore, be changed into crowns at some point in this chain of transactions.

In actual fact, the persons who have to make payments abroad, are. not normally those who receive from abroad the payments which balance them. Indeed, the two groups are not necessarily in direct contact at all. An organisation of some kind is, therefore, required to provide a link between them" so that the supply of foreign currency can meet the demand for it.

The simplest method would be a bureau de change prepared to exchange on demand crowns for dollars and dollars for crowns at the current rate of 5: 1. It would have to start with a certain amount of capital to allow for temporary fluctuations, e.g., seasonal fluctuations due to the harvest. But, under the assumptions made hitherto, all fluctuations would in the long- run cancel out.

The modern economic system does, as a matter of fact, ' contain an arrangement of this kind. A sort of clearing market exists where foreign debts and claims are cancelled against each other. The banks in the various trading countries do business with each other, and there is a foreign exchange

market where the various currencies are bought and sold. Moreover,'under the gold standard, the central banks act as bureaux de change.

The means of payment in international transactions are not for the most part cash, which is only used for small amounts (e.g., by travellers abroad), but bills of exchange, cheques and telegraphic transfers. The distinction between the various means of payment is a legal rather than an economic one; the technical details need not, therefore, concern us. The illustration, favoured by the ordinary textbook, is as follows. The exporter draws a three months' bill on the foreign importer and the latter accepts it, i.e., makes a legally binding promise to pay. The exporter then sells the bill to someone who is buying or has bought goods from abroad. The latter gives it in settlement of his own debt to the foreign firm supplying him, which in its turn receives cash for it from the original acceptor. But it makes no essential difference whether the two payments are made in this way or not. They may just as well be made by means of a book transaction or· by the sale and purchase of ready money. It is sufficient to note that there are various different means of payment and that these compete with one another, thus forming in effect a single market where the supply of foreign money confronts the demand for it.

In the stationary economy postulated above, this market is in equilibrium. Our main problem will be to consider what happens when equilibrium is disturbed. But, first of all, it is necessary to classify the. items which make up the ba1ance of payments and the different senses in which this latter term is used.

Balance of Payments

The balance of payments, also known as balance of international payments and abbreviated B.O.P. or BoP, of a country is the record of all economic transactions between the residents of the country and the rest of the world in a particular period of time (e.g. a quarter of a year). These transactions are made by individuals, firms and government bodies. Thus the balance of payments includes all external visible and non-visible transactions of a country. It is an important issue to be studied, especially in international financial management field, for a few reasons.

First, the balance of payments provides detailed information concerning the demand and supply of a country's currency. For example, if Sudan imports more than it exports, then this means that the quantity supplied of Sudanese pounds by the domestic market is likely to exceed the quantity demanded in the foreign exchanging market, *ceteris paribus*. One can thus infer that the Sudanese pound would be under pressure to depreciate against other currencies. On the other hand, if Sudan exports more than it imports, then the Sudanese pound would be likely to appreciate.

Second, a country's balance of payments data may signal its potential as a business partner for the rest of the world. If a country is grappling with a major balance of payments difficulty, it may not be able to expand imports from the outside world. Instead, the country may be tempted to impose measures to restrict imports and discourage capital outflows in order to improve the balance of payments situation. On the other hand, a country with a significant balance of payments surplus would be more likely to expand imports, offering marketing opportunities for foreign enterprises, and less likely to impose foreign exchange restrictions.

Third, balance of payments data can be used to evaluate the performance of the country in international economic competition. Suppose a country is experiencing trade deficits year after year.

This trade data may then signal that the country's domestic industries lack international competitiveness.

To interpret balance of payments data properly, it is necessary to understand how the balance of payments account is constructed. These transactions include payments for the country's exports and imports of goods, services, financial capital, and financial transfers. It is prepared in a single currency, typically the domestic currency for the country concerned. The balance of payments accounts keep systematic records of all the economic transactions (visible and non-visible) of a country with all other countries in the given time period. In the BoP accounts, all the receipts from abroad are recorded as credit and all the payments to abroad are debits. Since the accounts are maintained by double entry bookkeeping, they show the balance of payments accounts are always balanced. Sources of funds for a nation, such as exports or the receipts of loans and investments, are recorded as positive or surplus items. Uses of funds, such as for imports or to invest in foreign countries, are recorded as negative or deficit items.

When all components of the BoP accounts are included they must sum to zero with no overall surplus or deficit. For example, if a country is importing more than it exports, its trade balance will be in deficit, but the shortfall will have to be counterbalanced in other ways – such as by funds earned from its foreign investments, by running down currency reserves or by receiving loans from other countries.

While the overall BoP accounts will always balance when all types of payments are included, imbalances are possible on individual elements of the BoP, such as the current account, the capital account excluding the central bank's reserve account, or the sum of the two. Imbalances in the latter sum can result in surplus countries accumulating wealth, while deficit nations become increasingly indebted. The term "balance of payments" often refers to this sum: a country's balance of payments is said to be in surplus (equivalently, the balance of payments is positive) by a specific amount if sources of funds (such as export goods sold and bonds sold) exceed uses of funds (such as paying for imported goods and paying for foreign bonds purchased) by that amount. There is said to be a balance of payments deficit (the balance of payments is said to be negative) if the former are less than the latter. A BoP surplus (or deficit) is accompanied by an accumulation (or decumulation) of foreign exchange reserves by the central bank.

Under a fixed exchange rate system, the central bank accommodates those flows by buying up any net inflow of funds into the country or by providing foreign currency funds to the foreign exchange market to match any international outflow of funds, thus preventing the funds flows from affecting the exchange rate between the country's currency and other currencies. Then the net change per year in the central bank's foreign exchange reserves is sometimes called the balance of payments surplus or deficit. Alternatives to a fixed exchange rate system include a managed float where some changes of exchange rates are allowed, or at the other extreme a purely floating exchange rate (also known as a purely *flexible* exchange rate). With a pure float the central bank does not intervene at all to protect or devalue its currency, allowing the rate to be set by the market, the central bank's foreign exchange reserves do not change, and the balance of payments is always zero.

Components

The current account shows the net amount of a country's income if it is in surplus, or spending if it

is in deficit. It is the sum of the balance of trade (net earnings on exports minus payments for imports), factor income (earnings on foreign investments minus payments made to foreign investors) and unilateral transfers. These items include transfers of goods and services or financial assets between the home country and the rest of the world. Private transfer payments refer to gifts made by individuals and nongovernmental institutions to foreigners. Governmental transfers refer to gifts or grants made by one government to foreign residents or foreign governments. When investment income and unilateral transfers are combined with the balance on goods and services, we arrive at the current account balance. It is called the current account as it covers transactions in the "here and now" – those that don't give rise to future claims.

The capital account records the net change in ownership of foreign assets. It includes the reserve account (the foreign exchange market operations of a nation's central bank), along with loans and investments between the country and the rest of world (but not the future interest payments and dividends that the loans and investments yield; those are earnings and will be recorded in the current account). If a country purchases more foreign assets for cash than the assets it sells for cash to other countries, the capital account is said to be negative or in deficit.

The term "capital account" is also used in the narrower sense that excludes central bank foreign exchange market operations: Sometimes the reserve account is classified as "below the line" and so not reported as part of the capital account.

Expressed with the broader meaning for the capital account, the BoP identity states that any current account surplus will be balanced by a capital account deficit of equal size – or alternatively a current account deficit will be balanced by a corresponding capital account surplus:

$$\text{current account} + \text{broadly defined capital account} + \text{balancing item} = 0.$$

The balancing item, which may be positive or negative, is simply an amount that accounts for any statistical errors and assures that the current and capital accounts sum to zero. By the principles of double entry accounting, an entry in the current account gives rise to an entry in the capital account, and in aggregate the two accounts automatically balance. A balance isn't always reflected in reported figures for the current and capital accounts, which might, for example, report a surplus for both accounts, but when this happens it always means something has been missed – most commonly, the operations of the country's central bank – and what has been missed is recorded in the statistical discrepancy term (the balancing item).

An actual balance sheet will typically have numerous sub headings under the principal divisions. For example, entries under Current account might include:

- Trade – buying and selling of goods and services.
  - Exports – A credit entry.
  - Imports – A debit entry.
  - Trade balance – The sum of Exports and Imports.
- Factor income – Repayments and dividends from loans and investments.
  - Factor earnings – A credit entry.

- Factor payments –A debit entry.
- Factor income balance – The sum of earnings and payments.

Especially in older balance sheets, a common division was between visible and invisible entries. Visible trade recorded imports and exports of physical goods (entries for trade in physical goods excluding services is now often called the merchandise balance). Invisible trade would record international buying and selling of services, and sometimes would be grouped with transfer and factor income as invisible earnings.

The term "balance of payments surplus" (or deficit – a deficit is simply a negative surplus) refers to the sum of the surpluses in the current account and the narrowly defined capital account (excluding changes in central bank reserves). Denoting the balance of payments surplus as BoP surplus, the relevant identity is:

$$BOP\ surplus = \text{current account surplus} + \text{narrowly defined capital account surplus}.$$

Variations in the use of Term "Balance of Payments"

Economics writer J. Orlin Grabbe warns the term *balance of payments* can be a source of misunderstanding due to divergent expectations about what the term denotes. Grabbe says the term is sometimes misused by people who aren't aware of the accepted meaning, not only in general conversation but in financial publications and the economic literature.

A common source of confusion arises from whether or not the reserve account entry, part of the capital account, is included in the BoP accounts. The reserve account records the activity of the nation's central bank. If it is excluded, the BoP can be in surplus (which implies the central bank is building up foreign exchange reserves) or in deficit (which implies the central bank is running down its reserves or borrowing from abroad).

The term "balance of payments" is sometimes misused by non-economists to mean just relatively narrow parts of the BoP such as the trade deficit, which means excluding parts of the current account and the entire capital account.

Another cause of confusion is the different naming conventions in use. Before 1973 there was no standard way to break down the BoP sheet, with the separation into invisible and visible payments sometimes being the principal divisions. The IMF have their own standards for BoP accounting which is equivalent to the standard definition but uses different nomenclature, in particular with respect to the meaning given to the term capital account.

IMF Definition of the Balance of Payments

The International Monetary Fund (I.M.F.) use a particular set of definitions for the BoP accounts, which is also used by the Organisation for Economic Co-operation and Development (OECD), and the United Nations System of National Accounts (SNA).

The main difference in the IMF's terminology is that it uses the term "financial account" to capture transactions that would under alternative definitions be recorded in the *capital account*. The IMF uses the term capital account to designate a subset of transactions that, according to other usage,

previously formed a small part of the overall current account. The IMF separates these transactions out to form an additional top level division of the BoP accounts. Expressed with the IMF definition, the BoP identity can be written:

$$\text{current account} + \text{financial account} + \text{capital account} + \text{balancing item} = 0.$$

The IMF uses the term current account with the same meaning as that used by other organizations, although it has its own names for its three leading sub-divisions, which are:

- The goods and services account (the overall trade balance).
- The primary income account (factor income such as from loans and investments).
- The secondary income account (transfer payments).
- The balance of payments are also known as "balance of international trade".

Imbalances

While the BoP has to balance overall, surpluses or deficits on its individual elements can lead to imbalances between countries. In general there is concern over deficits in the current account. Countries with deficits in their current accounts will build up increasing debt or see increased foreign ownership of their assets. The types of deficits that typically raise concern are:

- A visible trade deficit where a nation is importing more physical goods than it exports (even if this is balanced by the other components of the current account).
- An overall current account deficit.
- A basic deficit which is the current account plus foreign direct investment (but excluding other elements of the capital account like short terms loans and the reserve account).

The Washington Consensus period saw a swing of opinion towards the view that there is no need to worry about imbalances. Opinion swung back in the opposite direction in the wake of the financial crisis of 2007–2009. Mainstream opinion expressed by the leading financial press and economists, international bodies like the IMF – as well as leaders of surplus and deficit countries – has returned to the view that large current account imbalances do matter. Some economists do, however, remain relatively unconcerned about imbalances and there have been assertions, such as by Michael P. Dooley, David Folkerts-Landau and Peter Garber, that nations need to avoid the temptation to switch to protectionism as a means to correct imbalances.

Current account surpluses coincide with current account deficits of other countries, the indebtedness of the latter therefore increasing. According to Balances Mechanics by Wolfgang Stützel this is described as surplus of expenses over revenues. Increasing imbalances in foreign trade are critically discussed as a possible cause of the financial crisis since 2007. Many Keynesian economists consider the existing differences between the current accounts in the eurozone to be the root cause of the Euro crisis, for instance Heiner Flassbeck, Paul Krugman or Joseph Stiglitz.

Causes of BoP Imbalances

There are conflicting views as to the primary cause of BoP imbalances, with much attention on the US which currently has by far the biggest deficit. The conventional view is that current account factors are the primary cause – these include the exchange rate, the government's fiscal deficit, business competitiveness, and private behaviour such as the willingness of consumers to go into debt to finance extra consumption. An alternative view, argued at length in a 2005 paper by Ben Bernanke, is that the primary driver is the capital account, where a global savings glut caused by savers in surplus countries, runs ahead of the available investment opportunities, and is pushed into the US resulting in excess consumption and asset price inflation.

Reserve Asset

The US dollar has been the leading reserve asset since the end of the gold standard.

In the context of BoP and international monetary systems, the reserve asset is the currency or other store of value that is primarily used by nations for their foreign reserves. BoP imbalances tend to manifest as hoards of the reserve asset being amassed by surplus countries, with deficit countries building debts denominated in the reserve asset or at least depleting their supply. Under a gold standard, the reserve asset for all members of the standard is gold. In the Bretton Woods system, either gold or the U.S. dollar could serve as the reserve asset, though its smooth operation depended on countries apart from the US choosing to keep most of their holdings in dollars.

Following the ending of Bretton Woods, there has been no *de jure* reserve asset, but the US dollar has remained by far the principal *de facto* reserve. Global reserves rose sharply in the first decade of the 21st century, partly as a result of the 1997 Asian Financial Crisis, where several nations ran out of foreign currency needed for essential imports and thus had to accept deals on unfavourable terms. The International Monetary Fund (IMF) estimates that between 2000 and mid-2009, official reserves rose from $1,900bn to $6,800bn. Global reserves had peaked at about $7,500bn in mid-2008, then declined by about $430bn as countries without their own reserve currency used them to shield themselves from the worst effects of the financial crisis. From Feb 2009 global reserves began increasing again to reach close to $9,200bn by the end of 2010.

As of 2009, approximately 65% of the world's $6,800bn total is held in U.S. dollars and approximately 25% in euros. The UK pound, Japanese yen, IMF special drawing rights (SDRs), and precious metals also play a role. In 2009, Zhou Xiaochuan, governor of the People's Bank of China, proposed a gradual move towards increased use of SDRs, and also for the national currencies

backing SDRs to be expanded to include the currencies of all major economies. Dr Zhou's proposal has been described as one of the most significant ideas expressed in 2009.

While the current central role of the dollar does give the US some advantages, such as lower cost of borrowings, it also contributes to the pressure causing the U.S. to run a current account deficit, due to the Triffin dilemma. In a November 2009 article published in *Foreign Affairs* magazine, economist C. Fred Bergsten argued that Dr Zhou's suggestion or a similar change to the international monetary system would be in the United States' best interests as well as the rest of the world's. Since 2009 there has been a notable increase in the number of new bilateral agreements which enable international trades to be transacted using a currency that isn't a traditional reserve asset, such as the renminbi, as the Settlement currency.

Balance of Payments Crisis

A BoP crisis, also called a *currency crisis*, occurs when a nation is unable to pay for essential imports or service its external debt repayments. Typically, this is accompanied by a rapid decline in the value of the affected nation's currency. Crises are generally preceded by large capital inflows, which are associated at first with rapid economic growth. However a point is reached where overseas investors become concerned about the level of debt their inbound capital is generating, and decide to pull out their funds. The resulting outbound capital flows are associated with a rapid drop in the value of the affected nation's currency. This causes issues for firms of the affected nation who have received the inbound investments and loans, as the revenue of those firms is typically mostly derived domestically but their debts are often denominated in a reserve currency. Once the nation's government has exhausted its foreign reserves trying to support the value of the domestic currency, its policy options are very limited. It can raise its interest rates to try to prevent further declines in the value of its currency, but while this can help those with debts denominated in foreign currencies, it generally further depresses the local economy.

Balancing Mechanisms

One of the three fundamental functions of an international monetary system is to provide mechanisms to correct imbalances.

Broadly speaking, there are three possible methods to correct BoP imbalances, though in practice a mixture including some degree of at least the first two methods tends to be used. These methods are adjustments of exchange rates; adjustment of a nations internal prices along with its levels of demand; and rules based adjustment. Improving productivity and hence competitiveness can also help, as can increasing the desirability of exports through other means, though it is generally assumed a nation is always trying to develop and sell its products to the best of its abilities.

Rebalancing by Changing the Exchange Rate

An upwards shift in the value of a nation's currency relative to others will make a nation's exports less competitive and make imports cheaper and so will tend to correct a current account surplus. It also tends to make investment flows into the capital account less attractive so will help with a surplus there too. Conversely a downward shift in the value of a nation's currency makes it more expensive for its citizens to buy imports and increases the competitiveness of their exports, thus

helping to correct a deficit (though the solution often doesn't have a positive impact immediately due to the Marshall–Lerner condition).

Exchange rates can be adjusted by government in a rules based or managed currency regime, and when left to float freely in the market they also tend to change in the direction that will restore balance. When a country is selling more than it imports, the demand for its currency will tend to increase as other countries ultimately need the selling country's currency to make payments for the exports. The extra demand tends to cause a rise of the currency's price relative to others. When a country is importing more than it exports, the supply of its own currency on the international market tends to increase as it tries to exchange it for foreign currency to pay for its imports, and this extra supply tends to cause the price to fall. BoP effects are not the only market influence on exchange rates however, they are also influenced by differences in national interest rates and by speculation.

Rebalancing by Adjusting Internal Prices and Demand

When exchange rates are fixed by a rigid gold standard, or when imbalances exist between members of a currency union such as the Eurozone, the standard approach to correct imbalances is by making changes to the domestic economy. To a large degree, the change is optional for the surplus country, but compulsory for the deficit country. In the case of a gold standard, the mechanism is largely automatic. When a country has a favourable trade balance, as a consequence of selling more than it buys it will experience a net inflow of gold. The natural effect of this will be to increase the money supply, which leads to inflation and an increase in prices, which then tends to make its goods less competitive and so will decrease its trade surplus. However the nation has the option of taking the gold out of economy (sterilising the inflationary effect) thus building up a hoard of gold and retaining its favourable balance of payments. On the other hand, if a country has an adverse BoP it will experience a net loss of gold, which will automatically have a deflationary effect, unless it chooses to leave the gold standard. Prices will be reduced, making its exports more competitive, and thus correcting the imbalance. While the gold standard is generally considered to have been successful up until 1914, correction by deflation to the degree required by the large imbalances that arose after WWI proved painful, with deflationary policies contributing to prolonged unemployment but not re-establishing balance. Apart from the US most former members had left the gold standard by the mid-1930s.

A possible method for surplus countries such as Germany to contribute to re-balancing efforts when exchange rate adjustment is not suitable, is to increase its level of internal demand (i.e. its spending on goods). While a current account surplus is commonly understood as the excess of earnings over spending, an alternative expression is that it is the excess of savings over investment. That is:

$$CA = NS - NI$$

where *CA* = current account, *NS* = national savings (private plus government sector), *NI* = national investment.

If a nation is earning more than it spends the net effect will be to build up savings, except to the extent that those savings are being used for investment. If consumers can be encouraged to spend more instead of saving; or if the government runs a fiscal deficit to offset private savings; or if the corporate sector divert more of their profits to investment, then any current account surplus will

tend to be reduced. However, in 2009 Germany amended its constitution to prohibit running a deficit greater than 0.35% of its GDP and calls to reduce its surplus by increasing demand have not been welcome by officials, adding to fears that the 2010s would not be an easy decade for the eurozone. In their April 2010 world economic outlook report, the IMF presented a study showing how with the right choice of policy options governments can shift away from a sustained current account surplus with no negative effect on growth and with a positive impact on unemployment.

Rules based Rebalancing Mechanisms

Nations can agree to fix their exchange rates against each other, and then correct any imbalances that arise by rules based and negotiated exchange rate changes and other methods. The Bretton Woods system of fixed but adjustable exchange rates was an example of a rules based system. John Maynard Keynes, one of the architects of the Bretton Woods system had wanted additional rules to encourage surplus countries to share the burden of rebalancing, as he argued that they were in a stronger position to do so and as he regarded their surpluses as negative externalities imposed on the global economy. Keynes suggested that traditional balancing mechanisms should be supplemented by the threat of confiscation of a portion of excess revenue if the surplus country did not choose to spend it on additional imports. However his ideas were not accepted by the Americans at the time. In 2008 and 2009, American economist Paul Davidson had been promoting his revamped form of Keynes's plan as a possible solution to global imbalances which in his opinion would expand growth all round without the downside risk of other rebalancing methods.

Difference between Balance of Trade and Balance of Payments

Basis for comparison	Balance of trade	Balance of payment
Meaning	Balance of Trade is a statement that captures the country's export and import of goods with the remaining world.	Balance of Payment is a statement that keeps track of all economic transactions done by the country with the remaining world.
Records	Transactions related to goods only.	Transactions related to both goods and services are recorded.
Capital Transfers	Are not included in the Balance of Trade.	Are included in Balance of Payment.
Which is better?	It gives a partial view of the country's economic status.	It gives a clear view of the economic position of the country.
Result	It can be Favorable, Unfavorable or balanced.	Both the receipts and payment sides tallies.
Component	It is a component of Current Account of Balance of Payment.	Current Account and Capital Account.

Key Differences between Balance of Trade and Balance of Payments

The following are the major differences between the balance of trade and balance of payments:

1. A statement recording the imports and exports done in goods by/from the country with the other countries, during a particular period is known as the Balance of Trade. The Balance of Payment captures all the monetary transaction performed internationally by the country during a course of time.

2. The Balance of Trade accounts for, only physical items, whereas Balance of Payment keeps track of physical as well as non-physical items.
3. The Balance of Payments records capital receipts or payments, but Balance of Trade does not include it.
4. The Balance of Trade can show a surplus, deficit or it can be balanced too. On the other hand, Balance of Payments is always balanced.
5. The Balance of Trade is a major segment of Balance of Payment.
6. The Balance of Trade provides the only half picture of the country's economic position. Conversely, Balance of Payment gives a complete view of the country's economic position.

Gold Standard

A gold standard is a monetary system in which the standard economic unit of account is based on a fixed quantity of gold. The gold standard was widely used in the 19th and early part of the 20th century. Most nations abandoned the gold standard as the basis of their monetary systems at some point in the 20th century, although many still hold substantial gold reserves. In a 2012 survey of leading economists, they unanimously opined that a return to the gold standard would not benefit the average American.

The gold specie standard arose from the widespread acceptance of gold as currency. Various commodities have been used as money; typically, the one that loses the least value over time becomes the accepted form. Chemically, gold is of all major metals the one most resistant to corrosion. The use of gold as money began thousands of years ago in Asia Minor.

During the early and high Middle Ages, the Byzantine gold solidus, commonly known as the bezant, was used widely throughout Europe and the Mediterranean. However, as the Byzantine Empire's economic influence declined, so too did the use of the bezant. In its place, European territories chose silver as their currency over gold, leading to the development of silver standards.

Silver pennies based on the Roman denarius became the staple coin of Mercia in Great Britain around the time of King Offa, circa 757–796 CE. Similar coins, including Italian denari, French deniers, and Spanish dineros, circulated in Europe. Spanish explorers discovered silver deposits in Mexico in 1522 and at Potosí in Bolivia in 1545. International trade came to depend on coins such as the Spanish dollar, the Maria Theresa thaler, and, later, the United States trade dollar.

In modern times, the British West Indies was one of the first regions to adopt a gold specie standard. Following Queen Anne's proclamation of 1704, the British West Indies gold standard was a *de facto* gold standard based on the Spanish gold doubloon. In 1717, Sir Isaac Newton, the master of the Royal Mint, established a new mint ratio between silver and gold that had the effect of driving silver out of circulation and putting Britain on a gold standard.

A formal gold specie standard was first established in 1821, when Britain adopted it following the introduction of the gold sovereign by the new Royal Mint at Tower Hill in 1816. The United Province of Canada in 1854, Newfoundland in 1865, and the United States and Germany (*de jure*) in 1873 adopted gold. The United States used the eagle as its unit, Germany introduced the new

gold mark, while Canada adopted a dual system based on both the American gold eagle and the British gold sovereign.

Australia and New Zealand adopted the British gold standard, as did the British West Indies, while Newfoundland was the only British Empire territory to introduce its own gold coin. Royal Mint branches were established in Sydney, Melbourne, and Perth for the purpose of minting gold sovereigns from Australia's rich gold deposits.

The gold specie standard came to an end in the United Kingdom and the rest of the British Empire with the outbreak of World War I.

Silver

From 1750 to 1870, wars within Europe as well as an ongoing trade deficit with China (which sold to Europe but had little use for European goods) drained silver from the economies of Western Europe and the United States. Coins were struck in smaller and smaller numbers, and there was a proliferation of bank and stock notes used as money.

United Kingdom

In the 1790s, the United Kingdom suffered a silver shortage. It ceased to mint larger silver coins and instead issued "token" silver coins and overstruck foreign coins. With the end of the Napoleonic Wars, the Bank of England began the massive recoinage programme that created standard gold sovereigns, circulating crowns, half-crowns and eventually copper farthings in 1821. The recoinage of silver after a long drought produced a burst of coins. The United Kingdom struck nearly 40 million shillings between 1816 and 1820, 17 million half crowns and 1.3 million silver crowns.

The 1819 Act for the Resumption of Cash Payments set 1823 as the date for resumption of convertibility, which was reached by 1821. Throughout the 1820s, small notes were issued by regional banks. This was restricted in 1826, while the Bank of England was allowed to set up regional branches. In 1833 however, Bank of England notes were made legal tender and redemption by other banks was discouraged. In 1844, the Bank Charter Act established that Bank of England notes were fully backed by gold and they became the legal standard. According to the strict interpretation of the gold standard, this 1844 act marked the establishment of a full gold standard for British money.

United States

In the 1780s, Thomas Jefferson, Robert Morris and Alexander Hamilton recommended to Congress the value of a decimal system. This system would also apply to monies in the United States. The question was what type of standard: gold, silver or both. The United States adopted a silver standard based on the Spanish milled dollar in 1785.

The pound left the gold standard in 1931 and a number of currencies of countries that historically had performed a large amount of their trade in sterling were pegged to sterling instead of to gold.

International

From 1860 to 1871 various attempts to resurrect bi-metallic standards were made, including one

based on the gold and silver franc; however, with the rapid influx of silver from new deposits, the expectation of scarce silver ended.

The interaction between central banking and currency basis formed the primary source of monetary instability during this period. The combination of a restricted supply of notes, a government monopoly on note issuance and indirectly, a central bank and a single unit of value produced economic stability. Deviation from these conditions produced monetary crises.

Devalued notes or leaving silver as a store of value caused economic problems. Governments, demanding specie as payment, could drain the money out of the economy. Economic development expanded need for credit. The need for a solid basis in monetary affairs produced a rapid acceptance of the gold standard in the period that followed.

Japan

Following Germany's decision after the 1870–1871 Franco-Prussian War to extract reparations to facilitate a move to the gold standard, Japan gained the needed reserves after the Sino-Japanese War of 1894–1895. For Japan, moving to gold was considered vital for gaining access to Western capital markets.

Bimetallic Standard

US: Pre-Civil War

In 1792, Congress passed the Mint and Coinage Act. It authorized the federal government's use of the Bank of the United States to hold its reserves, as well as establish a fixed ratio of gold to the U.S. dollar. Gold and silver coins were legal tender, as was the Spanish real. In 1792 the market price of gold was about 15 times that of silver. Silver coins left circulation, exported to pay for the debts taken on to finance the American Revolutionary War. In 1806 President Jefferson suspended the minting of silver coins. This resulted in a derivative silver standard, since the Bank of the United States was not required to fully back its currency with reserves. This began a long series of attempts by the United States to create a bi-metallic standard.

The intention was to use gold for large denominations, and silver for smaller denominations. A problem with bimetallic standards was that the metals' absolute and relative market prices changed. The mint ratio (the rate at which the mint was obligated to pay/receive for gold relative to silver) remained fixed at 15 ounces of silver to 1 ounce of gold, whereas the market rate fluctuated from 15.5 to 1 to 16 to 1. With the Coinage Act of 1834, Congress passed an act that changed the mint ratio to approximately 16 to 1. Gold discoveries in California in 1848 and later in Australia lowered the gold price relative to silver; this drove silver money from circulation because it was worth more in the market than as money. Passage of the Independent Treasury Act of 1848 placed the U.S. on a strict hard-money standard. Doing business with the American government required gold or silver coins.

Government accounts were legally separated from the banking system. However, the mint ratio (the fixed exchange rate between gold and silver at the mint) continued to overvalue gold. In 1853, the US reduced the silver weight of coins to keep them in circulation and in 1857 removed legal tender status from foreign coinage. In 1857 the final crisis of the free banking era began as American banks suspended payment in silver, with ripples through the developing international financial

system. Due to the inflationary finance measures undertaken to help pay for the US Civil War, the government found it difficult to pay its obligations in gold or silver and suspended payments of obligations not legally specified in specie (gold bonds); this led banks to suspend the conversion of bank liabilities (bank notes and deposits) into specie. In 1862 paper money was made legal tender. It was a fiat money (not convertible on demand at a fixed rate into specie). These notes came to be called "greenbacks".

US: Post-Civil War

After the Civil War, Congress wanted to reestablish the metallic standard at pre-war rates. The market price of gold in greenbacks was above the pre-War fixed price ($20.67 per ounce of gold) requiring deflation to achieve the pre-War price. This was accomplished by growing the stock of money less rapidly than real output. By 1879 the market price matched the mint price of gold. The coinage act of 1873 (also known as the Crime of '73) demonetized silver. This act removed the 412.5 grain silver dollar from circulation. Subsequently silver was only used in coins worth less than $1 (fractional currency). With the resumption of convertibility on June 30, 1879 the government again paid its debts in gold, accepted greenbacks for customs and redeemed greenbacks on demand in gold. Greenbacks were therefore perfect substitutes for gold coins. During the latter part of the nineteenth century the use of silver and a return to the bimetallic standard were recurrent political issues, raised especially by William Jennings Bryan, the People's Party and the Free Silver movement. In 1900 the gold dollar was declared the standard unit of account and a gold reserve for government issued paper notes was established. Greenbacks, silver certificates, and silver dollars continued to be legal tender, all redeemable in gold.

Fluctuations in the US gold stock, 1862–1877 is given in table:

US gold stock	
1862	59 tons
1866	81 tons
1875	50 tons
1878	78 tons

The US had a gold stock of 1.9 million ounces (59 t) in 1862. Stocks rose to 2.6 million ounces (81 t) in 1866, declined in 1875 to 1.6 million ounces (50 t) and rose to 2.5 million ounces (78 t) in 1878. Net exports did not mirror that pattern. In the decade before the Civil War net exports were roughly constant; postwar they varied erratically around pre-war levels, but fell significantly in 1877 and became negative in 1878 and 1879. The net import of gold meant that the foreign demand for American currency to purchase goods, services, and investments exceeded the corresponding American demands for foreign currencies. In the final years of the greenback period, gold production increased while gold exports decreased. The decrease in gold exports was considered by some to be a result of changing monetary conditions. The demands for gold during this period were as a speculative vehicle, and for its primary use in the foreign exchange markets financing international trade. The major effect of the increase in gold demand by the public and Treasury was to reduce exports of gold and increase the Greenback price of gold relative to purchasing power.

Gold Exchange Standard

Towards the end of the 19th century, some silver standard countries began to peg their silver coin units to the gold standards of the United Kingdom or the United States. In 1898, British India pegged the silver rupee to the pound sterling at a fixed rate of 1s 4d, while in 1906, the Straits Settlements adopted a gold exchange standard against sterling, fixing the silver Straits dollar at 2s 4d.

Around the start of the 20th century, the Philippines pegged the silver peso/dollar to the U.S. dollar at 50 cents. This move was assisted by the passage of the Philippines Coinage Act by the United States Congress on March 3, 1903. Around the same time Mexico and Japan pegged their currencies to the dollar. When Siam adopted a gold exchange standard in 1908, only China and Hong Kong remained on the silver standard.

When adopting the gold standard, many European nations changed the name of their currency, for instance from Daler (Sweden and Denmark) or Gulden (Austria-Hungary) to Crown, since the former names were traditionally associated with silver coins and the latter with gold coins.

Impact of World War I

Governments with insufficient tax revenue suspended convertibility repeatedly in the 19th century. The real test, however, came in the form of World War I, a test which "it failed utterly" according to economist Richard Lipsey.

By the end of 1913, the classical gold standard was at its peak but World War I caused many countries to suspend or abandon it. According to Lawrence Officer the main cause of the gold standard's failure to resume its previous position after World War I was "the Bank of England's precarious liquidity position and the gold-exchange standard." A run on sterling caused Britain to impose exchange controls that fatally weakened the standard; convertibility was not legally suspended, but gold prices no longer played the role that they did before. In financing the war and abandoning gold, many of the belligerents suffered drastic inflations. Price levels doubled in the US and Britain, tripled in France and quadrupled in Italy. Exchange rates changed less, even though European inflations were more severe than America's. This meant that the costs of American goods decreased relative to those in Europe. Between August 1914 and spring of 1915, the dollar value of US exports tripled and its trade surplus exceeded $1 billion for the first time.

Ultimately, the system could not deal quickly enough with the large balance of payments deficits and surpluses; this was previously attributed to downward wage rigidity brought about by the advent of unionized labor, but is now considered as an inherent fault of the system that arose under the pressures of war and rapid technological change. In any case, prices had not reached equilibrium by the time of the Great Depression, which served to kill off the system completely.

For example, Germany had gone off the gold standard in 1914, and could not effectively return to it because War reparations had cost it much of its gold reserves. During the Occupation of the Ruhr the German central bank (Reichsbank) issued enormous sums of non-convertible marks to support workers who were on strike against the French occupation and to buy foreign currency for reparations; this led to the German hyperinflation of the early 1920s and the decimation of the German middle class.

The US did not suspend the gold standard during the war. The newly created Federal Reserve

intervened in currency markets and sold bonds to "sterilize" some of the gold imports that would have otherwise increased the stock of money. By 1927 many countries had returned to the gold standard. As a result of World War I the United States, which had been a net debtor country, had become a net creditor by 1919.

Abandonment of the Gold Standard

The gold specie standard ended in the United Kingdom and the rest of the British Empire at the outbreak of World War I, when Treasury notes replaced the circulation of gold sovereigns and gold half sovereigns. Legally, the gold specie standard was not repealed. The end of the gold standard was successfully effected by the Bank of England through appeals to patriotism urging citizens not to redeem paper money for gold specie. It was only in 1925, when Britain returned to the gold standard in conjunction with Australia and South Africa, that the gold specie standard was officially ended.

The British Gold Standard Act 1925 both introduced the gold bullion standard and simultaneously repealed the gold specie standard. The new standard ended the circulation of gold specie coins. Instead, the law compelled the authorities to sell gold bullion on demand at a fixed price, but "only in the form of bars containing approximately four hundred ounces troy [12 kg] of fine gold". John Maynard Keynes, citing deflationary dangers, argued against resumption of the gold standard. By fixing the price at the pre-war rate of $4.86,Churchill is argued to have made an error that led to depression, unemployment and the 1926 general strike. The decision was described by Andrew Turnbull as a "historic mistake".

Many other countries followed Britain in returning to the gold standard, this was followed by a period of relative stability but also deflation. This state of affairs lasted until the Great Depression forced countries off the gold standard. In September 19, 1931, speculative attacks on the pound forced Britain to abandon the gold standard. Loans from American and French Central Banks of £50,000,000 were insufficient and exhausted in a matter of weeks, due to large gold outflows across the Atlantic. The British benefited from this departure. They could now use monetary policy to stimulate the economy. Australia and New Zealand had already left the standard and Canada quickly followed suit.

The interwar partially-backed gold standard was inherently unstable because of the conflict between the expansion of liabilities to foreign central banks and the resulting deterioration in the Bank of England's reserve ratio. France was then attempting to make Paris a world class financial center, and it received large gold flows as well.

In May 1931 a run on Austria's largest commercial bank caused it to fail. The run spread to Germany, where the central bank also collapsed. International financial assistance was too late and in July 1931 Germany adopted exchange controls, followed by Austria in October. The Austrian and German experiences, as well as British budgetary and political difficulties, were among the factors that destroyed confidence in sterling, which occurred in mid-July 1931. Runs ensued and the Bank of England lost much of its reserves.

Depression and World War II

Great Depression

Some economic historians, such as Barry Eichengreen, blame the gold standard of the 1920s for

prolonging the economic depression which started in 1929 and lasted for about a decade. In the United States, adherence to the gold standard prevented the Federal Reserve from expanding the money supply to stimulate the economy, fund insolvent banks and fund government deficits that could "prime the pump" for an expansion. Once off the gold standard, it became free to engage in such money creation. The gold standard limited the flexibility of the central banks' monetary policy by limiting their ability to expand the money supply. In the US, the central bank was required by the Federal Reserve Act to have gold backing 40% of its demand notes. Others, including former Federal Reserve Chairman Ben Bernanke and Nobel Prize-winner Milton Friedman, place the blame for the severity and length of the Great Depression at the feet of the Federal Reserve, mostly due to the deliberate tightening of monetary policy even after the end of the gold standard. They blamed the US major economic contraction in 1937 on tightening of monetary policy resulting in higher cost of capital, weaker securities markets, reduced net government contribution to income, the undistributed profits tax and higher labor costs. The money supply peaked in March 1937, with a trough in May 1938.

Higher interest rates intensified the deflationary pressure on the dollar and reduced investment in U.S. banks. Commercial banks converted Federal Reserve Notes to gold in 1931, reducing its gold reserves and forcing a corresponding reduction in the amount of currency in circulation. This speculative attack created a panic in the U.S. banking system. Fearing imminent devaluation many depositors withdrew funds from U.S. banks. As bank runs grew, a reverse multiplier effect caused a contraction in the money supply. Additionally the New York Fed had loaned over $150 million in gold (over 240 tons) to European Central Banks. This transfer contracted the US money supply. The foreign loans became questionable once Britain, Germany, Austria and other European countries went off the gold standard in 1931 and weakened confidence in the dollar.

The forced contraction of the money supply resulted in deflation. Even as nominal interest rates dropped, deflation-adjusted real interest rates remained high, rewarding those who held onto money instead of spending it, further slowing the economy. Recovery in the United States was slower than in Britain, in part due to Congressional reluctance to abandon the gold standard and float the U.S. currency as Britain had done.

In the early 1930s, the Federal Reserve defended the dollar by raising interest rates, trying to increase the demand for dollars. This helped attract international investors who bought foreign assets with gold.

Congress passed the Gold Reserve Act on 30 January 1934; the measure nationalized all gold by ordering Federal Reserve banks to turn over their supply to the U.S. Treasury. In return the banks received gold certificates to be used as reserves against deposits and Federal Reserve notes. The act also authorized the president to devalue the gold dollar. Under this authority the president, on 31 January 1934, changed the value of the dollar from $20.67 to the troy ounce to $35 to the troy ounce, a devaluation of over 40%.

Other factors in the prolongation of the Great Depression include trade wars and the reduction in international trade caused by barriers such as Smoot–Hawley Tariff in the US and the Imperial Preference policies of Great Britain, the failure of central banks to act responsibly, government policies designed to prevent wages from falling, such as the Davis–Bacon Act of 1931, during the deflationary period resulting in production costs dropping slower than sales prices, thereby injuring business profits and increases in taxes to reduce budget deficits and to support new programs

such as Social Security. The US top marginal income tax rate went from 25% to 63% in 1932 and to 79% in 1936, while the bottom rate increased over tenfold, from 375% in 1929 to 4% in 1932. The concurrent massive drought resulted in the US Dust Bowl.

The Austrian School asserted that the Great Depression was the result of a credit bust. Alan Greenspan wrote that the bank failures of the 1930s were sparked by Great Britain dropping the gold standard in 1931. This act "tore asunder" any remaining confidence in the banking system. Financial historian Niall Ferguson wrote that what made the Great Depression truly 'great' was the European banking crisis of 1931. According to Fed Chairman Marriner Eccles, the root cause was the concentration of wealth resulting in a stagnating or decreasing standard of living for the poor and middle class. These classes went into debt, producing the credit explosion of the 1920s. Eventually the debt load grew too heavy, resulting in the massive defaults and financial panics of the 1930s.

World War II

Under the Bretton Woods international monetary agreement of 1944, the gold standard was kept without domestic convertibility. The role of gold was severely constrained, as other countries' currencies were fixed in terms of the dollar. Many countries kept reserves in gold and settled accounts in gold. Still they preferred to settle balances with other currencies, with the American dollar becoming the favorite. The International Monetary Fund was established to help with the exchange process and assist nations in maintaining fixed rates. Within Bretton Woods adjustment was cushioned through credits that helped countries avoid deflation. Under the old standard, a country with an overvalued currency would lose gold and experience deflation until the currency was again valued correctly. Most countries defined their currencies in terms of dollars, but some countries imposed trading restrictions to protect reserves and exchange rates. Therefore, most countries' currencies were still basically inconvertible. In the late 1950s, the exchange restrictions were dropped and gold became an important element in international financial settlements.

Bretton Woods

After the Second World War, a system similar to a gold standard and sometimes described as a "gold exchange standard" was established by the Bretton Woods Agreements. Under this system, many countries fixed their exchange rates relative to the U.S. dollar and central banks could exchange dollar holdings into gold at the official exchange rate of $35 per ounce; this option was not available to firms or individuals. All currencies pegged to the dollar thereby had a fixed value in terms of gold.

Starting in the 1959–1969 administration of President Charles de Gaulle and continuing until 1970, France reduced its dollar reserves, exchanging them for gold at the official exchange rate, reducing US economic influence. This, along with the fiscal strain of federal expenditures for the Vietnam War and persistent balance of payments deficits, led U.S. President Richard Nixon to end international convertibility of the U.S. dollar to gold on August 15, 1971 (the "Nixon Shock").

This was meant to be a temporary measure, with the gold price of the dollar and the official rate of exchanges remaining constant. Revaluing currencies was the main purpose of this plan. No official revaluation or redemption occurred. The dollar subsequently floated. In December 1971, the

"Smithsonian Agreement" was reached. In this agreement, the dollar was devalued from $35 per troy ounce of gold to $38. Other countries' currencies appreciated. However, gold convertibility did not resume. In October 1973, the price was raised to $42.22. Once again, the devaluation was insufficient. Within two weeks of the second devaluation the dollar was left to float. The $42.22 par value was made official in September 1973, long after it had been abandoned in practice. In October 1976, the government officially changed the definition of the dollar; references to gold were removed from statutes. From this point, the international monetary system was made of pure fiat money.

Production of Gold

An estimated total of 174,100 tonnes of gold have been mined in human history, according to GFMS as of 2012. This is roughly equivalent to 5.6 billion troy ounces or, in terms of volume, about 9,261 cubic metres (327,000 cu ft), or a cube 21 metres (69 ft) on a side. There are varying estimates of the total volume of gold mined. One reason for the variance is that gold has been mined for thousands of years. Another reason is that some nations are not particularly open about how much gold is being mined. In addition, it is difficult to account for the gold output in illegal mining activities.

World production for 2011 was circa 2,700 tonnes. Since the 1950s, annual gold output growth has approximately kept pace with world population growth (i.e. a doubling in this period) although it has lagged behind world economic growth (approximately 8-fold increase since the 1950s, and 4x since 1980).

Theory

Commodity money is inconvenient to store and transport in large amounts. Furthermore, it does not allow a government to manipulate the flow of commerce with the same ease that a fiat currency does. As such, commodity money gave way to representative money and gold and other specie were retained as its backing.

Gold was a preferred form of money due to its rarity, durability, divisibility, fungibility and ease of identification, often in conjunction with silver. Silver was typically the main circulating medium, with gold as the monetary reserve. Commodity money was anonymous, as identifying marks can be removed. Commodity money retains its value despite what may happen to the monetary authority. After the fall of South Vietnam, many refugees carried their wealth to the West in gold after the national currency became worthless.

Under commodity standards currency itself has no intrinsic value, but is accepted by traders because it can be redeemed any time for the equivalent specie. A US silver certificate, for example, could be redeemed for an actual piece of silver.

Representative money and the gold standard protect citizens from hyperinflation and other abuses of monetary policy, as were seen in some countries during the Great Depression. Commodity money conversely led to deflation and bank runs.

Countries that left the gold standard earlier than other countries recovered from the Great Depression sooner. For example, Great Britain and the Scandinavian countries, which left the gold

standard in 1931, recovered much earlier than France and Belgium, which remained on gold much longer. Countries such as China, which had a silver standard, almost entirely avoided the depression (due to the fact it was then barely integrated into the global economy). The connection between leaving the gold standard and the severity and duration of the depression was consistent for dozens of countries, including developing countries. This may explain why the experience and length of the depression differed between national economies.

Variations

A *full or 100%-reserve* gold standard exists when the monetary authority holds sufficient gold to convert all the circulating representative money into gold at the promised exchange rate. It is sometimes referred to as the gold specie standard to more easily distinguish it. Opponents of a full standard consider it difficult to implement, saying that the quantity of gold in the world is too small to sustain worldwide economic activity at or near current gold prices; implementation would entail a many-fold increase in the price of gold. Gold standard proponents have said, "Once a money is established, any stock of money becomes compatible with any amount of employment and real income." While prices would necessarily adjust to the supply of gold, the process may involve considerable economic disruption, as was experienced during earlier attempts to maintain gold standards.

In an *international gold-standard system* (which is necessarily based on an internal gold standard in the countries concerned), gold or a currency that is convertible into gold at a fixed price is used to make international payments. Under such a system, when exchange rates rise above or fall below the fixed mint rate by more than the cost of shipping gold, inflows or outflows occur until rates return to the official level. International gold standards often limit which entities have the right to redeem currency for gold.

Advantages

- Long-term price stability has been described as one of the virtues of the gold standard. The gold standard makes it difficult for governments to inflate prices through expanding the money supply. Under the gold standard, significant inflation is rare, and hyperinflation is essentially impossible because the money supply can only grow at the rate that the gold supply increases. High inflation under a gold standard is seen only when warfare destroys a large part of an economy, reducing the production of goods, or when a major new gold source becomes available. In the U.S., inflation occurred during the Civil War, which destroyed the economy of the South. Inflation also followed the California Gold Rush that made large amounts of gold available for minting. Historical data shows that the magnitude of short run swings in prices were far higher under the gold standard.
- The gold standard provides fixed international exchange rates between participating countries and thus reduces uncertainty in international trade. Historically, imbalances between price levels were offset by a balance-of-payment adjustment mechanism called the "price–specie flow mechanism". Gold used to pay for imports reduces the money supply of importing nations, causing deflation, which makes them more competitive, while the importation of gold by net exporters serves to increase their money supply, causing inflation, making them less competitive.

- A gold standard does not allow some types of financial repression. Financial repression acts as a mechanism to transfer wealth from creditors to debtors, particularly the governments that practice it. Financial repression is most successful in reducing debt when accompanied by inflation and can be considered a form of taxation. In 1966 Alan Greenspan wrote "Deficit spending is simply a scheme for the confiscation of wealth. Gold stands in the way of this insidious process. It stands as a protector of property rights. If one grasps this, one has no difficulty in understanding the statists' antagonism toward the gold standard."

Disadvantages

Gold prices (US$ per troy ounce) from 1914, in nominal US$ and inflation adjusted US$:

- The unequal distribution of gold deposits makes the gold standard more advantageous for those countries that produce gold. In 2010 the largest producers of gold, in order, were China, Australia, U.S., South Africa and Russia. The country with the largest unmined gold deposits is Australia.
- Some economists believe that the gold standard acts as a limit on economic growth. "As an economy's productive capacity grows, then so should its money supply. Because a gold standard requires that money be backed in the metal, then the scarcity of the metal constrains the ability of the economy to produce more capital and grow."
- Mainstream economists believe that economic recessions can be largely mitigated by increasing the money supply during economic downturns. A gold standard means that the money supply would be determined by the gold supply and hence monetary policy could no longer be used to stabilize the economy.
- Although the gold standard brings long-run price stability, it is historically associated with high short-run price volatility. It has been argued by Schwartz, among others, that instability in short-term price levels can lead to financial instability as lenders and borrowers become uncertain about the value of debt.
- Deflation punishes debtors. Real debt burdens therefore rise, causing borrowers to cut spending to service their debts or to default. Lenders become wealthier, but may choose to save some of the additional wealth, reducing GDP.
- The money supply would essentially be determined by the rate of gold production. When gold stocks increase more rapidly than the economy, there is inflation and the reverse is also true. The consensus view is that the gold standard contributed to the severity and length of the Great Depression, as under the gold standard central banks could not expand credit at a fast enough rate to offset deflationary forces.
- Hamilton contended that the gold standard is susceptible to speculative attacks when a government's financial position appears weak. Conversely, this threat discourages governments from engaging in risky policy. For example, the U.S. was forced to contract the money supply and raise interest rates in September 1931 to defend the dollar after speculators forced the UK off the gold standard.

- Devaluing a currency under a gold standard would generally produce sharper changes than the smooth declines seen in fiat currencies, depending on the method of devaluation.
- Most economists favor a low, positive rate of inflation of around 2%. This reflects fear of deflationary shocks and the belief that active monetary policy can dampen fluctuations in output and unemployment. Inflation gives them room to tighten policy without inducing deflation.
- A gold standard provides practical constraints against the measures that central banks might otherwise use to respond to economic crises. Creation of new money reduces interest rates and thereby increases demand for new lower cost debt, raising the demand for money.

Advocates

A return to the gold standard was considered by the US Gold Commission back in 1982, but found only minority support. In 2001 Malaysian Prime Minister Mahathir bin Mohamad proposed a new currency that would be used initially for international trade among Muslim nations, using a Modern Islamic gold dinar, defined as 4.25 grams of pure (24-carat) gold. Mahathir claimed it would be a stable unit of account and a political symbol of unity between Islamic nations. This would purportedly reduce dependence on the US dollar and establish a non-debt-backed currency in accord with Sharia law that prohibited the charging of interest. However, this proposal has not been taken up, and the global monetary system continues to rely on the US dollar as the main trading and reserve currency.

Former U.S. Federal Reserve Chairman Alan Greenspan acknowledged he was one of "a small minority" within the central bank that had some positive view on the gold standard. In a 1966 essay he contributed to a book by Ayn Rand, titled "Gold and Economic Freedom", Greenspan argued the case for returning to a 'pure' gold standard; in that essay he described supporters of fiat currencies as "welfare statists" intending to use monetary policy to finance deficit spending. More recently he claimed that by focusing on targeting inflation "central bankers have behaved as though we were on the gold standard", rendering a return to the standard unnecessary.

Similarly, economists like Robert Barro argued that whilst some form of "monetary constitution" is essential for stable, depoliticized monetary policy, the form this constitution takes—for example, a gold standard, some other commodity-based standard, or a fiat currency with fixed rules for determining the quantity of money—is considerably less important.

The gold standard is supported by many followers of the Austrian School of Economics, free-market libertarians and some supply-siders.

US Politics

In the United States, strict constitutionalists object to the government issuing fiat currency through central banks. Some gold-standard advocates also call for a mandated end to fractional-reserve banking. Many similar alternatives have been suggested, including energy-based currencies, collections of currencies or commodities, with gold as one component.

Former congressman Ron Paul is a long-term, high-profile advocate of a gold standard, but has also expressed support for using a standard based on a basket of commodities that better reflects the state of the economy.

In 2011 the Utah legislature passed a bill to accept federally issued gold and silver coins as legal tender to pay taxes. As federally issued currency, the coins were already legal tender for taxes, although the market price of their metal content currently exceeds their monetary value. Similar legislation is under consideration in other US states. The bill was initiated by newly elected Republican Party legislators associated with the Tea Party movement and was driven by anxiety over the policies of President Barack Obama.

In 2013, the Arizona Legislature passed SB 1439, which would have made gold and silver coin a legal tender in payment of debt, but the bill was vetoed by the Governor.

In 2015, some candidates for the 2016 presidential election advocated for a gold standard, based on concern that the Federal Reserve's attempts to increase economic growth may create inflation. Economic historians did not agree with candidate's assertions that the gold standard would benefit the US economy.

Critics

A poll of forty prominent US economists conducted by the IGM Economic Experts Panel in 2012 found that none of them believed that returning to the gold standard would be economically beneficial. The specific statement with which the economists were asked to agree or disagree was: "If the US replaced its discretionary monetary policy regime with a gold standard, defining a 'dollar' as a specific number of ounces of gold, the price-stability and employment outcomes would be better for the average American." 40% of the economists disagreed, and 53% strongly disagreed with the statement; the rest did not respond to the question. The panel of polled economists included past Nobel Prize winners, former economic advisers to both Republican and Democratic presidents, and senior faculty from Harvard, Chicago, Stanford, MIT, and other well-known research universities.

The economist Allan H. Meltzer of Carnegie Mellon University is known for refuting Ron Paul's advocacy of the gold standard from the 1970s onward. He sometimes summarized his opposition by stating simply, "We don't have the gold standard. It's not because we don't know about the gold standard, it's because we do."

Bretton Woods System

The Bretton Woods system of monetary management established the rules for commercial and financial relations among the United States, Canada, Western European countries, Australia, and Japan after the 1944 Bretton Woods Agreement. The Bretton Woods system was the first example of a fully negotiated monetary order intended to govern monetary relations among independent states. The chief features of the Bretton Woods system were an obligation for each country to adopt a monetary policy that maintained its external exchange rates within 1 percent by tying its currency to gold and the ability of the IMF to bridge temporary imbalances of payments. Also, there was a need to address the lack of cooperation among other countries and to prevent competitive devaluation of the currencies as well.

Preparing to rebuild the international economic system while World War II was still raging, 730 delegates from all 44 Allied nations gathered at the Mount Washington Hotel in Bretton Woods, New Hampshire, United States, for the United Nations Monetary and Financial Conference, also known as the Bretton Woods Conference. The delegates deliberated during 1–22 July 1944, and signed the Bretton Woods agreement on its final day. Setting up a system of rules, institutions, and procedures to regulate the international monetary system, these accords established the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development (IBRD), which today is part of the World Bank Group. The United States, which controlled two thirds of the world's gold, insisted that the Bretton Woods system rest on both gold and the US dollar. Soviet representatives attended the conference but later declined to ratify the final agreements, charging that the institutions they had created were "branches of Wall Street". These organizations became operational in 1945 after a sufficient number of countries had ratified the agreement.

On 15 August 1971, the United States unilaterally terminated convertibility of the US dollar to gold, effectively bringing the Bretton Woods system to an end and rendering the dollar a fiat currency. This action, referred to as the Nixon shock, created the situation in which the U.S. dollar became a reserve currency used by many states. At the same time, many fixed currencies (such as the pound sterling) also became free-floating.

The political basis for the Bretton Woods system was in the confluence of two key conditions: the shared experiences of two World Wars, with the sense that failure to deal with economic problems after the first war had led to the second; and the concentration of power in a small number of states.

Interwar Period

There was a high level of agreement among the powerful nations that failure to coordinate exchange rates during the interwar period had exacerbated political tensions. This facilitated the decisions reached by the Bretton Woods Conference. Furthermore, all the participating governments at Bretton Woods agreed that the monetary chaos of the interwar period had yielded several valuable lessons.

The experience of World War II was fresh in the minds of public officials. The planners at Bretton Woods hoped to avoid a repeat of the Treaty of Versailles after World War I, which had created enough economic and political tension to lead to WWII. After World War I, Britain owed the U.S. substantial sums, which Britain could not repay because it had used the funds to support allies such as France during the War; the Allies could not pay back Britain, so Britain could not pay back the U.S. The solution at Versailles for the French, British, and Americans seemed to entail ultimately charging Germany for the debts. If the demands on Germany were unrealistic, then it was unrealistic for France to pay back Britain, and for Britain to pay back the US. Thus, many "assets" on bank balance sheets internationally were actually unrecoverable loans, which culminated in the 1931 banking crisis. Intransigent insistence by creditor nations for the repayment of Allied war debts and reparations, combined with an inclination to isolationism, led to a breakdown of the international financial system and a worldwide economic depression. The so-called "beggar thy neighbor" policies that emerged as the crisis continued saw some trading nations using currency devaluations in an attempt to increase their competitiveness (i.e. raise exports and lower imports),

though recent research suggests this de facto inflationary policy probably offset some of the contractionary forces in world price levels.

In the 1920s, international flows of speculative financial capital increased, leading to extremes in balance of payments situations in various European countries and the US. In the 1930s, world markets never broke through the barriers and restrictions on international trade and investment volume – barriers haphazardly constructed, nationally motivated and imposed. The various anarchic and often autarkic protectionist and neo-mercantilist national policies – often mutually inconsistent – that emerged over the first half of the decade worked inconsistently and self-defeatingly to promote national import substitution, increase national exports, divert foreign investment and trade flows, and even prevent certain categories of cross-border trade and investment outright. Global central bankers attempted to manage the situation by meeting with each other, but their understanding of the situation as well as difficulties in communicating internationally, hindered their abilities. The lesson was that simply having responsible, hard-working central bankers was not enough.

Britain in the 1930s had an exclusionary trading bloc with nations of the British Empire known as the "Sterling Area". If Britain imported more than it exported to nations such as South Africa, South African recipients of pounds sterling tended to put them into London banks. This meant that though Britain was running a trade deficit, it had a financial account surplus, and payments balanced. Increasingly, Britain's positive balance of payments required keeping the wealth of Empire nations in British banks. One incentive for, say, South African holders of rand to park their wealth in London and to keep the money in Sterling, was a strongly valued pound sterling. Unfortunately, as Britain deindustrialized in the 1920s, the way out of the trade deficit was to devalue the currency. But Britain couldn't devalue, or the Empire surplus would leave its banking system.

Nazi Germany also worked with a bloc of controlled nations by 1940. Germany forced trading partners with a surplus to spend that surplus importing products from Germany. Thus, Britain survived by keeping Sterling nation surpluses in its banking system, and Germany survived by forcing trading partners to purchase its own products. The U.S. was concerned that a sudden drop-off in war spending might return the nation to unemployment levels of the 1930s, and so wanted Sterling nations and everyone in Europe to be able to import from the US, hence the U.S. supported free trade and international convertibility of currencies into gold or dollars.

Post-war Negotiations

When many of the same experts who observed the 1930s became the architects of a new, unified, post-war system at Bretton Woods, their guiding principles became "no more beggar thy neighbor" and "control flows of speculative financial capital". Preventing a repetition of this process of competitive devaluations was desired, but in a way that would not force debtor nations to contract their industrial bases by keeping interest rates at a level high enough to attract foreign bank deposits. John Maynard Keynes, wary of repeating the Great Depression, was behind Britain's proposal that surplus nations be forced by a "use-it-or-lose-it" mechanism, to either import from debtor nations, build factories in debtor nations or donate to debtor nations. The U.S. opposed Keynes' plan, and a senior official at the U.S. Treasury, Harry Dexter White, rejected Keynes' proposals, in favor of an International Monetary Fund with enough resources to counteract destabilizing flows of speculative finance. However, unlike the modern IMF, White's proposed fund would have

counteracted dangerous speculative flows automatically, with no political strings attached—i.e., no IMF conditionality. According to economic historian Brad Delong, on almost every point where he was overruled by the Americans, Keynes was later proved correct by events.

The proximate cause of the world depression was a structurally flawed and poorly managed international gold standard. For a variety of reasons, including a desire of the Federal Reserve to curb the U.S. stock market boom, monetary policy in several major countries turned contractionary in the late 1920s—a contraction that was transmitted worldwide by the gold standard. What was initially a mild deflationary process began to snowball when the banking and currency crises of 1931 instigated an international "scramble for gold". Sterilization of gold inflows by surplus countries [the U.S. and France], substitution of gold for foreign exchange reserves, and runs on commercial banks all led to increases in the gold backing of money, and consequently to sharp unintended declines in national money supplies. Monetary contractions in turn were strongly associated with falling prices, output and employment. Effective international cooperation could in principle have permitted a worldwide monetary expansion despite gold standard constraints, but disputes over World War I reparations and war debts, and the insularity and inexperience of the Federal Reserve, among other factors, prevented this outcome. As a result, individual countries were able to escape the deflationary vortex only by unilaterally abandoning the gold standard and re-establishing domestic monetary stability, a process that dragged on in a halting and uncoordinated manner until France and the other Gold Bloc countries finally left gold in 1936.

In 1944 at Bretton Woods, as a result of the collective conventional wisdom of the time, representatives from all the leading allied nations collectively favored a regulated system of fixed exchange rates, indirectly disciplined by a US dollar tied to gold—a system that relied on a regulated market economy with tight controls on the values of currencies. Flows of speculative international finance were curtailed by shunting them through and limiting them via central banks. This meant that international flows of investment went into foreign direct investment (FDI)—i.e., construction of factories overseas, rather than international currency manipulation or bond markets. Although the national experts disagreed to some degree on the specific implementation of this system, all agreed on the need for tight controls.

Economic Security

Also based on experience of the inter-war years, U.S. planners developed a concept of economic security—that a liberal international economic system would enhance the possibilities of postwar peace. One of those who saw such a security link was Cordell Hull, the United States Secretary of State from 1933 to 1944. Hull believed that the fundamental causes of the two world wars lay in economic discrimination and trade warfare. Specifically, he had in mind the trade and exchange controls (bilateral arrangements) of Nazi Germany and the imperial preference system practiced by Britain, by which members or former members of the British Empire were accorded special trade status, itself provoked by German, French, and American protectionist policies.

Unhampered trade dovetailed with peace; high tariffs, trade barriers, and unfair economic competition, with war if we could get a freer flow of trade freer in the sense of fewer discriminations and obstructions, so that one country would not be deadly jealous of another and the living standards of all countries might rise, thereby eliminating the economic dissatisfaction that breeds war, we might have a reasonable chance of lasting peace.

Rise of Governmental Intervention

The developed countries also agreed that the liberal international economic system required governmental intervention. In the aftermath of the Great Depression, public management of the economy had emerged as a primary activity of governments in the developed states. Employment, stability, and growth were now important subjects of public policy.

In turn, the role of government in the national economy had become associated with the assumption by the state of the responsibility for assuring its citizens of a degree of economic well-being. The system of economic protection for at-risk citizens sometimes called the welfare state grew out of the Great Depression, which created a popular demand for governmental intervention in the economy, and out of the theoretical contributions of the Keynesian school of economics, which asserted the need for governmental intervention to counter market imperfections.

However, increased government intervention in domestic economy brought with it isolationist sentiment that had a profoundly negative effect on international economics. The priority of national goals, independent national action in the interwar period, and the failure to perceive that those national goals could not be realized without some form of international collaboration—all resulted in "beggar-thy-neighbor" policies such as high tariffs, competitive devaluations that contributed to the breakdown of the gold-based international monetary system, domestic political instability, and international war. The lesson learned was, as the principal architect of the Bretton Woods system New Dealer Harry Dexter White put it:

> The absence of a high degree of economic collaboration among the leading nations will inevitably result in economic warfare that will be but the prelude and instigator of military warfare on an even vaster scale.
>
> —*Economic Security and the Origins of the Cold War*

To ensure economic stability and political peace, states agreed to cooperate to closely regulate the production of their currencies to maintain fixed exchange rates between countries with the aim of more easily facilitating international trade. This was the foundation of the U.S. vision of postwar world free trade, which also involved lowering tariffs and, among other things, maintaining a balance of trade via fixed exchange rates that would be favorable to the capitalist system.

Thus, the more developed market economies agreed with the U.S. vision of post-war international economic management, which intended to create and maintain an effective international monetary system and foster the reduction of barriers to trade and capital flows. In a sense, the new international monetary system was a return to a system similar to the pre-war gold standard, only using U.S. dollars as the world's new reserve currency until international trade reallocated the world's gold supply.

Thus, the new system would be devoid (initially) of governments meddling with their currency supply as they had during the years of economic turmoil preceding WWII. Instead, governments would closely police the production of their currencies and ensure that they would not artificially manipulate their price levels. If anything, Bretton Woods was a return to a time devoid of increased governmental intervention in economies and currency systems.

Atlantic Charter

The Atlantic Charter, drafted during U.S. President Franklin D. Roosevelt's August 1941 meeting with British Prime Minister Winston Churchill on a ship in the North Atlantic, was the most notable precursor to the Bretton Woods Conference. Like Woodrow Wilson before him, whose "Fourteen Points" had outlined U.S. aims in the aftermath of the First World War, Roosevelt set forth a range of ambitious goals for the postwar world even before the U.S. had entered the Second World War.

The Atlantic Charter affirmed the right of all nations to equal access to trade and raw materials. Moreover, the charter called for freedom of the seas (a principal U.S. foreign policy aim since France and Britain had first threatened U.S. shipping in the 1790s), the disarmament of aggressors, and the "establishment of a wider and more permanent system of general security".

As the war drew to a close, the Bretton Woods conference was the culmination of some two and a half years of planning for postwar reconstruction by the Treasuries of the U.S. and the UK. U.S. representatives studied with their British counterparts the reconstitution of what had been lacking between the two world wars: a system of international payments that would let nations trade without fear of sudden currency depreciation or wild exchange rate fluctuations—ailments that had nearly paralyzed world capitalism during the Great Depression.

Without a strong European market for U.S. goods and services, most policymakers believed, the U.S. economy would be unable to sustain the prosperity it had achieved during the war. In addition, U.S. unions had only grudgingly accepted government-imposed restraints on their demands during the war, but they were willing to wait no longer, particularly as inflation cut into the existing wage scales with painful force. By the end of 1945, there had already been major strikes in the automobile, electrical, and steel industries.

In early 1945 Bernard Baruch described the spirit of Bretton Woods as: if we can "stop subsidization of labor and sweated competition in the export markets," as well as prevent rebuilding of war machines, "oh boy, oh boy, what long term prosperity we will have." The United States [c]ould therefore use its position of influence to reopen and control the rules of world economy, so as to give unhindered access to all nations' markets and materials.

Wartime Devastation of Europe and East Asia

United States allies—economically exhausted by the war—needed U.S. assistance to rebuild their domestic production and to finance their international trade; indeed, they needed it to survive.

Before the war, the French and the British realized that they could no longer compete with U.S. industries in an open marketplace. During the 1930s, the British created their own economic bloc to shut out U.S. goods. Churchill did not believe that he could surrender that protection after the war, so he watered down the Atlantic Charter's "free access" clause before agreeing to it.

Yet U.S. officials were determined to open their access to the British empire. The combined value of British and U.S. trade was well over half of all the world's trade in goods. For the U.S. to open global markets, it first had to split the British (trade) empire. While Britain had economically dominated the 19th century, U.S. officials intended the second half of the 20th to be under U.S. hegemony.

A Senior Official of the Bank of England Commented

One of the reasons Bretton Woods worked was that the U.S. was clearly the most powerful country at the table and so ultimately was able to impose its will on the others, including an often-dismayed Britain. At the time, one senior official at the Bank of England described the deal reached at Bretton Woods as "the greatest blow to Britain next to the war", largely because it underlined the way financial power had moved from the UK to the US.

A devastated Britain had little choice. Two world wars had destroyed the country's principal industries that paid for the importation of half of the nation's food and nearly all its raw materials except coal. The British had no choice but to ask for aid. Not until the United States signed an agreement on 6 December 1945 to grant Britain aid of $4.4 billion did the British Parliament ratify the Bretton Woods Agreements (which occurred later in December 1945).

For nearly two centuries, French and U.S. interests had clashed in both the Old World and the New World. During the war, French mistrust of the United States was embodied by General Charles de Gaulle, president of the French provisional government. De Gaulle bitterly fought U.S. officials as he tried to maintain his country's colonies and diplomatic freedom of action. In turn, U.S. officials saw de Gaulle as a political extremist.

But in 1945 de Gaulle—the leading voice of French nationalism—was forced to grudgingly ask the U.S. for a billion-dollar loan. Most of the request was granted; in return France promised to curtail government subsidies and currency manipulation that had given its exporters advantages in the world market.

Design of the Financial System

Free trade relied on the free convertibility of currencies. Negotiators at the Bretton Woods conference, fresh from what they perceived as a disastrous experience with floating rates in the 1930s, concluded that major monetary fluctuations could stall the free flow of trade.

The new economic system required an accepted vehicle for investment, trade, and payments. Unlike national economies, however, the international economy lacks a central government that can issue currency and manage its use. In the past this problem had been solved through the gold standard, but the architects of Bretton Woods did not consider this option feasible for the postwar political economy. Instead, they set up a system of fixed exchange rates managed by a series of newly created international institutions using the U.S. dollar (which was a gold standard currency for central banks) as a reserve currency.

Informal Regimes

Previous Regimes

In the 19th and early 20th centuries gold played a key role in international monetary transactions. The gold standard was used to back currencies; the international value of currency was determined by its fixed relationship to gold; gold was used to settle international accounts. The gold standard maintained fixed exchange rates that were seen as desirable because they reduced the risk when trading with other countries.

Imbalances in international trade were theoretically rectified automatically by the gold standard.

A country with a deficit would have depleted gold reserves and would thus have to reduce its money supply. The resulting fall in demand would reduce imports and the lowering of prices would boost exports; thus the deficit would be rectified. Any country experiencing inflation would lose gold and therefore would have a decrease in the amount of money available to spend.

This decrease in the amount of money would act to reduce the inflationary pressure. Supplementing the use of gold in this period was the British pound. Based on the dominant British economy, the pound became a reserve, transaction, and intervention currency. But the pound was not up to the challenge of serving as the primary world currency, given the weakness of the British economy after the Second World War.

The architects of Bretton Woods had conceived of a system wherein exchange rate stability was a prime goal. Yet, in an era of more activist economic policy, governments did not seriously consider permanently fixed rates on the model of the classical gold standard of the 19th century. Gold production was not even sufficient to meet the demands of growing international trade and investment. Further, a sizable share of the world's known gold reserves were located in the Soviet Union, which would later emerge as a Cold War rival to the United States and Western Europe.

The only currency strong enough to meet the rising demands for international currency transactions was the U.S. dollar. The strength of the U.S. economy, the fixed relationship of the dollar to gold ($35 an ounce), and the commitment of the U.S. government to convert dollars into gold at that price made the dollar as good as gold. In fact, the dollar was even better than gold: it earned interest and it was more flexible than gold.

Fixed Exchange Rates

The rules of Bretton Woods, set forth in the articles of agreement of the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development (IBRD), provided for a system of fixed exchange rates. The rules further sought to encourage an open system by committing members to the convertibility of their respective currencies into other currencies and to free trade.

What emerged was the "pegged rate" currency regime. Members were required to establish a parity of their national currencies in terms of the reserve currency (a "peg") and to maintain exchange rates within plus or minus 1% of parity (a "band") by intervening in their foreign exchange markets (that is, buying or selling foreign money).

In theory, the reserve currency would be the bancor (a World Currency Unit that was never implemented), suggested by John Maynard Keynes; however, the United States objected and their request was granted, making the "reserve currency" the U.S. dollar. This meant that other countries would peg their currencies to the U.S. dollar, and—once convertibility was restored—would buy and sell U.S. dollars to keep market exchange rates within plus or minus 1% of parity. Thus, the U.S. dollar took over the role that gold had played under the gold standard in the international financial system.

Meanwhile, to bolster confidence in the dollar, the U.S. agreed separately to link the dollar to gold at the rate of $35 per ounce. At this rate, foreign governments and central banks could exchange dollars for gold. Bretton Woods established a system of payments based on the dollar, which defined all currencies in relation to the dollar, itself convertible into gold, and above all, "as good as

gold" for trade. U.S. currency was now effectively the world currency, the standard to which every other currency was pegged. As the world's key currency, most international transactions were denominated in U.S. dollars.

The U.S. dollar was the currency with the most purchasing power and it was the only currency that was backed by gold. Additionally, all European nations that had been involved in World War II were highly in debt and transferred large amounts of gold into the United States, a fact that contributed to the supremacy of the United States. Thus, the U.S. dollar was strongly appreciated in the rest of the world and therefore became the key currency of the Bretton Woods system.

Member countries could only change their par value by more than 10% with IMF approval, which was contingent on IMF determination that its balance of payments was in a "fundamental disequilibrium". The formal definition of fundamental disequilibrium was never determined, leading to uncertainty of approvals and attempts to repeatedly devalue by less than 10% instead. Any country that changed without approval or after being denied was then denied access to the IMF.

Formal Regimes

The Bretton Woods Conference led to the establishment of the IMF and the IBRD (now the World Bank), which still remain powerful forces in the world economy as of the 2010s.

A major point of common ground at the Conference was the goal to avoid a recurrence of the closed markets and economic warfare that had characterized the 1930s. Thus, negotiators at Bretton Woods also agreed that there was a need for an institutional forum for international cooperation on monetary matters. Already in 1944 the British economist John Maynard Keynes emphasized "the importance of rule-based regimes to stabilize business expectations"—something he accepted in the Bretton Woods system of fixed exchange rates. Currency troubles in the interwar years, it was felt, had been greatly exacerbated by the absence of any established procedure or machinery for intergovernmental consultation.

As a result of the establishment of agreed upon structures and rules of international economic interaction, conflict over economic issues was minimized, and the significance of the economic aspect of international relations seemed to recede.

International Monetary Fund

Officially established on 27 December 1945, when the 29 participating countries at the conference of Bretton Woods signed its Articles of Agreement, the IMF was to be the keeper of the rules and the main instrument of public international management. The Fund commenced its financial operations on 1 March 1947. IMF approval was necessary for any change in exchange rates in excess of 10%. It advised countries on policies affecting the monetary system and lent reserve currencies to nations that had incurred balance of payment debts.

Design

The big question at the Bretton Woods conference with respect to the institution that would

emerge as the IMF was the issue of future access to international liquidity and whether that source should be akin to a world central bank able to create new reserves at will or a more limited borrowing mechanism. Although attended by 44 nations, discussions at the conference were dominated by two rival plans developed by the United States and Britain. Writing to the British Treasury, Keynes, who took the lead at the Conference, did not want many countries. He believed that those from the colonies and semi-colonies had "nothing to contribute and will merely encumber the ground."

As the chief international economist at the U.S. Treasury in 1942–44, Harry Dexter White drafted the U.S. blueprint for international access to liquidity, which competed with the plan drafted for the British Treasury by Keynes. Overall, White's scheme tended to favor incentives designed to create price stability within the world's economies, while Keynes wanted a system that encouraged economic growth. The "collective agreement was an enormous international undertaking" that took two years prior of the conference to prepare for—it consisted of numerous bilateral and multilateral meetings to reach common ground on what policies would make up the Bretton Woods system.

At the time, gaps between the White and Keynes plans seemed enormous. White basically wanted a fund to reverse destabilizing flows of financial capital automatically. White proposed a new monetary institution called the Stabilization Fund that "would be funded with a finite pool of national currencies and gold… that would effectively limit the supply of reserve credit". Keynes wanted incentives for the U.S. to help Britain and the rest of Europe rebuild after WWII. Outlining the difficulty of creating a system that every nation could accept in his speech at the closing plenary session of the Bretton Woods conference on 22 July 1944, Keynes stated:

> We, the delegates of this Conference, Mr President, have been trying to accomplish something very difficult to accomplish. It has been our task to find a common measure, a common standard, a common rule acceptable to each and not irksome to any.
>
> — *The Collected Writings of John Maynard Keynes*

Keynes' proposals would have established a world reserve currency (which he thought might be called "bancor") administered by a central bank vested with the possibility of creating money and with the authority to take actions on a much larger scale.

In the case of balance of payments imbalances, Keynes recommended that *both* debtors and creditors should change their policies. As outlined by Keynes, countries with payment surpluses should increase their imports from the deficit countries, build factories in debtor nations, or donate to them—and thereby create a foreign trade equilibrium. Thus, Keynes was sensitive to the problem that placing too much of the burden on the deficit country would be deflationary.

But the United States, as a likely creditor nation, and eager to take on the role of the world's economic powerhouse, used White's plan but targeted many of Keynes's concerns. White saw a role for global intervention in an imbalance only when it was caused by currency speculation.

Although a compromise was reached on some points, because of the overwhelming economic and military power of the United States the participants at Bretton Woods largely agreed on White's plan.

Subscriptions and Quotas

What emerged largely reflected U.S. preferences: a system of subscriptions and quotas embedded in the IMF, which itself was to be no more than a fixed pool of national currencies and gold subscribed by each country, as opposed to a world central bank capable of creating money. The Fund was charged with managing various nations' trade deficits so that they would not produce currency devaluations that would trigger a decline in imports.

The IMF is provided with a fund composed of contributions from member countries in gold and their own currencies. The original quotas were to total $8.8 billion. When joining the IMF, members are assigned "quotas" that reflect their relative economic power—and, as a sort of credit deposit, are obliged to pay a "subscription" of an amount commensurate with the quota. They pay the subscription as 25% in gold or currency convertible into gold (effectively the dollar, which at the founding, was the only currency then still directly gold convertible for central banks) and 75% in their own currency.

Quota subscriptions form the largest source of money at the IMF's disposal. The IMF set out to use this money to grant loans to member countries with financial difficulties. Each member is then entitled to withdraw 25% of its quota immediately in case of payment problems. If this sum should be insufficient, each nation in the system is also able to request loans for foreign currency.

Trade Deficits

In the event of a deficit in the current account, Fund members, when short of reserves, would be able to borrow foreign currency in amounts determined by the size of its quota. In other words, the higher the country's contribution was, the higher the sum of money it could borrow from the IMF.

Members were required to pay back debts within a period of 18 months to five years. In turn, the IMF embarked on setting up rules and procedures to keep a country from going too deeply into debt year after year. The Fund would exercise "surveillance" over other economies for the U.S. Treasury in return for its loans to prop up national currencies.

IMF loans were not comparable to loans issued by a conventional credit institution. Instead, they were effectively a chance to purchase a foreign currency with gold or the member's national currency.

The U.S.-backed IMF plan sought to end restrictions on the transfer of goods and services from one country to another, eliminate currency blocs, and lift currency exchange controls.

The IMF was designed to advance credits to countries with balance of payments deficits. Short-run balance of payment difficulties would be overcome by IMF loans, which would facilitate stable currency exchange rates. This flexibility meant a member state would not have to induce a depression to cut its national income down to such a low level that its imports would finally fall within its means. Thus, countries were to be spared the need to resort to the classical medicine of deflating themselves into drastic unemployment when faced with chronic balance of payments deficits. Before the Second World War, European nations—particularly Britain—often resorted to this.

Par Value

The IMF sought to provide for occasional discontinuous exchange-rate adjustments (changing a member's par value) by international agreement. Member nations were permitted to adjust their currency exchange rate by 1%. This tended to restore equilibrium in their trade by expanding their exports and contracting imports. This would be allowed only if there was a fundamental disequilibrium. A decrease in the value of a country's money was called a devaluation, while an increase in the value of the country's money was called a revaluation.

It was envisioned that these changes in exchange rates would be quite rare. However, the concept of fundamental disequilibrium, though key to the operation of the par value system, was never defined in detail.

Operations

Never before had international monetary cooperation been attempted on a permanent institutional basis. Even more groundbreaking was the decision to allocate voting rights among governments, not on a one-state one-vote basis, but rather in proportion to quotas. Since the United States was contributing the most, U.S. leadership was the key. Under the system of weighted voting, the United States exerted a preponderant influence on the IMF. The United States held one-third of all IMF quotas at the outset, enough on its own to veto all changes to the IMF Charter.

In addition, the IMF was based in Washington, D.C., and staffed mainly by U.S. economists. It regularly exchanged personnel with the U.S. Treasury. When the IMF began operations in 1946, President Harry S. Truman named White as its first U.S. Executive Director. Since no Deputy Managing Director post had yet been created, White served occasionally as Acting Managing Director and generally played a highly influential role during the IMF's first year.

International Bank for Reconstruction and Development

The agreement made no provisions to create international reserves. It assumed new gold production would be sufficient. In the event of structural disequilibria, it expected that there would be national solutions, for example, an adjustment in the value of the currency or an improvement by other means of a country's competitive position. The IMF was left with few means, however, to encourage such national solutions.

Economists and other planners recognized in 1944 that the new system could only commence after a return to normality following the disruption of World War II. It was expected that after a brief transition period of no more than five years, the international economy would recover and the system would enter into operation.

To promote growth of world trade and finance postwar reconstruction of Europe, the planners at Bretton Woods created another institution, the International Bank for Reconstruction and Development (IBRD), which is one of five agencies that make up the World Bank Group, and is perhaps now the most important agency [of the World Bank Group]. The IBRD had an authorized capitalization of $10 billion and was expected to make loans of its own funds to underwrite private loans and to issue securities to raise new funds to make possible a speedy postwar recovery. The IBRD was to be a specialized agency of the United Nations, charged with making loans for economic development purposes.

Readjustment

Dollar Shortages and the Marshall Plan

The Bretton Woods arrangements were largely adhered to and ratified by the participating governments. It was expected that national monetary reserves, supplemented with necessary IMF credits, would finance any temporary balance of payments disequilibria. But this did not prove sufficient to get Europe out of its conundrum.

Postwar world capitalism suffered from a huge dollar shortage. The United States was running huge balance of trade surpluses, and the U.S. reserves were immense and growing. It was necessary to reverse this flow. Even though all nations wanted to buy U.S. exports, dollars had to leave the United States and become available for international use so they could do so. In other words, the United States would have to reverse the imbalances in global wealth by running a balance of trade deficit, financed by an outflow of U.S. reserves to other nations (a U.S. financial account deficit). The U.S. could run a financial deficit by either importing from, building plants in, or donating to foreign nations. Recall that speculative investment was discouraged by the Bretton Woods agreement. Importing from other nations was not appealing in the 1950s, because U.S. technology was cutting edge at the time. So, multinational corporations and global aid that originated from the U.S. burgeoned.

The modest credit facilities of the IMF were clearly insufficient to deal with Western Europe's huge balance of payments deficits. The problem was further aggravated by the reaffirmation by the IMF Board of Governors in the provision in the Bretton Woods Articles of Agreement that the IMF could make loans only for current account deficits and not for capital and reconstruction purposes. Only the United States contribution of $570 million was actually available for IBRD lending. In addition, because the only available market for IBRD bonds was the conservative Wall Street banking market, the IBRD was forced to adopt a conservative lending policy, granting loans only when repayment was assured. Given these problems, by 1947 the IMF and the IBRD themselves were admitting that they could not deal with the international monetary system's economic problems.

The United States set up the European Recovery Program (Marshall Plan) to provide large-scale financial and economic aid for rebuilding Europe largely through grants rather than loans. Countries belonging to the Soviet bloc, e.g., Poland were invited to receive the grants, but finally they were forced by Stalin to reject the aid. In a speech at Harvard University on 5 June 1947, U.S. Secretary of State George Marshall stated:

> The breakdown of the business structure of Europe during the war was complete. Europe's requirements for the next three or four years of foreign food and other essential products principally from the United States are so much greater than her present ability to pay that she must have substantial help or face economic, social and political deterioration of a very grave character.
>
> — *"Against Hunger, Poverty, Desperation and Chaos"*

From 1947 until 1958, the U.S. deliberately encouraged an outflow of dollars, and, from 1950 on, the United States ran a balance of payments deficit with the intent of providing liquidity for the international economy. Dollars flowed out through various U.S. aid programs: the Truman Doctrine

entailing aid to the pro-U.S. Greek and Turkish regimes, which were struggling to suppress communist revolution, aid to various pro-U.S. regimes in the Third World, and most important, the Marshall Plan. From 1948 to 1954 the United States provided 16 Western European countries $17 billion in grants.

To encourage long-term adjustment, the United States promoted European and Japanese trade competitiveness. Policies for economic controls on the defeated former Axis countries were scrapped. Aid to Europe and Japan was designed to rebuild productivity and export capacity. In the long run it was expected that such European and Japanese recovery would benefit the United States by widening markets for U.S. exports, and providing locations for U.S. capital expansion.

Cold War

In 1945, Roosevelt and Churchill prepared the postwar era by negotiating with Joseph Stalin at Yalta about respective zones of influence; this same year Germany was divided into four occupation zones (Soviet, American, British, and French).

Roosevelt and Henry Morgenthau insisted that the Big Four (United States, United Kingdom, the Soviet Union, and China) participate in the Bretton Woods conference in 1944, but their goal was frustrated when the Soviet Union would not join the IMF. In the past, the reasons why the Soviet Union chose not to subscribe to the articles by December 1945 have been the subject of speculation. But since the release of relevant Soviet archives, it is now clear that the Soviet calculation was based on the behavior of the parties that had actually expressed their assent to the Bretton Woods Agreements. The extended debates about ratification that had taken place both in the UK and the U.S. were read in Moscow as evidence of the quick disintegration of the wartime alliance.

Facing the Soviet Union, whose power had also strengthened and whose territorial influence had expanded, the U.S. assumed the role of leader of the capitalist camp. The rise of the postwar U.S. as the world's leading industrial, monetary, and military power was rooted in the fact that the mainland U.S. was untouched by the war, in the instability of the national states in postwar Europe, and the wartime devastation of the Soviet and European economies.

Despite the economic effort imposed by such a policy, being at the center of the international market gave the U.S. unprecedented freedom of action in pursuing its foreign affairs goals. A trade surplus made it easier to keep armies abroad and to invest outside the U.S., and because other nations could not sustain foreign deployments, the U.S. had the power to decide why, when and how to intervene in global crises. The dollar continued to function as a compass to guide the health of the world economy, and exporting to the U.S. became the primary economic goal of developing or redeveloping economies. This arrangement came to be referred to as the *Pax Americana*, in analogy to the *Pax Britannica* of the late 19th century and the *Pax Romana* of the first.

Late Application

U.S. Balance of Payments Crisis

After the end of World War II, the U.S. held $26 billion in gold reserves, of an estimated total of $40 billion (approx 65%). As world trade increased rapidly through the 1950s, the size of the gold base increased by only a few percentage points. In 1950, the U.S. balance of payments swung

negative. The first U.S. response to the crisis was in the late 1950s when the Eisenhower administration placed import quotas on oil and other restrictions on trade outflows. More drastic measures were proposed, but not acted upon. However, with a mounting recession that began in 1958, this response alone was not sustainable. In 1960, with Kennedy's election, a decade-long effort to maintain the Bretton Woods System at the $35/ounce price begun.

The design of the Bretton Woods System was that nations could only enforce gold convertibility on the anchor currency—the United States dollar. Gold convertibility enforcement was not required, but instead, allowed. Nations could forgo converting dollars to gold, and instead hold dollars. Rather than full convertibility, it provided a fixed price for sales between central banks. However, there was still an open gold market. For the Bretton Woods system to remain workable, it would either have to alter the peg of the dollar to gold, or it would have to maintain the free market price for gold near the $35 per ounce official price. The greater the gap between free market gold prices and central bank gold prices, the greater the temptation to deal with internal economic issues by buying gold at the Bretton Woods price and selling it on the open market.

In 1960 Robert Triffin, Belgian American economist, noticed that holding dollars was more valuable than gold because constant U.S. balance of payments deficits helped to keep the system liquid and fuel economic growth. What would later come to be known as Triffin's Dilemma was predicted when Triffin noted that if the U.S. failed to keep running deficits the system would lose its liquidity, not be able to keep up with the world's economic growth, and, thus, bring the system to a halt. But incurring such payment deficits also meant that, over time, the deficits would erode confidence in the dollar as the reserve currency created instability.

The first effort was the creation of the London Gold Pool on 1 November 1961 between eight nations. The theory behind the pool was that spikes in the free market price of gold, set by the morning gold fix in London, could be controlled by having a pool of gold to sell on the open market, that would then be recovered when the price of gold dropped. Gold's price spiked in response to events such as the Cuban Missile Crisis, and other smaller events, to as high as $40/ounce. The Kennedy administration drafted a radical change of the tax system to spur more production capacity and thus encourage exports. This culminated with the 1963 tax cut program, designed to maintain the $35 peg.

In 1967, there was an attack on the pound and a run on gold in the sterling area, and on 18 November 1967, the British government was forced to devalue the pound. U.S. President Lyndon Baines Johnson was faced with a brutal choice, either institute protectionist measures, including travel taxes, export subsidies and slashing the budget—or accept the risk of a "run on gold" and the dollar. From Johnson's perspective: "The world supply of gold is insufficient to make the present system workable—particularly as the use of the dollar as a reserve currency is essential to create the required international liquidity to sustain world trade and growth."

He believed that the priorities of the United States were correct, and, although there were internal tensions in the Western alliance, that turning away from open trade would be more costly, economically and politically, than it was worth: "Our role of world leadership in a political and military sense is the only reason for our current embarrassment in an economic sense on the one hand and on the other the correction of the economic embarrassment under present monetary systems will result in an untenable position economically for our allies."

While West Germany agreed not to purchase gold from the U.S., and agreed to hold dollars instead, the pressure on both the dollar and the pound sterling continued. In January 1968 Johnson imposed a series of measures designed to end gold outflow, and to increase U.S. exports. This was unsuccessful, however, as in mid-March 1968 a dollar run on gold ensued through the free market in London, the London Gold Pool was dissolved first by the institution of *ad hoc* UK bank holidays at the request of the U.S. government. This was followed by a full closure of the London gold market, also at the request of the U.S. government, until a series of meetings were held that attempted to rescue or reform the existing system.

All attempts to maintain the peg collapsed in November 1968, and a new policy program attempted to convert the Bretton Woods system into an enforcement mechanism of floating the gold peg, which would be set by either *fiat* policy or by a restriction to honor foreign accounts. The collapse of the gold pool and the refusal of the pool members to trade gold with private entities—on 18 March, 1968 the Congress of the United States repealed the 25% requirement of gold backing of the dollar—as well as the U.S. pledge to suspend gold sales to governments that trade in the private markets, led to the expansion of the private markets for international gold trade, in which the price of gold rose much higher than the official dollar price. U.S. gold reserves remained depleted due to the actions of some nations, notably France, which continued to build up their own gold reserves.

Structural Changes

Return to Convertibility

In the 1960s and 1970s, important structural changes eventually led to the breakdown of international monetary management. One change was the development of a high level of monetary interdependence. The stage was set for monetary interdependence by the return to convertibility of the Western European currencies at the end of 1958 and of the Japanese yen in 1964. Convertibility facilitated the vast expansion of international financial transactions, which deepened monetary interdependence.

Growth of International Currency Markets

Another aspect of the internationalization of banking has been the emergence of international banking consortia. Since 1964 various banks had formed international syndicates, and by 1971 over three quarters of the world's largest banks had become shareholders in such syndicates. Multinational banks can and do make huge international transfers of capital not only for investment purposes but also for hedging and speculating against exchange rate fluctuations.

These new forms of monetary interdependence made possible huge capital flows. During the Bretton Woods era, countries were reluctant to alter exchange rates formally even in cases of structural disequilibria. Because such changes had a direct impact on certain domestic economic groups, they came to be seen as political risks for leaders. As a result, official exchange rates often became unrealistic in market terms, providing a virtually risk-free temptation for speculators. They could move from a weak to a strong currency hoping to reap profits when a revaluation occurred. If, however, monetary authorities managed to avoid revaluation, they could return to other currencies with no loss. The combination of risk-free speculation with the availability of huge sums was highly destabilizing.

Decline

U.S. Monetary Influence

A second structural change that undermined monetary management was the decline of U.S. hegemony. The U.S. was no longer the dominant economic power it had been for more than two decades. By the mid-1960s, the E.E.C. and Japan had become international economic powers in their own right. With total reserves exceeding those of the U.S., higher levels of growth and trade, and per capita income approaching that of the U.S., Europe and Japan were narrowing the gap between themselves and the United States.

The shift toward a more pluralistic distribution of economic power led to increasing dissatisfaction with the privileged role of the U.S. dollar as the international currency. As in effect the world's central banker, the U.S., through its deficit, determined the level of international liquidity. In an increasingly interdependent world, U.S. policy greatly influenced economic conditions in Europe and Japan. In addition, as long as other countries were willing to hold dollars, the U.S. could carry out massive foreign expenditures for political purposes—military activities and foreign aid—without the threat of balance-of-payments constraints.

Dissatisfaction with the political implications of the dollar system was increased by *détente* between the U.S. and the Soviet Union. The Soviet military threat had been an important force in cementing the U.S.-led monetary system. The U.S. political and security umbrella helped make American economic domination palatable for Europe and Japan, which had been economically exhausted by the war. As gross domestic production grew in European countries, trade grew. When common security tensions lessened, this loosened the transatlantic dependence on defence concerns, and allowed latent economic tensions to surface.

Dollar

Reinforcing the relative decline in U.S. power and the dissatisfaction of Europe and Japan with the system was the continuing decline of the dollar—the foundation that had underpinned the post-1945 global trading system. The Vietnam War and the refusal of the administration of U.S. President Lyndon B. Johnson to pay for it and its Great Society programs through taxation resulted in an increased dollar outflow to pay for the military expenditures and rampant inflation, which led to the deterioration of the U.S. balance of trade position. In the late 1960s, the dollar was overvalued with its current trading position, while the German Mark and the yen were undervalued; and, naturally, the Germans and the Japanese had no desire to revalue and thereby make their exports more expensive, whereas the U.S. sought to maintain its international credibility by avoiding devaluation. Meanwhile, the pressure on government reserves was intensified by the new international currency markets, with their vast pools of speculative capital moving around in search of quick profits.

In contrast, upon the creation of Bretton Woods, with the U.S. producing half of the world's manufactured goods and holding half its reserves, the twin burdens of international management and the Cold War were possible to meet at first. Throughout the 1950s Washington sustained a balance of payments deficit to finance loans, aid, and troops for allied regimes. But during the 1960s the costs of doing so became less tolerable. By 1970 the U.S. held under 16% of international reserves. Adjustment to these changed realities was impeded by the U.S.

commitment to fixed exchange rates and by the U.S. obligation to convert dollars into gold on demand.

Paralysis of International Monetary Management

Floating-rate System during 1968–1972

By 1968, the attempt to defend the dollar at a fixed peg of $35/ounce, the policy of the Eisenhower, Kennedy and Johnson administrations, had become increasingly untenable. Gold outflows from the U.S. accelerated, and despite gaining assurances from Germany and other nations to hold gold, the unbalanced fiscal spending of the Johnson administration had transformed the dollar shortage of the 1940s and 1950s into a dollar glut by the 1960s. In 1967, the IMF agreed in Rio de Janeiro to replace the tranche division set up in 1946. Special drawing rights (SDRs) were set as equal to one U.S. dollar, but were not usable for transactions other than between banks and the IMF. Nations were required to accept holding SDRs equal to three times their allotment, and interest would be charged, or credited, to each nation based on their SDR holding. The original interest rate was 1.5%.

The intent of the SDR system was to prevent nations from buying pegged gold and selling it at the higher free market price, and give nations a reason to hold dollars by crediting interest, at the same time setting a clear limit to the amount of dollars that could be held.

Nixon Shock

A negative balance of payments, growing public debt incurred by the Vietnam War and Great Society programs, and monetary inflation by the Federal Reserve caused the dollar to become increasingly overvalued. The drain on U.S. gold reserves culminated with the London Gold Pool collapse in March 1968. By 1970, the U.S. had seen its gold coverage deteriorate from 55% to 22%. This, in the view of neoclassical economists, represented the point where holders of the dollar had lost faith in the ability of the U.S. to cut budget and trade deficits.

In 1971 more and more dollars were being printed in Washington, then being pumped overseas, to pay for government expenditure on the military and social programs. In the first six months of 1971, assets for $22 billion fled the U.S. In response, on 15 August 1971, Nixon issued Executive Order 11615 pursuant to the Economic Stabilization Act of 1970, unilaterally imposing 90-day wage and price controls, a 10% import surcharge, and most importantly "closed the gold window", making the dollar inconvertible to gold directly, except on the open market. Unusually, this decision was made without consulting members of the international monetary system or even his own State Department, and was soon dubbed the *Nixon Shock*.

Smithsonian Agreement

The August shock was followed by efforts under U.S. leadership to reform the international monetary system. Throughout the fall (autumn) of 1971, a series of multilateral and bilateral negotiations between the Group of Ten countries took place, seeking to redesign the exchange rate regime.

Meeting in December 1971 at the Smithsonian Institution in Washington D.C., the Group of Ten signed the Smithsonian Agreement. The U.S. pledged to peg the dollar at $38/ounce with 2.25%

trading bands, and other countries agreed to appreciate their currencies versus the dollar. The group also planned to balance the world financial system using special drawing rights alone.

The agreement failed to encourage discipline by the Federal Reserve or the United States government. The Federal Reserve was concerned about an increase in the domestic unemployment rate due to the devaluation of the dollar. In attempt to undermine the efforts of the Smithsonian Agreement, the Federal Reserve lowered interest rates in pursuit of a previously established domestic policy objective of full national employment. With the Smithsonian Agreement, member countries anticipated return flow of dollars to the U.S, but the reduced interest rates within the United States caused dollars to continue to flow out of the U.S. and into foreign central banks. The inflow of dollars into foreign banks continued the monetization process of the dollar overseas, defeating the aims of the Smithsonian Agreement. As a result, the dollar price in the gold free market continued to cause pressure on its official rate; soon after a 10% devaluation was announced in February 1973, Japan and the EEC countries decided to let their currencies float. This proved to be the beginning of the collapse of the Bretton Woods System. The end of Bretton Woods was formally ratified by the Jamaica Accords in 1976. By the early 1980s, all industrialised nations were using floating currencies.

Bretton Woods II

Dooley, Folkerts-Landau and Garber have referred to the monetary system of today as Bretton Woods II. They argue that in the early 2000s the international system is composed of a core issuing the dominant international currency, and a periphery. The periphery is committed to export-led growth based on the maintenance of an undervalued exchange rate. In the 1960s, the core was the United States and the periphery was Europe and Japan. This old periphery has since *graduated*, and the new periphery is Asia. The core remains the same, the United States. The argument is that a system of pegged currencies—in which the periphery exports capital to the core, which serves an intermediary financial role—is both stable and desirable, although this notion is controversial.

The Bretton Woods System after the 2008 Crisis

In the wake of the Global financial crisis of 2008, some policymakersand others have called for a new international monetary system that some of them also dub *Bretton Woods II*. On the other side, this crisis has revived the debate about Bretton Woods II.

On 26 September 2008, French President Nicolas Sarkozy said, “we must rethink the financial system from scratch, as at Bretton Woods.”

On 24–25 September 2009 U.S. President Obama hosted the G20 in Pittsburgh. A realignment of currency exchange rates was proposed. This meeting’s policy outcome could be known as the Pittsburgh Agreement of 2009, where deficit nations may devalue their currencies and surplus nations may revalue theirs upward.

In March 2010, Prime Minister Papandreou of Greece wrote an op-ed in the International Herald Tribune, in which he said, “Democratic governments worldwide must establish a new global financial architecture, as bold in its own way as Bretton Woods, as bold as the creation of the European Community and European Monetary Union. And we need it fast.” In interviews coinciding

with his meeting with President Obama, he indicated that Obama would raise the issue of new regulations for the international financial markets at the next G20 meetings in June and November 2010.

Over the course of the crisis, the IMF progressively relaxed its stance on "free-market" principles such as its guidance against using capital controls. In 2011, the IMF's managing director Dominique Strauss-Kahn stated that boosting employment and equity "must be placed at the heart" of the IMF's policy agenda. The World Bank indicated a switch towards greater emphases on job creation.

Gresham's Law

In economics, Gresham's law is a monetary principle stating that "bad money drives out good". For example, if there are two forms of commodity money in circulation, which are accepted by law as having similar face value, the more valuable commodity will gradually disappear from circulation.

The law was named in 1860 by Henry Dunning Macleod, after Sir Thomas Gresham, who was an English financier during the Tudor dynasty. However, the concept itself had been previously expressed by others, including by Aristophanes in his play *The Frogs*, which dates from around the end of the 5th century BC, in the 14th century by Nicole Oresme c. 1350, in his treatise *On the Origin, Nature, Law, and Alterations of Money*, and by jurist and historian Al-Maqrizi in the Mamluk Empire; and in 1519 by Nicolaus Copernicus in a treatise called *Monetae cudendae ratio* For this reason, it is occasionally known as the Gresham–Copernicus law.

Good Money and Bad Money

Good money is money that shows little difference between its nominal value (the face value of the coin) and its commodity value (the value of the metal of which it is made, often precious metals, nickel, or copper).

In the absence of legal-tender laws, metal coin money will freely exchange at somewhat above bullion market value. This may be observed in bullion coins such as the Canadian Gold Maple Leaf, the South African Krugerrand, the American Gold Eagle, or even the silver Maria Theresa thaler (Austria) and the Libertad (Mexico). Coins of this type are of a known purity and are in a convenient form to handle. People prefer trading in coins rather than in anonymous hunks of precious metal, so they attribute more value to the coins of equal weight.

The price spread between face value and commodity value is called seigniorage. As some coins do not circulate, remaining in the possession of coin collectors, this can increase demand for coinage.

On the other hand, bad money is money that has a commodity value considerably lower than its face value and is in circulation along with good money, where both forms are required to be accepted at equal value as legal tender.

In Gresham's day, bad money included any coin that had been debased. Debasement was often done by the issuing body, where less than the officially specified amount of precious metal was contained in an issue of coinage, usually by alloying it with a base metal. The public could also debase coins, usually by clipping or scraping off small portions of the precious metal, also known as "stemming" (reeded edges on coins were intended to make clipping evident). Other examples of

bad money include counterfeit coins made from base metal. Today all circulating coins are made from base metals, known as fiat money.

In the case of clipped, scraped, or counterfeit coins, the commodity value was reduced by fraud, as the face value remains at the previous higher level. On the other hand, with a coinage debased by a government issuer, the commodity value of the coinage was often reduced quite openly, while the face value of the debased coins was held at the higher level by legal tender laws.

Examples:

Silver coins were widely circulated in Canada (until 1968) and in the United States (until 1964 for dimes and quarters and 1970 for half-dollars) when the Coinage Act of 1965 was passed. These countries debased their coins by switching to cheaper metals thereby inflating the new debased currency in relation to the supply of the former silver coins. The silver coins disappeared from circulation as citizens retained them to capture the steady current and future intrinsic value of the metal content over the newly inflated and therefore devalued coins, using the newer coins in daily transactions.

The same process occurs today with the copper content of coins such as the pre-1997 Canadian penny, the pre-1982 United States penny and the pre-1992 UK bronze pennies and two pence. This also occurred even with coins made of less expensive metals such as steel in India.

Theory

An unwrapped roll of twenty Walking Liberty half dollars (left), which contain 90% silver. In an example of Gresham's law, these coins were quickly hoarded by the public after the Coinage Act of 1965 debased 'half dollars to only contain 40% silver.

The law states that any circulating currency consisting of both "good" and "bad" money (both forms required to be accepted at equal value under legal tender law) quickly becomes dominated by the "bad" money. This is because people spending money will hand over the "bad" coins rather than the "good" ones, keeping the "good" ones for themselves. Legal tender laws act as a form of price control. In such a case, the intrinsically less valuable money is preferred in exchange, because people prefer to save the intrinsically more valuable money.

Consider a customer purchasing an item which costs five pence, who possesses several silver six-pence coins. Some of these coins are more debased, while others are less so – but legally, they are all mandated to be of equal value. The customer would prefer to retain the better coins, and so offers the shopkeeper the most debased one. In turn, the shopkeeper must give one penny in

change, and has every reason to give the most debased penny. Thus, the coins that circulate in the transaction will tend to be of the most debased sort available to the parties.

If "good" coins have a face value below that of their metallic content, individuals may be motivated to melt them down and sell the metal for its higher intrinsic value, even if such destruction is illegal. As an example, consider the 1965 United States half dollar coins, which contained 40% silver. In previous years, these coins were 90% silver. With the release of the 1965 half dollar, which was legally required to be accepted at the same value as the earlier 90% halves, the older 90% silver coinage quickly disappeared from circulation, while the newer debased coins remained in use. As the value of the dollar (Federal Reserve notes) continued to decline, resulting in the value of the silver content exceeding the face value of the coins, many of the older half dollars were melted down or removed from circulation and into private collections and hoards. Beginning in 1971, the U.S. government gave up on including any silver in the half dollars, as even the metal value of the 40% silver coins began to exceed their face value, which resulted in a repeat of the previous event, as the 40% silver coins also began to vanish out of circulation and into coin hoards held by individuals.

A similar situation occurred in 2007, in the United States with the rising price of copper, zinc, and nickel, which led the U.S. government to ban the melting or mass exportation of one-cent and five-cent coins.

In addition to being melted down for its bullion value, money that is considered to be "good" tends to leave an economy through international trade. International traders are not bound by legal tender laws as citizens of the issuing country are, so they will offer higher value for good coins than bad ones. The good coins may leave their country of origin to become part of international trade, escaping that country's legal tender laws and leaving the "bad" money behind. This occurred in Britain during the period of the gold standard.

Gresham was not the first to state the law which took his name. The phenomenon had been noted by Aristophanes in his play *The Frogs*, which dates from around the end of the 5th century BC. The referenced passage from *The Frogs* is as follows (usually dated at 405 BC):

> "It has often struck our notice that the course our city runs is the same towards men and money. She has true and worthy sons: She has good and ancient silver, she has good and recent gold. These are coins untouched with alloys; everywhere their fame is told; Not all Hellas holds their equal, not all Barbary far and near. Gold or silver, each well minted, tested each and ringing clear. Yet, we never use them. Others always pass from hand to hand. Sorry brass just struck last week and branded with a wretched brand. So with men we know for upright, blameless lives and noble names. Trained in music and palaestra, freemen's choirs and freemen's games, These we spurn for men of brass".

According to Ben Tamari, the currency devaluation phenomenon was already recognized in ancient sources. He brings some examples which include the Machpela Cave transaction and the building of the Temple from the Bible and the Mishna in tractate Bava Metzia from the Talmud.

Ibn Taimiyyah described the phenomenon as follows:

> If the ruler cancels the use of a certain coin and mints another kind of money for the people, he will spoil the riches (amwal) which they possess, by decreasing their value as the old coins will now become merely a commodity. He will do injustice to them by depriving them

> of the higher values originally owned by them. Moreover, if the intrinsic values of coins are different it will become a source of profit for the wicked to collect the small (bad) coins and exchange them (for good money) and then they will take them to another country and shift the small (bad) money of that country (to this country). So (the value of) people's goods will be damaged.

Notably this passage mentions only the flight of good money abroad and says nothing of its disappearance due to hoarding or melting. Palestinian economist Adel Zagha also attributes a similar concept to medieval Islamic thinker Al-Maqrizi, who offered, claims Zagha, a close approximation to what would become known as Gresham's law centuries later.

In the 14th century it was noted by Nicole Oresme c. 1350, in his treatise On the Origin, Nature, Law, and Alterations of Money, and by jurist and historian Al-Maqrizi in the Mamluk Empire; In the year that Gresham was born, 1519, it was described by Nicolaus Copernicus in a treatise called Monetae cudendae ratio: "bad (debased) coinage drives good (un-debased) coinage out of circulation." Copernicus was aware of the practice of exchanging bad coins for good ones and melting down the latter or sending them abroad, and he seems to have drawn up some notes on this subject while he was at Olsztyn in 1519. He made them the basis of a report which he presented to the Prussian Diet held in 1522, attending the session with his friend Tiedemann Giese to represent his chapter. Copernicus's Monetae cudendae ratio was an enlarged, Latin version of that report, setting forth a general theory of money for the 1528 diet. He also formulated a version of the quantity theory of money. For this reason, it is occasionally known as the Gresham–Copernicus law.

The law was however named after Sir Thomas Gresham, a sixteenth-century financial agent of the English Crown in the city of Antwerp, to explain to Queen Elizabeth I what was happening to the English shilling. Her father, Henry VIII, had replaced 40 percent of the silver in the coin with base metals, to increase the government's income without raising taxes. Astute English merchants and even ordinary subjects would save the good shillings from pure silver and circulate the bad ones; hence, the bad money would be used whenever possible, and the good coinage would be saved and disappear from circulation.

According to the economist George Selgin in his paper "Gresham's Law":

> As for Gresham himself, he observed "that good and bad coin cannot circulate together" in a letter written to Queen Elizabeth on the occasion of her accession in 1558. The statement was part of Gresham's explanation for the "unexampled state of badness" that England's coinage had been left in following the "Great Debasements" of Henry VIII and Edward VI, which reduced the metallic value of English silver coins to a small fraction of what it had been at the time of Henry VII. It was owing to these debasements, Gresham observed to the Queen, that "all your fine gold was convayed out of this your realm."

Gresham made his observations of good and bad money while in the service of Queen Elizabeth, with respect only to the observed poor quality of British coinage. The earlier monarchs, Henry VIII and Edward VI, had forced the people to accept debased coinage by means of their legal tender laws. Gresham also made his comparison of good and bad money where the precious metal in the money was the same metal, but of different weight. He did not compare silver to gold, or gold to paper.

In his "Gresham's Law" article, Selgin also offers the following comments regarding the origin of the name:

> The expression "Gresham's Law" dates back only to 1858, when British economist Henry Dunning Macleod decided to name the tendency for bad money to drive good money out of circulation after Sir Thomas Gresham. However, references to such a tendency, sometimes accompanied by discussion of conditions promoting it, occur in various medieval writings, most notably Nicholas Oresme's *Treatise on money*. The concept can be traced to ancient works, including Aristophanes' *The Frogs*, where the prevalence of bad politicians is attributed to forces similar to those favoring bad money over good.

Reverse of Gresham's Law (Thiers' Law)

In an influential theoretical article, Rolnick and Weber argued that bad money would drive good money to a premium, rather than driving it out of circulation. However, their research did not take into account the context in which Gresham had made his observation. Rolnick and Weber ignored the influence of legal tender legislation, which requires people to accept both good and bad money as if they were of equal value. They also focused mainly on the interaction between different metallic monies, comparing the relative "goodness" of silver to that of gold, which is not what Gresham was speaking of.

The experiences of dollarization in countries with weak economies and currencies (such as Israel in the 1980s, Eastern Europe and countries in the period immediately after the collapse of the Soviet bloc, or South America throughout the late 20th and early 21st century) may be seen as Gresham's Law operating in its reverse form because in general, the dollar has not been legal tender in such situations, and in some cases, its use has been illegal.

Adam Fergusson pointed out that, during the great inflation in the Weimar Republic in 1923, Gresham's Law began to work in reverse, as the official money became so worthless that virtually nobody would take it. That was particularly serious because farmers began to hoard food. Accordingly, any currency backed by any sort of value became a circulating medium of exchange. In 2009, hyperinflation in Zimbabwe began to show similar characteristics.

Those examples show that in the absence of effective legal tender laws, Gresham's Law works in reverse. If given the choice of what money to accept, people will transact with money they believe to be of highest long-term value. However, if not given the choice and required to accept all money, good and bad, they will tend to keep the money of greater perceived value in their possession and to pass on the bad money to someone else.

In short, in the absence of legal tender laws, the seller will not accept anything but money of certain value (good money), but the existence of legal tender laws will cause the buyer to offer only money with the lowest commodity value (bad money), as the creditor must accept such money at face value.

Nobel Prize winner Robert Mundell believes that Gresham's Law could be more accurately rendered, taking care of the reverse, if it were expressed as "Bad money drives out good *if they exchange for the same price*."

The reverse of Gresham's Law, that good money drives out bad money whenever the bad money becomes nearly worthless, has been named "Thiers' law" by economist Peter Bernholz in honor of French politician and historian Adolphe Thiers. "Thiers' Law will only operate later [in the inflation] when the increase of the new flexible exchange rate and of the rate of inflation lower the real demand for the inflating money."

Application

The principles of Gresham's law can sometimes be applied to different fields of study. Gresham's law may be generally applied to any circumstance in which the true value of something is markedly different from the value people are required to accept, due to factors such as lack of information or governmental decree.

In the market for used cars, lemon automobiles (analogous to bad currency) will drive out the good cars. The problem is one of asymmetry of information. Sellers have a strong financial incentive to pass all used cars off as good cars, especially lemons. This makes it difficult to buy a good car at a fair price, as the buyer risks overpaying for a lemon. The result is that buyers will only pay the fair price of a lemon, so at least they reduce the risk of overpaying. High-quality cars tend to be pushed out of the market, because there is no good way to establish that they really are worth more. Certified pre-owned programs are an attempt to mitigate this problem by providing a warranty and other guarantees of quality. "The Market for Lemons" is a work that examines this problem in more detail. Some also use an explanation of Gresham's Law as "The more efficient you become, the less effective you get"; i.e. "when you try to go on the cheap, you will stop selling" or "the less you invest in your non-tangible services, the fewer sales you will get."

Vice President Spiro Agnew used Gresham's law in describing American news media, stating that "Bad news drives out good news," although his argument was closer to that of a race to the bottom for higher ratings rather than over and undervaluing certain kinds of news.

Gregory Bateson postulated an analogue to Gresham's Law operating in cultural evolution, in which "the oversimplified ideas will always displace the sophisticated and the vulgar and hateful will always displace the beautiful. And yet the beautiful persists."

International Monetary System

An international monetary system is a set of internationally agreed rules, conventions and supporting institutions that facilitate international trade, cross border investment and generally the reallocation of capital between nation states. It should provide means of payment acceptable to buyers and sellers of different nationalities, including deferred payment. To operate successfully, it needs to inspire confidence, to provide sufficient liquidity for fluctuating levels of trade, and to provide means by which global imbalances can be corrected. The system can grow organically as the collective result of numerous individual agreements between international economic factors spread over several decades. Alternatively, it can arise from a single architectural vision, as happened at Bretton Woods in 1944.

Throughout history, precious metals such as gold and silver have been used for trade, sometimes in the form of bullion, and from early history the coins of various issuers – generally kingdoms and empires – have been traded. The earliest known records of pre-coinage use of precious metals for monetary exchange are from Mesopotamia and Egypt, dating from the third millennium BC. Early money took many forms, apart from bullion; for instance bronze spade money which became common in Zhou dynasty China in the late 7th century BC. At that time, forms of money were also developed in Lydia in Asia Minor, from where its use spread to nearby Greek cities and later to many other places.

Sometimes formal monetary systems have been imposed by regional rulers. For example, scholars have tentatively suggested that the Roman king Servius Tullius created a primitive monetary system in the early history of Rome. Tullius reigned in the sixth century BC - several centuries before Rome is believed to have developed a formal coinage system.

As with bullion, early use of coinage is believed to have been generally the preserve of the elite. But by about the 4th century BC coins were widely used in Greek cities. They were generally supported by the city state authorities, who endeavoured to ensure they retained their values regardless of fluctuations in the availability of whatever base or precious metals they were made from. From Greece the use of coins spread slowly westwards throughout Europe, and eastwards to India. Coins were in use in India from about 400 BC; initially they played a greater role in religion than in trade, but by the 2nd centurythey had become central to commercial transactions. Monetary systems that were developed in India were so successful that they spread through parts of Asia well into the Middle Ages.

As a variety of coins became common within a region, they were exchanged by moneychangers, the predecessors of today's foreign exchange market, as mentioned in the Biblical story of Jesus and the money changers. In Venice and the other Italian city states of the early Middle Ages, money changers would often have to struggle to perform calculations involving six or more currencies. This partly led to Fibonacci writing his Liber Abaci which popularised the use of Indo-Arabic numerals, which displaced the more difficult Roman numerals then in use by western merchants.

When a given nation or empire has achieved regional hegemony, its currency has been a basis for international trade, and hence for a *de facto* monetary system. In the West – Europe and the Middle East – an early such coin was the Persian daric. This was succeeded by Roman currency of the Roman Empire, such as the denarius, then the Gold Dinar of the Ottoman Empire, and later – from the 16th to 20th centuries, during the Age of Imperialism – by the currency of European colonial powers: the Spanish dollar, the Dutch guilder, the French franc and the British pound sterling; at times one currency has been pre-eminent, at times no one dominated. With the growth of American power, the US dollar became the basis for the international monetary system, formalised in the Bretton Woods agreement that established the post–World War II monetary order, with fixed exchange rates of other currencies to the dollar, and convertibility of the dollar into gold. The Bretton Woods system broke down, culminating in the Nixon shock of 1971, ending convertibility; but the US dollar has remained the *de facto* basis of the world monetary system, though no longer *de jure*, with various European currencies and the Japanese yen also being prominent in foreign exchange markets. Since the formation of the Euro, the Euro has also gained use as a reserve currency and a medium of transactions, though the dollar has remained the most important currency.

A dominant currency may be used directly or indirectly by other nations: for example, English kings minted the gold mancus, presumably to function as dinars to exchange with Islamic Spain; colonial powers sometimes minted coins that resembled those already used in a distant territory; and more recently, a number of nations have used the US dollar as their local currency, a custom called dollarization.

Until the 19th century, the global monetary system was loosely linked at best, with Europe, the Americas, India and China (among others) having largely separate economies, and hence monetary systems were regional. European colonization of the Americas, starting with the Spanish empire, led to the integration of American and European economies and monetary systems, and European colonization of Asia led to the dominance of European currencies, notably the British pound sterling in the 19th century, succeeded by the US dollar in the 20th century. Some, such as Michael Hudson, foresee the decline of a single base for the global monetary system, and the emergence instead of regional trade blocs; he cites the emergence of the Euro as an example. See Global financial systems, world-systems approach and polarity in international relations. It was in the later half of the 19th century that a monetary system with close to universal global participation emerged, based on the gold standard.

The Pre WWI Financial Order

From the 1816 to the outbreak of World War I in 1914, the world benefited from a well-integrated financial order, sometimes known as the "first age of globalisation". There were monetary unions which enabled member countries to accept each other's currencies as legal tender. Such unions included the Latin Monetary Union (Belgium, Italy, Switzerland, France) and the Scandinavian monetary union (Denmark, Norway and Sweden). In the absence of shared membership of a union, transactions were facilitated by widespread participation in the gold standard, by both independent nations and their colonies. Great Britain was at the time the world's pre-eminent financial, imperial, and industrial power, ruling more of the world and exporting more capital as a percentage of her national income than any other creditor nation has since.

While capital controls comparable to the Bretton Woods system were not in place, damaging capital flows were far less common than they were to be in the post 1971 era. In fact Great Britain's capital exports helped to correct global imbalances as they tended to be counter-cyclical, rising when Britain's economy went into recession, thus compensating other states for income lost from export of goods. Accordingly, this era saw mostly steady growth and a relatively low level of financial crises. In contrast to the Bretton Woods system, the pre–World War I financial order was not created at a single high level conference; rather it evolved organically in a series of discrete steps. The Gilded Age, a time of especially rapid development in North America, falls into this period.

Between the World Wars

The years between the world wars have been described as a period of "de-globalisation", as both international trade and capital flows shrank compared to the period before World War I. During World War I, countries had abandoned the gold standard. Except for the United States, they later returned to it only briefly. By the early 1930s, the prevailing order was essentially a fragmented

system of floating exchange rates. In this era, the experience of Great Britain and others was that the gold standard ran counter to the need to retain domestic policy autonomy. To protect their reserves of gold, countries would sometimes need to raise interest rates and generally follow a deflationary policy. The greatest need for this could arise in a downturn, just when leaders would have preferred to lower rates to encourage growth. Economist Nicholas Davenport had even argued that the wish to return Britain to the gold standard "sprang from a sadistic desire by the Bankers to inflict pain on the British working class."

By the end of World War I, Great Britain was heavily indebted to the United States, allowing the US to largely displace it as the world's foremost financial power. The United States, however, was reluctant to assume Great Britain's leadership role, partly due to isolationist influences and a focus on domestic concerns. In contrast to Great Britain in the previous era, capital exports from the US were not countercyclical. They expanded rapidly with the United States' economic growth in the 1920s until 1928, but then almost completely halted as the US economy began slowing in that year. As the Great Depression intensified in 1930, financial institutions were hit hard along with trade; in 1930 alone, 1345 US banks collapsed. During the 1930s, the United States raised trade barriers, refused to act as an international lender of last resort, and refused calls to cancel war debts, all of which further aggravated economic hardship for other countries. According to economist John Maynard Keynes, another factor contributing to the turbulent economic performance of this era was the insistence of French premier Clemenceau that Germany pay war reparations at too high a level, which Keynes described in his book The Economic Consequences of the Peace.

The Bretton Woods Era

British and American policy makers began to plan the post-war international monetary system in the early 1940s. The objective was to create an order that combined the benefits of an integrated and relatively liberal international system with the freedom for governments to pursue domestic policies aimed at promoting full employment and social wellbeing. The principal architects of the new system, John Maynard Keynes and Harry Dexter White, created a plan which was endorsed by the 42 countries attending the 1944 Bretton Woods conference, formally known as the United Nations Monetary and Financial Conference. The plan involved nations agreeing to a system of fixed but adjustableexchange rates so that the currencies were pegged against the dollar, with the dollar itself convertible into gold. So in effect this was a gold – dollar exchange standard. There were a number of improvements on the old gold standard. Two international institutions, the International Monetary Fund (IMF) and the World Bank were created. A key part of their function was to replace private finance as a more reliable source of lending for investment projects in developing states. At the time the soon to be defeated powers of Germany and Japan were envisaged as states soon to be in need of such development, and there was a desire from both the US and Britain not to see the defeated powers saddled with punitive sanctions that would inflict lasting pain on future generations. The new exchange rate system allowed countries facing economic hardship to devalue their currencies by up to 10% against the dollar (more if approved by the IMF) – thus they would not be forced to undergo deflation to stay in the gold standard. A system of capital controls was introduced to protect countries from the damaging effects of capital flight and to allow countries to pursue independent macro economic policies while still welcoming flows intended for productive investment. Keynes had argued against the dollar having such a central role in the monetary system, and suggested an international currency called bancor be used instead, but he was overruled

by the Americans. Towards the end of the Bretton Woods era, the central role of the dollar became a problem as international demand eventually forced the US to run a persistent trade deficit, which undermined confidence in the dollar. This, together with the emergence of a parallel market for gold in which the price soared above the official US mandated price, led to speculators running down the US gold reserves. Even when convertibility was restricted to nations only, some, notably France, continued building up hoards of gold at the expense of the US. Eventually these pressures caused President Nixon to end all convertibility into gold on 15 August 1973. This event marked the effective end of the Bretton Woods system; attempts were made to find other mechanisms to preserve the fixed exchange rates over the next few years, but they were not successful, resulting in a system of floating exchange rates.

Post Bretton Woods System: 1973– Present

An alternative name for the post Bretton Woods system is the Washington Consensus. While the name was coined in 1989, the associated economic system came into effect years earlier: according to economic historian Lord Skidelsky the *Washington Consensus* is generally seen as spanning 1980–2009 (the latter half of the 1970s being a transitional period). The transition away from Bretton Woods was marked by a switch from a state led to a market led system. The Bretton Wood system is considered by economic historians to have broken down in the 1970s: crucial events being Nixon suspending the dollar's convertibility into gold in 1973, the United States' abandonment of capital controls in 1974, and the UK's ending of capital controls in 1979 which was swiftly copied by most other major economies.

In some parts of the developing world, liberalisation brought significant benefits for large sections of the population – most prominently with Deng Xiaoping's reforms in China since 1978 and the liberalisation of India after its 1991 crisis.

Generally the industrial nations experienced much slower growth and higher unemployment than in the previous era, and according to Professor Gordon Fletcher in retrospect the 1950s and 60s when the Bretton Woods system was operating came to be seen as a golden age. Financial crises have been more intense and have increased in frequency by about 300% – with the damaging effects prior to 2008 being chiefly felt in the emerging economies. On the positive side, at least until 2008 investors have frequently achieved very high rates of return, with salaries and bonuses in the financial sector reaching record levels.

Revived Bretton Woods System

From 2004, economists such as Michael P. Dooley, Peter M. Garber, and David Folkerts-Landau began writing papers describing the emergence of a new international system involving an interdependency between states with generally high savings in Asia lending and exporting to western states with generally high spending. Similar to the original *Bretton Woods*, this included Asian currencies being pegged to the dollar, though this time by the unilateral intervention of Asian governments in the currency market to stop their currencies appreciating. The developing world as a whole stopped running current account deficits in 1999 – widely seen as a response to unsympathetic treatment following the 1997 Asian Financial Crisis. The most striking example of east-west interdependency is the relationship between China and America, which Niall Ferguson calls Chimerica. From 2004, This supposed "New Bretton Woods", as a "fiction", and

called for the elimination of the structural imbalances that underlie it, viz, the chronic US current account deficit.

However, since at least 2007 those authors have also called for a new *de jure* system: for key international financial institutions like the IMF and World Bank to be revamped to meet the demands of the current age, and between 2008 and mid-2009 the term *New Bretton Woods* was increasingly used in the latter sense. By late 2009, with less emphases on structural reform to the international monetary system and more attention being paid to issues such as re-balancing the world economy.

Since 2011, Sanjeev Sanyal, a colleague of Dooley, Garber and Folkerts-Landau has taken the framework a step further to argue that periods of global economic expansions are almost always underpinned by symbiotic imbalances. Such imbalances cause distortions but are an inevitable part of expanding economic ecosystems. Thus, he argues that the next round of economic growth will again be underpinned by a return to global imbalances, probably with China supplying capital and the US again running deficits to absorb it. He names this relationship Bretton Woods.

New Bretton Woods

Leading financial journalist Martin Wolf has reported that all financial crises since 1971 have been preceded by large capital inflows into affected regions. While ever since the seventies there have been numerous calls from the global justice movement for a revamped international system to tackle the problem of unfettered capital flows, it was not until late 2008 that this idea began to receive substantial support from leading politicians. On September 26, 2008, French President Nicolas Sarkozy, then also the President of the European Union, said, "We must rethink the financial system from scratch, as at Bretton Woods."

On October 13, 2008, British Prime Minister Gordon Brown said world leaders must meet to agree to a new economic system:

However, Brown's approach was quite different from the original Bretton Woods system, emphasising the continuation of globalization and free trade as opposed to a return to fixed exchange rates. There were tensions between Brown and Sarkozy, who argued that the "Anglo-Saxon" model of unrestrained markets had failed. However European leaders were united in calling for a "Bretton Woods II" summit to redesign the world's financial architecture. President Bush was agreeable to the calls, and the resulting meeting was the 2008 G-20 Washington summit. International agreement was achieved for the common adoption of Keynesian fiscal stimulus, an area where the US and China were to emerge as the world's leading actors. Yet there was no substantial progress towards reforming the international financial system, and nor was there at the 2009 meeting of the World Economic Forum at Davos.

Despite this lack of results leaders continued to campaign for *Bretton Woods II*. Italian Economics Minister Giulio Tremonti said that Italy would use its 2009 G7 chairmanship to push for a "New Bretton Woods." He had been critical of the U.S.'s response to the global financial crisis of 2008, and had suggested that the dollar may be superseded as the base currency of the Bretton Woods system.

Choike, a portal organisation representing Southern Hemisphere NGOs, called for the establishment of "international permanent and binding mechanisms of control over capital flows" and as of March 2009 had achieved over 550 signatories from civil society organisations.

March 2009 saw Gordon Brown continuing to advocate for reform and the granting of extended powers to international financial institutions like the IMF at the April G20 summit in London, and was said to have president Obama's support. Also during March 2009, in a speech entitled *Reform the International Monetary System*, Zhou Xiaochuan, the governor of the People's Bank of China came out in favour of Keynes's idea of a centrally managed global reserve currency. Dr Zhou argued that it was unfortunate that part of the reason for the Bretton Woods system breaking down was the failure to adopt Keynes's bancor. Dr Zhou said that national currencies were unsuitable for use as global reserve currencies as a result of the Triffin dilemma – the difficulty faced by reserve currency issuers in trying to simultaneously achieve their domestic monetary policy goals and meet other countries' demand for reserve currency. Dr Zhou proposed a gradual move towards increased use of IMF special drawing rights (SDRs) as a centrally managed global reserve currency His proposal attracted much international attention. In a November 2009 article published in Foreign Affairs magazine, economist C. Fred Bergsten argued that Dr Zhou's suggestion or a similar change to the international monetary system would be in the United States' best interests as well as the rest of the world's.

Leaders meeting in April at the 2009 G-20 London summit agreed to allow $250 Billion of SDRs to be created by the IMF, to be distributed to all IMF members according to each countries voting rights. In the aftermath of the summit, Gordon Brown declared "the Washington Consensus is over". However, in a book published during September 2009, Professor Robert Skidelsky, an international expert on Keynesianism, argued it was still too early to say whether a new international monetary system was emerging.

On Jan 27, in his opening address to the 2010 World Economic Forum in Davos, President Sarkozy repeated his call for a new Bretton Woods, and was met by wild applause by a sizeable proportion of the audience.

In December 2011, the Bank of England published a paper arguing for reform, saying that the current International monetary system has performed poorly compared to the *Bretton Woods system*.

In August 2012 in an *International Herald Tribune* op-ed, Harvard University professor and director of the Committee on Capital Markets Regulation Hal S. Scott called for a global response to the Euro-zone crisis. He wrote that two failures to address European problems around German power had led to world wars in the 20th century and that the current crisis was also beyond the capacity of Europe, with Germany again at the center, to solve on their own. Accepting that leadership transitions were underway in both China and America, Scott called on all concerned—with Japan included with China and America—to begin organizing a global restructuring through the International Monetary Fund with possibly a Bretton Woods II conference as part of the process. *MarketWatch* commentator Darrell Delamaide endorsed Scott's idea but concluded "unfortunately it's not likely to happen". He added first the example of the failure of Europe to address successfully the breakup of Yugoslavia without outside assistance as a reason for his endorsement. But he found U.S. presidential and Treasury

Department leadership and IMF leadership dramatically lacking in the capacity to mount an initiative such as Scott proposed.

Exchange Rate

Empirical Strategy

In investigating the three aspects of the relationship between exchange rates and trade, the empirical strategy takes advantage of a detailed bilateral dataset comprising trade, trade policies, and exchange rate data. Bilateral trade data originate from the United Nations COMTRADE, while primary tariff data are from UNCTAD TRAINS.Data on anti-dumping are from the World Bank Temporary Trade Barriers Database, while the data utilized for the construction of exchange rate indices originate from the Penn World Tables and OANDA.

The estimating framework for assessing the effect of exchange rate volatility and misalignment consists of an econometric model where a set of fixed effects controls for all the determinants of trade flows normally included in gravity model specifications. The relationship between exchange rate appreciation and trade policy is similarly explored with a fixed effects model. Before entering into the details of the estimating frameworks some discussion on the variables of interest is in order.

Measurement of Exchange Rate and Trade Policy Variables

Although there is voluminous literature on exchange rate volatility, there is no consensus on how to measure it. Volatility measures vary from simple deviations from an average level, to more sophisticated econometric estimations following co-integration methods. The measure of bilateral exchange rate volatility is measured as the standard deviation of the first difference of the monthly exchange rate. More formally, exchange rate volatility between countries k and j in year t is given by:

$$ERvol_{kjt} = std.dev[In(ER_{kjt,m}) - In(ER_{kjt,m-1})]$$

where *ER* is the nominal exchange rate and m denotes months. A value of $ERvol_{kjt}$ equal to zero implies no volatility as in the case of a fixed exchange rate regime. The standard deviation is calculated over a one-year period so as to measure short-run volatility. The aggregated volatility at the country level is simply the trade weighted average of bilateral volatility. This indicator is commonly referred to as the effective volatility of a country's exchange rate.

As with volatility, there are several methods to measure exchange rate misalignment. Since misalignment is simply the difference between the observed exchange rate and its estimated equilibrium level, the key issue is how to calculate the equilibrium exchange rate. Measures of the equilibrium exchange rate vary from simple approximations to complex estimates which take into account various possible determinants. The simplest measure of misalignment consists of the percentage difference of the observed level of the currency to its level in a reference period. This measure is clearly subject to the choice of the reference period and thus is more appropriate to measure

appreciation or depreciation trends rather than misalignment itself. More common measures of misalignment utilize currency deviations from its purchasing power parity (PPP) value. The PPP approach can be refined to various degrees as in the case of the fundamental equilibrium real exchange rate (FEER). In general, the measurement of exchange rate misalignment is a controversial issue. Even the more sophisticated estimates are subject to critiques, as any estimate would depend on the estimating period and the included set of determinants.

For the purpose of this paper, the measure of exchange rate misalignment follows a relatively simple PPP approach. This method consists of three steps. First, the real exchange rate term is computed as the nominal exchange rate divided by the PPP conversion factor. In more formal terms:

$$In(RER_{kt}) = In(ER_{kt} / PPP_{kt})$$

where as before k denotes the country and t is time. When the RER exceeds one, it implies that the currency is valued below what is indicated by its purchasing power parity. Second, to calculate the level of misalignment the RER needs to be confronted with the fact that price levels of non-traded goods are correlated with the country's level of development (the Balassa-Samuelson effect). This is taken into account by regressing the RER on per capita GDP (GDPPC), or more formally:

$$In(RER_{it}) = \alpha + \beta In(GDPPC_{it}) + \phi_t + u_{it}$$

where φt is time-fixed effects and u is an error term. Then, the measure of misalignment is given by the difference between the observed exchange rate and the exchange rate adjusted for the Balassa-Samuelson effect. The level of undervaluation or overvaluation between two countries is then approximated simply by adding the respective levels of misalignments. This variable is labelled $Mis\_ EXrate_{kjt}$.

In regard to trade policy variables, this paper utilizes two variables for capturing trade policy changes. The first variable is change in the level of the overall tariff structure. The argument for linking this variable to the exchange rate is that countries whose currency is appreciating would be less inclined to pursue trade liberalization as the overvalued currency already exposes domestic industries to increased foreign competition. The overall level of tariffs is measured by the tariff trade restrictiveness index (TTRI) calculated by Fugazza and Nicita and based on the work of Kee, Nicita and Olarreaga. In the construction of the TTRI, the aggregation across products uses import demand elasticities to take into account the fact that the imports of some goods may be more responsive to an overvalued exchange rate. In formal terms, the TTRI faced by country *j* in exporting to country *k* is:

$$TTRI_{jkt} = \frac{\sum_{hs} x_{jkt,hs} \varepsilon_{jk,hs} T_{jkt,hs}}{\sum_{hs} x_{jkt,hs} \varepsilon_{jk,hs}}$$

where x indicates exports from country j to country k, ε is the bilateral import demand elasticity, T is the bilateral applied tariff, and *hs* are HS 6-digit categories. The TTRI reflects any preferential tariff imposed and faced by each country.

The second measure of trade policy is related to anti-dumping (AD). The hypothesis is that firms

may lobby a government to initiate an anti-dumping investigation to counteract some of the effect of a trading partner's undervalued currency. In such cases, one would expect an increase of anti-dumping investigations when the misalignment between two currencies increases. The trade policy variable thus consists of the number of anti-dumping cases initiated during the year. This variable is labelled $ADPolicy_{jkt}$.

Estimating Frameworks

In order to test the relationship between exchange rates and trade, this paper employs a simple panel analysis on a dataset covering 95 countries from 2000 to 2009. The estimating framework applies two models. The first model is suited to explain the impact of the exchange rate on the level of trade, while the second model measures the impact of the exchange rate on trade policy.

The relationship between trade and exchange rate volatility and misalignment is measured by a panel gravity model where a set of fixed effects controls for all the determinants of trade flows normally included in the standard gravity model specifications. More formally, the estimation of the effect on trade due to changes in the exchange rate is based on the following specification:

$$\ln X_{jkt} = \beta_0 + \beta_1 xrate_{jkt} + \beta_2 \ln(1 + TTRI_{jkt}) \beta_3 GDP_{jt} + \beta_4 MR_{jkt} + \omega_j + \psi_k + \varsigma_t + \theta_{kj} + \phi_{jkt}$$

where the subscript j denotes exporters, k denotes importers and t denotes year, and where X is the value of total exports, *xrate* denotes the variables capturing volatility ($ERvol_{kjt}$) and misalignment ($\text{Mis EXrate}_{\text{kjt}}\_$). The TTRI controls for changes in bilateral trade policies,, are a set of fixed effects and ϕ_{jkt} is an error term. Multilateral resistance is proxied by adding multilateral resistance variables as in Baier and Bergstrand and Baier, Bergstrand and Mariutto. This methodology produces consistent estimates and, contrary to using country-time effects, allows the estimation of the impact of time-varying country specific factors such as exchange rates. The model is also estimated within a specification where country-pair fixed effects are replaced by standard bilateral gravity variables (distance, contiguity, language and colonial links). This accounts for the effect of pegged currencies which otherwise would be fully captured by country-pair fixed effects.

The second model tests the hypothesis that the choice and pace of trade liberalization may also be affected by exchange rates. This model empirically explores whether exchange rate misalignment has an effect on trade policy response in terms of tariffs and anti-dumping investigations. The general estimating equation is:

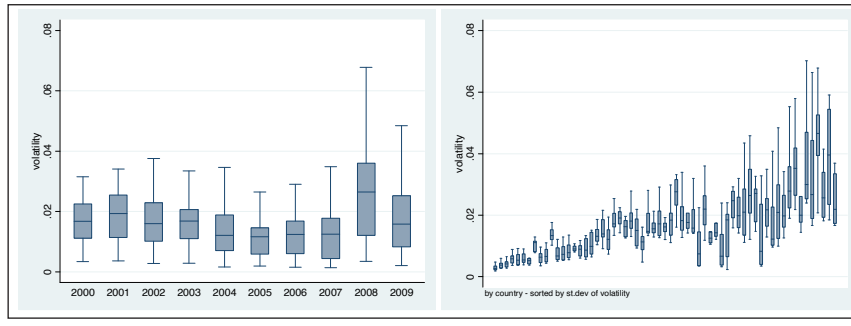
$$tradepolicy_{jkt} = \beta_0 + \beta_1 Mis\_EXrate_{jkt} + \beta_2 X_{jkt} + \beta_3 GDP_{jt} + \omega_j + \phi_t + \theta_{kj} + \phi_{jkt}$$

where the subscripts are defined as above. This equation is estimated in a series of specifications where tradepolicy is measured by the TTRI ($TariffPolicy_{\text{jkt}}$) or by the number of anti-dumping investigations ($ADPolicy_{jkt}$).

Two additional variables, import growth (X_{jkt}) and GDP, control for other factors that may influence the demand for protection (e.g. a sudden increase in imports or a decline in GDP). Country fixed effects (ω_j) control for time-unvarying country specific characteristics and time fixed effects (φ_t) control for global macroeconomic shocks. Country-pair fixed effects (θ_{kj}) control for any time-unvarying bilateral factors such as PTA that may influence bilateral trade policy.

Descriptive Statistics

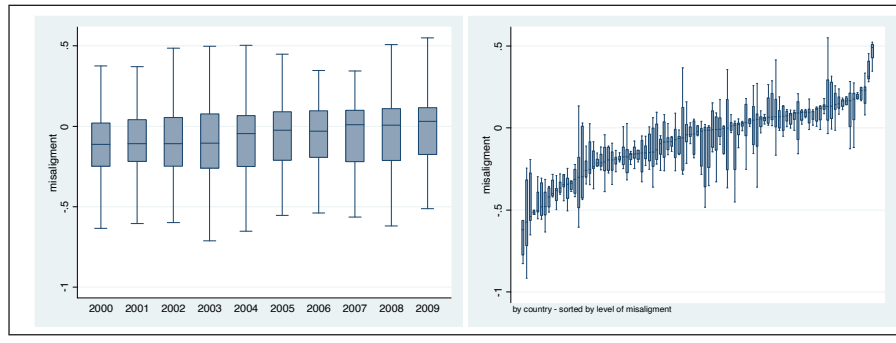
Figures a and b show the distribution of effective short-term exchange rate volatility for each of the years between 2000 and 2009 and then for each currency across years.As monthly exchange rate data are not always available the volatility variable is calculated only for 68 countries. Overall volatility bottomed during the period of 2004-2006 to sharply increase at the onset of the financial crisis. In just a few months at the end of 2008 some currencies oscillated 20 per cent or more in relation to the major reserve currencies.



Exchange rate volatility, distributions by year and by country.

Figures shows that volatility is not a common problem to all currencies, but tends to be concentrated in about half of the currencies in the sample. That is, while about half of the currencies are more or less aligned with those of their trading partners (for example, because of managed or pegged exchange rates), the other half fluctuates more widely. Currency fluctuation may be detrimental to international trade as it increases the risk of cross-border transactions.

In regard to currency misalignments, figures illustrate their distribution for each year during the period of analysis and for each country. For the purpose of this graph, the misalignment is not bilateral but is computed as a trade-weighted average as in the case of effective volatility. The graphs report the distribution of the average misalignment faced by the currency visà-vis a basket of currencies whose weight is determined by their trade importance. A value of misalignment above zero implies overall overvaluation.

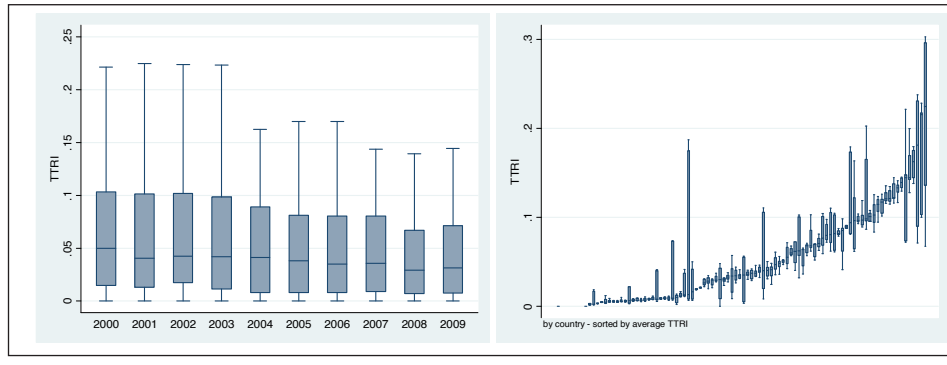


Currency Misalignments, Distributions by Year and by Country.

In figure above, the first insight regarding misalignment is that currencies are generally not very aligned to their respective purchasing power parity level (especially in 2003, 2004 and the last two years of the analysis). A second insight is that while in the earliest years the majority of currencies were undervalued, the latest years show a trend towards a more fair valuation. A

third insight is that between 2000 and 2009 only a limited number of currencies maintained a relatively stable, but not necessarily aligned, valuation. For most currencies, their levels of valuation fluctuated substantially during the period of analysis. For about half of the currencies analysed here, their valuation alternated between overvaluation and undervaluation. About 30 per cent of currencies remained within undervalued levels, while about 20 per cent remained constantly overvalued.

In relation to trade policy, figures a and b illustrate the distribution of the TTRI for each year and then for each country. Tariff restrictions have been progressively reduced during the period of analysis. The average TTRI across countries went from about 5 per cent for 2000 to about 3 per cent for 2009. Such liberalization has been the result both of unilateral reductions of MFN tariffs as well as the increasing number of bilateral and regional trade agreements. At the country level, tariff liberalization has occurred in most of the countries in the analysis, especially in those where tariffs were higher to start with.

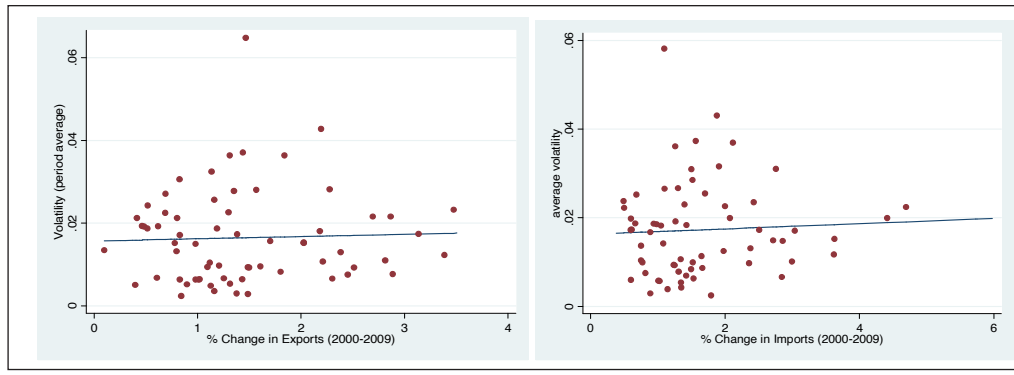


Tariff Trade Restrictiveness Index, Distributions by Year and by Country.

In figure above, with regard to anti-dumping, the analysis is based on data available for 33 countries (with the European Union counting as one). The average number of anti-dumping investigations initiated each year is about 255. The use of anti-dumping was more frequent in the early years of the analysis and bottomed out in 2008, to later rebound in 2009. Although the use of anti-dumping procedures has spread, it is largely concentrated in a few countries. The 5 most intensive users account for more than half of the initiations, while 10 countries account for more than three quarters.

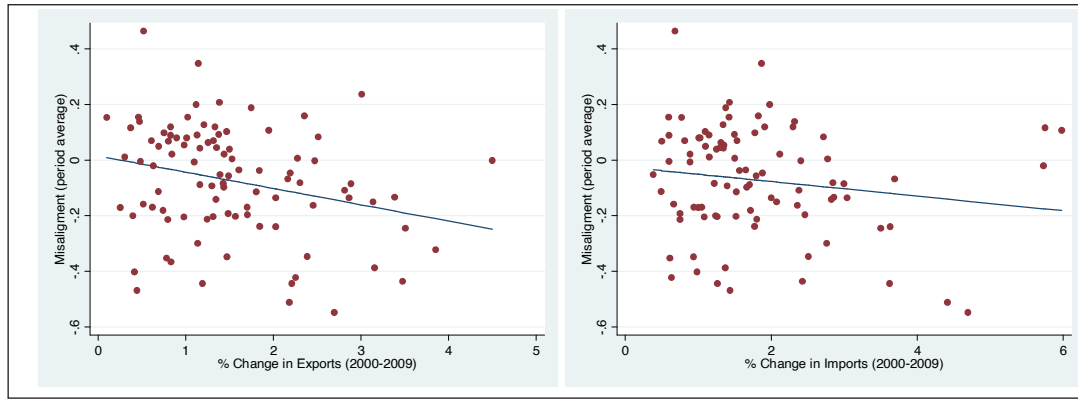
Next are some simple figures on the cross-country correlation between exchange rate variables and import, export and trade policy. As a cautionary note, the analysis presented in this topic is purely illustrative as it does not control for other determinants that may influence the exchange rate and/or trade. More compelling evidence on causality is presented in the discussion of the econometric results.

To start with exchange rate volatility and trade, it should be recalled that effective volatility provides an indication of the stability of a currency with respect to the currencies of trading partners. One would expect that countries whose currencies are more volatile would engage in less trade because volatility increases trade costs. However, the cross-country correlation between effective volatility and the export or import growth in figures a and b does not seem to support this hypothesis. In practice, countries whose currencies have been more volatile do not seem to have had lower rates of growth both in terms of imports and exports.



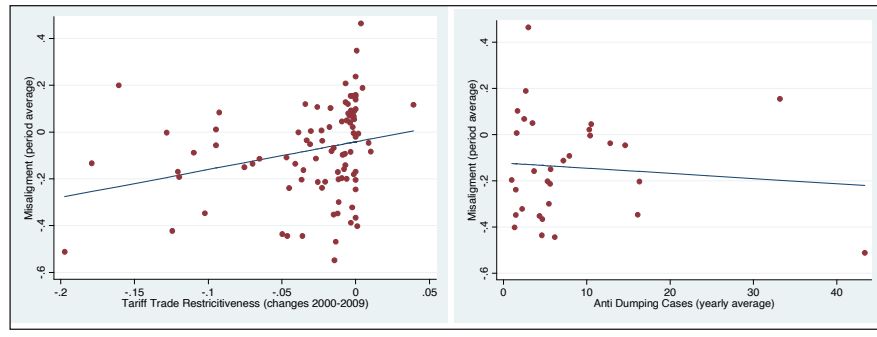
Exchange Rate Volatility and International Trade.

In figure above, with regard to misalignment, its effect on international trade is related to the impact of the exchange rate on relative prices or tradable and non-tradable goods. Conceptually, an undervalued currency favours domestically produced tradable goods and thus protects domestic firms from imports and gives them an incentive to export. According to this principle, countries with undervalued currencies would have relatively higher exports and lower imports. The cross-country evidence illustrated in figure a seems to support the argument that undervalued currencies promote exports, because exports have grown relatively more in countries whose currencies have remained undervalued. On the other hand, figure b suggests a weaker but still positive relationship between undervaluation and import growth. This is counterintuitive, as one would expect a negative correlation because undervaluation is expected to act as a tax on import, and thus lower imports rather than raise them. One possible explanation is that the positive correlation between exports and undervaluation pass spreads also on imports because increases in exports have to be supported by increases in intermediate inputs. Although this argument may not be relevant to all countries, it may be sufficient to explain the weaker positive correlation in figure b.



Exchange Rate Misalignment and International Trade.

In figure above, with regard to the relationship between exchange rates and trade policy, figures a and b plot the average misalignment against the TTRI and the number of anti-dumping investigations. Countries with overvalued currencies may find it more difficult to pursue trade liberalization. The rationale is that some countries may resist trade liberalization in order to counteract the surge in imports caused by an overvalued currency. This argument is supported by figure a, which shows that countries with overvalued currencies have liberalized tariffs relatively less.



Exchange Rate Misalignment and Trade Policy.

In figure above, with regard to anti-dumping, the argument is similar to that of tariffs. Countries with an overvalued currency may be more willing to use anti-dumping procedures to defend their domestic industries. This argument is not substantiated by the raw data of figure b in which the weak negative correlation is largely driven by two outliers. There is no conclusive evidence that countries with undervalued or overvalued currencies are keener to use anti-dumping to counteract the effect of currency misalignment.

Econometric Results

Although informative, the relationships between exchange rates and trade presented in section are primarily for illustrative and preliminary purposes rather than for establishing causality. To better infer the effects of exchange rates on international trade and trade policy, one needs to control for the multitude of determinants that may influence the variables of interest. This is done here by econometrically estimating the relationship between the exchange rate and international trade according to the models presented in section. The purpose of the econometric estimation is to explore whether bilateral trade is affected by changes in the volatility and misalignment between two currencies once all other determinants of trade have been adequately controlled for. In practice, what matters for better assessing causality is not so much the cross-country evidence but rather to what extent periods of exchange rate overvaluation or volatility – within each country – are associated to lower trade or slower trade liberalization.

Table reports a series of specifications where the level of bilateral trade is regressed against the policy variables discussed above. These specifications are quite accurate in isolating the effects of exchange rate variables on international trade as a series of fixed effects control for cross-country variations, time-specific factors and time-unvarying bilateral factors that could influence the level of trade. The change in trade policy is controlled for by the TTRI variable. Fixed effects also control for the endogenous nature of the exchange rate to trade (a country may be willing to pursue a more stable exchange rate with a major trading partner). This empirical approach provides an identification strategy to measure the effects of exchange rates on trade.

Specifications (1), (2) and (3) report the results where the level of trade (exports) is regressed on the two exchange rate variables (bilateral volatility and bilateral misalignment), controlled for trade policy, multilateral resistance and a full set of fixed effects (importer, exporter, time and country pair). The results indicate that short-term volatility does not have a significant impact on trade, while misalignment does. The negative coefficient on the misalignment term implies that exports decline when currencies become more overvalued. The results remain qualitatively

similar when the two variables are used simultaneously. Note that the level of misalignment matters even when the model is estimated on the much smaller sample for which the volatility variable could be computed. This suggests that the significant effect of misalignment on trade is not driven by minor currencies.

Table: Exchange rates and trade flows dependent variable - log of exports.

	(1)	(2)	(3)	(4)	(5)	(6)
Log Gdp Importer	0.776***	0.770***	0.783***	0.676***	0.703***	0.684***
	(0.069)	(0.057)	(0.069)	(0.081)	(0.066)	(0.081)
Log Gdp Exporter	0.671***	0.562***	0.666***	0.588***	0.509***	0.583***
	(0.097)	(0.071)	(0.097)	(0.105)	(0.080)	(0.105)
Log distance				-1.176***	-1.290***	-1.176***
				(0.010)	(0.008)	(0.010)
Common Border				0.0439	0.319***	0.044
				(0.036)	(0.035)	(0.036)
Colonial Links				0.482***	0.478***	0.482***
				(0.032)	(0.030)	(0.032)
Common Language				0.565***	0.104***	0.565***
				(0.023)	(0.028)	(0.023)
Misaligment		-0.101***	-0.0781**			-0.0767**
		(0.027)	(0.032)			(0.031)
Volatility	-0.377		-0.381	-1.797***		-1.802***
	(0.318)		(0.317)	(0.459)		(0.459)
Log (1+TTRI)	-1.084***	-0.917***	-1.080***	-1.517***	-1.466***	-1.514***
	(0.237)	(0.183)	(0.237)	(0.143)	(0.103)	(0.143)
Observations	38318	64770	38318	38318	64770	38318
Adjusted R 2	0.427	0.355	0.427	0.858	0.826	0.858

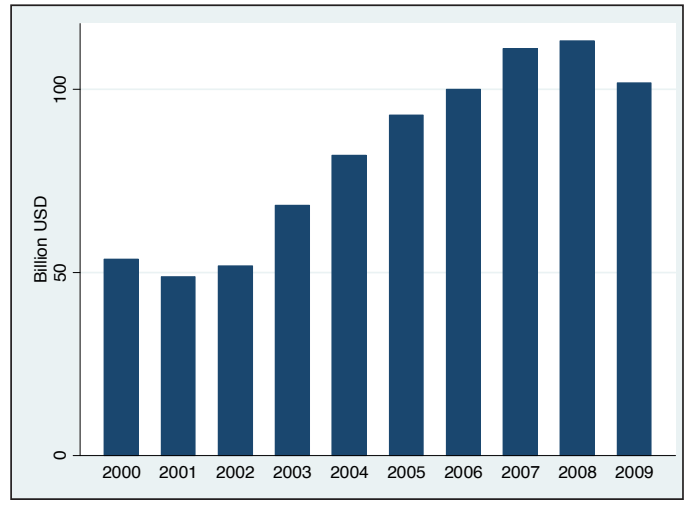
Standard errors in parentheses.

*p < 0.10, **p < 0.05, ***p < 0.01

Specifications (4), (5) and (6) report the same model but with the country pair fixed effects replaced by the four standard gravity variables (distance, shared border, colonial links and common language). Although these variables cannot control as well as fixed effects for bilateral trade determinants (and for the possible endogenous nature of the exchange rate variables to trade), it is important to also estimate the model in this manner. The main reason is that the use of country pair fixed effects cancels the effect of perfectly aligned exchange rates (currency unions and fully pegged exchange rates that were in force during the entire period of analysis). Thus, removing country pair fixed effects allows unvarying exchange rates to weigh in the estimation of the coefficients. While the results on misalignment remain virtually unchanged,

the econometric results point to a strong significance of the volatility term. This suggests that volatility is important only when there is none, as in the case of currency unions or completely pegged exchange rates. However, this strong result is more likely driven by long-term policy commitments related to currency union and pegged exchange rates rather than by short-term volatility. In practice, the actual effect of volatility on trade is that of specification (3), which indicates no significant causality. The model of table is estimated on exports. Symmetric results for misalignment are found when the model is estimated on level of imports. In this case, misalignment is positively correlated with imports. All in all, the results are supportive that currency overvaluation results in higher imports and lower exports. The opposite is true for undervalued currencies.

These econometric results can be used to provide an approximation of the aggregate impact of exchange rate misalignment on trade diversion. The overall impact of misalignment on world trade is measured by multiplying for each country pair the measure of misalignment, the respective level of trade and the relevant coefficient. The figures are based on the results of specification (3) of table. The impact is illustrated in figure which shows the effect of overall currency misalignments on international trade for each year. In practice, the figure is to be interpreted as the value of world exports that is diverted from countries with overvalued currencies to countries with undervalued currencies. Note that this is an incomplete approximation of the overall effect of misalignments on world trade as it does not take into account trade disruption (part of the effect of misalignment on trade is not diverted but internalized by the domestic economy).



Overall Trade Diversion Effect of Exchange Rate Misalignments.

The trade diversion effect of misalignment is quantified in slightly less than 1 per cent of world trade and varies between US$50 billion in the 2000-2002 period to almost US$120 billion in 2008. In other words, a completely aligned exchange rate system would shift about US$120 billion of exports from countries with undervalued currencies to ones with overvalued currencies.

Table reports the results on the relationship between trade policy and exchange rate misalignment. Specifications (1) to (2) report the results testing for the hypothesis that a misaligned exchange rate may affect trade policy. Specifications (3) and (4) report the results of exchange rate misalignment on anti-dumping.

Table: Exchange rate misalignment and trade policy dependent variable - Log (1+TTRI).

	(1)	(2)	(3)	(4)
Log Trade Value		-0.0025***		0.0101***
		-(0.0002)		(0.0035)
Log Gdp Importer		-0.0202***		-0.0387
		(0.0020)		(0.0534)
Misalignment	0.0016*	0.0016*	0.16***	0.17***
	(0.0009)	(0.0009)	(0.0264)	(0.0265)
Observations	65068	65068	18466	18466
Adjusted R 2	0.629	0.632	0.262	0.275

In specification (1) the TTRI is regressed on misalignment and a series of fixed effects. Country and time fixed effects control for country characteristics and global economic shocks. Country pair fixed effects control for bilateral factors which may affect trade policy (e.g. RTAs and import composition). The coefficient on misalignment has a positive sign, indicating that periods of overvaluation are associated with less tariff liberalization. However, the effect of misalignment is relatively small and only marginally significant. Specification (2) shows substantially unaffected coefficients when two specific control variables (trade and GDP) are added. The signs on these variables are as expected. Trade and GDP are negatively correlated with the level of tariffs. This implies that tariff liberalization has happened relatively more slowly when trade or GDP has declined. In summary, the results suggest that exchange rate overvaluation is related to less tariff liberalization; however this evidence is not very strong. In magnitude, the average impact in terms of slower tariff liberalization is about 0.1 per cent.

Specifications (3) and (4) report the results on the effect of exchange rate misalignment on the number of anti-dumping investigations initiated. As this is a count variable, the relationship between the two variables is estimated with a negative binomial model. The results indicate a strong relationship between misalignment and anti-dumping. Periods of exchange rate appreciation are positively related to the number of anti-dumping investigations. This outcome remains unchanged when the two control variables are added in specification (4). As expected, the number of anti-dumping investigations is also found to increase with imports but not with GDP.

On the whole, there is evidence that exchange rate overvaluation impacts the choice and the pace of trade policy. However, its effect seems to be largely restricted to anti-dumping. The effect of overvaluation on tariff liberalization is more muted.

Flexible Exchange Rate

A floating exchange rate (also called a fluctuating or flexible exchange rate) is a type of exchange-rate regime in which a currency's value is allowed to fluctuate in response to foreign-exchange market events. A currency that uses a floating exchange rate is known as a floating currency. A floating currency is contrasted with a fixed currency whose value is tied to that of another currency, material goods or to a currency basket.

In the modern world, most of the world's currencies are floating; they include the most widely-traded currencies: the United States dollar, the Swiss franc, the Indian rupee, the euro, the Japanese yen, the British pound, and the Australian dollar. However, central banks often participate in the markets to attempt to influence the value of floating exchange rates. The Canadian dollar most closely resembles a pure floating currency because the Canadian central bank has not interfered with its price since it officially stopped doing so in 1998. The US dollar runs a close second, with very little change in its foreign reserves. In contrast, Japan and the UK intervene to a greater extent, and India has seen medium-range intervention by its central bank, the Reserve Bank of India.

From 1946 to the early 1970s, the Bretton Woods system made fixed currencies the norm; however, in 1971, the US decided no longer to uphold the dollar exchange at 1/35th of an ounce of gold and so its currency was no longer fixed. After the 1973 Smithsonian Agreement, most of the world's currencies followed suit. However, some countries, such as most of the Gulf States, fixed their currency to the value of another currency, which has been more recently associated with slower rates of growth. When a currency floats, targets other than the exchange rate itself are used to administer monetary policy.

Economic Rationale

Some economists think that in most circumstances, floating exchange rates are preferable to fixed exchange rates. As floating exchange rates automatically adjust, they enable a country to dampen the impact of shocks and foreign business cycles and to preempt the possibility of having a balance of payments crisis. However, they also engender unpredictability as the result of their dynamism, which can render businesses' planning risky since the future exchange rates during their planning cycle are uncertain.

However, in certain situations, fixed exchange rates may be preferable for their greater stability and certainty. That may not necessarily be true, considering the results of countries that attempt to keep the prices of their currency "strong" or "high" relative to others, such as the UK or the Southeast Asia countries before the Asian currency crisis.

The debate of making a choice between fixed and floating exchange rate regimes is set forth by the Mundell–Fleming model, which argues that an economy (or the government) cannot simultaneously maintain a fixed exchange rate, free capital movement, and an independent monetary policy. It must choose any two for control and leave the other to market forces.

The primary argument for a floating exchange rate is that it allows monetary policies to be useful for other purposes. Under fixed rates, monetary policy is committed to the single goal of maintaining exchange rate at its announced level. However, the exchange rate is only one of the many macroeconomic variables that monetary policy can influence. A system of floating exchange rates leaves monetary policymakers free to pursue other goals, such as stabilizing employment or prices.

During an extreme appreciation or depreciation, a central bank will normally intervene to stabilize the currency. Thus, the exchange rate regimes of floating currencies may more technically be known as a managed float. A central bank might, for instance, allow a currency price to float freely between an upper and lower bound, a price "ceiling" and "floor." Management by the central bank may take the form of buying or selling large lots in order to provide price support or resistance or, in the case of some national currencies, there may be legal penalties for trading outside these bounds.

Aversion to Floating

A free floating exchange rate increases foreign exchange volatility. Some economists think that this could cause serious problems, especially in emerging economies. Those economies have a financial sector with one or more of following conditions:

- High liability dollarization.
- Financial fragility.
- Strong balance sheet effects.

When liabilities are denominated in foreign currencies while assets are in the local currency, unexpected depreciations of the exchange rate deteriorate bank and corporate balance sheets and threaten the stability of the domestic financial system.

Therefore, emerging countries appear to have greater aversion to floating, as they have much smaller variations of the nominal exchange rate but face bigger shocks and interest rate and reserve movements. This is the consequence of frequent free floating countries' reaction to exchange rate movements with monetary policy and/or intervention in the foreign exchange market. The number of countries that show aversion to floating increased significantly during the 1990s.

Exchange-rate Flexibility System

A flexible exchange-rate system is a monetary system that allows the exchange rate to be determined by supply and demand.

Every currency area must decide what type of exchange rate arrangement to maintain. Between permanently fixed and completely flexible however, are heterogeneous approaches. They have different implications for the extent to which national authorities participate in foreign exchange markets. According to their degree of flexibility, post-Bretton Woods-exchange rate regimes are arranged into three categories: currency unions, dollarized regimes, currency boards and conventional currency pegs are described as "fixed-rate regimes"; horizontal bands, crawling pegs and crawling bands are grouped into "intermediate regimes"; and managed and independent floats are described as flexible regimes. All monetary regimes except for the permanently fixed regime experience the time inconsistency problem and exchange rate volatility, albeit to different degrees.

Fixed Rate Programs

In a fixed exchange rate system, the monetary authority picks rates of exchange with each other currency and commits to adjusting the money supply, restricting exchange transactions and adjusting other variables to ensure that the exchange rates do not move. All variations on fixed rates reduce the time inconsistency problem and reduce exchange rate volatility, albeit to different degrees.

Under *dollarization*/*Euroization*, the US dollar or the Euro acts as legal tender in a different country. Dollarization is a summary description of the use of foreign currency in its capacity to produce all types of money services in the domestic economy. Monetary policy is delegated to the anchor country. Under dollarization exchange rate movements cannot buffer external shocks. The money supply in the dollarizing country is limited to what it can earn via exports, borrow and receive from emigrant remittances.

A *currency board* enables governments to manage their external credibility problems and discipline their central banks by "tying their hands" with binding arrangements. A currency board combines three elements: an exchange rate that is fixed to another, "anchor currency"; automatic convertibility or the right to exchange domestic currency at this fixed rate whenever desired; and a long-term commitment to the system. A currency board system can ultimately be credible only if central bank holds official foreign exchange reserves sufficient to at least cover the entire monetary base. Exchange rate movements cannot buffer external shocks.

A *fixed peg* system fixes the exchange rate against a single currency or a currency basket. The time inconsistency problem is reduced through commitment to a verifiable target. However, the availability of a devaluation option provides a policy tool for handling large shocks. Its potential drawbacks are that it provides a target for speculative attacks, avoids exchange rate volatility, but not necessarily persistent misalignments, does not by itself place hard constraints on monetary and fiscal policy and that the credibility effect depends on accompanying institutional measures and a visible record of accomplishment.

Monetary Union

A currency or monetary *union* is a multi-country zone where a single monetary policy prevails and inside which a single currency or multiple substitutable currencies, move freely. A monetary union has common monetary and fiscal policy to ensure control over the creation of money and the size of government debts. It has a central management of the common pool of foreign exchange reserves, external debts and exchange rate policies. The monetary union has common regional monetary authority i.e. common regional central bank, which is the sole issuer of economy wide currency, in the case of a full currency union.

The monetary union eliminates the time inconsistency problem within the zone and reduces real exchange rate volatility by requiring multinational agreement on exchange rate and other monetary changes. The potential drawbacks are that member countries suffering asymmetric shocks lose a stabilization tool—the ability to adjust exchange rates. The cost depends on the extent of asymmetric costs and the availability and effectiveness of alternative adjustment tools.

Flexible Exchange Rate

These systems do not particularly reduce time inconsistency problems nor do they offer specific techniques for maintaining low exchange rate volatility.

A *crawling peg* attempts to combine flexibility and stability using a rule-based system for gradually altering the currency's par value, typically at a predetermined rate or as a function of inflation differentials. A crawling peg is similar to a fixed peg; however, it can be adjusted based on clearly defined rules. A crawling peg is often used by (initially) high-inflation countries or developing nations who peg to low inflation countries in attempt to avoid currency appreciation. At the margin a crawling peg provides a target for speculative attacks. Among variants of fixed exchange rates, it imposes the least restrictions, and may hence yield the smallest credibility benefits. The credibility effect depends on accompanying institutional measures and record of accomplishment.

Exchange rate bands allow markets to set rates within a specified range; edges of the band are defended through intervention. It provides a limited role for exchange rate movements to counteract

external shocks while partially anchoring expectations. This system does not eliminate exchange rate uncertainty and thus motivates development of exchange rate risk management tools. On the margin a band is subject to speculative attacks. It does not by itself place hard constraints on policy, and thus provides only a limited solution to the time inconsistency problem. The credibility effect depends on accompanying institutional measures, a record of accomplishment and whether the band is firm or adjustable, secret or public, band width and the strength of the intervention requirement.

Managed float exchange rates are determined in the foreign exchange market. Authorities can and do intervene, but are not bound by any intervention rule. They are often accompanied by a separate nominal anchor, such as an inflation target. The arrangement provides a way to mix market-determined rates with stabilizing intervention in a non-rule-based system. Its potential drawbacks are that it does not place hard constraints on monetary and fiscal policy. It suffers from uncertainty from reduced credibility, relying on the credibility of monetary authorities. It typically offers limited transparency.

In a *pure float*, the exchange rate is determined in the market without public sector intervention. Adjustments to shocks can take place through exchange rate movements. It eliminates the requirement to hold large reserves. However, this arrangement does not provide an expectations anchor. The exchange rate regime itself does not imply any specific restriction on monetary and fiscal policy.

Fixed Exchange Rate

A fixed exchange rate, sometimes called a pegged exchange rate, is a type of exchange rate regime in which a currency's value is fixed against either the value of another single currency, a basket of other currencies, or another measure of value, such as gold.

There are benefits and risks to using a fixed exchange rate. A fixed exchange rate is typically used to stabilize the value of a currency by directly fixing its value in a predetermined ratio to a different, more stable, or more internationally prevalent currency (or currencies) to which the value is pegged. In doing so, the exchange rate between the currency and its peg does not change based on market conditions, unlike in a flexible exchange regime. This makes trade and investments between the two currency areas easier and more predictable and is especially useful for small economies that borrow primarily in foreign currency and in which external trade forms a large part of their GDP.

A fixed exchange-rate system can also be used to control the behavior of a currency, such as by limiting rates of inflation. However, in doing so, the pegged currency is then controlled by its reference value. As such, when the reference value rises or falls, it then follows that the value(s) of any currencies pegged to it will also rise and fall in relation to other currencies and commodities with which the pegged currency can be traded. In other words, a pegged currency is dependent on its reference value to dictate how its current worth is defined at any given time. In addition, according to the Mundell–Fleming model, with perfect capital mobility, a fixed exchange rate prevents a government from using domestic monetary policy to achieve macroeconomic stability.

In a fixed exchange-rate system, a country's central bank typically uses an open market mechanism

and is committed at all times to buy and/or sell its currency at a fixed price in order to maintain its pegged ratio and, hence, the stable value of its currency in relation to the reference to which it is pegged. To maintain a desired exchange rate, the central bank during a time of private sector net demand for the foreign currency, sells foreign currency from its reserves and buys back the domestic money. This creates an artificial demand for the domestic money, which increases its exchange rate value. Conversely, in the case of an insipient appreciation of the domestic money, the central bank buys back the foreign money and thus adds domestic money into the market, thereby maintaining market equilibrium at the intended fixed value of the exchange rate.

In the 21st century, the currencies associated with large economies typically do not fix (peg) their exchange rates to other currencies. The last large economy to use a fixed exchange rate system was the People's Republic of China, which, in July 2005, adopted a slightly more flexible exchange rate system, called a managed exchange rate. The European Exchange Rate Mechanism is also used on a temporary basis to establish a final conversion rate against the euro from the local currencies of countries joining the Eurozone.

Gold Standard

The earliest establishment of a gold standard was in the United Kingdom in 1821 followed by Australia in 1852 and Canada in 1853. Under this system, the external value of all currencies was denominated in terms of gold with central banks ready to buy and sell unlimited quantities of gold at the fixed price. Each central bank maintained gold reserves as their official reserve asset. For example, during the "classical" gold standard period, the U.S. dollar was defined as 0.048 troy oz. of pure gold.

Bretton Woods System

Following the Second World War, the Bretton Woods system replaced gold with the U.S. dollar as the official reserve asset. The regime intended to combine binding legal obligations with multilateral decision-making through the International Monetary Fund (IMF). The rules of this system were set forth in the articles of agreement of the IMF and the International Bank for Reconstruction and Development.

The system was a monetary order intended to govern currency relations among sovereign states, with the 44 member countries required to establish a parity of their national currencies in terms of the U.S. dollar and to maintain exchange rates within 1% of parity (a "band") by intervening in their foreign exchange markets (that is, buying or selling foreign money). The U.S. dollar was the only currency strong enough to meet the rising demands for international currency transactions, and so the United States agreed both to link the dollar to gold at the rate of $35 per ounce of gold and to convert dollars into gold at that price.

Due to concerns about America's rapidly deteriorating payments situation and massive flight of liquid capital from the U.S., President Richard Nixon suspended the convertibility of the dollar into gold on 15 August 1971. In December 1971, the Smithsonian Agreement paved the way for the increase in the value of the dollar price of gold from US$35.50 to US$38 an ounce. Speculation against the dollar in March 1973 led to the birth of the independent float, thus effectively terminating the Bretton Woods system.

Current Monetary Regimes

Since March 1973, the floating exchange rate has been followed and formally recognized by the Jamaica accord of 1978. Countries use foreign exchange reserves to intervene in foreign exchange markets to balance short-run fluctuations in exchange rates. The prevailing exchange rate regime is often considered a revival of Bretton Woods policies, namely Bretton Woods II.

Mechanisms

Open Market Trading

Typically, a government wanting to maintain a fixed exchange rate does so by either buying or selling its own currency on the open market. This is one reason governments maintain reserves of foreign currencies.

If the exchange rate drifts too far above the fixed benchmark rate (it is stronger than required), the government sells its own currency (which increases Supply) and buys foreign currency. This causes the price of the currency to decrease in value. Also, if they buy the currency it is pegged to, then the price of that currency will increase, causing the relative value of the currencies to be closer to the intended relative value.

If the exchange rate drifts too far below the desired rate, the government buys its own currency in the market by selling its reserves. This places greater demand on the market and causes the local currency to become stronger, hopefully back to its intended value. The reserves they sell may be the currency it is pegged to, in which case the value of that currency will fall.

Fiat

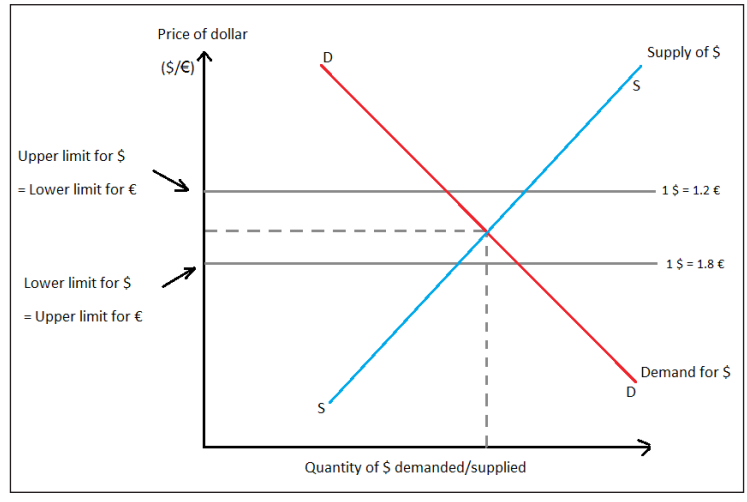
Another, less used means of maintaining a fixed exchange rate is by simply making it illegal to trade currency at any other rate. This is difficult to enforce and often leads to a black market in foreign currency. Nonetheless, some countries are highly successful at using this method due to government monopolies over all money conversion. This was the method employed by the Chinese government to maintain a currency peg or tightly banded float against the US dollar. China buys an average of one billion US dollars a day to maintain the currency peg. Throughout the 1990s, China was highly successful at maintaining a currency peg using a government monopoly over all currency conversion between the yuan and other currencies.

Open Market Mechanism Example

Under this system, the central bank first announces a fixed exchange-rate for the currency and then agrees to buy and sell the domestic currency at this value. The market equilibrium exchange rate is the rate at which supply and demand will be equal, i.e., markets will clear. In a flexible exchange rate system, this is the spot rate. In a fixed exchange-rate system, the pre-announced rate may not coincide with the market equilibrium exchange rate. The foreign central banks maintain reserves of foreign currencies and gold which they can sell in order to intervene in the foreign exchange market to make up the excess demand or take up the excess supply.

The demand for foreign exchange is derived from the domestic demand for foreign goods, services,

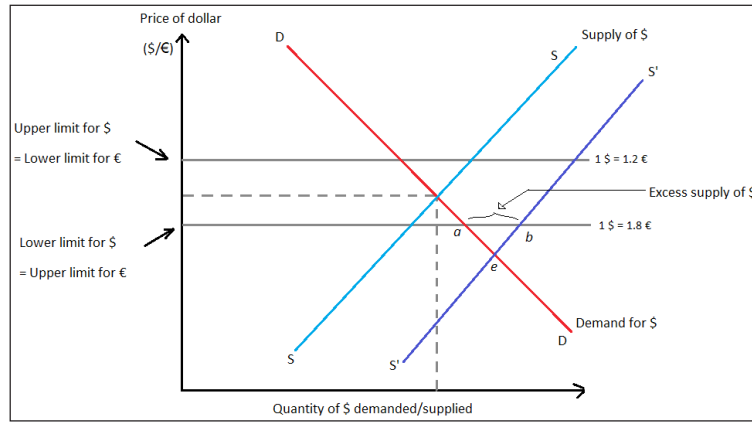
and financial assets. The supply of foreign exchange is similarly derived from the foreign demand for goods, services, and financial assets coming from the home country. Fixed exchange-rates are not permitted to fluctuate freely or respond to daily changes in demand and supply. The government fixes the exchange value of the currency. For example, the European Central Bank (ECB) may fix its exchange rate at €1 = $1 (assuming that the euro follows the fixed exchange-rate). This is the central value or par value of the euro. Upper and lower limits for the movement of the currency are imposed, beyond which variations in the exchange rate are not permitted. The "band" or "spread".



Mechanism of fixed exchange-rate system.

Excess Demand for Dollars

Figure describes the excess demand for dollars. This is a situation where domestic demand for foreign goods, services, and financial assets exceeds the foreign demand for goods, services, and financial assets from the European Union. If the demand for dollar rises from DD to D'D', excess demand is created to the extent of *cd*. The ECB will sell *cd* dollars in exchange for euros to maintain the limit within the band. Under a floating exchange rate system, equilibrium would have been achieved at *e*.



Excess demand for dollars.

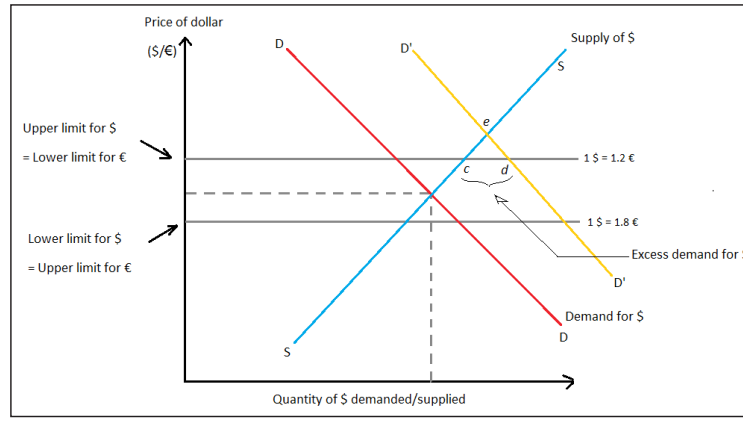
When the ECB sells dollars in this manner, its official dollar reserves decline and domestic money supply shrinks. To prevent this, the ECB may purchase government bonds and thus meet the shortfall in money supply. This is called sterilized intervention in the foreign exchange market.

When the ECB starts running out of reserves, it may also devalue the euro in order to reduce the excess demand for dollars, i.e., narrow the gap between the equilibrium and fixed rates.

Excess Supply of Dollars

Figure describes the excess supply of dollars. This is a situation where the foreign demand for goods, services, and financial assets from the European Union exceeds the European demand for foreign goods, services, and financial assets. If the supply of dollars rises from SS to S'S', excess supply is created to the extent of *ab*. The ECB will buy *ab* dollars in exchange for euros to maintain the limit within the band. Under a floating exchange rate system, equilibrium would again have been achieved at *e*.

When the ECB buys dollars in this manner, its official dollar reserves increase and domestic money supply expands, which may lead to inflation. To prevent this, the ECB may sell government bonds and thus counter the rise in money supply.



Excess demand for dollars.

When the ECB starts accumulating excess reserves, it may also revalue the euro in order to reduce the excess supply of dollars, i.e., narrow the gap between the equilibrium and fixed rates. This is the opposite of devaluation.

Types of Fixed Exchange Rate Systems

Gold Standard

Under the gold standard, a country's government declares that it will exchange its currency for a certain weight in gold. In a pure gold standard, a country's government declares that it will freely exchange currency for actual gold at the designated exchange rate. This "rule of exchange" allows anyone to enter the central bank and exchange coins or currency for pure gold or vice versa. The gold standard works on the assumption that there are no restrictions on capital movements or export of gold by private citizens across countries.

Because the central bank must always be prepared to give out gold in exchange for coin and currency upon demand, it must maintain gold reserves. Thus, this system ensures that the exchange rate between currencies remains fixed. For example, under this standard, a £1 gold coin in the United Kingdom contained 113.0016 grains of pure gold, while a $1 gold coin in the United States contained

23.22 grains. The mint parity or the exchange rate was thus: R = $/£ = 113.0016/23.22 = 4.87. The main argument in favor of the gold standard is that it ties the world price level to the world supply of gold, thus preventing inflation unless there is a gold discovery (a gold rush, for example).

Price Specie Flow Mechanism

The automatic adjustment mechanism under the gold standard is the price specie flow mechanism, which operates so as to correct any balance of payments disequilibrium and adjust to shocks or changes. This mechanism was originally introduced by Richard Cantillon and later discussed by David Hume in 1752 to refute the mercantilist doctrines and emphasize that nations could not continuously accumulate gold by exporting more than their imports.

The assumptions of this mechanism are:

- Prices are flexible.
- All transactions take place in gold.
- There is a fixed supply of gold in the world.
- Gold coins are minted at a fixed parity in each country.
- There are no banks and no capital flows.

Adjustment under a gold standard involves the flow of gold between countries resulting in equalization of prices satisfying purchasing power parity, and/or equalization of rates of return on assets satisfying interest rate parity at the current fixed exchange rate. Under the gold standard, each country's money supply consisted of either gold or paper currency backed by gold. Money supply would hence fall in the deficit nation and rise in the surplus nation. Consequently, internal prices would fall in the deficit nation and rise in the surplus nation, making the exports of the deficit nation more competitive than those of the surplus nations. The deficit nation's exports would be encouraged and the imports would be discouraged till the deficit in the balance of payments was eliminated.

- Deficit nation: Lower money supply → Lower internal prices → More exports, less imports → Elimination of deficit.
- Surplus nation: Higher money supply → Higher internal prices → Less exports, more imports → Elimination of surplus.

Reserve Currency Standard

In a reserve currency system, the currency of another country performs the functions that gold has in a gold standard. A country fixes its own currency value to a unit of another country's currency, generally a currency that is prominently used in international transactions or is the currency of a major trading partner. For example, suppose India decided to fix its currency to the dollar at the exchange rate E/$ = 45.0. To maintain this fixed exchange rate, the Reserve Bank of India would need to hold dollars on reserve and stand ready to exchange rupees for dollars (or dollars for rupees) on demand at the specified exchange rate. In the gold standard the central bank held gold to exchange for *its own currency*, with a reserve currency standard it must hold a stock of the *reserve currency*.

Currency board arrangements are the most widespread means of fixed exchange rates. Under this, a nation rigidly pegs its currency to a foreign currency, special drawing rights (SDR) or a basket of currencies. The central bank's role in the country's monetary policy is therefore minimal as its money supply is equal to its foreign reserves. Currency boards are considered hard pegs as they allow central banks to cope with shocks to money demand without running out of reserves. CBAs have been operational in many nations including:

- Hong Kong (since 1983).
- Argentina (1991 to 2001).
- Estonia (1992 to 2010).
- Lithuania (1994 to 2014).
- Bosnia and Herzegovina (since 1997).
- Bulgaria (since 1997).
- Bermuda (since 1972).
- Denmark (since 1945).
- Brunei (since 1967).

Gold Exchange Standard

The fixed exchange rate system set up after World War II was a gold-exchange standard, as was the system that prevailed between 1920 and the early 1930s. A gold exchange standard is a mixture of a reserve currency standard and a gold standard. Its characteristics are as follows:

- All non-reserve countries agree to fix their exchange rates to the chosen reserve at some announced rate and hold a stock of reserve currency assets.
- The reserve currency country fixes its currency value to a fixed weight in gold and agrees to exchange on demand its own currency for gold with other central banks within the system, upon demand.

Unlike the gold standard, the central bank of the reserve country does not exchange gold for currency with the general public, only with other central banks.

Hybrid Exchange Rate Systems

The current state of foreign exchange markets does not allow for the rigid system of fixed exchange rates. At the same time, freely floating exchange rates expose a country to volatility in exchange rates. Hybrid exchange rate systems have evolved in order to combine the characteristics features of fixed and flexible exchange rate systems. They allow fluctuation of the exchange rates without completely exposing the currency to the flexibility of a free float.

Basket-of-currencies

Countries often have several important trading partners or are apprehensive of a particular

currency being too volatile over an extended period of time. They can thus choose to peg their currency to a weighted average of several currencies (also known as a currency basket). For example, a composite currency may be created consisting of 100 Indian rupees, 100 Japanese yen and one Singapore dollar. The country creating this composite would then need to maintain reserves in one or more of these currencies to intervene in the foreign exchange market.

A popular and widely used composite currency is the SDR, which is a composite currency created by the International Monetary Fund (IMF), consisting of a fixed quantity of U.S. dollars, Chinese yuan, euros, Japanese yen, and British pounds.

Crawling Pegs

In a crawling peg system a country fixes its exchange rate to another currency or basket of currencies. This fixed rate is changed from time to time at periodic intervals with a view to eliminating exchange rate volatility to some extent without imposing the constraint of a fixed rate. Crawling pegs are adjusted gradually, thus avoiding the need for interventions by the central bank (though it may still choose to do so in order to maintain the fixed rate in the event of excessive fluctuations).

Pegged within a Band

A currency is said to be pegged within a band when the central bank specifies a central exchange rate with reference to a single currency, a cooperative arrangement, or a currency composite. It also specifies a percentage allowable deviation on both sides of this central rate. Depending on the band width, the central bank has discretion in carrying out its monetary policy. The band itself may be a crawling one, which implies that the central rate is adjusted periodically. Bands may be symmetrically maintained around a crawling central parity (with the band moving in the same direction as this parity does). Alternatively, the band may be allowed to widen gradually without any pre-announced central rate.

Currency Boards

A currency board (also known as 'linked exchange rate system") effectively replaces the central bank through a legislation to fix the currency to that of another country. The domestic currency remains perpetually exchangeable for the reserve currency at the fixed exchange rate. As the anchor currency is now the basis for movements of the domestic currency, the interest rates and inflation in the domestic economy would be greatly influenced by those of the foreign economy to which the domestic currency is tied. The currency board needs to ensure the maintenance of adequate reserves of the anchor currency. It is a step away from officially adopting the anchor currency (termed as currency substitution).

Currency Substitution

This is the most extreme and rigid manner of fixing exchange rates as it entails adopting the currency of another country in place of its own. The most prominent example is the eurozone, where 19 European Union (EU) member states have adopted the euro (€) as their common currency (euroization). Their exchange rates are effectively fixed to each other.

There are similar examples of countries adopting the U.S. dollar as their domestic currency (dollarization): British Virgin Islands, Caribbean Netherlands, East Timor, Ecuador, El Salvador, Marshall Islands, Federated States of Micronesia, Palau, Panama, Turks and Caicos Islands and Zimbabwe.

Monetary Co-operation

Monetary co-operation is the mechanism in which two or more monetary policies or exchange rates are linked, and can happen at regional or international level. The monetary co-operation does not necessarily need to be a voluntary arrangement between two countries, as it is also possible for a country to link its currency to another countries currency without the consent of the other country. Various forms of monetary co-operations exist, which range from fixed parity systems to monetary unions. Also, numerous institutions have been established to enforce monetary co-operation and to stabilise exchange rates, including the European Monetary Cooperation Fund (EMCF) in 1973 and the International Monetary Fund (IMF).

Monetary co-operation is closely related to economic integration, and are often considered to be reinforcing processes. However, economic integration is an economic arrangement between different regions, marked by the reduction or elimination of trade barriers and the coordination of monetary and fiscal policies, whereas monetary co-operation is focussed on currency linkages. A monetary union is considered to be the crowning step of a process of monetary co-operation and economic integration. In the form of monetary co-operation where two or more countries engage in a mutually beneficial exchange, capital among the countries involved is free to move, in contrast to capital controls. Monetary co-operation is considered to promote balanced economic growth and monetary stability, but can also work counter-effectively if the member countries have (strongly) differing levels of economic development. Especially European and Asian countries have a history of monetary and exchange rate co-operation, however the European monetary co-operation and economic integration eventually resulted in a European monetary union.

The Snake

In 1973, the currencies of the European Economic Community countries, Belgium, France, Germany, Italy, Luxemburg and the Netherlands, participated in an arrangement called *the Snake*. This arrangement is categorized as exchange rate co-operation. During the next 6 years, this agreement allowed the currencies of the participating countries to fluctuate within a band of plus or minus 2¼% around pre-announced central rates. Later, in 1979, the European Monetary System (EMS) was founded, with the participating countries in *'the Snake'* being founding members. The EMS evolves over the next decade and even results into a truly fixed exchange rate at the start of the 1990s. Around this time, in 1990, the EU introduced the Economic and Monetary Union (EMU), as an umbrella term for the group of policies aimed at converging the economies of member states of the European Union over three phases.

The Baht-U.S. Dollar Co-operation

In 1963, the Thai government established the Exchange Equalization Fund (EEF) with the purpose of playing a role in stabilizing exchange rate movements. It linked to the U.S. dollar by fixing the amount of gram of gold per baht as well as the baht per U.S. dollar. Over the course of the next 15 years, the Thai government decided to depreciate the baht in terms of gold three times, yet

maintain the parity of the baht against the U.S. dollar. Due to the introduction of a new generalized floating exchange rate system by the International Monetary Fund (IMF) that stretched a smaller role of gold in the international monetary system in 1978, this fixed parity system as a monetary co-operation policy was terminated. The Thai government amended its monetary policies to be more in line with the new IMF policy.

Advantages

- A fixed exchange rate may minimize instabilities in real economic activity.
- Central banks can acquire credibility by fixing their country's currency to that of a more disciplined nation.
- On a microeconomic level, a country with poorly developed or illiquid money markets may fix their exchange rates to provide its residents with a synthetic money market with the liquidity of the markets of the country that provides the vehicle currency.
- A fixed exchange rate reduces volatility and fluctuations in relative prices.
- It eliminates exchange rate risk by reducing the associated uncertainty.
- It imposes discipline on the monetary authority.
- International trade and investment flows between countries are facilitated.
- Speculation in the currency markets is likely to be less destabilizing under a fixed exchange rate system than it is in a flexible one, since it does not amplify fluctuations resulting from business cycles.
- Fixed exchange rates impose a price discipline on nations with higher inflation rates than the rest of the world, as such a nation is likely to face persistent deficits in its balance of payments and loss of reserves.
- Prevent, debt monetization, or fiscal spending financed by debt that the monetary authority buys up. This prevents high inflation.

Disadvantages

Lack of Automatic Rebalancing

One main criticism of a fixed exchange rate is that flexible exchange rates serve to adjust the balance of trade. When a trade deficit occurs under a floating exchange rate, there will be increased demand for the foreign (rather than domestic) currency which will push up the price of the foreign currency in terms of the domestic currency. That in turn makes the price of foreign goods less attractive to the domestic market and thus pushes down the trade deficit. Under fixed exchange rates, this automatic rebalancing does not occur.

Currency Crisis

Another major disadvantage of a fixed exchange-rate regime is the possibility of the central bank running out of foreign exchange reserves when trying to maintain the peg in the face of demand for foreign

reserves exceeding their supply. This is called a currency crisis or balance of payments crisis, and when it happens the central bank must devalue the currency. When there is the prospect of this happening, private-sector agents will try to protect themselves by decreasing their holdings of the domestic currency and increasing their holdings of the foreign currency, which has the effect of increasing the likelihood that the forced devaluation will occur. A forced devaluation will change the exchange rate by more than will the day-by-day exchange rate fluctuations under a flexible exchange rate system.

Freedom to Conduct Monetary and Fiscal Policy

Moreover, a government, when having a fixed rather than dynamic exchange rate, cannot use monetary or fiscal policies with a free hand. For instance, by using reflationary tools to set the economy growing faster (by decreasing taxes and injecting more money in the market), the government risks running into a trade deficit. This might occur as the purchasing power of a common household increases along with inflation, thus making imports relatively cheaper.

Additionally, the stubbornness of a government in defending a fixed exchange rate when in a trade deficit will force it to use deflationary measures (increased taxation and reduced availability of money), which can lead to unemployment. Finally, other countries with a fixed exchange rate can also retaliate in response to a certain country using the currency of theirs in defending their exchange rate.

Other Disadvantages

- The need for a fixed exchange rate regime is challenged by the emergence of sophisticated derivatives and financial tools in recent years, which allow firms to hedge exchange rate fluctuations.
- The announced exchange rate may not coincide with the market equilibrium exchange rate, thus leading to excess demand or excess supply.
- The central bank needs to hold stocks of both foreign and domestic currencies at all times in order to adjust and maintain exchange rates and absorb the excess demand or supply.
- Fixed exchange rate does not allow for automatic correction of imbalances in the nation's balance of payments since the currency cannot appreciate/depreciate as dictated by the market.
- It fails to identify the degree of comparative advantage or disadvantage of the nation and may lead to inefficient allocation of resources throughout the world.
- There exists the possibility of policy delays and mistakes in achieving external balance.
- The cost of government intervention is imposed upon the foreign exchange market.
- It does not work well in countries with dissimilar economies and thus dissimilar economic shocks.

Fixed Exchange Rate Regime versus Capital Control

The belief that the fixed exchange rate regime brings with it stability is only partly true, since speculative attacks tend to target currencies with fixed exchange rate regimes, and in fact, the

stability of the economic system is maintained mainly through capital control. A fixed exchange rate regime should be viewed as a tool in capital control.

FIX Line: Trade-off between symmetry of shocks and integration.

- The trade-off between symmetry of shocks and market integration for countries contemplating a pegged currency is outlined in Feenstra and Taylor's 2015 publication "International Macroeconomics" through a model known as the FIX Line diagram.
- This symmetry-integration diagram features two regions, divided by a 45-degree line with slope of -1. This line can shift to the left or to the right depending on extra costs or benefits of floating. The line has slope= -1 is because the larger symmetry benefits are, the less pronounced integration benefits have to be and vice versa. The right region contains countries that have positive potential for pegging, while the left region contains countries that face significant risks and deterrents to pegging.
- This diagram underscores the two main factors that drive a country to contemplate pegging a currency to another, shock symmetry and market integration. Shock symmetry can be characterized as two countries having similar demand shocks due to similar industry breakdowns and economies, while market integration is a factor of the volume of trading that occurs between member nations of the peg.
- In extreme cases, it is possible for a country to only exhibit one of these characteristics and still have positive pegging potential. For example, a country that exhibits complete symmetry of shocks but has zero market integration could benefit from fixing a currency. The opposite is true, a country that has zero symmetry of shocks but has maximum trade integration (effectively one market between member countries). This can be viewed on an international scale as well as a local scale. For example, neighborhoods within a city would experience enormous benefits from a common currency, while poorly integrated and/or dissimilar countries are likely to face large costs.

Exchange Rate Mechanism

Exchange rate mechanisms, or ERMs, are systems designed to control a currency's exchange rate relative to other currencies.

Most currencies historically began on a fixed exchange rate mechanisms, with their prices set to commodities like gold. In fact, the U.S. dollar was officially fixed to gold prices until October of 1976, when the government removed references to gold from official statutes. Some other countries began to fix their currencies to the U.S. dollar itself to limit volatility, including the United State's largest trading partner—China—who maintains some level of control to this day.

By the 1990s, many countries adopted floating ERMs that have remained the most popular option in order to maintain liquidity and reduce economic risks. Exceptions to the rule include countries like Venezuela and Argentina, as well as countries that have experienced temporary rises in their

currency valuations. For example, Japan and Switzerland both adopted semi-fixed ERMs in response to the European Financial Crisis that led to a sharp increase in their value.

Fixed ERMs helped reduce the uncertainty associated with fluctuations and potentially limited inflationary pressures, but flexible ERMs may have helped improve growth rates and liberated monetary policy to focus on domestic economies. For these reasons, most modern governments use flexible ERMs rather than maintaining fixed ERMs.

Working of ERMs

Actively managed exchange rate mechanisms work by setting a reasonable trading range for a currency's exchange rate and then enforcing the range via interventions. For example, Japan may set an upper and lower bound on the Japanese yen relative to the U.S. dollar. If the Japanese yen appreciates above this level, the Bank of Japan can intervene by buying large quantities of U.S. dollars and selling Japanese yen into the market to lower the price.

Other tools that can be used to defend exchange rates include tariffs and quotas, domestic interest rates, monetary and fiscal policy, or switching to a floating ERM. These strategies have mixed effects and reliability depending on the situation. For example, raising interest rates can be an effective way to increase a currency's valuation, but it's difficult to do if the economy is performing well.

Since central banks can print their own domestic currencies in theoretically unlimited quantities, most traders respect the limits of fixed or semi-fixed ERMs. There are some famous cases of these fixed or semi-fixed ERMs failing, though, including George Soros' famous run on the Bank of England. In these instances, traders might utilize leverage to make enormous bets against a currency that make interventions too expensive for central banks to undertake without causing significant inflation.

ERMs in Practice

The most popular example of an exchange rate mechanism is the European Exchange Rate Mechanism, which was designed to reduce exchange rate variability and achieve monetary stability in Europe prior to the introduction of the euro on January 1, 1999. The ERM was designed to normalize the currency exchange rates between these countries before they were integrated in order to avoid any significant problems with the market finding its bearings.

While the original European ERM has been dissolved, the European ERM II was adopted on May 1, 2004, in order to help new members of the eurozone better integrate. Countries involved include Estonia, Lithuania, Slovenia, Cypriot, Latvia, and Slovakia, among others. Sweden has been allowed to stay out of the ERM, while Switzerland has always floated completely independently until the Eurozone Debt Crisis led to a minimum 1.20 peg to the euro.

China also maintains a flexible ERM with the U.S. dollar, but the People's Bank of China has been notoriously unpredictable when defending it. For example, the country decided to let its currency float to a large extent in a controversial bid to become one of the world's official reserve currencies, alongside the U.S. dollar and the euro. But, skeptics argued that the devaluation simply made its exports cheaper at a time when the government wanted to boost economic growth rates.

At their extremes, floating ERMs allow currencies to trade without intervention by governments

and central banks, while fixed ERMs involve any measures necessary to keep rates set at a particular value. Managed ERMs fall somewhere between these two categories, with the European Exchange Rate Mechanism (ERM II) being the most popular example that's still being used today for countries looking to join Europe's monetary union.

Effective Rate of Protection

In economics, the effective rate of protection (ERP) is a measure of the total effect of the entire tariff structure on the value added per unit of output in each industry, when both intermediate and final goods are imported. This statistic is used by economists to measure the real amount of protection afforded to a particular industry by import duties, tariffs or other trade restrictions.

Early work on the concept was undertaken by Clarence Barber. The idea was developed and applied to policy analysis by Max Corden.

Consider a simple case: there is a tradable good (shoes) that uses one tradable input to produce (leather). Both shoes and leather are imported into the home country. Suppose that in the absence of any tariffs, shoes use $100 worth of leather to make, and shoes sell for $150 in the international markets. Shoemakers around the world add $50 of value. If the home country imposes a 20% tariff on shoes, but no tariff on leather, shoes would sell for $180 in the home country, and the value added for the domestic shoe maker would increase by $30, from $50 to $80. The domestic shoe maker is afforded a 60% effective rate of protection per dollar of value added.

This equals $(VA_d / VA_{int}) - 1$,

where:

VA_d = domestic value added,

VA_{int} = international value added,

An alternative that yields an identical answer is that the effective rate of protection equals $(Tf - Ti) / VA_{int}$.

where:

T_f = the total tariff theoretically or actually paid on the final product,

T_i = the total tariffs paid, theoretically or actually, on the *importable* inputs used to make that product.

The effective rate of protection is used to estimate the protection really afforded to domestic producers at each stage of production, i.e., how much extra they can charge and still be competitive with imported goods. If the total value of the tariffs on importable inputs exceeds that on the output, the effective rate of protection is negative, i.e., the industry is discriminated against in comparison with the imported product.

In this context, it does not matter whether the final product or the inputs used to make it were

actually imported or not. What is important is that they are importable. If so, the implied tariffs should be included in the above formulas because, even if the item was not actually imported, the existence of the tariff should have raised its price in the local market by an equivalent value.

The effective rate of protection reveals the extremely adverse effect of tariffs that escalate from low rates on raw materials to high rates on intermediate inputs and yet higher rates on the final product as, in fact, most countries' tariff schedules do. Less developed countries complain that such tariff schedules gravely impede their access to developed countries' markets.

Dumping

Dumping, in economics, is a kind of injuring pricing, especially in the context of international trade. It occurs when manufacturers export a product to another country at a price below the normal price with an injuring effect. The objective of dumping is to increase market share in a foreign market by driving out competition and thereby create a monopoly situation where the exporter will be able to unilaterally dictate price and quality of the product.

A standard technical definition of dumping is the act of charging a lower price for the like product in a foreign market than the normal value of the product, for example the price of the same product in a domestic market of the exporter or in a third country market. This is often referred to as selling at less than "normal value" on the same level of trade in the ordinary course of trade. Under the World Trade Organization (WTO) Antidumping Agreement, dumping is not prohibited unless it causes or threatens to cause material injury to a domestic industry in the importing country. Dumping is also prohibited when it causes "material retardation" in the establishment of an industry in the domestic market.

The term has a negative connotation, as advocates of competitive markets see "dumping" as a form of unfair competition. Furthermore, advocates for workers and laborers believe that safeguarding businesses against such practices, such as dumping, help alleviate some of the harsher consequences of such practices between economies at different stages of development. The Bolkestein directive, for example, was accused in Europe of being a form of "social dumping", as it favored competition between workers, as exemplified by the Polish Plumber stereotype. While there are few examples of a national scale dumping that succeeded in producing a national-level monopoly, there are several examples of local 'dumping' that produced a monopoly in regional markets for certain industries. Ron Chernow points to the example of regional oil monopolies in *Titan : The Life of John D. Rockefeller, Sr*. where lining an approved strategy where oil in one market, Cincinnati, would be sold at or below cost to drive competition's profits down and force them to exit the market. In another area where other independent businesses were already driven out, namely in Chicago, prices would be increased by a quarter.

Anti-dumping Actions

Legal Issues

If a company exports a product at a price that is lower than the price it normally charges in its

own home market, or sells at a price that does not meet its full cost of production, it is said to be "dumping" the product. It is a sub part of the various forms of price discrimination and is classified as third-degree price discrimination. Opinions differ as to whether or not such practice constitutes unfair competition, but many governments take action against dumping to protect domestic industry. The WTO agreement does not pass judgment. Its focus is on how governments can or cannot react to dumping—it disciplines anti-dumping actions, and it is often called the "anti-dumping agreement". (This focus only on the reaction to dumping contrasts with the approach of the subsidies and countervailing measures agreement).

The legal definitions are more precise, but broadly speaking, the WTO agreement allows governments to act against dumping where there is genuine ("material") injury to the competing domestic industry. To do so, the government has to show that dumping is taking place, calculate the extent of dumping (how much lower the export price is compared to the exporter's home market price), and show that the dumping is causing injury or threatening to cause injury.

While permitted by the WTO, General Agreement on Tariffs and Trade (GATT) allows countries the option of taking action against dumping. The Anti-Dumping Agreement clarifies and expands Article VI, and the two operate together. They allow countries to act in a way that would normally break the GATT principles of binding a tariff and not discriminating between trading partners—typically anti-dumping action means charging extra import duty on the particular product from the particular exporting country in order to bring its price closer to the "normal value" or to remove the injury to domestic industry in the importing country.

There are many different ways of calculating whether a particular product is being dumped heavily or only lightly. The agreement narrows down the range of possible options. It provides three methods to calculate a product's "normal value". The main one is based on the price in the exporter's domestic market. When this cannot be used, two alternatives are available—the price charged by the exporter in another country, or a calculation based on the combination of the exporter's production costs, other expenses and normal profit margins. And the agreement also specifies how a fair comparison can be made between the export price and what would be a normal price.

Five-percent Rule

According to footnote 2 of the Anti-Dumping Agreement, domestic sales of the like product are sufficient to base normal value on if they account for 5 percent or more of the sales of the product under consideration to the importing country market. This is often called the five-percent or home-market-viability test. This test is applied globally by comparing the quantity sold of a like product on the domestic market with the quantity sold to the importing market.

Normal value cannot be based on the price in the exporter's domestic market when there are no domestic sales. For example, if the products are only sold on the foreign market, the normal value will have to be determined on another basis. Additionally, some products may be sold on both markets but the quantity sold on the domestic market may be small compared to quantity sold on foreign market. This situation happens often in countries with small domestic markets like Hong Kong and Singapore, though similar circumstances may also happen in larger markets. This is because of differences in factors like consumer taste and maintenance.

Calculating the extent of dumping on a product is not enough. Anti-dumping measures can only be

applied if the act of dumping is hurting the industry in the importing country. Therefore, a detailed investigation must first be conducted according to specified rules. The investigation must evaluate all relevant economic factors that have a bearing on the state of the industry in question; if it is revealed that dumping is taking place and hurting domestic industry, the exporting company can raise its price to an agreed level in order to avoid anti-dumping import duties.

Procedures in Investigation and Litigation

Detailed procedures are set out on how anti-dumping cases are to be initiated, how the investigations are to be conducted, and the conditions for ensuring that all interested parties are given an opportunity to present evidence. Anti-dumping measures must expire five years after the date of imposition, unless a review shows that ending the measure would lead to injury.

Generally speaking, an anti-dumping investigation usually develops along the following steps: domestic producers makes a request to the relevant authority to initiate an anti-dumping investigation. Then investigation to the foreign producer is conducted to determine if the allegation is valid. It uses questionnaires completed by the interested parties to compare the foreign producer's (or producers') export price to the normal value (the price in the exporter's domestic market, the price charged by the exporter in another country, or a calculation based on the combination of the exporter's production costs, other expenses and normal profit margins). If the foreign producer's export price is lower than the normal price and the investigating body proves a causal link between the alleged dumping and the injury suffered by the domestic industry, it comes to a conclusion that the foreign producer is dumping its products. According to Article VI of GATT, dumping investigations shall, except in special circumstances, be concluded within one year, and in no case more than 18 months after initiation. Anti-dumping measures must expire five years after the date of imposition, unless a review shows that ending the measure would lead to injury.

Anti-dumping investigations are to end immediately in cases where the authorities determine that the margin of dumping is, *de minimis,* or insignificantly small (defined as less than 2% of the export price of the product). Other conditions are also set. For example, the investigations also have to end if the volume of dumped imports is negligible (i.e., if the volume from one country is less than 3% of total imports of that product—although investigations can proceed if several countries, each supplying less than 3% of the imports, together account for 7% or more of total imports).

The agreement says member countries must inform the Committee on Anti-Dumping Practices about all preliminary and final anti-dumping actions, promptly and in detail. They must also report on all investigations twice a year. When differences arise, members are encouraged to consult each other. They can also use the WTO's dispute settlement procedure.

Actions in the United States

In the United States, domestic firms can file an anti-dumping petition under the regulations determined by the U.S. Department of Commerce, which determines "less than fair value" and the International Trade Commission, which determines "injury". These proceedings operate on a timetable governed by U.S. law. The Department of Commerce has regularly found that products have been sold at less than fair value in U.S. markets. If the domestic industry is able to establish that it

is being injured by the dumping, then anti-dumping duties are imposed on goods imported from the dumpers' country at a percentage rate calculated to counteract the dumping margin.

Related to anti-dumping duties are "countervailing duties". The difference is that countervailing duties seek to offset injurious subsidization while anti-dumping duties offset injurious dumping.

Some commentators have noted that domestic protectionism, and lack of knowledge regarding foreign cost of production, lead to the unpredictable institutional process surrounding investigation. Members of the WTO can file complaints against anti-dumping measures.

Because of the 1997 Asian financial crisis, October 27, 1997 mini-crash, and 1998 Russian financial crisis, the United States steel producers were severely harmed by a record surge of more than 40 million tons of cheap steel imports, resulting in the loss of more than 10,000 steel production jobs in 1998, and was the imminent cause of three bankruptcies by medium-sized steel companies (Acme Steel, Laclede Steel, and Geneva Steel), reduced volume, lower prices, and affecting the willingness of private banks and investment institutions to make loans to the U.S. steel producers. As a result, Congress passed the Emergency Steel Loan Guarantee and Emergency Oil and Gas Guaranteed Loan Act of 1999, also known as the Emergency Steel Loan Guarantee Act of 1999.

Actions in the European Union

European Union anti-dumping is under the purview of the European Commission. It is governed by Council Regulation (EC) No 384/96 of 22 December 1995 on protection against dumped imports from countries not members of the European Community and the Council Regulation (EC) No 1225/2009 of 30 November 2009 on protection against dumped imports from countries not members of the European Community. However, implementation of anti-dumping actions (trade defence actions) is taken after voting by various committees with member state representation.

Regulation (EC) No 384/96 is repealed by Regulation (EC) No 1225/2009, however, the repeal of Regulation (EC) No 384/96 shall not prejudice the validity of proceedings initiated thereunder.

The bureaucratic entity responsible for advising member states on anti-dumping actions is the Directorate General Trade (DG Trade) in Brussels. Community industry can apply to have an anti-dumping investigation begin. DG Trade first investigates the standing of the complainants. If they are found to represent at least 25% of community industry, the investigation will probably begin. The process is guided by quite specific guidance in the regulations. The DG Trade will make a recommendation to a committee known as the Anti-Dumping Advisory Committee, on which each member state has one vote. Member states abstaining will be treated as if they voted in favour of industrial protection, a voting system which has come under considerable criticism.

As is implied by the criterion for beginning an investigation, EU anti-dumping actions are primarily considered part of a "trade defence" portfolio. Consumer interests and non-industry related interests ("community interests") are not emphasized during an investigation. An investigation typically looks for damage caused by dumping to community producers, and the level of tariff set is based on the damage done to community producers by dumping.

If consensus is not found, the decision goes to the European Council.

If imposed, duties last for five years theoretically. In practice they last at least a year longer, because expiry reviews are usually initiated at the end of the five years, and during the review process the status quo is maintained.

An example of an anti-dumping duty action taken by the European Union is that of the duty imposed upon bicycle imports from China into the EU, which has recently be continued at a rate of 48.5%. The tax has also been extended to imports from Indonesia, Malaysia, Sri Lanka and Tunisia. However, some companies are excluded or have a reduced rate.

Chinese Economic Situation

The dumping investigation essentially compares domestic prices of the accused dumping nation with prices of the imported product on the European market. However, several rules are applied to the data before the dumping margin is calculated. Most contentious is the concept of "analogue market". Some exporting nations are not granted "market economy status" by the EU: China is a prime example because its market status is considered "state-sponsored capitalism". In such cases, the DG Trade is prevented from using domestic prices as the fair measure of the domestic price. A particular export industry may also lose market status if the DG Trade concludes that this industry receives government assistance. Other tests applied include the application of international accounting standards and bankruptcy laws.

The consequences of not being granted market economy status have a big impact on the investigation. For example, if China is accused of dumping widgets, the basic approach is to consider the price of widgets in China against the price of Chinese widgets in Europe. But China does not have market economy status, so Chinese domestic prices can not be used as the reference. Instead, the DG Trade must decide upon an analogue market: a market which does have market economy status, and which is similar enough to China. Brazil and Mexico have been used, but the United States is a popular analogue market. In this case, the price of widgets in the United States is regarded as the substitute for the price of widgets in China. This process of choosing an analogue market is subject to the influence of the complainant, which has led to some criticism that it is an inherent bias in the process.

However, China has one of the world's cheapest labour costs. Criticisms have argued that it is quite unreasonable to compare China's goods price to the United States as analogue. China is now developing to a more free and open market, unlike its planned-economy in the early 1960s, the market in China is more willing to embrace the global competition. It is thus required to improve its market regulations and conquer the free trade barriers to improve the situation and produce a properly judged pricing level to assess the "dumping" behaviour.

Actions in India

The current set of anti-dumping laws in India is defined by section 9A and 9B of Customs and Tariffs Act, 1975 (Amended 1995) and The Anti-dumping rules such as (Identification, Assessment and Collection of Anti-dumping Duty on Dumped Articles and for Determination of Injury) Rules of 1995, section 9A of customs and tariffs Act 1975 states that "If any article is exported from any country or territory to India at less than its normal value, then, upon the importation of such article into India, the central government may by notification in the official

gazette, impose an anti-dumping duty not exceeding the margin of dumping in relation to such article." As of November 28, 2016, 353 anti-dumping cases has been initiated by Directorate General of Anti-Dumping and Allied Duties (DGAD) out of which in one hundred and thirty cases, anti-dumping measures are in force. In January 2017, the Indian government imposed anti-dumping duty on colour coated steel products imported from the European Union and China for 6 months.

Though, the move was applauded by Essar Steel India Commercial Director, H Shivram Krishnan but, importers expressed their concern regarding protective measures like minimum import price and ant-dumping duty especially when domestic is narrowing and imports are falling.

On July, 2015, the government imposed anti-dumping duty on fibreboard imported from Indonesia and Vietnam. This came after CEO and joint-Managing Director of Greenply Industries, Shobhan Mittal filed an application for anti-dumping probe initiation. The primary reason behind the probe was that the price differential between domestic and imported MDF stood at 5-6 percent and net MDF imports was at around 30-35 percent, majority of which came from Indonesia and Vietnam. On 8 March 2017, government of India imposed anti-dumping duty ranging from US$6.30 to US$351.72 per tonne on imports of jute and its products from Bangladesh and Nepal. Later the government of India withdrew the anti-dumping duty in case of Nepal.

On 26 October 2017, India imposes anti-dumping duty on stainless steel from US, EU and China. India has imposed anti-dumping duty on certain stainless steel products from the European Union and other nations including China and Korea, in order to protect the domestic industry from cheap imports.

The duty was imposed by the Revenue department following the recommendation by the Directorate General of Anti-Dumping and Allied Duties (DGAD).

- The levied duty will range between 4.58 per cent and 57.39 per cent of the landed value of cold-rolled flat products of stainless steel.
- The anti-dumping duty will be in effect until 10 December 2020.
- The direction however, exempts certain grades of stainless steel from the duty.
- The duty will be levied on the imports of stainless steel products from China, Taiwan, South Korea, South Africa, Thailand, the United States and the European Union.

Abuse of Anti-dumping Measures

Although anti-dumping measure has been provided as a vital rule in preventing protectionism and promote free trade, many instances of anti-dumping practices suggest that anti-dumping measures have been used as a tool of protectionism. India and China have been alleged to have used Anti-dumping Duty (ADD) as a form of "safety valves" – to ease competitive pressure in domestic market. Anti-dumping measures have also been used as a form of "retaliation" against products of countries that impose ADDs against the products of the host country. The USA has been consistently alleged to have abused anti-dumping measures with its practice of Zeroing. Similarly, in only around 2% cases the EU has been found to have imposed ADDs to offset dumping. In the remaining 98% cases of anti-dumping have been used for purposes other than offsetting dumping.

Common Agricultural Policy

The Common Agricultural Policy of the European Union has often been accused of dumping despite significant reforms, as part of the Agreement on Agriculture at the Uruguay round of GATT negotiations in 1992 and in subsequent incremental reforms, notably the Luxembourg Agreement in 2003. Initially, the CAP sought to increase European agricultural production and provide support to European farmers through a process of market intervention whereby a special fund, the European Agricultural Guidance and Guarantee Fund, would buy up surplus agricultural produce if the price fell below the centrally-determined intervention level.

European farmers were given a "guaranteed" price for their produce when it was sold in the European Community, and a system of export reimbursements ensured that European exports would sell at or below world prices, at no detriment to the European producer. The policy was heavily criticised as distorting world trade, and since 1992, the policy has moved away from market intervention and towards direct payments to farmers regardless of production, called "decoupling". Furthermore, the payments are generally dependent on farmers fulfilling certain environmental or animal welfare requirements to encourage responsible, sustainable farming in what is termed "multifunctional" agricultural subsidies. Social, environmental and other benefits of subsidies would no longer not include a simple increase in production.

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Economic Impact of Globalization

5

- **Impact of Globalization on the World**
- **Impact of Globalization on Third World Economies**

Globalization refers to the process of interaction and integration among governments, companies and people across the world. It has a profound impact on the growth of international trade. This chapter has been carefully written to provide an easy understanding of the impact of globalization on different economies.

Impact of Globalization on the World

Volume of goods, services and investments is transferring the national borders very rapidly. Now a day approximately $1.5 billion foreign exchange transactions are taking place daily. Statistics show that approximately $8.9 trillion of goods are transacted across borders and $2.10 trillion of services are provided across the borders. As far as the definition of Globalization is concerned, it is still a controversial topic. So far there is no consensus on a single definition of Globalization between all disciplines of life. Economics focuses on transfer of goods, services and funds in overall world. Political Science focuses on the role of UNO, WTO, GATT and similar kind of International Institutions. Some other disciplines such as anthropology and sociology concentrate on the interconnectivity of different cultures.

In nut shell we can say globalization can be applied is a movement, a phenomenon and a force. And the scope of the globalization is increasing as the time is passing. One most common definition of globalization states that Globalization is a process of integrating different world economies. Globalization is integration among the people, government and companies of different countries.

The concept of economic development refers to the process of improvement in the economic opportunities, and quality of human lives; and reduction in the poverty. Better health facilities, better education, clean environment and better utilization of resources are the important components of Economic Development. Moreover the justified distribution of goods and services is also the part of economic development. A good distribution network that includes the good

transportation system results in not only better delivery of goods and services but the improvement of labors mobility.

According to, "Economic Development is a field of economics which is related to the process of development. It not only focuses on ways of enhancing structural change and economic growth but also improving the potential of the mass of the population; for instance, through education, health and workplace conditions". Globalization has changed the picture of World Economy, by increasing the cross-border trade, exchanges of currency, free flow of Capital, movement of people and flow of information. Globalization has introduced the concept of border-less and integrated world economy. Globalization has given a new thought to the businesses worldwide. A lot of Strategic changes have been occurred in the businesses. Now target market for businesses is not only their home land, but the overall world.

World Economy is composed of many sectors. Globalization has affected each sector of world Economy, directly or indirectly.

Globalization is not a new concept. In past people use to travel to other places for gaining control on others lands, for finding out the better living style, for finding out the new places and to earn profits by selling in different regions. These activities were carried out even thousands of years before. But it is said that the earliest form of Globalization was started from Greek, Roman, Egyptian, and Babylonian Empires. In the regime of Mongols, the famous Silk Road connected the Central Asia and Europe.

Statistics indicates that Globalization is expanding very rapidly World Wide. Data gathered from WTO shows that economy of the world is expanding since 1950. Till 2004, the volume of merchandise traded has expanded about 7.5 times.

According to one Author, Globalization refers to the Political, Economical, Social and Technological links in different countries. Globalization is a contested concept that refers to shrinkage of time and space. According to another definition "globalization is the diminution or elimination of state-enforced restrictions on exchanges across borders and the increasingly integrated and complex global system of production and exchange that has emerged as a result." Apart from those mentioned above, many more definitions can be found in the literature.

Economic Development and its Different Aspects

Economic development refers to the improvements in quality of human life. According to a widely acceptable definition, Economic Development means the changes in local economies' capacity of wealth creation. According to traditional view, Economic Development refers to the Economic System that might be a mean to increase the absolute size of, for instance, capital or annual production regardless to the size of population but in the modern sense, economic development is used in relation to the movement in real income per head and to potential in this respect.Economic Development comes into different steps. According to an American Economist Rostow, Economic Development comes into five steps that are as follow:

- Traditional stage: In this kind of stages are exchanged as in barter system. Agriculture is considered the major sector and resources are regulated through the different ways of production.

- Transitional stage: In this stage surplus production is generated. So transport infrastructure get advance and trading activates boost up.
- Take off stage: In this stage industrialization sector start growing. And at the same time political and social institutions are get strengthen.
- Drive to maturity stage: At this stage investment opportunities are increased along with technological advancements.
- High mass consumption stage: At this stage industries are more authoritative and customer focused.

We can utilize number of economic indicators to measure the economic development of a country or whole world. Some of the major economic indicators or performance indicators are following:

- GDP (Gross Domestic Product): Total value of goods and services produced in a country.
- GNP (Gross National Product): Market value of all products and services produced in a year by the residents and labor.
- Per Capita Income: Aggregate of all sources of income divided by the size of population.

Globalization is Affecting the World Economic Development

Effects of globalization can be discussed in the following different ways:

- Global Markets

According to Global Market refers to the "Merging of Historically Distinct and separate National Markets into one huge global market place." With the expansions of global markets liberalize the economic activities of exchange of goods and funds. Removal of Cross-Border Trades barriers has made formation of Global Markets more feasible.

- International Institutions

Some of the forces in the world are in the favor of a government that governs the entire world. Now the institutions like United Nations Organization, International Monetary Fund, World Trade Organization and World Bank are near to the concepts of those groups because they are regulating the relationship between different countries and governing issues of Justice, Human relations or political factors. As the primary purpose of WTO is to unionize the world trading system. Till 2005 148 countries were the members of WTO. The primary purpose of IMF is to regulate the world monetary system. United Nation Organization's primary purpose to bring the piece in all over the World, about 191 countries is the members of UNO.

- Changes in World Trade Picture

Before the phase of Globalization, United States of America was dominant in world export. After the advent of globalization, Germany, Japan, South Korea and China have seriously challenged the position of America.

Countries	State of World Output 1963	State of World Outpur 2004	Share of World Trade 2004
United States	40.3%	20.9%	10.4%
Germany	9.7	4.3	9.5
France	6.3	3.1	4.8
United Kingdom	6.5	3.1	4.7
Japan	5.5	6.9	5.7
Italy	3.4	2.9	3.8
Canada	3.0	3.5	3.4
China	N.A	13.2	5.9

- Changes in Foreign Direct Investment

Foreign Direct Investment is considered as signification indicator of economic development.

According to investment in form of lands, capital good, inventories and factories are the real investments. Direct investment is in shape of when one firm is controlling a firm or establishing a subsidiary. Foreign direct investment must be strong enough to control parent company and foreign host company. Control means that parent firm must own at least 10% stock of subsidiary. Lower than this limit of shares are considered as portfolio investment.

- Corporation Changes

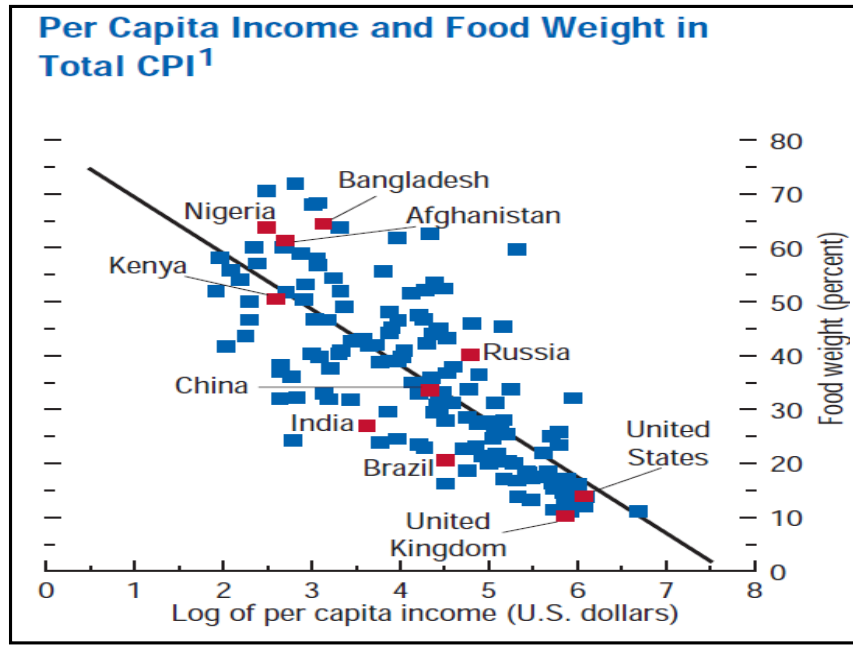
In the present global competitive environment it is a necessary to use the information technology innovatively and skillfully. Globalization has increased the trend of Multi National Companies in all over the world. Before the Globalization phase USA was dominant in MNCs. But after the expansion of globalization trend, many different nations entered in the race of MNCs. In 1973 share of US in MNCs was about 48.5% and in 2002 it was 28%.

- Technological Effects

By the development of technologies specifically related to Telecom as internet, telephones, wireless technologies, undersea fibers, a global technological infrastructure has been developed so information can be moved more smoothly across the borders. Laws regarding Copyrights, patents and international agreements can be easily applied. Through information technology, awareness and application of criminal laws have become easier. Frauds in International Trade and in society can be easily detected.

- Effect on the Standard of Living

As mentioned below that the major effect of globalization is in the shape of expansion of trade and investment. It is evident that poverty rate has decreased in the regions, where investment and trade is expanding. If we consider the different examples of countries then we can prove our point of view. India is a country where the FDI is increasing rapidly and as a result poverty rate is declining. Mexico has overcome the Macroeconomics crisis better than its neighbors. Similarly Zambia, Columbia and Poland have gained a lot by falling of prices.



- Effect on Employment

After the advent of globalization, it was an apprehension that the job will shift to developing countries form developed and advanced countries. But Supporters argue that this shift will result in the long term benefit to the country. Critics argue that Globalization will result in inequalities and insecurity about the Jobs. And will ultimately causes the changes in employment structure and labor demand will fall. The below given graph shows how the unemployment has increased in the world:

Unemployment in the World			
	Total	Male	Female
	millon	millon	millon
1995	157.3	92.7	64.7
2000	177.2	104.7	72.5
2002	191.4	113	78.5
2005	191.8	112.9	78.9

- Industrial Effects

Globalization has also affected the Industrial sector of the world. Now in this era of globalization, the focus of industries is to produce foreign commodities and to facilitate the consumers in all over the World. For Example, Coca Cola produces the beverages according to the taste that is acceptable in all over the world.

- Cultural Changes

Through the development of Globalization world is getting into an identical culture that is

understood by every nation, we may call it intermixing of the cultures. People of world especially people of rich countries are getting less conscious about their nations cultures and they have started emerging in world culture. Globalization has resulted in increasing the diversity and boosting telecom and tourism sector of the world.

- Environmental Effects

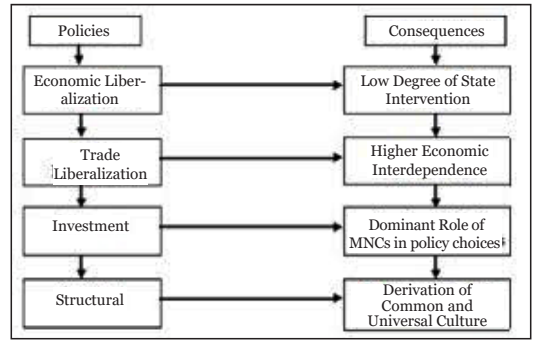
On the one hand globalization has resulted in making the man more interested toward its planet in which he is living and its ecology i.e. its environment through the technological advancements. But on the other hand it is considered that with the growth of Transport has resulted in destruction of Ozone layer and many species on the earth. For the economic development every country has to pass from the dirty stage of industrialization which results in the extraction of poisonous material and harmful wastes that are dangerous for the human's health. But it is considered that these things are necessary to come along with the developments in living standards of humans. But in spite all these adverse facts, Globalization has become an unavoidable necessity for Economic Development.

Impact of Globalization on Third World Economies

Economic Consequences of Globalization in the Third World

Invalidity of Keynesian prescription based on wage-price rigidity for economic adjustment relied mostly on public intervention. This prepared the ground for the rejection of the fixed exchange rate regime in the early 1970s.The rejection of the state assisted capitalism initially in the 1970s and rigorously in the 1980s gradually paved the way for rapid process of globalization. The initial stage of globalization was economic liberalization. It refers specially to trade and market liberalization whereas globalization is related to open economy weakening the border wall; globalization is unrestricted or initiates easy movement of the factors of production, goods, services, information and technology, same treatment of foreign goods, services, technology together with structural changes in production and employment according to the line and preference of multinational companies (MNCs). As a result, globalization makes the role of state diminish, increases cross border economic interdependence, integrates financial market, rapids the movement of information technology, dominates national policy choice and derives a common culture.

Consequences of Globalization Policies



Globalization processes ultimately change the economic structure of the countries in general, and that of the low income nations in particular are overwhelmingly put under the umbrella of the MNCs in technologically advanced countries. In this way, the competition prevails only at the level of multinational companies elsewhere, which are equipped with capital intensive production techniques and similar patterns of employment structures. As a result, the formal sector of the economy experiences displacement effect, price effect, capital intensity effect, income inequality effect, lag of social security effect, local governance effect and social effect. In the similar way, the informal sector of the economy experiences delinking effect, capital fight effect and small cottage industries effect.

From an economic perspective, the introduction of the core workers' right is necessary for economic growth and for increasing the efficiency of the concerned national economy. The core workers' rights comprise the ban on forced labor, discrimination, and child labor, and the guarantee of freedom to form associations and the right to collective bargaining between management and labor.

The economic loss of sovereignty and the processes of negative globalization must be overcome by means of positive globalization. This, however, requires the creation of new instruments of regulation. The crucial question, therefore, is: how can global order economically be structured? The answer is not the creation of an ideal, harmonious world republic but rather the 'realistic' intensification of transnational cooperation.

Globalization issues, in this sense, have brought people and countries closer and increased their mutual interdependence with higher flow of trade, technologies information and investments fuelling economic progress and creating vast opportunities for human progress. But such progress as enlarged opportunities and interdependence has been quite unbalanced, unequal and unmanaged because of lack of shared values, shared benefits and shared concerns towards those who are marginalized and left behind.

In brief, globalization seems to be more fruitful to the advanced countries and it is ineffective to solve the fundamental problems of the third world. It is clear that globalization and liberalization are unable to solve the fundamental problems of the developing nations such as massive poverty, increasing unemployment and underemployment, lack of social and economic overheads, widespread and multidimensional human deprivations, hunger, social tension, increasing inequality, dislocations of millions of people and so on. If looked back to 1980s, 90s and the first decade of the twenty-first century, all these problems have been found to be associated with manmade crises and environmental degradations, which have been the major issues of today's third world countries since 1980s.

Strategies of Globalization in the Third World

The great problem of liberalization is that the markets are not economically embedded. This is especially true in financial markets. The existing architecture of the global financial market is largely libertarian, facilitating the rapid acquisition of huge private benefits. Its cost can be catastrophic in terms of prosperity and jobs in isolated or in several affected national economies. As a result, the basic rights of people in these countries are jeopardized. Similarly, the next problem of economic globalization has been evolved from the lack of political control over extensively spreading transnational companies which are establishing in several countries. The companies partially evade

national fiscal jurisdiction by depositing their profits in countries with more favorable tax systems. Often companies decentralize their production processes to such an extent that individual components are manufactured in countries where it is most advantageous to produce them.

This reduces production costs whereas it weakens the position of the company personnel and even of the national governments in individual production locales. In this context, following five measures of transnational economic regulation have been suggested. Firstly, the balance between political goals and economic action has to be renegotiated at the transnational level. Accordingly, legislation must be enacted to set the limits to market events. Secondly, global actors such as IMF, World Bank, OECD and G-7 should form new economic coordination. For this purpose, an agency must be set up to coordinate economic activities at various regional and global levels. Similarly, the IMF and the World Bank should totally change their policies and global conducive credit conditions for development must be created. Finally, the democratization of decision-making in transnational institutions and the reform of the World Security Council are important steps.

Globalization will empower the convergence of the varieties of capitalism in a liberal model devoid of a welfare state. This ensures protection of basic rights, which does not seem to be valid. It is evident that where institutions for the coordination of markets exist, actors tend to make use of these structures. During the past two decades, coordinated market economies have undergone changes in their structures and mechanisms; they have adapted to the new challenges.

The scope of regulation of the economy has grown significantly since the 1990s because of three general trends. First, the increasing privatization in many countries with lesser role of the state. Second, the transnational market integration that increased gap between the extent of the external effects generated by the markets and the potential for their political regulation. Third, the increment of unforeseeable civilization and environmental risks resulting from unregulated growth processes.

Globalization and Inequality in Developing Countries

Since 1980s, globalization has entered the vocabulary of many people but the concept has given a variety of meanings that remains the subject of debate and controversy. There is an argument about whether or not it is primarily a political, technological, cultural or economic or multi-causal phenomenon; whether it 'pulls upwards' or 'pushes down'; whether it destroys political autonomy or creates new pressures for local autonomy; whether it shrinks the public sphere or demands its enlargement; or whether it enhances or reduces our capacities to understand the world we live in. So far to focus on economic globalization such as integration of financial markets and other markets, internationalization of production are concerned, 'from 1914 to 1950, however, the world economy experienced lower rates of growth, a retreat from globalization, and economic divergence.' The world economy reversed its surge toward globalization especially after 1990. A number of recent studies have examined globalization's effect on developing countries.

During the period from 1973 through the 1980s, inequality rose in the North, in part due to globalization forces. Economic theory and a few studies argue that such rise in inequality would be coupled with a more egalitarian South.The recent widening of wage inequalities in the United States occurred simultaneously with a trend toward trade liberalization and the increased immigration of unskilled workers from developing countries. Borjas has estimated that these

forces have contributed 15 to 20 percent of the relative decrease in the wages of high school graduates compared with college graduates: trade accounting to one-third, and immigration two third. Have these patterns resulted in stimulating the relative demand for unskilled labor in the developing countries and thus made developing countries more egalitarian? "Adrian wood assertions are consistent with economic theory, recent studies show that the number of countries in Latin America and East Asia have experienced increase, not decline, in wage inequality after trade liberalization".

However, globalization of markets has widened economic inequality and inaugurated a competitive 'race to the bottom' as government seek to attract mobile capital by reducing or eliminating perceived impediments to business, such as relatively high business taxes and relatively entrenched labor rights. On the other hand, global income and real GDP have risen sevenfold since the end of World War II and threefold in per capita terms, but during that time, the gap in incomes between developed and developing nations continued to widen. In addition, large disparities emerged among developing countries. In this context, Sub-Sahara Africa was the poorest region in the world, where the fundamental issue of human survival remained a grave concern. African nation's real incomes fell or remained stagnant from 1987 to 1994.

The Latin American economies were more unequal relative to other developing regions. Thus, increased inequality in the region was coupled with rising poverty. Economic recovery in the early 1990s boosted the region's growth rates, the real income of the bottom 40 percent remained below the poverty line in most Latin American countries.

In the developing countries, large disparities in inequality and poverty can be attributed to differences in the role of government. Government is associated with the goal of greater equality if income and wealth were coped with the means of redistributive tax and welfare policies. However the most successful East Asian nations have placed on emphasis on poverty alleviation rather than on reduction of inequality.

Poverty, Growth and Globalization

The majority of the poor people live in rural areas of Africa. Lack of political commitment and public support programs for rural development are major hurdles of poverty reduction in this continent. The rural poor people experience very little access to credit, land and extension services. In Latin America, inequality and poverty reflect the legacy of import substitution strategy. This caused Latin American countries to embrace austerity measures in the 1980s, which quickly increased the numbers of critically poor, low paid underemployment and low-wage workers. In addition, market-led growth does not automatically reduce inequality and poverty. Obviously, positive economic growth is not sufficient condition for the reduction of poverty. Moreover, inequality has been observed in many countries. Hence a number of studies point to a strong relationship between equality and growth. This case is not universal that, on average, very little movement toward equality accompanies the process of growth. Moreover, in the 1980s structural adjustment policy gave many countries an additional push toward inequality.

So far as the development and income distribution are concerned, physical and demographic conditions also affect a country's options for development and its income distribution. In addition, natural resources abundance is often associated with inequality. Likewise, greater population

density implies less arable land and per agricultural worker. Obviously, less arable land and per agricultural worker are associated with more income inequality.

Economic theory suggests that greater openness to world trade in developing countries will reduce wage inequality. Trade liberalization raises the relative demand for unskilled workers and therefore reduces the wage gap between the skilled and the unskilled. The evidence for East Asia during the 1960s and 1970s supports this theory, but the Latin American's experience since the mid 1980s does not.

When the ratio of skilled to unskilled labor is lower for export than for imports, then increased openness to trade should raise the demand for unskilled workers. The conventional wisdom postulates that increased trade liberalization in developing countries increases the demand for the unskilled relative to skilled labor and thus reduces wage inequality. However, the Latin American experience in the mid-1980s and 1990s challenges this wisdom.

Governments of the third world place their faith in macroeconomic management of largely private economies, combined with measures of redistribution, regional policy, various labor market initiatives, provision of educational opportunity, free health care and social service entitlements. However, privatization has been a centerpiece of the market-oriented development strategies employed in developing countries over the past three decades. In this framework, the state is an agent of various interest groups, which negotiates the transfer of income and wealth among various factions to the society. Privatization affects the state's ability to control its distributional impact. The extent and generosity of welfare provision also varied from one country to another as did the principles upon which it was founded.

Employment is a core issue for the future of the welfare state for fundamental reasons of social cohesion and individual self-esteem and for reasons of economic sustainability. However, employment is not sufficient to define the aims of social justice. High employment rates are, no doubt, necessary but not a sufficient condition for fair equality of opportunity in society or social inclusion as is shown by comparative figure on poverty (a good yardstick for social exclusion) in the working age population. Nevertheless, employment is the major issue in welfare reform, which provides an appropriate route out of poverty.

By ignoring the debate for the moment and focusing on the alleged negative consequences of globalization, we can identify interconnected theses that the powers of national governments have been steadily reduced. Similarly, Keynesian deficit financing to maintain full employment, which was a central feature of post-war economy, is now inoperable. Growing inequality both within and between nations is, thus, driven by globalization. The rich command internationally determined rates of remuneration; companies seek profits globally; and the unskilled-both low-waged and unemployed are faced with a growing army of cheap labor across the globe.

International Trade Laws, Agreements and Policies

6

- International Trade Law
- Trade Bloc
- Regional Trade Bloc
- International Trade Policy
- Free Trade
- Green Box Policy
- Trade Agreements
- General Agreement on Tariffs and Trade
- Rules of Origin

International trade law refers to the rules and customs which govern trade between countries. It includes agreements such as trade bloc, and trade policies such as green box policy. This chapter has been carefully written to provide an easy understanding of various trade laws, agreements and policies.

International Trade Law

The concept of International Trade law is a complicated and cumbersome it is an ever expanding area. The International trade relationship consists of four levels, these are Unilateral measures or it is also known as National Law, secondly bilateral relationships, thirdly Plurilateral agreements and lastly multilateral arrangements like GATT, WTO etc. International Law in simple words can be understood as - appropriate rules and customs used for doing international trade between two or more countries. Keeping the fact in view that transactions between the private sectors of different countries is one of the very vital part of the WTO activities, this branch of Law i.e. International

Trade law, has become now a days, very important part of the academic works and study throughout the globe.International Trade law developed from the theories of economic liberalism developed in Europe and then the United States from 18th century onwards. International Trade law can also be understood as – an aggregate of legal rules of "International Legislation "and new lex mercatoria. International legislation refers to International treaties and acts of International intergovernmental organizations regulating relations in International Trade. Lex mercatoria ie- "the law for merchants on land" or can also be said as "any law relating to business".

The most important development in the history of International Trade Law is the establishment of World Trade Organization, a formal International Organization established in 1995. The purpose and the structure of this organization is governed by the "Marrakesh Agreement" which is the agreement establishing the World Trade Organization.

The principle of WTO is – (i) Non Discrimination (ii) market Access i.e. reduction of tariff and non tariffs barriers to trade (iii) balancing trade liberalization and other societal interests (iv) harmony of national regulation for e.g. TRIPS agreement etc. Regarding the Scope of WTO – WTO provides framework for administration and implementation of agreements, WTO acts as a forum also for further negotiations, it also acts as a mechanism for trade policy review, Promote greater coherence among members economics policies.

So far as the International Trade law in reference of the "Goods" is concerned the GATT has been definitely the backbone of International Trade law throughout most of the twentieth century. It contains the rules regarding Unfair trading practices as –dumping, subsidies etc. The general agreement on Trade and Tariffs(GATT) was enacted with the sole purpose to reduce the number of tariffs and trade barriers and also to promote International trade after the World War II. It has served the International community for decades and under the auspices of GATT there have been numerous rounds of trade negotiations on a variety of issues.

Regional Trade Organizations

Regional trade organizations are multilateral arrangements focused around a geographical area. The goal of a regional trade organization is the liberalization of International Trade between the member nations. Regional Trade agreements are of four types- Free trade areas, customs unions, common markets and economic unions. In the case of free trade areas member countries eliminate tariffs and trade barriers, but maintain individual foreign trade policies. In customs unions, member countries eliminate tariffs and create a common external trade regime. In case of common market, regional integration includes Trade as well as free movement of all aspects of production. There are several regional trade organizations in all areas of the world.

Dispute Settlement

The WTO is the most prominent body for the settlement of the disputes relating to international trade law. This WTO dispute settlement body is in operation since 1995 and is very active and it has dealt with approximately 400 cases till date and it has also lead to amicable solution in hundreds of cases.

International trade law includes the appropriate rules and customs for handling trade between countries. However, it is also used in legal writings as trade between private sectors, which is not right.

This branch of law is now an independent field of study as most governments have become part of the world trade, as members of the World Trade Organization (WTO). Since the transaction between private sectors of different countries is an important part of the WTO activities, this latter branch of law is now a very important part of the academic works and is under study in many universities across the world.

International trade law should be distinguished from the broader field of international economic law. The latter could be said to encompass not only WTO law, but also law governing the international monetary system and currency regulation, as well as the law of international development.

The body of rules for transnational trade in the 21st century derives from medieval commercial laws called the *lex mercatoria* and *lex maritima* — respectively, "the law for merchants on land" and "the law for merchants on the sea." Modern trade law (extending beyond bilateral treaties) began shortly after the Second World War, with the negotiation of a multilateral treaty to deal with trade in goods: the General Agreement on Tariffs and Trade (GATT).

International trade law is based on theories of economic liberalism developed in Europe and later the United States from the 18th century onwards.

International Trade Law is an aggregate of legal rules of "international legislation" and new lex mercatoria, regulating relations in international trade. "International legislation" – international treaties and acts of international intergovernmental organizations regulating relations in international trade. lex mercatoria - "the law for merchants on land". Alok Narayan defines "lex mercatoria" as "any law relating to businesses" which was criticised by Professor Julius Stone. and lex maritime - "the law for merchants on sea. Alok in his recent article criticised this definition to be "too narrow" and "merely-creative". Professor Dodd and Professor Malcolm Shaw of Leeds University supported this proposition.

World Trade Organization

In 1995, the World Trade Organization, a formal international organization to regulate trade, was established. It is the most important development in the history of international trade law.

The purposes and structure of the organization is governed by the *Agreement Establishing The* World Trade Organization, also known as the "Marrakesh Agreement". It does not specify the actual rules that govern international trade in specific areas. These are found in separate treaties, annexed to the Marrakesh Agreement.

- The scope of WTO: (a) Provide a framework for administration and implementation of agreements; (b) forum for further negotiations; (c) trade policy review mechanism; and (d) promote greater coherence among members economics policies.
- Principles of the WTO: (a) A principle of non-discrimination (most-favored-nation treatment obligation and the national treatment obligation) (b) market access (reduction of tariff and non-tariff barriers to trade) (c) balancing trade liberalization and other societal interests (d) harmonization of national regulation (TRIPS agreement, TBT agreement, SPS agreement).

Trade in Goods

The General Agreement on Tariffs and Trade(GATT) has been the backbone of international trade law since 1948 after the charter for international trade had been agreed upon in Havana. It contains rules relating to "unfair" trading practices — dumping and subsidies. Many things impacted GATT like the Uruguay Round and the North American Free Trade Agreement.

In 1994 the World Trade Organization (WTO) was established to take the place of the GATT. This is because the GATT was meant to be a temporary fix to trade issues, and the founders hoped for something more concrete. It took many years for this to come about, however, because of the lack of money. The British Economy was in crisis and there was not much backing from Congress to pass the new agreement.

The idea of these agreements (WTO and GATT was to create an equal field for all countries in trade. This way all countries got something of equal value out of the trade. This was a difficult thing to do since every country has a different economy size. This led to the Trade Expansion act of 1962.

Principles of International Trade Laws

- National Treatment Principle: Imported and locally-produced goods should be treated equally — at least after the foreign goods have entered the market. The same should apply to foreign and domestic services, and to foreign and local trademarks, copyrights and patents. These principles apply to trade in goods, trade in services as well as trade related aspects of intellectual property rights.
- Most Favored Nation (MFN) Principle: The MFN principles ensures that every time a WTO Member lowers a trade barrier or opens up a market, it has to do so for the like goods or services from all WTO Members, without regard of the Members' economic size or level of development. The MFN principle requires to accord to all WTO Members any advantage given to any other country. A WTO Member could give an advantage to other WTO Members, without having to accord advantage to non- Members but only WTO Members benefit from the most favorable treatment.

Trade and Intellectual Property

The World Trade Organization Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement required signatory nations to raise intellectual property rights (also known as intellectual monopoly privileges). This arguably has had a negative impact on access to essential medicines in some nations such as less developed countries, as the local economy is not as capable of producing more technical products such as pharmaceuticals.

Cross-border Transactions

Cross-border operations are subject to taxation by more than one country. Commercial activity that occurs among several jurisdictions or countries is called a cross-border transaction. Those involved in any international business development or international trade should be knowledgeable in tax law, as every country enforces different laws on foreign businesses. International tax planning ensures that cross-border businesses stay tax compliant and avoid or lessen double taxation.

Dispute Settlement

Most prominent in the area of dispute settlement in international trade law is the WTO dispute settlement system. The WTO dispute settlement body is operational since 1995 and has been very active since then with 369 cases in the time between 1 January 1995 and 1 December 2007. Nearly a quarter of disputes reached an amicable solution, in other cases the parties to the dispute resorted to adjudication. The WTO dispute settlement body has exclusive and compulsory jurisdiction over disputes on WTO law.

Trade Bloc

A trade bloc is a type of intergovernmental agreement, often part of a regional intergovernmental organization, where barriers to trade (tariffs and others) are reduced or eliminated among the participating states.

Trade blocs can be stand-alone agreements between several states (such as the North American Free Trade Agreement) or part of a regional organization (such as the European Union). Depending on the level of economic integration, trade blocs can be classified as preferential trading areas, free-trade areas, customs unions, common markets, or economic and monetary unions.

Regional Trade Bloc

Since the 1960s, regional economic integration has been a goal pursued by most middle-income countries. For some, it was a means to take advantage of geographical proximity to enlarged markets. Regional integration would allow economies to gain in terms of scale of production and in moving up the value chain, through import substitution industrialization and without opening up immediately to competition with the most advanced exporters in the world. That was the path chosen by Latin American economies in the 1960s and 1970s. Later, in the 1980s, most Latin American economies, in the face of a very severe financial crisis, were induced through International Monetary Fund (IMF) adjustment programs to unilaterally open their economies to world trade; as a consequence, the process of regional integration received less attention.

East Asian economies, meanwhile, have pursued an export-driven development strategy at a national level since the 1960s. With the support of their governments, a selected group of private and public companies oriented their output toward external markets, seeking to create international production and distribution networks. Cooperation among firms in a regional context emerged as a natural process. The "de facto integration"1 at the firm level created shared interests for influencing governments to move toward more formal associations, such as the Association of Southeast Asian Nations (ASEAN). The opening up of the East Asian economies was further advanced by the severe financial shock of the late 1990s and the consequent reforms induced by the IMF and the World Bank.

For Eastern European middle-income economies, dramatic political changes such as the collapse of the Soviet Union forced deep changes in the way they perceived their integration into the world

economy. After 1989, Eastern European countries rejected any association with the former Soviet Union and sought to create an association among themselves, as a step toward full accession to the (Western) European Union. The EU would, in turn, set the criteria these countries would need to meet to be accepted as full members.

Thus, it is quite clear that while the three regions considered in this study all converged toward opening up to trade and toward RTAs, they followed very different paths in getting there. Two underlying common factors pushed in that direction: a decline in transport and communication costs, and increased awareness of, and desire for, world-class consumer goods. The opportunity to become a part of global production chains also was appealing. All these factors made isolationism less viable.

Why worry about the fate of regional trade agreements now, when the main problems and challenges seem to lie elsewhere? Before the current crisis, the implied strategy of middle-income countries was that exports to developed economies' markets would be the main engine of growth. The assumptions were that the developed economies would continue exhibiting robust growth and that multilateral trade negotiation would make their markets more accessible. This presupposed a successful completion of the Doha Round. None of those assumptions seems realistic anymore.

With multilateral negotiations dead, as in the Doha Round, the rationale for a greater role for regional integration—as a stepping-stone toward global free trade—seems to be gaining ground in most middle-income countries. If multilateralism is not achievable, then minilateralism, based mostly on geography, might well provide an acceptable alternative.

Among ASEAN members, intra-regional trade represented only 25 percent of total trade in 2008. When the ASEAN+32 markets are taken into account, total ASEAN exports to this expanded regional market nearly double, to 49 percent. That is a better outcome than in Latin America, but it is still a long way from the almost 80 percent in Eastern Europe. Political and ideological changes, including leadership disputes between China and Japan, have also constrained progress in East Asian integration.

Can RTAs become an engine of growth for middle-income countries in the postcrisis period and at the same time serve as building blocks toward global free trade? What follows is an evaluation of the most significant regional trade pacts in the Eastern Europe, Latin America, and East Asia regions that will assess the potential of regional integration as a relevant instrument for achieving higher growth rates and lower unemployment in the postcrisis period.

International Trade Policy

A commercial policy (also referred to as a trade policy or international trade policy) is a government's policy governing international trade. Commercial policy is an all encompassing term that is used to cover topics which involve international trade. Trade policy is often described in terms of a scale between the extremes of free trade (no restrictions on trade) on one side and protectionism (high restrictions to protect domestic producers) on the other.

A common commercial policy can sometimes agreed by treaty within a customs union, as with the European Union's common commercial policy and in Mercosur.

A nation's commercial policy will include and take into account the policies adopted by that nation's government while negotiating international trade. There are several factors that can have an impact on a nation's commercial policy, all of which can have an impact on international trade policies.

Theories on International Trade Policy

Trade policy has been controversial since the days of Mercantilism. Economics (or political economy) has developed in major part as an effort to make clear various effects of trade policies. See International trade theory. Hottest topic in economic policy is upgrading in Global Value Chains.

Types and Aspects of Commercial Policy

Regionalism

Regionalism, or Regional Trade Agreements (RTA), are trade policies and agreements that are crafted by the nations in a region for the purposes of increasing international trade in the area. RTAs have been described by supporters as a means of increasing free trade with the goal of eventually merging into larger, either bilateral or multilateral, trade deals. The more relatively local area of RTAs are useful in resolving trade issues as well without causing gridlock in other trade agreements. Critics of RTAs say that they are a hindrance to the negotiation of trade because they can be lopsided or unfairly beneficial to one side over the other sides, particularly if some of the participants are nations that are still in development.

As China was rising in economic power and prominence, they turned to regionalism as a strategic method of leveling the playing field with Europe and the United States. In 2000, China signed the Bangkok agreement with the Association of Southeast Asian Nations (ASEAN) to reduce tariffs in the region. The signing of the agreement also began the push for a formal Free Trade Agreement between China and ASEAN. However, strained relations between China and other Asian nations such as Japan have prevented the same level of regional FTAs to be put in place with Northeast Asia.

Bilateral Free Trade Agreements

When two countries enter into a bilateral trade agreement, they are essentially giving one another special deals and favorable treatment in the arrangements. These privileges can include lowering tariffs on each others goods and services. The United States has signed such treaties as the North American Free Trade Agreement in 1994 as well as with Israel in the 1980s. Experts who support such free trade agreements argue that these deals help to increase competition and offers larger markets that businesses can reach out to. Critics of bilateral agreements claim that a larger nation, such as the United States, can use these agreements to unfairly push smaller states into much harsher work loads than the World Trade Organization already requires.

Relations between the European Union and South Korea have led to both parties signing several bilateral agreements regarding trade policy. In 2009, South Korea and the EU signed the EU-Korea Free Trade Agreement. The signing of the agreement created an FTA that is second only to NAFTA in size. The agreement held the benefits of increased free trade between the participants in the FTA as well as increased challenge to the United States.

Preferential Trade Agreements

Preferential agreements are trade deals that involve nations making deals with specific countries that can aid the interests of one another as opposed to the nondiscriminatory deals that are pushed by the WTO. Nations have been increasingly preferring such deals since the 1950s as they are quicker to show gains for the parties involved in the agreements. A common argument that has been made is that it allows businesses to open up markets that would otherwise be considered closed and therefore falls into the free trade idea that most countries will push for. Countries that have similar levels of GDP and a higher scope in their economies as well as their relative position to one another and the rest of the world are more likely to have preferential trade agreements. PTAs can also be applied to regional areas with unions such as NAFTA, the European Union, and ASEAN being examples of regional PTAs.

Those who opposer PTAs argue that these deals have increased the importance of where a product is made so that tariffs can be applied accordingly. The certification of a product's origin also unfairly holds back smaller countries that have less resources to spend. Others argue that PTAs can hinder negotiations of trade disputes and places an emphasis of which country has more power.

Ways in which Commercial Policy is affected

Tariffs

Trade tariffs are a tax that are placed on the import of foreign goods. Tariffs increase the price of imports and are usually levied onto the country the goods are being imported from. Governments will use tariffs as a way to promote competition within their own country with businesses of the foreign country that wishes to sell their goods or services. In some instances, a country's government will use them as a means of protectionism for their own interests. In modern history, generally starting at the mid-20th century, the use of tariffs has been largely diminished in favor of the rise of international trade. Beginning in 2017, the Trump administration began to impose tariffs on several of nations that were involved in trade deals with the United States. The countries targeted by the Trump Tariffs then retaliated with their own tariffs on American goods.

Import Quotas

Import quotas are the limitations of the amount of goods that can be imported into the country from foreign businesses. Generally, an import quota is set for a specific period of time with one year being the most common metric. Some versions of the quotas limits the quantity of specific goods being imported into a country while other versions place the limit on the value of said goods. The objectives of quotas can include: the protections of a nations interests, ensuring a balance of trade so as not to create deficits, retaliation to restrictive trade policies of other countries that do business on the international playing field.

Free Trade

Free trade is a trade policy that does not restrict imports or exports; it can also be understood as the free market idea applied to international trade. In government, free trade is predominantly

advocated by political parties that hold liberal economic positions while economically left-wing and nationalist political parties generally support protectionism, the opposite of free trade.

Most nations are today members of the World Trade Organization multilateral trade agreements. Free trade was best exemplified by the unilateral stance of Great Britain who reduced regulations and duties on imports and exports from the mid nineteenth century to the 1920s. An alternative approach, of creating free trade areas between groups of countries by agreement, such as that of the European Economic Area and the Mercosur open markets, creates a protectionist barrier between that free trade area and the rest of the world. Most governments still impose some protectionist policies that are intended to support local employment, such as applying tariffs to imports or subsidies to exports. Governments may also restrict free trade to limit exports of natural resources. Other barriers that may hinder trade include import quotas, taxes and non-tariff barriers, such as regulatory legislation.

There is a broad consensus among economists that protectionism has a negative effect on economic growth and economic welfare while free trade and the reduction of trade barriers has a positive effect on economic growth. However, liberalization of trade can cause significant and unequally distributed losses, and the economic dislocation of workers in import-competing sectors.

Features

Free trade policies may promote the following features:

- Trade of goods without taxes (including tariffs) or other trade barriers (e.g. quotas on imports or subsidies for producers).
- Trade in services without taxes or other trade barriers.
- The absence of "trade-distorting" policies (such as taxes, subsidies, regulations, or laws) that give some firms, households, or factors of production an advantage over others.
- Unregulated access to markets.
- Unregulated access to market information.
- Inability of firms to distort markets through government-imposed monopoly or oligopoly power.
- Trade agreements which encourage free trade.

Economics

Economic Models

Two simple ways to understand the proposed benefits of free trade are through David Ricardo's theory of comparative advantage and by analyzing the impact of a tariff or import quota. An economic analysis using the law of supply and demand and the economic effects of a tax can be used to show the theoretical benefits and disadvantages of free trade.

Most economists would recommend that even developing nations should set their tariff rates quite low, but the economist Ha-Joon Chang, a proponent of industrial policy, believes higher levels

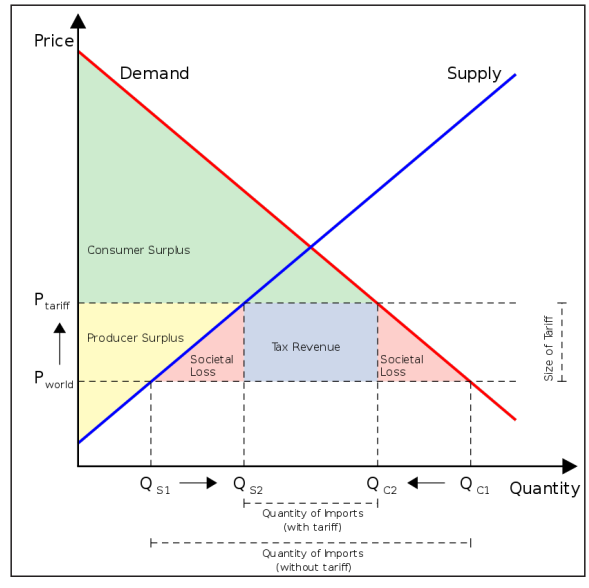
may be justified in developing nations because the productivity gap between them and developed nations today is much higher than what developed nations faced when they were at a similar level of technological development. Underdeveloped nations today, Chang believes, are weak players in a much more competitive system. Counterarguments to Chang's point of view are that the developing countries are able to adopt technologies from abroad whereas developed nations had to create new technologies themselves and that developing countries can sell to export markets far richer than any that existed in the 19th century.

If the chief justification for a tariff is to stimulate infant industries, it must be high enough to allow domestic manufactured goods to compete with imported goods in order to be successful. This theory, known as import substitution industrialization, is largely considered ineffective for currently developing nations.

Tariffs

The chart at the right analyzes the effect of the imposition of an import tariff on some imaginary good. Prior to the tariff, the price of the good in the world market (and hence in the domestic market) is P_{world}. The tariff increases the domestic price to P_{tariff}. The higher price causes domestic production to increase from Q_{S1} to Q_{S2} and causes domestic consumption to decline from Q_{C1} to Q_{C2}.

This has three main effects on societal welfare. Consumers are made worse off because the consumer surplus (green region) becomes smaller. Producers are better off because the producer surplus (yellow region) is made larger. The government also has additional tax revenue (blue region). However, the loss to consumers is greater than the gains by producers and the government. The magnitude of this societal loss is shown by the two pink triangles. Removing the tariff and having free trade would be a net gain for society.



The pink regions are the net loss to society caused by the existence of the tariff.

An almost identical analysis of this tariff from the perspective of a net producing country yields parallel results. From that country's perspective, the tariff leaves producers worse off and consumers better off, but the net loss to producers is larger than the benefit to consumers (there is no tax

revenue in this case because the country being analyzed is not collecting the tariff). Under similar analysis, export tariffs, import quotas and export quotas all yield nearly identical results.

Sometimes consumers are better off and producers worse off and sometimes consumers are worse off and producers are better off, but the imposition of trade restrictions causes a net loss to society because the losses from trade restrictions are larger than the gains from trade restrictions. Free trade creates winners and losers, but theory and empirical evidence show that the size of the winnings from free trade are larger than the losses.

Trade Diversion

According to mainstream economics theory, the selective application of free trade agreements to some countries and tariffs on others can lead to economic inefficiency through the process of trade diversion. It is economically efficient for a good to be produced by the country which is the lowest cost producer, but this does not always take place if a high cost producer has a free trade agreement while the low cost producer faces a high tariff. Applying free trade to the high cost producer and not the low cost producer as well can lead to trade diversion and a net economic loss. This is why many economists place such high importance on negotiations for global tariff reductions, such as the Doha Round.

Economist Opinions

The literature analysing the economics of free trade is extremely rich with extensive work having been done on the theoretical and empirical effects. Though it creates winners and losers, the broad consensus among economists is that free trade is a net gain for society. In a 2006 survey of American economists (83 responders), "87.5% agree that the U.S. should eliminate remaining tariffs and other barriers to trade" and "90.1% disagree with the suggestion that the U.S. should restrict employers from outsourcing work to foreign countries".

Quoting Harvard economics professor N. Gregory Mankiw, "few propositions command as much consensus among professional economists as that open world trade increases economic growth and raises living standards". In a survey of leading economists, none disagreed with the notion that "freer trade improves productive efficiency and offers consumers better choices, and in the long run these gains are much larger than any effects on employment".

Most economists would agree that although increasing returns to scale might mean that a certain industry could settle in a particular geographical area without any strong economic reason derived from comparative advantage, this is not a reason to argue against free trade because the absolute level of output enjoyed by both winner and loser will increase, with the winner gaining more than the loser, but both gaining more than before in an absolute level.

Early Era

The notion of a free trade system encompassing multiple sovereign states originated in a rudimentary form in 16th century Imperial Spain. American jurist Arthur Nussbaum noted that Spanish theologian Francisco de Vitoria was "the first to set forth the notions (though not the terms) of freedom of commerce and freedom of the seas". Vitoria made the case under principles of *jus*

gentium. However, it was two early British economists Adam Smith and David Ricardo who later developed the idea of free trade into its modern and recognizable form.

Economists who advocated free trade believed trade was the reason why certain civilizations prospered economically. For example, Smith pointed to increased trading as being the reason for the flourishing of not just Mediterranean cultures such as Egypt, Greece and Rome, but also of Bengal (East India) and China. The great prosperity of the Netherlands after throwing off Spanish Imperial rule and pursuing a policy of free trade made the free trade/mercantilist dispute the most important question in economics for centuries. Free trade policies have battled with mercantilist, protectionist, isolationist, socialist, populist and other policies over the centuries.

The Ottoman Empire had liberal free trade policies by the 18th century, with origins in capitulations of the Ottoman Empire, dating back to the first commercial treaties signed with France in 1536 and taken further with capitulations in 1673, in 1740 which lowered duties to only 3% for imports and exports and in 1790. Ottoman free trade policies were praised by British economists advocating free trade such as J. R. McCulloch in his *Dictionary of Commerce*, but criticized by British politicians opposing free trade such as Prime Minister Benjamin Disraeli, who cited the Ottoman Empire as "an instance of the injury done by unrestrained competition" in the 1846 Corn Laws debate, arguing that it destroyed what had been "some of the finest manufactures of the world" in 1812.

Trade in colonial America was regulated by the British mercantile system through the Acts of Trade and Navigation. Until the 1760s, few colonists openly advocated for free trade, in part because regulations were not strictly enforced (New England was famous for smuggling), but also because colonial merchants did not want to compete with foreign goods and shipping. According to historian Oliver Dickerson, a desire for free trade was not one of the causes of the American Revolution. "The idea that the basic mercantile practices of the eighteenth century were wrong", wrote Dickerson, "was not a part of the thinking of the Revolutionary leaders".

Free trade came to what would become the United States as a result of American Revolutionary War. After the British Parliament issued the Prohibitory Act, blockading colonial ports, the Continental Congress responded by effectively declaring economic independence, opening American ports to foreign trade on 6 April 1776. According to historian John W. Tyler, "[f]ree trade had been forced on the Americans, like it or not".

In March 1801, the Pope Pius VII ordered some liberalization of trade to face the economic crisis in the Papal States with the *motu proprio Le più colte*. Despite this, the export of national corn was forbidden to ensure the food for the Papal States.

In Britain, free trade became a central principle practiced by the repeal of the Corn Laws in 1846. Large-scale agitation was sponsored by the Anti-Corn Law League. Under the Treaty of Nanking, China opened five treaty ports to world trade in 1843. The first free trade agreement, the Cobden-Chevalier Treaty, was put in place in 1860 between Britain and France which led to successive agreements between other countries in Europe.

Many classical liberals, especially in 19th and early 20th century Britain (e.g. John Stuart Mill) and in the United States for much of the 20th century (e.g. Henry Ford and Secretary of State Cordell Hull), believed that free trade promoted peace.

The removal, so far as possible, of all economic barriers and the establishment of equality of trade conditions among all the nations consenting to the peace and associating themselves for its maintenance.

According to economic historian Douglas Irwin, a common myth about United States trade policy is that low tariffs harmed American manufacturers in the early 19th century and then that high tariffs made the United States into a great industrial power in the late 19th century. A review by the *Economist* of Irwin's 2017 book *Clashing over Commerce: A History of US Trade Policy* notes:

> "Political dynamics would lead people to see a link between tariffs and the economic cycle that was not there. A boom would generate enough revenue for tariffs to fall, and when the bust came pressure would build to raise them again. By the time that happened, the economy would be recovering, giving the impression that tariff cuts caused the crash and the reverse generated the recovery. Mr Irwin also methodically debunks the idea that protectionism made America a great industrial power, a notion believed by some to offer lessons for developing countries today. As its share of global manufacturing powered from 23% in 1870 to 36% in 1913, the admittedly high tariffs of the time came with a cost, estimated at around 0.5% of GDP in the mid-1870s. In some industries, they might have sped up development by a few years. But American growth during its protectionist period was more to do with its abundant resources and openness to people and ideas."

According to Paul Bairoch, since the end of the 18th century the United States has been "the homeland and bastion of modern protectionism". In fact, the United States never adhered to free trade until 1945. For the most part, the Jeffersonians strongly opposed it. In the 19th century, statesmen such as Senator Henry Clay continued Alexander Hamilton's themes within the Whig Party under the name American System. The opposition Democratic Party contested several elections throughout the 1830s, 1840s and 1850s in part over the issue of the tariff and protection of industry. The Democratic Party favored moderate tariffs used for government revenue only while the Whigs favored higher protective tariffs to protect favored industries. The economist Henry Charles Carey became a leading proponent of the American System of economics. This mercantilist American System was opposed by the Democratic Party of Andrew Jackson, Martin Van Buren, John Tyler, James K. Polk, Franklin Pierce and James Buchanan.

The fledgling Republican Party led by Abraham Lincoln, who called himself a "Henry Clay tariff Whig", strongly opposed free trade and implemented a 44% tariff during the Civil War, in part to pay for railroad subsidies and for the war effort and in part to protect favored industries. William McKinley (later to become President of the United States) stated the stance of the Republican Party (which won every election for President from 1868 until 1912, except the two non-consecutive terms of Grover Cleveland) as thus:

> "Under free trade the trader is the master and the producer the slave. Protection is but the law of nature, the law of self-preservation, of self-development, of securing the highest and best destiny of the race of man. [It is said] that protection is immoral. Why, if protection builds up and elevates 63,000,000 [the U.S. population] of people, the influence of those 63,000,000 of people elevates the rest of the world. We cannot take a step in the pathway of progress without benefitting mankind everywhere. Well, they say, 'Buy where you can buy the cheapest'. Of course, that applies to labor as to everything else. Let me give you a maxim that is a thousand times better than that, and it is the protection maxim: 'Buy where you can pay the easiest.' And that spot of earth is where labor wins its highest rewards".

During the interwar period, economic protectionism took hold in the United States, most famously in the form of the Smoot–Hawley Tariff Act which is credited by economists with the prolonging and worldwide propagation of the Great Depression. From 1934, trade liberalization began to take place through the Reciprocal Trade Agreements Act.

Post-World War II

Since the end of World War II, in part due to industrial size and the onset of the Cold War, the United States has often been a proponent of reduced tariff-barriers and free trade. The United States helped establish the General Agreement on Tariffs and Trade and later the World Trade Organization, although it had rejected an earlier version in the 1950s, the International Trade Organization. Since the 1970s, United States governments have negotiated managed-trade agreements, such as the North American Free Trade Agreement in the 1990s, the Dominican Republic-Central America Free Trade Agreement in 2006 and a number of bilateral agreements (such as with Jordan).

In Europe, six countries formed the European Coal and Steel Community in 1951 which became the European Economic Community (EEC) in 1958. Two core objectives of the EEC were the development of a common market, subsequently renamed the single market, and establishing a customs union between its member states. After expanding its membership, the EEC became the European Union in 1993. The European Union, now the world's largest single market, has concluded free trade agreements with many countries around the world.

Modern Era

Most countries in the world are members of the World Trade Organization which limits in certain ways but does not eliminate tariffs and other trade barriers. Most countries are also members of regional free trade areas that lower trade barriers among participating countries. The European Union and the United States are negotiating a Transatlantic Trade and Investment Partnership. Initially led by the United States, twelve countries that have borders on the Pacific Ocean are currently in private negotiations around the Trans-Pacific Partnership which is being touted by the negotiating countries as a free trade policy. In January 2017, President Donald Trump pulled the United States out of negotiations for the Trans-Pacific Parternship.

Degree of Free Trade Policies

Free trade may apply to trade in services as well as in goods. Non-economic considerations may inhibit free trade as a country may espouse free trade in principle, but ban certain drugs (such as alcohol) or certain practices (such as prostitution) and limiting international free trade.

Some degree of protectionism is nevertheless the norm throughout the world. Most developed nations maintain controversial agricultural tariffs. From 1820 to 1980, the average tariffs on manufactures in twelve industrial countries ranged from 11 to 32%. In the developing world, average tariffs on manufactured goods are approximately 34%. The American economist C. Fred Bergsten devised the bicycle theory to describe trade policy. According to this model, trade policy is dynamically unstable in that it constantly tends towards either liberalisation or protectionism. To prevent falling off the bike (the disadvantages of protectionism), trade policy and multilateral trade negotiations must constantly pedal towards greater liberalisation. To achieve greater liberalisation, decision makers

must appeal to the greater welfare for consumers and the wider national economy over narrower parochial interests. However, Bergsten also posits that it is also necessary to compensate the losers in trade and help them find new work as this will both reduce the backlash against globalisation and the motives for trades unions and politicians to call for protection of trade.

In *Kicking Away the Ladder*, development economist Ha-Joon Chang reviews the history of free trade policies and economic growth and notes that many of the now-industrialized countries had significant barriers to trade throughout their history. The United States and Britain, sometimes considered the homes of free trade policy, employed protectionism to varying degrees at all times. Britain abolished the Corn Laws which restricted import of grain in 1846 in response to domestic pressures and reduced protectionism for manufactures only in the mid 19th century when its technological advantage was at its height, but tariffs on manufactured products had returned to 23% by 1950. The United States maintained weighted average tariffs on manufactured products of approximately 40–50% up until the 1950s, augmented by the natural protectionism of high transportation costs in the 19th century. The most consistent practitioners of free trade have been Switzerland, the Netherlands and to a lesser degree Belgium. Chang describes the export-oriented industrialization policies of the Four Asian Tigers as "far more sophisticated and fine-tuned than their historical equivalents".

Politics

The relative costs, benefits and beneficiaries of free trade are debated by academics, governments and interest groups.

Arguments for protectionism fall into the economic category (trade hurts the economy or groups in the economy) or the moral category (the effects of trade might help the economy, but have ill effects in other areas). A general argument against free trade is that it is colonialism or imperialism in disguise. The moral category is wide, including concerns of destroying infant industries and undermining long-run economic development, income inequality, environmental degradation, supporting child labor and sweatshops, race to the bottom, wage slavery, accentuating poverty in poor countries, harming national defense and forcing cultural change. However, poor countries which have adopted free trade policies have experienced high economic growth, with China and India as prime examples. Free trade allows companies from rich countries to directly invest in poor countries, sharing their knowledge, providing capital and giving access to markets.

Economic arguments against free trade criticize the assumptions or conclusions of economic theories. Sociopolitical arguments against free trade cite social and political effects that economic arguments do not capture, such as political stability, national security, human rights and environmental protection. There is a danger that a country could establish a monopoly in a certain product by underselling other countries and then use that monopoly position to unfairly increase prices at a later date. Some products are important to national security and it is dangerous to allow domestic producers of these products to go out of business, especially if the main producer is a country that may one day be an enemy. Countries which allow low wages to workers have a competitive advantage in attracting industry and this may lead to a general worsening of wages for workers in all countries. Some countries may facilitate low-cost production of goods in their countries by allowing pollution of the environment. This could allow more degradation of the world's environment to occur.

Free trade is often opposed by domestic industries that would have their profits and market share reduced by lower prices for imported goods. For example, if United States tariffs on imported sugar were reduced, sugar producers would receive lower prices and profits while sugar consumers would spend less for the same amount of sugar because of those same lower prices. The economic theory of David Ricardo holds that consumers would necessarily gain more than producers would lose. Since each of those few domestic sugar producers would lose a lot while each of a great number of consumers would gain only a little, domestic producers are more likely to mobilize against the lifting of tariffs. More generally, producers often favor domestic subsidies and tariffs on imports in their home countries while objecting to subsidies and tariffs in their export markets.

Socialists frequently oppose free trade on the ground that it allows maximum exploitation of workers by capital. For example, Karl Marx wrote in *The Communist Manifesto*: "The bourgeoisie has set up that single, unconscionable freedom – free trade. In one word, for exploitation, veiled by religious and political illusions, it has substituted naked, shameless, direct, brutal exploitation". Nonetheless, Marx did favor free trade, abeit solely because he felt that it would hasten the social revolution.

Free trade is opposed by many anti-globalization groups based on their assertion that free trade agreements generally do not increase the economic freedom of the poor or the working class and frequently make them poorer. Where the foreign supplier allows *de facto* exploitation of labor, domestic free-labor is unfairly forced to compete with the foreign exploited labor. To this extent, free trade is seen as an end-run around workers' rights and laws that protect individual liberty.

Some opponents of free trade favor free trade theory, but oppose free trade agreements as applied. Some opponents of NAFTA see the agreement as being materially harmful to the common people, but some of the arguments are actually against the particulars of government-managed trade, rather than against free trade *per se*. For example, it is argued that it would be wrong to let subsidized corn from the United States into Mexico freely under NAFTA at prices well below production cost (dumping) because of its ruinous effects to Mexican farmers. Indeed, such subsidies violate free trade theory, so this argument is not actually against the principle of free trade, but rather its selective implementation.

Research shows that support for trade restrictions is highest among respondents with the lowest levels of education. The authors find "that the impact of education on how voters think about trade and globalization has more to do with exposure to economic ideas and information about the aggregate and varied effects of these economic phenomena, than it does with individual calculations about how trade affects personal income or job security. This is not to say that the latter types of calculations are not important in shaping individuals' views of trade – just that they are not being manifest in the simple association between education and support for trade openness". A 2017 study found that individuals whose occupations are routine-task-intensive and who do jobs that are offshorable are more likely to be protectionist.

Research suggests that attitudes towards free trade do not necessarily reflect individuals' self-interests.

Colonialism

It has long been argued that free trade is a form of colonialism or imperialism, a position taken

by various proponents of economic nationalism and the school of mercantilism. In the 19th century, these criticized British calls for free trade as cover for British Empire, notably in the works of American Henry Clay, architect of the American System and by German American economist Friedrich List.

More recently, Ecuadorian President Rafael Correa has denounced the "sophistry of free trade" in an introduction he wrote for a book titled *The Hidden Face of Free Trade Accords*, written in part by Correa's current Energy Minister Alberto Acosta. Citing as his source the book *Kicking Away the Ladder* written by Ha-Joon Chang, Correa identified the difference between an "American system" opposed to a "British System" of free trade. The latter, he says, was explicitly viewed by the Americans as "part of the British imperialist system". According to Correa, Chang showed that it was Treasury Secretary Alexander Hamilton and not List who was the first to present a systematic argument defending industrial protectionism.

Free Trade Area

A free-trade area is the region encompassing a trade bloc whose member countries have signed a free trade agreement (FTA). Such agreements involve cooperation between at least two countries to reduce trade barriers, import quotas and tariffs, and to increase trade of goods and services with each other. If natural persons are also free to move between the countries, in addition to a free-trade agreement, it would also be considered an open border. It can be considered the second stage of economic integration.

It is important to note the difference between customs unions and free-trade areas. Both types of trading blocs are related to internal arrangements which parties conclude in order to liberalize and facilitate trade among themselves. The crucial difference between customs unions and free-trade areas is their approach to third parties. While a customs union requires all parties to establish and maintain identical external tariffs with regard to trade with non-parties, parties to a free-trade area are not subject to such requirement. Instead, they may establish and maintain whatever tariff regime applying to imports from non-parties as deemed necessary. In a free-trade area without harmonized external tariffs, to eliminate the risk of trade deflection, parties will adopt a system of preferential rules of origin.

Regarding the term *free-trade area*, it is originally meant by the General Agreement on Tariffs and Trade (GATT 1994) to include only trade in goods. An agreement with a similar purpose, i.e., to enhance liberalization of trade in services, is named under article V of the General Agreement on Trade in Service (GATS) as an "economic integration agreement". However, in practice, the term is now widely used to refer to agreements covering not only goods but also services and even investment.

Legal Aspects of Free-trade Areas

The formation of free-trade areas is considered an exception to the most favored nation (MFN) principle in the World Trade Organization (WTO) because the preferences that parties to a free-trade area exclusively grant each other go beyond their accession commitments. Although article XXIV of the GATT allows WTO members to establish free-trade areas or to adopt interim agreements necessary for the establishment thereof, there are several conditions with respect to free-trade areas, or interim agreements leading to the formation of free-trade areas.

Firstly, duties and other regulations maintained in each of the signatory parties to a free-trade area, which are applicable at the time such free-trade area is formed, to the trade with non-parties to such free-trade area shall not be higher or more restrictive than the corresponding duties and other regulations existing in the same signatory parties prior to the formation of the free-trade area. In other words, the establishment of a free-trade area to grant preferential treatment among its member is legitimate under WTO law, but the parties to a free-trade area are not permitted to treat non-parties less favorably than before the area is established. A second requirement stipulated by article XXIV is that tariffs and other barriers to trade must be eliminated to substantially all the trade within the free-trade are.

Free trade agreements forming free-trade areas generally lie outside the realm of the multilateral trading system. However, WTO members must notify to the Secretariat when they conclude new free trade agreements and in principle the texts of free trade agreements are subject to review under the Committee on Regional Trade Agreements. Although a dispute arising within free-trade areas are not subject to litigation at the WTO's Dispute Settlement Body, "there is no guarantee that WTO panels will abide by them and decline to exercise jurisdiction in a given case".

Economic Aspects of Free-trade Areas

Trade Diversion and Trade Creation

In general, *trade diversion* means that a free-trade area would divert trade away from more efficient suppliers outside the area towards less efficient ones within the areas. Whereas, *trade creation* implies that a free-trade area creates trade which may not have otherwise existed. In all cases trade creation will raise a country's national welfare.

Both trade creation and trade diversion are crucial effects found upon the establishment of a free-trade area. Trade creation will cause consumption to shift from a high-cost producer to a low-cost one, and trade will thus expand. In contrast, trade diversion will lead to trade shifting from a lower-cost producer outside the area to a higher-cost one inside the area. Such a shift will not benefit consumers within the free-trade area as they are deprived the opportunity to purchase cheaper imported goods. However, economists find that trade diversion does not always harm aggregate national welfare: it can even improve aggregate national welfare if the volume of diverted trade is small.

Free-trade Areas as Public Goods

Economist have made attempts to evaluate the extent to which free-trade areas can be considered public goods. They firstly address one key element of free-trade areas, which is the system of embedded tribunals which act as arbitrators in international trade disputes. This system as a force of clarification for existing statutes and international economic policies as affirmed in the trade treaties.

The second way in which free-trade areas are considered public goods is tied to the evolving trend of them becoming "deeper". The depth of a free-trade area refers to the added types of structural policies that it covers. While older trade deals are deemed "shallower" as they cover fewer areas (such as tariffs and quotas), more recently concluded agreements address a number of other fields, from services to e-commerce and data localization. Since transactions among parties to a free-trade area are relatively cheaper as compared to those with non-parties, free-trade areas are

conventionally found to be excludable. Now that deep trade deals will enhance regulatory harmonization and increase trade flows with non-parties, thus reduce the excludability of FTA benefits, new generation free-trade areas are obtaining essential characteristics public goods.

Qualifying for Preferences under a Free-trade Area

Unlike a customs union, parties to a free-trade area do not maintain common external tariffs, which means they apply different customs duties, as well as other policies with respect to non-members. This feature creates the possibility of non-parties may free-riding preferences under a free-trade area by penetrating the market with the lowest external tariffs. Such risk necessitates the introduction of rules to determine originating goods eligible for preferences under a free-trade area, a need that does not arise upon the formation of a customs union. Basically, there is a requirement for a minimum extent of processing that results in "substantial transformation" to the goods so that they can be considered originating. By defining which goods are originating in the PTA, preferential rules of origin distinguish between originating and non-originating goods: only the former will be entitled to preferential tariffs scheduled by the free-trade area, the latter must pay MFN import duties.

It is noted that in qualifying for origin criteria, there is a differential treatment between inputs originating within and outside a free-trade area. Normally inputs originating in one FTA party will be considered as originating in the other party if they are incorporated in the manufacturing process in that other party. Sometimes, production costs arising in one party is also considered as that arising in another party. In preferential rules of origin, such differential treatment is normally provided for in the cumulation or accumulation provision. Such clause further explains the trade creation and trade diversion effects of a free-trade area mentioned above, because a party to a free-trade area has the incentive to use inputs originating in another party so that their products may qualify for originating status.

Databases on Free-trade Areas

Since there are hundreds of free-trade areas currently in force and being negotiated (about 800 according to ITC's Rules of Origin Facilitator, counting also non-reciprocal trade arrangements), it is important for businesses and policy-makers to keep track of their status. There are a number of depositories of free trade agreements available either at national, regional or international levels. Some significant ones include the database on Latin American free trade agreements constructed by the Latin American Integration Association (ALADI), the database maintained by the Asian Regional Integration Center (ARIC) providing information agreements of Asian countries, and the portal on the European Union's free trade negotiations and agreements.

At the international level, there are two important free-access databases developed by international organizations for policy-makers and businesses:

WTO's Regional Trade Agreements Information System

As WTO members are obliged to notify to the Secretariat their free trade agreements, this database is constructed based on the most official source of information on free trade agreements (referred to as regional trade agreements in the WTO language). The database allows users to seek information on trade agreements notified to the WTO by country or by topic (goods, services or

goods and services). This database provides users with an updated list of all agreements in force, however, those not notified to the WTO may be missing. It also displays reports, tables and graphs containing statistics on these agreements, and particularly preferential tariff analysis.

ITC's Market Access Map

The Market Access Map was developed by the International Trade Centre (ITC) with the objectives to facilitate businesses, governments and researchers in market access issues. The database, visible via the online tool Market Access Map, includes information on tariff and non-tariff barriers in all active trade agreements, not limited to those officially notified to the WTO. It also documents data on non-preferential trade agreements (for instance, Generalized System of Preferences schemes). Up until 2019, Market Access Map has provided downloadable links to texts agreements and their rules of origin. The new version of Market Access Map forthcoming this year will provide direct web links to relevant agreement pages and connect itself to other ITC's tools, particularly the Rules of Origin Facilitator. It is expected to become a versatile tool which assists enterprises in understanding free trade agreements and qualifying for origin requirements under these agreements.

Green Box Policy

Green box policies refer to domestic or trade policies that are deemed to be minimally trade-distorting and that are excluded from reduction commitments in the Uruguay Round Agreement on Agriculture. Examples are domestic policies dealing with research, extension, inspection and grading, environmental and conservation programs, disaster relief, crop insurance, domestic food assistance, food security stocks, structural adjustment programs, and direct payments not linked to production. Trade measures or policies such as export market promotion (but not export subsidies or foreign food aid) are also exempt.

Trade Agreements

A trade agreement (trade pact) is a wide-ranging taxes, tariff and trade treaty that often includes investment guarantees. It exists when two or more countries agree on terms that helps them trade with each other. The most common trade agreements are of the preferential and free trade types are concluded in order to reduce (or eliminate) tariffs, quotas and other trade restrictions on items traded between the signatories.

The logic of formal trade agreements is that they outline what is agreed upon and the punishments for deviation from the rules set in the agreement. Trade agreements therefore make misunderstandings less likely, and create confidence on both sides that cheating will be punished; this increases the likelihood of long-term cooperation. An international organization, such as the IMF, can further incentivize cooperation by monitoring compliance with agreements and reporting third countries of the violations. Monitoring by international agencies may be needed to detect non-tariff barriers, which are disguised attempts at creating trade barriers.

Trade pacts are frequently politically contentious since they may change economic customs and deepen interdependence with trade partners. Increasing efficiency through "free trade" is a common goal. For the most part, governments are supportive of further trade agreements.

There have been however some concerns expressed by the WTO. According to Pascal Lamy, Director-General of the WTO, the proliferation of RTA "is breeding concern — concern about incoherence, confusion, exponential increase of costs for business, unpredictability and even unfairness in trade relations." The position of the WTO is that while the typical trade agreements (called *preferential* or *regional* by the WTO) are useful to a degree, it is much more beneficial to focus on global agreements in the WTO framework such as the negotiations of the current Doha round.

The anti-globalization movement opposes such agreements almost by definition, but some groups normally allied within that movement, e.g. green parties, seek fair trade or safe trade provisions that moderate what they perceive to be the ill effects of globalization.

Classification of Trade Pacts

By Number and Type of Signatories

There are three different types of trade agreements. The first is *unilateral* trade agreement, this is what happens when a country wants certain restrictions to be enforced but no other countries want them to be imposed. This also allows countries to decrease the amount of trade restrictions. That is also something that does not happen often and could impair a country.

The second is classified as *bilateral* (BTA) when signed between two sides, where each side could be a country (or other customs territory), a trade bloc or an informal group of countries (or other customs territories). When both countries loosen their trade restrictions to help out businesses so that they can prosper better between the different countries this definitely helps lower taxes and it helps them converse about their trade status'. Usually this revolves around subsided domestic industries. Mainly the industries fall under automotive, oil, or food industries.

A trade agreement signed between more than two sides (typically neighboring or in the same region) is classified as *multilateral*. this one is the hardest to work out. Usually involves three or more countries. With the more countries that are involved it's definitely harder to negotiate. They are also more difficult to deal with because each country has their own set of things that they need and or want. Once this type of trade agreement is settled on it becomes a very powerful agreement. It covers a bigger area of the world. The largest multilateral trade agreement is the North American Free Trade Agreement between United States, Canada, and Mexico are the three countries involved in.

U.S. Regional Trade Agreements

These are between countries in a certain area. The most powerful ones include a few countries that are near each other in a geographical area. These countries usually have similar histories, demographics and even economic goals.

North American Free Trade Agreement (NAFTA) January 1, 1989 was when it was put into effect, this is between United States, Canada, and Mexico this agreement was designed to get rid of tariff barriers between the separate countries.

Regional trade agreements are very hard to establish and commit to when the countries are more diverse.

Association of Southeast Asian Nations(ASEAN) this was formed in 1967 between the countries of Indonesia, Malaysia, the Philippines, Singapore, and Thailand the reasoning was so that they could engage political and economic encouragement and it helps them all keep regional stability.

By Level of Integration

There are a variety of trade agreements; with some being quite complex (European Union), while others are less intensive (North American Free Trade Agreement). The resulting level of economic integration depends on the specific type of trade pacts and policies adopted by the trade bloc:

- Separate:
  - Trade and Investment Framework Agreement (TIFA).
  - Bilateral Investment Treaty (BIT).
  - Preferential Trade Arrangement (PTA)–limited scope and depth of tariffs reduction between the customs territories.
    - Free Trade Agreement establishing a Free Trade Area (FTA)–extensive reduction or elimination of tariffs on substantially all trade allowing for the free movement of goods and in more advanced agreements also reduction of restrictions on investment and establishment allowing for the free movement of capital and free movement of services.
    - Common market–FTA with significantly reduced or eliminated restrictions on the freedom of movement of all factors of production, including free movement of labour and of enterprise; and coordination in economic policy.
  - Currency union–sharing the same currency.
- Composite:
  - Customs union–FTA with common external tariffs of all signatories in respect to non-signatory countries.
    - Customs and monetary union–Customs union with Currency union.
    - Economic union–Customs union with Common market.
    - Economic and monetary union (EMU)–Economic union with Currency Union.
    - Fiscal Union–common coordination of substantial parts of the fiscal policies *(proposed step between EMU and Complete economic integration).*

Special Agreements

- World Trade Organization treaty.
  - Agreements in the WTO framework (Textile Agreement and others).

- The now defunct Multilateral Agreement on Investment (in the OECD framework).

By the World Trade Organization

Typically the benefits and obligations of the trade agreements apply only to their signatories.

In the framework of the World Trade Organization, different agreement types are concluded (mostly during new member accessions), whose terms apply to all WTO members on the so-called most-favored basis (MFN), which means that beneficial terms agreed bilaterally with one trading partner will apply also to the rest of the WTO members.

All agreements concluded outside of the WTO framework (and granting additional benefits beyond the WTO MFN level, but applicable only between the signatories and not to the rest of the WTO members) are called *preferential* by the WTO. According to WTO rules these agreements are subject to certain requirements such as notification to the WTO and general reciprocity (the preferences should apply equally to each of the signatories of the agreement) where unilateral preferences (some of the signatories gain preferential access to the market of the other signatories, without lowering their own tariffs) are allowed only under exceptional circumstances and as temporary measure.

The trade agreements called *preferential* by the WTO are *regional* (RTA), despite not necessarily concluded by countries within a certain region. There are currently 205 agreements in force as of July 2007. Over 300 have been reported to the WTO. The number of FTA has increased significantly over the last decade. Between 1948 and 1994, the General Agreement on Tariffs and Trade (GATT), the predecessor to the WTO, received 124 notifications. Since 1995 over 300 trade agreements have been enacted.

The WTO is further classifying these agreements in the following types:

- Goods covering:
  - Basic preferential trade agreement (a.k.a. partial scope agreement).
  - Free trade agreement.
  - Customs union.
- Services covering:
  - Economic Integration Agreement–any agreement, including a basic PTA, that covers also services.

General Agreement on Tariffs and Trade

The General Agreement on Tariffs and Trade (GATT) is a legal agreement between many countries, whose overall purpose was to promote international trade by reducing or eliminating trade barriers such as tariffs or quotas. According to its preamble, its purpose was the "substantial reduction of tariffs and other trade barriers and the elimination of preferences, on a reciprocal and mutually advantageous basis."

It was first discussed during the United Nations Conference on Trade and Employment and was the outcome of the failure of negotiating governments to create the International Trade Organization (ITO). GATT was signed by 23 nations in Geneva on 30 October 1947, and took effect on 1 January 1948. It remained in effect until the signature by 123 nations in Marrakesh on 14 April 1994, of the Uruguay Round Agreements, which established the World Trade Organization (WTO) on 1 January 1995. The WTO is a successor to GATT, and the original GATT text (GATT 1947) is still in effect under the WTO framework, subject to the modifications of GATT 1994.

GATT, and its successor WTO, have successfully reduced tariffs. The average tariff levels for the major GATT participants were about 22% in 1947, but were 5% after the Uruguay Round in 1999. Experts attribute part of these tariff changes to GATT and the WTO.

Rounds

GATT held a total of nine rounds:

- Annecy Round: 1949

The second round took place in 1949 in Annecy, France. 13 countries took part in the round. The main focus of the talks was more tariff reductions, around 5,000 in total.

- Torquay Round: 1951

The third round occurred in Torquay, England in 1951. Thirty-eight countries took part in the round. 8,700 tariff concessions were made totaling the remaining amount of tariffs to ¾ of the tariffs which were in effect in 1948. The contemporaneous rejection by the U.S. of the Havana Charter signified the establishment of the GATT as a governing world body.

- Geneva Round: 1955–56

The fourth round returned to Geneva in 1955 and lasted until May 1956. Twenty-six countries took part in the round. $2.5 billion in tariffs were eliminated or reduced.

- Dillon Round: 1960–62

The fifth round occurred once more in Geneva and lasted from 1960-1962. The talks were named after U.S. Treasury Secretary and former Under Secretary of State, Douglas Dillon, who first proposed the talks. Twenty-six countries took part in the round. Along with reducing over $4.9 billion in tariffs, it also yielded discussion relating to the creation of the European Economic Community (EEC).

- Kennedy Round: 1964–67

The sixth round of GATT multilateral trade negotiations, held from 1964 to 1967. It was named after U.S. President John F. Kennedy in recognition of his support for the reformulation of the United States trade agenda, which resulted in the Trade Expansion Act of 1962. This Act gave the President the widest-ever negotiating authority.

As the Dillon Round went through the laborious process of item-by-item tariff negotiations, it became clear, long before the Round ended, that a more comprehensive approach was needed to deal with the

emerging challenges resulting from the formation of the European Economic Community (EEC) and EFTA, as well as Europe's re-emergence as a significant international trader more generally.

Japan's high economic growth rate portended the major role it would play later as an exporter, but the focal point of the Kennedy Round always was the United States-EEC relationship. Indeed, there was an influential American view that saw what became the Kennedy Round as the start of a transatlantic partnership that might ultimately lead to a transatlantic economic community.

To an extent, this view was shared in Europe, but the process of European unification created its own stresses under which the Kennedy Round at times became a secondary focus for the EEC. An example of this was the French veto in January 1963, before the round had even started, on membership by the United Kingdom.

Another was the internal crisis of 1965, which ended in the Luxembourg Compromise. Preparations for the new round were immediately overshadowed by the Chicken War, an early sign of the impact variable levies under the Common Agricultural Policy would eventually have. Some participants in the Round had been concerned that the convening of UNCTAD, scheduled for 1964, would result in further complications, but its impact on the actual negotiations was minimal.

In May 1963 Ministers reached agreement on three negotiating objectives for the round:

- Measures for the expansion of trade of developing countries as a means of furthering their economic development.
- Reduction or elimination of tariffs and other barriers to trade.
- Measures for access to markets for agricultural and other primary products.

The working hypothesis for the tariff negotiations was a linear tariff cut of 50% with the smallest number of exceptions. A drawn-out argument developed about the trade effects a uniform linear cut would have on the dispersed rates (low and high tariffs quite far apart) of the United States as compared to the much more concentrated rates of the EEC which also tended to be in the lower held of United States tariff rates.

The EEC accordingly argued for an evening-out or harmonization of peaks and troughs through its cerement, double cart and thirty: ten proposals. Once negotiations had been joined, the lofty working hypothesis was soon undermined. The special-structure countries (Australia, Canada, New Zealand and South Africa), so called because their exports were dominated by raw materials and other primary commodities, negotiated their tariff reductions entirely through the item-by-item method.

In the end, the result was an average 35% reduction in tariffs, except for textiles, chemicals, steel and other sensitive products; plus a 15% to 18% reduction in tariffs for agricultural and food products. In addition, the negotiations on chemicals led to a provisional agreement on the abolition of the American Selling Price (ASP). This was a method of valuing some chemicals used by the noted States for the imposition of import duties which gave domestic manufacturers a much higher level of protection than the tariff schedule indicated.

However, this part of the outcome was disallowed by Congress, and the American Selling Price was

not abolished until Congress adopted the results of the Tokyo Round. The results on agriculture overall were poor. The most notable achievement was agreement on a Memorandum of Agreement on Basic Elements for the Negotiation of a World Grants Arrangement, which eventually was rolled into a new International Grains Arrangement.

The EEC claimed that for it the main result of the negotiations on agriculture was that they "greatly helped to define its own common policy". The developing countries, who played a minor role throughout the negotiations in this round, benefited nonetheless from substantial tariff cuts particularly in non-agricultural items of interest to them.

Their main achievement at the time, however, was seen to be the adoption of Part IV of the GATT, which absolved them from according reciprocity to developed countries in trade negotiations. In the view of many developing countries, this was a direct result of the call at UNCTAD I for a better trade deal for them.

There has been argument ever since whether this symbolic gesture was a victory for them, or whether it ensured their exclusion in the future from meaningful participation in the multilateral trading system. On the other hand, there was no doubt that the extension of the Long-Term Arrangement Regarding International Trade in Cotton Textiles, which later became the Multi-Fiber Arrangement, for three years until 1970 led to the longer-term impairment of export opportunities for developing countries.

Another outcome of the Kennedy Round was the adoption of an Anti-dumping Code, which gave more precise guidance on the implementation of article VI of the GATT. In particular, it sought to ensure speedy and fair investigations, and it imposed limits on the retrospective application of anti-dumping measures.

Kennedy Round took place from 1962–1967. $40 billion in tariffs were eliminated or reduced.

- Tokyo Round: 1973–79

Reduced tariffs and established new regulations aimed at controlling the proliferation of non-tariff barriers and voluntary export restrictions. 102 countries took part in the round. Concessions were made on $19 billion worth.

- Uruguay Round: 1986–94

The Uruguay Round began in 1986. It was the most ambitious round to date, hoping to expand the competence of the GATT to important new areas such as services, capital, intellectual property, textiles, and agriculture. 123 countries took part in the round. The Uruguay Round was also the first set of multilateral trade negotiations in which developing countries had played an active role.

Agriculture was essentially exempted from previous agreements as it was given special status in the areas of import quotas and export subsidies, with only mild caveats. However, by the time of the Uruguay round, many countries considered the exception of agriculture to be sufficiently glaring that they refused to sign a new deal without some movement on agricultural products. These fourteen countries came to be known as the "Cairns Group", and included mostly small and medium-sized agricultural exporters such as Australia, Brazil, Canada, Indonesia, and New Zealand.

The Agreement on Agriculture of the Uruguay Round continues to be the most substantial trade liberalization agreement in agricultural products in the history of trade negotiations. The goals of the agreement were to improve market access for agricultural products, reduce domestic support of agriculture in the form of price-distorting subsidies and quotas, eliminate over time export subsidies on agricultural products and to harmonize to the extent possible sanitary and phytosanitary measures between member countries.

GATT and World Trade Organization

In 1993, the GATT was updated (*GATT 1994*) to include new obligations upon its signatories. One of the most significant changes was the creation of the World Trade Organization (WTO). The 76 existing GATT members and the European Communities became the founding members of the WTO on 1 January 1995. The other 51 GATT members rejoined the WTO in the following two years (the last being Congo in 1997). Since the founding of the WTO, 33 new non-GATT members have joined and 22 are currently negotiating membership. There are a total of 164 member countries in the WTO, with Liberia and Afghanistan being the newest members as of 2018.

Of the original GATT members, Syria, Lebanon and the SFR Yugoslavia have not rejoined the WTO. Since FR Yugoslavia,(renamed as Serbia and Montenegro and with membership negotiations later split in two), is not recognised as a direct SFRY successor state; therefore, its application is considered a new (non-GATT) one. The General Council of WTO, on 4 May 2010, agreed to establish a working party to examine the request of Syria for WTO membership. The contracting parties who founded the WTO ended official agreement of the "GATT 1947" terms on 31 December 1995. Montenegro became a member in 2012, while Serbia is in the decision stage of the negotiations and is expected to become a member of the WTO in the future.

Whilst GATT was a set of rules agreed upon by nations, the WTO is an intergovernmental organization with its own headquarters and staff, and its scope includes both traded goods and trade within the service sector and intellectual property rights. Although it was designed to serve multilateral agreements, during several rounds of GATT negotiations (particularly the Tokyo Round) plurilateral agreements created selective trading and caused fragmentation among members. WTO arrangements are generally a multilateral agreement settlement mechanism of GATT.

Effects on Trade Liberalization

The average tariff levels for the major GATT participants were about 22 percent in 1947. As a result of the first negotiating rounds, tariffs were reduced in the GATT core of the United States, United Kingdom, Canada, and Australia, relative to other contracting parties and non-GATT participants. By the Kennedy round, the average tariff levels of GATT participants were about 15%. After the Uruguay Round, tariffs were under 5%.

In addition to facilitating applied tariff reductions, the early GATT's contribution to trade liberalization "include binding the negotiated tariff reductions for an extended period (made more permanent in 1955), establishing the generality of nondiscrimination through most-favored nation (MFN) treatment and national treatment, ensuring increased transparency of trade policy measures, and providing a forum for future negotiations and for the peaceful resolution of bilateral

disputes. All of these elements contributed to the rationalization of trade policy and the reduction of trade barriers and policy uncertainty."

According to Dartmouth economic historian Douglas Irwin:

> "The prosperity of the world economy over the past half century owes a great deal to the growth of world trade which, in turn, is partly the result of farsighted officials who created the GATT. They established a set of procedures giving stability to the trade-policy environment and thereby facilitating the rapid growth of world trade. With the long run in view, the original GATT conferees helped put the world economy on a sound foundation and thereby improved the livelihood of hundreds of millions of people around the world".

Rules of Origin

Rules of origin are considered as the rules to attribute a country of origin to a certain product, or the rules to determine the "economic nationality" thereof. The need to establish rules of origin stems from the fact that the implementation of trade policy measures, such as tariffs, quotas, trade remedies, in various cases, depends on the country of origin of the product at hand.

Rules of origin have become a challenging topic in international trade, not only because they constitute a highly technical area of rule-making, but also because their designation and application have not been harmonized across the world. The lack of harmony is even more remarkable in the era of regionalism, when more and more free trade agreements (FTAs) are concluded, creating the spaghetti bowl effect.

The most comprehensive definition for rules of origin is found in the International Convention on the Simplification and Harmonization of Customs procedures (Kyoto Convention), which entered into force in 1974 and was revised in 1999. According to Specific Annex K of this Convention:

> "Rules of origin means the specific provisions, developed from principles established by national legislation or international agreements ("origin criteria"), applied by a country to determine the origin of goods".

The definition makes it clear that rules of origin are basically the "criteria" to determine the origin of goods. Such criteria may be developed from principles in national legislation or international treaties, but the implementation of rules of origin (i.e., certification and verification) is always at the country level. It is also important to note that the purpose of rules of origin is to define the *country of origin*, not a geographical area such as region or province (which is very important in the field of intellectual property rights). The country of origin is often found in the label or marking of a good, for instance "product of China", "made in Italy", etc.

Considering the modest number of Members of the World Customs Organization (WCO) acceding to Specific Annex K (accession to Specific Annexes is optional), the Kyoto Convention has a rather insignificant impact on the application of rules of origin in international trade. However, this Convention does provide many important definitions and standards, which serve as a harmonized basis for national laws and trade agreements to formulate origin. Apart from the definition for rules

of origin, it also provides definitions for "country of origin", "substantial transformation", and a number of recommended practices.

Classification of Rules of Origin

Rules of origin can be classified into non-preferential rules of origin and preferential rules of origin. Non-preferential rules of origin are those primarily designated in order to sustain the most-favored-treatment (MFN) within the World Trade Organization (WTO). Whereas, preferential rules of origin are those associated with "contractual or autonomous trade regimes leading to the granting of tariff preferences going beyond" the MFN application. This separation is stipulated in article 1 of the WTO's Agreement on Rules of Origin.

Article 1: Rules of Origin

1. For the purposes of Parts I to IV of this Agreement, rules of origin shall be defined as those laws, regulations and administrative determinations of general application applied by any Member to determine the country of origin of goods provided such rules of origin are not related to contractual or autonomous trade regimes leading to the granting of tariff preferences going beyond the application of paragraph 1 of Article I of GATT 1994.
2. Rules of origin referred to in paragraph 1 shall include all rules of origin used in non-preferential commercial policy instruments, such as in the application of: most-favored-nation treatment under Articles I, II, III, XI and XIII of GATT 1994; anti-dumping and countervailing duties under Article VI of GATT 1994; safeguard measures under Article XIX of GATT 1994; origin marking requirements under Article IX of GATT 1994; and any discriminatory quantitative restrictions or tariff quotas. They shall also include rules of origin used for government procurement and trade statistics.

It is important to understand the difference between these two categories of rules of origin. Non-preferential rules of origin are deemed "non-preferential" because they are applied in a *non-preferential* basis to determine the country of origin for certain purposes of application within the multilateral trading system. In contrast, rules of origin in FTAs and in the Generalized System of Preferences (GSP) is considered preferential because they help to determine the country of origin in order to grant *preferential and special* treatment to products originating in a contracting party or a beneficiary country.

In principle, FTAs as well as their rules of origin must be notified to the WTO as an obligation of Members. However, rules of origin in FTAs and autonomous trade regimes (e.g., GSP schemes) are not subject to any substantive requirement from the WTO. This is because the Agreement on Rules of Origin does not govern how rules of origin in an FTA or a GSP scheme should be formulated and implemented. There is only a brief *Common Declaration with Regard to Preferential Rules of Origin*, which sets out some standards and recommendations for the formulation of preferential rules of origin. The fact that preferential rules of origin do not fall within the realm of the WTO adds more divergence to the "spaghetti bowl" of rules of origin: each FTA and each autonomous trade regime may formulate its own rules of origin. As a consequence of the rapid growth of regionalism, hundreds of rules of origin are currently applied in hundreds of FTAs. According to the

WTO, as of 4 January 2019, 291 RTAs are in force - counting only those notified to its Secretariat. Whereas, according to the International Trade Centre (ITC), more than 440 FTAs are in force up to the end of March 2019.

Indeed, within the WTO, non-preferential rules of origin are not more harmonized than in FTAs. Despite tremendous effort, the work program to harmonize non-preferential rules of origin has not made significant progress to date, which means there is not yet a common set of rules of origin for non-preferential purposes within the WTO. During the so-called "transitional period", the formulation and implementation of non-preferential rules are literally at the discretion of Members. The only difference as compared to preferential rules of origin is that non-preferential rules of origin are subject to more binding requirements in WTO agreements, particularly the Agreement on Rules of Origin and the Agreement on Trade Facilitation.

So far, the most successful initiative to harmonize this area of rule-making at the multilateral level is the WTO's implementation of preferential rules of origin in favor of least developed countries (LDCs). The 2015 Nairobi Decision on Preferential Rules of Origin for LDCs, which is built upon the decision adopted earlier in 2013 at the Hong Kong Ministerial Conference, has for the first time laid out general guidelines and detailed instructions on specific issues to determine the status of products originating in an LDC country. Moreover, preference-granting Members are required to notify to the Secretariat of their prevalent origin criteria and other origin requirements. To enable transparency and comparability, such notifications must also follow a template adopted by the WTO's Committee on Rules of Origin.

The Role of Rules of Origin in International Trade

Being the criteria to determine the economic nationality of goods, the role of rules of origin is inherently derived from the fact that a number of trade policy measures are applied based on the source of the imports. For instance, if country A wants to impose anti-dumping duties on steel products originating from country B, it is when rules of origin come into play. Without rules of origin, country A cannot apply this measure properly because it cannot determine whether or not the steel in a certain consignment is "made in country B". Beyond this fundamental issue, when steel products originating country C only transit through country B, they should not be subject to this trade remedy measure; but when steel products of country B opt to transit through country C before being entering country A, it should be considered a circumvention of the anti-dumping duties. All these issues give rise to the need to formulate and implement rules of origin. Basically, rules of origin allow the application of trade measures to the right subject-matters whenever their nationality is taken into account. Likewise, rules of origin are crucial to trade statistics because a country may need to keep track of their trade balance with partners.

Rules of origin are particularly important in FTAs, which are established to provide preferences exclusively to products of preferential origin. In this context, rules of origin are indispensable to differentiate between goods originating in contracting parties and those originating in third countries. Such differentiation serves two purposes: (1) it allows the importing party to determine whether a product is eligible for preferential treatment under the FTA at hand; (2) it avoids the scenario where exports from third countries enter the FTA via the member with the lowest external tariff (i.e., trade deflection). This explains why in a customs union, there is no need to establish

rules of origin among its contracting parties - members of a customs union are required to maintain a common external tariff imposed on imports from third countries.

Due to such role, rules of origin also help to create trade among members of a preferential trade arrangement. Such trade creation effect may happy through two channels. Firstly, because preferences are destined exclusively for goods originating in partner countries, it follows that one party tends to increase its imports from another party of an FTA. To illustrate, if country A signs an FTA with country B, due to lower duties, product X originating in country B now becomes cheaper than similar product X' originating in country C; therefore, country A has the incentive to import a higher volume of X. Secondly, inputs originating in a partner country are also preferred because they are normally considered as originating in the other party where it is incorporated in production. It means country A has the incentive to use inputs originating in country B because this will allow its products to qualify for the originating status under the FTA with country B more easily. Both channels may lead to an increased trade between country A and country B, but may also have an adverse effect on their trade with country C (i.e., trade diversion). Therefore, although rules of origin help to overcome trade deflection and encourage trade creation, it also causes trade diversion, which in many cases is not economically efficient.

Rules of origin attempt to reflect the practice of trade and production. It is apparent that a product may be obtained or produced by only one country, but it can also be a product manufactured with the contribution of several countries. Therefore, the criteria to determine the origin of goods - the most important element in any set of rules of origin - are designated to reflect these two circumstances.

Wholly Obtained or Produced Products

'Wholly obtained' refers mainly to natural products grown, harvested etc., in a Party (country or territory) and to products made entirely from them. Normally in FTAs and GSP schemes, these products are indicated either by means of a general definition or by means of an exhaustive list. The second method is more commonly found, and it is also considered to be more transparent.

Specific Annex K to the Revised Kyoto Convention provides a list of wholly obtained or produced products, which can be taken as a good example for the second method:

Standard

Goods produced wholly in a given country shall be taken as originating in that country. The following only shall be taken to be produced wholly in a given country:

- Mineral products extracted from its soil, from its territorial waters or from its sea-bed.
- Vegetable products harvested or gathered in that country.
- Live animals born and raised in that country.
- Products obtained from live animals in that country.
- Products obtained from hunting or fishing conducted in that country.

- Products obtained by maritime fishing and other products taken from th e sea by a vessel of that country.
- Products obtained aboard a factory ship of that country solely from products of that kind.
- Products extracted from marine soil or subsoil outside that country's territorial waters, provided that the country has sole rights to work that soil or subsoil.
- Scrap and waste from manufacturing and processing operations, and used articles, collected in that country and fit only for the recovery of raw materials.
- Goods produced in that country solely from the products referred to in above points.

Although the lists of wholly obtained products are more or less identical across agreements, there are yet several subtle differences. For instance, a few agreements consider animals *raised* in one country as wholly obtained in that country, while most agreements require them to be *born and raised* there. Besides, most agreements include in these list only products obtained in one single country, while some agreements also consider an article as wholly obtained if it is made entirely from inputs originating in one or more than one partner countries.

Not Wholly Obtained Products

In the 'substantial transformation' criterion, 'origin is determined by regarding as the country of origin the country where the last substantial manufacturing or processing, deemed sufficient to give a commodity its essential character, has been carried out.' In other words, once a product is made up of inputs from several countries, it obtains originating status in the country that hosts the substantial works giving it an essential character. There is a possibility that works carried out in different countries may give the product equally essential characters; in that case, the last one shall be credited. There are several methods of application to identify the fulfillment of the 'substantial transformation' criterion, which include rules that are based (i) on the change in tariff classification, (ii) the ad valorem percentage, or (iii) the list of specific manufacturing or processing operations. All of these interchangeable methods have certain positives and negatives, and they can be applied separately or in combination.

The 'Value Added' Rule

This method takes into account the degree of manufacturing or processing carried out in a country by calculating the value it adds to the products. If the value added meets a certain threshold, denoted as a percentage, the manufacturing or processing shall be considered substantial or sufficient, thereby allowing the goods to acquire originating status in the country where such manufacturing or processing takes place. A rule based on the value added requirement may be expressed in one of the following tests:

- Minimum percentage of the value added to final products (build-up or direct test): The manufacturing or processing operations carried out in the country of origin must reach a certain extent, i.e., the percentage of value they add to the final products must be equal to or exceed a given threshold, so that the latter can obtain origin there. This test requires a consideration between the value of regionally or locally created content and that of the final

goods. As a result, the stringency of rules of origin would increase with the threshold for regional or domestic content. For instance, a rule requiring 40% regional value content will be more stringent than one requiring 35%.

- Maximum percentage of non-originating inputs (build-down or indirect test): The use of non-originating materials or components in the processing or manufacturing in the country of origin is restricted to a maximum rate. This test relies on a comparison between the value of non-originating inputs and that of the final goods. Therefore, the stringency of rules of origin would be inversely proportional to the allowance of non-originating inputs. To illustrate, a rule authorizing 60% value of final products to come from non-originating materials is more stringent than one permitting 65%.

Change of Tariff Classification

Among those three methods of application to express the 'substantial transformation' criterion, change in tariff classification is regarded by the Agreement on Rules of Origin as the primary method. In its Article 9 on the objectives and principles of harmonizing rules of origin, the Agreement on Rules of Origin divides 'substantial transformation' into two groups, in which 'change in tariff classification' stands apart, while the other methods are categorized as 'supplementary'. This Article points out that to ensure the timely completion of the harmonization work program, it 'shall be conducted on a product sector basis, as represented by various parts of the Harmonized System (HS) nomenclature.' Only where the usage of the nomenclature does not enable a proper expression of 'substantial transformation' shall the Technical Committee on Rules of Origin consider elaborating on 'the use, in a supplementary or exclusive manner, of other requirements, including ad valorem percentages and/or manufacturing or processing operations.'

Specific Manufacturing or Processing Operations

This method dictates specific production processes that may confer originating status to the goods. It requires non-originating materials to go through certain processing or manufacturing operations in a country in order for the good to be deemed originating in that country. Although the Revised Kyoto Convention has dropped this method, it is still commonly used in practice: the often cited 'from yarn forward' rule is a good example. As a matter of fact, this method is acknowledged by the Agreement on Rules of Origin. Article 2 (a) (iii) of the agreement states that in cases where this method is used, the operations conferring origin on the goods in question need to be precisely specified.

General Origin Provisions

Apart from the core origin criteria, rules of origin also comprise general provisions which cover other aspects in origin determination. They are referred to as general previsions because they are applied across the board, and not specific to any product. Although there is no harmony across trade agreements, the Comparative Study on Rules of Origin of the WCO has listed the most commonly found provisions of this category. Based on this study, the following glossary is provided by the International Trade Centre as a brief guideline for enterprises:

- Accessories, Spare Parts and Tools: A provision that clarifies the origin determination process of accessories, spare parts or tools delivered with the good.

- Advance rulings: A provision that allows an exporter or an importer to obtain an official and legally binding opinion on the classification, origin or customs value of their products from the local customs authorities prior to exporting/importing of the goods.
- Appeals: A provision which sets up an appeal process in respect of origin determination and advanced rulings.
- Approved exporter: Approved exporter provision refers to exporters who fulfil certain conditions, export frequently under and FTA and are registered with the local customs authorities (have obtained an approved exporter authorization).
- Certification: A provision that details the type of origin documentation that needs to be provided to claim preferential tariffs under an FTA.
- Competent authority: A provision that lists national authorities responsible for overseeing origin-related provisions and for issuing the certificate of origin. This is often the government or a government department which can then delegate the procedure of issuing certificates to other domestic organisations.
- Cumulation: A provision which allows to consider goods obtained in as well as processing taking place in one FTA member country as originating in another.
- De Minimis: A provision that allows a small amount of non-originating materials to be used in the production of the good without affecting its originating status. The provision acts as the relaxation of the rules of origin.
- Direct transport: A provision requiring goods that are claiming preferential treatment under an FTA to be shipped directly from the FTA country of origin to the FTA country of destination.
- Duty drawback: A provision that relates to reclaims or refunds of customs duties previously paid on inputs. In the context of FTAs, duty drawback provision, usually relates to the ability to claim back duties paid on non-originating materials used to produce the final good which is exported under preferential tariffs.
- Exemption of certification: A provision which lists exemptions from the requirement to provide a proof of origin. Under certain circumstances originating goods can be imported into an FTA country without a proof of origin and still be treated as originating.
- Exhibitions: A provision which allows an originating good to be purchased in a third party (non-FTA) country during an exhibition and imported into an FTA country under preferential treatment.
- Fungible materials: A provision determining how non-originating and originating fungible materials should be tracked (accounted for) when both types are stored together and/or used to produce originating and non-originating goods. It allows both types of goods to be tracked not through physical identification and separation but based on an accounting or inventory management system.
- Indirect materials: A provision which specifies that the origin of certain materials (referred

to as indirect or neutral) used in the production process should not be taken into account when determining the origin of the final good.

- Minor errors: A provision that clarifies that when the origin of the goods is not in question, preferential origin claims should not be rejected as a result of small administrative errors and discrepancies.
- Non-qualifying operations: A provision that lists operations which do not confer origin. They are considered below the threshold of sufficient production / processing.
- Outward processing: A provision that allows a good to be temporarily removed from the FTA territory and processed in the third party country without affecting origin determination of the final product. No account is taken of the fact that the good has left the territory of an FTA during the production process.
- Packaging: A provision that clarifies whether packaging should be accounted for when determining the origin of the product.
- Penalties: A provision that specifies the legal consequences of submitting an origin documentation based on incorrect or falsified information. These can relate to criminal, civil and administrative penalties.
- Period of validity: A provision that specifies the length of time an origin certificate or an origin declaration is valid for from the moment it has been issued.
- Principle of Territoriality: A provision stating that for the purpose of determining the origin of goods, all working and processing needs to be carried out within the territory of parties to the agreement without interruption.

Origin Certification and Verification

Certification and verification are procedural aspects of rules of origin, but they are of no less importance. Even if a product fulfills the substantive origin criteria, it will not be entitled to preferences unless it complies with the procedural requirements. The requirements regarding certification and verification are usually provided in an annexes called operational procedures, or sometimes in the chapters on customs procedures. Those annexes or chapters include a number of provisions such as retention of documents, refund of excess duties paid, minor errors, etc., which need to be taken into account if traders want to claim preferences for their goods.

Most essentially, to be eligible for preferential treatment, a consignment must be accompanied by a proof of origin. The most popular form of proof of origin required in most trade agreements is a certificate of origin. Besides, there are other forms of proof of origin, for instance, a declaration of origin or an origin statement. Many agreements provide value thresholds below which proofs of origin may be waived.

Regarding certification, a trader needs to know whether or not self-certification is permitted by the trade agreement under which he claims preferences. If it is permitted, the trader (either the producer, the exporter, or in some cases, the importer) only needs to fill out the information relating to the consignment on a prescribed form (if any), and declare that the goods listed therein fulfill origin criteria and other requirements. However, if self-certification is not allowed, a trader must

apply for a proof of origin issued by a certifying authority, which is normally the chamber of commerce or an agency of the ministry of trade or commerce. To obtain such document, the exporter or the producer will submit various documents relating to the production or manufacturing of the goods. The competent authority will examine the documents, and pay visits to an applicant's premise to verify if necessary, and certify if the goods are compliant with the origin criteria set out in the trade agreement at hand.

Regarding verification, when the consignment arrives at the port of entry in the importing country, the proof of origin will be submitted to the customs authority. To facilitate trade, sometimes a physical submission is not required - the importer or its representative may simply submit the document number and/or an electronic copy thereof. The customs' acceptance of the proof of origin will decide whether or not the consignment is entitled to preferential treatment. In case there arise some doubts, the customs authority may resort to several measures, e.g. examining the original proof or origin or verifying the information on the document and the goods actually imported. The customs may require the trader to provide more information, or even contact the issuing authority in the exporting country for further clarification.

Institutions and Rules of Origin

Domestic Institutions

Because rules of origin are implemented at the country level, it is domestic institutions which directly deal with the certification and verification procedures. The competent authorities differ from one country to another, and also vary across trade agreements.

Issuing Authorities

An issuing authority may be one of the following institutions:

- Chamber of commerce.
- Specific government authority assigned by a trade agreement and/or domestic legislation.
- Customs authority.

To cite an example, in Vietnam, goods exported to an importing country under non-preferential regime may need a non-preferential certificate of origin certified by the Vietnamese Chamber of Commerce and Industry. The Chamber is also responsible for issuing preferential certificate of origin form A if the goods are exported to a GSP-granting country. However, if the goods are traded under an FTA, the issuing authority will be a local Office of Import and Export Administration, directly under the Ministry of Industry and Trade.

Verifying Authorities

Verifying authorities are in principle the customs authorities in importing countries unless otherwise specified. The reason is that the verification of origin in the importing country must be carried out when the goods arrive at the port of entry in order to determine the (preferential) duties applied to the consignment, which falls within the realm of its customs. Particularly, in many agreements, the customs are indicated as both the certifying and the verifying authorities.

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