OECD INSIGHTS

PATRICK LOVE RALPH LATTIMORE

INTERNATIONAL TRADE

Free, Fair and Open?

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Patrick Love and Ralph Lattimore

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Foreword

Trade, like every other aspect of the economy, has been deeply affected by the global recession that started to emerge in the wake of the 2008 financial crisis. As this book goes to press, we are projecting a decline in world trade for the first time since 1982.

Trade is not at the origin of the crisis, but since it binds economies closely together, it helps to spread developments from one country to another – the negative developments as well as the positive. Weakening consumption and investment reduce demand for exports, a matter of critical importance for most countries, and particularly those whose economic development strategies rely on export-led growth.

Given the need to tackle unemployment, the temptation for some policy makers and parts of the media is to argue that the priority is to protect the national economy by reducing imports, reserving government contracts for domestic firms, refusing to help companies who invest abroad, and so on.

This approach is based on the seriously flawed premise that any country can rely solely on its own natural, economic and human resources to produce everything it needs, at a price its population can afford to pay.

In fact, national economies need international markets to produce and sell things. Most international trade is not in the goods we buy in the shops. It consists of the things needed to make these goods, ranging from the microprocessors and software in electronic equipment to the cereals in food. By making these more expensive, protectionism ends up making everybody pay more. Reducing the size of markets and making things more expensive damages the economic growth on which jobs and living standards depend.

Experience has shown that international trade can make a major contribution to improving the living standards of people throughout the world. As this book points out, an increase in the share of trade in GDP of one percentage point raises income levels by between 0.9% and 3%.

So although an inward-looking, individualist approach may seem attractive to some in the short term, a co-ordinated international commitment not to engage in protectionist actions would produce a much more effective, longer-lasting means to reduce the damage from the current crisis. In fact, further trade liberalisation would be an even better option as part of a broader response to the crisis.

Of course, liberalising further, and even keeping open those markets that have already been liberalised, will require international co-ordination on a broad set of issues ranging from stimulus packages to financial sector reform to social protection.

Still, liberal trade policy has an important role to play, reinforcing market-oriented solutions and establishing conditions for a more robust recovery than would have been possible otherwise. That said, progress requires compromise and trade-offs among various interests, and it tends to be hard won.

A multilateral system is the best way to ensure that all nations have a say in how trade is conducted. There is, however, substantial room for debate on the specifics of how to implement this. In practical terms, what can be done? Even in a relatively calmer economic climate in the first half of 2008, no agreement was reached on the World Trade Organization's Doha Development Agenda despite a strong push by key stakeholders. Yet, concluding the Doha Round would be a significant contribution towards the confidence building needed to get the global economy moving in a healthy direction.

With strong political will, a deal could be reached on issues where substantial progress has already been achieved, including market access for goods and services, moves to facilitate trade, and steps to make sure that the least developed countries benefit more fully from globalisation. Trade liberalisation is not an end in itself though. It is part of a strategy to promote economic development and improve social welfare by making the world's resources more readily available to all. And progress in trade liberalisation would send a strong signal that governments can successfully collaborate in a positive manner in response to the crisis.

This latest book in the *Insights* series tries to present the issues objectively, showing the benefits of openness, but also the limits to what trade and trade policy can achieve. As well as an introduction to the history of international trade and the mechanisms and institutions that shape trade today, the book also discusses the relationship between trade and a number of key issues such as employment, the environment and development.

I hope that you will find the information presented useful, and the arguments stimulating.

Angel Gurría
Secretary-General of the OECD

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OECD Insights is a series of primers commissioned by the OECD Public Affairs and Communication Directorate. They draw on the Organisation's research and expertise to introduce and explain some of today's most pressing social and economic issues to non-specialist readers.

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Currency Note

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International trade influences a whole range of activities including jobs, consumption and the fight against poverty. It also affects the environment and relations among countries. In turn, trade is shaped by a host of influences ranging from natural resources to fashion. Trade-related issues can give rise to strong feelings, and trade measures such as banning or limiting imports are often called for to respond to major economic problems. An understanding of the benefits and downsides of trade, and of what trade policy can and cannot achieve, will help us to form our own opinions on debates about international trade.

Introduction

By way of introduction…

Hershey's chocolate bars are one of America's best-known brands. The name comes from Milton S. Hershey, who founded the company, and it's also the name of the town he had built in Pennsylvania for his factories and employees. In January 2007, the US Postal Service released a stamp to mark the 100th anniversary of Hershey's Kisses, the first time a piece of chocolate was so honoured. But shortly after the stamp went on sale, the firm announced plans to cut its workforce by 1 500 by the end of the decade and close a third of its production lines. At the same time, it announced that a new plant was to be built in Monterrey, Mexico. Wages in Mexico are lower than in the US and Canada, and opponents of Hershey's decision often cite this as the reason behind the company's announcement. They also note that under the North American Free Trade Agreement (NAFTA), Hershey could import the candy made in Mexico back into the US. So it looks like a typical case of free trade driving down wages and costing jobs.

But if you look closer, several factors are involved. Trade is certainly one of them, but not just because NAFTA made it economically viable to import products from Mexico. For a manufacturer of chocolate and confectionary, sugar is a major part of the production budget. Sugar producers in the US are protected from foreign competition and prices are two to three times higher than on world markets. Factories in Mexico can buy sugar at world prices, and this is a huge incentive when some of your products are mostly made of sugar.

Innovation, investment and organisation are important, too. Hershey is in competition with other multinationals selling similar products on world markets. But many Hershey production lines could only produce one item, whereas rivals' lines were flexible.

That said, moving production to Mexico clearly costs jobs in the US and Canada. You can look at this in several ways. One would be that: jobs were sacrificed to save money for the company. Or you could take a wider view, that jobs were created in Mexico, thus helping a trading partner to expand its economy and be better able to import goods and services. And as the US economy became more open to trade, employment increased. That may be true, but it's not much consolation to the workers who got fired. These

workers are more interested in quickly finding another job, even though there may be practical difficulties for those who move to another town, put their children in a new school or lose contact with friends and workmates. Still, a study of European workers showed that four-fifths of those who left a job moved straight into another one.

While some jobs are lost to trade, it's not the main cause of unemployment. The share of jobs lost due to the internationalisation of production is less than the share of jobs lost through the normal turnover in the labour market through people voluntarily changing jobs or retiring.

Trade's main impact on production, and thus employment, is to allow operations to be split into a number of different parts that can be done throughout the world and brought together to make the final products we buy. This aspect has allowed many countries outside the traditional industrial centres to enter world markets. In fact, the use of "industrialised" and "developing" to describe OECD and non-OECD countries is becoming meaningless. Industry contributes more to China's GDP than it does to that of any OECD country, for instance, yet China is practically never referred to as an industrialised country.

Other countries are following China's example, but do they get a fair deal from the international trading system? Trade gives a country access to markets, knowledge and financing that it would not have otherwise. If there was no trade, a country would have to depend on its own population and resources, and no country has ever done this for long and prospered. But this access to world markets is not the same for every country. It is conditioned by a country's history, institutions, size and geographical position, as well as a number of more subjective factors such as culture and social structures.

Who sets the rules?

Trade is paradoxical in that it brings countries together, and often for their mutual benefit, while at the same time reinforcing competition between them. The philosopher Reinhold Niebuhr expressed this succinctly by saying that "a trading civilisation is involved in more bitter international quarrels than any civilisation

in history". In the past, these quarrels might have been physical conflicts. Nowadays they are more likely to be "trade disputes", falling under the rules of the World Trade Organization (WTO) and trade agreements. These rules were determined in large part by the most advanced trading nations who initially set up the system (as the GATT in 1947) but are increasingly subject to influence from smaller, less developed economies.

The OECD defends the multilateral system as the best hope for equitable governance of international trade. Why? Basically because the two other options are not as just. One of these options is to have no rules at all, and every country does what it likes until a more powerful rival stops it. Nobody would claim that this is a fairer system than the present one. The other option is to have preferential trade agreements, usually called regional or bilateral agreements depending on the number of partners. Such agreements can occasionally feed into the multilateral system and they are certainly an improvement on a free-for-all. There is a risk however that the interests of larger partners prevail over those of smaller ones.

Large economies still dominate trade and hence the multilateral system. But they don't get it all their own way. Smaller nations can form alliances within the multilateral system to make their voices heard, and a victory for one can bring benefits for others. This has been very much the case during the Doha Development Agenda (DDA) negotiations. Developing countries in particular have grouped and regrouped with some success around different issues, such as cotton subsidies or special treatment of the poorest countries.

Some people object to international trade on the grounds that it harms the environment and does little to encourage sustainable development. Two arguments are foremost in these objections. First, companies move abroad to so-called "pollution havens" to take advantage of weaker environmental controls. Second, transporting goods around the globe increases CO_2 emissions and has other negative side-effects.

We'll return to these shortly, but first let's recall what sustainable development actually means. As emphasized by the title of another book in the *Insights* series, *Sustainable Development: Linking Economy, Society, Environment*, it's not just about the environment.

It costs money to provide enough food, clean water, health care, education and the other services we need to live fulfilled lives. A well-functioning social system capable of providing opportunities and managing conflict is essential, too. Neglecting one of the three "pillars" of sustainability will lead to unsustainable outcomes.

As for the strictly environmental concerns, there is little evidence in practice of a pollution haven effect. Also, one consequence of international production chains is a standardisation of equipment and practices. Respecting environmental norms is a very minor cost in setting up a factory anyway and sometimes it can actually save money in the longer run through lower fuel bills or fewer health and safety problems. So it makes little economic sense for a multinational firm to have a factory designed and built specifically to exploit an environmental "advantage", especially given the risk that costly retrofitting of pollution control equipment may be needed later.

Transport certainly causes pollution, and analysis of food miles or the "carbon foodprint" has drawn attention to this. However, when asking if international trade is worse for the environment than producing locally, we have to look at the total impact. It can be more environmentally friendly to fly produce from a country that doesn't need to use heated greenhouses, fertiliser or as many of the other damaging inputs as the importer might use. From a sustainability point of view, allowing producers in poorer countries access to rich markets can be more beneficial than excluding them in order to reduce carbon emissions. And poor people in rich countries are hit harder by being deprived of lower-cost imports than their better-off compatriots.

Another question concerns trade in environmentally preferable products. Few countries have the scientific, technical and financial means to develop and manufacture today's "green" technologies. Future technologies, such as those based on hydrogen, are even more expensive to develop. The huge potential market created by trade makes it economically worthwhile to invest the sums required and makes the products themselves more readily available.

Given trade's importance in so many different domains, it can be tempting to conclude that trade policy (for example imposing quotas, tariffs or even bans) should be used to address a very wide range of issues. Trade policy is a powerful weapon. But in many

cases it is not the best. Moreover, it can be misused by lobbyists seeking to protect their own immediate interests or by politicians seeking to blame "foreigners" for domestic difficulties. If jobs are lost, employment and social policies should be used to help retrain people, inform them of employment opportunities and assist them during the transition period. The environment can be better protected by preventing or reducing any impacts at the source, rather than trying to correct matters by interfering with trade. Building tariff or other barriers to global technology, suppliers and sales is not the best way to encourage national industries to prosper in an interdependent world.

What this book is about…

Jobs, the environment, relations between rich and poor countries – trade affects them all, but not always in the way we might think, or like. This book will try to present an objective picture of the state of world trade, the factors that influence it and how trade in turn influences important aspects of our lives. The computers used to research, write, print and distribute this book could not have been made without international trade, or at least not at a price that many of us could afford. In fact, practically everything we own involves international trade at some point.

This book argues that, overall, trade is hugely beneficial to our well-being. Try to imagine what it would be like if we were forbidden to trade with anyone. Nobel laureate and trade specialist Paul Krugman uses this approach in what he calls "but for" analyses – seeing what happens when trade is removed from the equation. Daily life provides plenty of examples: "but for trade, bananas wouldn't be the world's most popular fruit". Or "but for trade, we'd still have a textile industry here". Of course there are downsides and limitations to trade, winners and losers, and governments sometimes have to take action to help those adversely affected or to make sure that the benefits are spread throughout the economy. This book also deals in depth with these issues.

Chapter 2 looks at the history of world trade. We don't know exactly when it started, but archaeologists believe that networks of people were exchanging goods in Europe 10 000 years ago and the same was probably true elsewhere. History also shows that many of the questions we're debating today have been around for a long time.

Chapter 3 reviews some of the major characteristics of international trade today. It describes the value of what is traded and the relative importance of the different products that are bought and sold internationally. It looks at the importance of trade among the different regions of the world, and how this is changing.

Chapter 4 looks at the ways governments try to control trade. The most direct way is through tariffs on imports. But other means are also important, including subsidies to domestic producers and exporters or non-tariff measures such as product standards or customs procedures.

One way to abolish or reduce barriers is through negotiating trade agreements. **Chapter 5** looks at the different rounds of negotiation that have helped shape world trade and the major agreements that resulted from these rounds. It also describes the role of the WTO, the international body responsible for trade questions.

The next three chapters discuss some of the most controversial aspects of international trade. **Chapter 6** tackles the argument, quoted above, that international trade means "exporting jobs". It describes the impact of trade on particular countries and sectors of the economy and identifies the likely winners and losers.

International trade has an impact on the global environment. **Chapter 7** looks at its positive and negative aspects and examines ways that trade could contribute to preserving the environment. This chapter also highlights an argument made elsewhere in the book, that trade policy is often not the best instrument to tackle a problem.

Chapter 8 examines trade questions as they affect developing countries. It considers the influence of trade on development and the prospects for trade between developing countries, so-called "South-South" trade.

The main justification for international trade is that it boosts economic growth. **Chapter 9** examines the factors that contribute to economic growth and how trade affects them.

Chapter 10 continues this analysis by discussing the link between trade and innovation. Trade influences the diffusion of new technologies, but it also influences the factors that promote innovation in the first place.

Adam Smith, one of the fathers of modern economics, analysed the importance of self-interest in economic growth. The **final chapter** will look at what international trade has done for various economic "actors" – consumers, retailers, producers.

We hope that this book will help you understand the issues it discusses and to form your own opinion on these questions and on calls to liberalise or to restrict international trade.

Trade at the OECD

One of the major aims of the OECD at its creation in 1961 was the expansion of world trade on a multilateral, non-discriminatory basis in accordance with international obligations.

This is done by fostering informed debate, building consensus and promoting policy co-ordination among government policy makers, while generally leaving formal trade negotiations to other bodies, such as the World Trade Organization (WTO).

Reflecting the globalisation of industrial activities and the way trade issues interact with other policy fields, the focus has shifted over the years from an emphasis on border measures to a broader consideration of trade issues, many of which are "behind the border" and encompass trade in services as well as goods.

In order to foster a better understanding of the benefits and challenges of trade liberalisation among the wider public, informal consultations are organised with civil society organisations, business and union stakeholders. There is a lively dialogue on trade issues with important emerging economies that are not OECD members.

In general, OECD work on trade seeks to forestall trade tensions and conflicts by undertaking innovative, analytical work that aims to clarify issues and point to solutions that distort trade least. The way is thus cleared for more-informed negotiations elsewhere, notably at the WTO.

The unfolding economic crisis poses particular challenges for trade policy makers. What is the contribution of trade policy to resolving the current crisis? In such an extraordinary environment, why should governments avoid taking protectionist measures to support ailing industries and workers? What trade policy alternatives are there to help countries, and the world, return to more stable economic growth?

Responses to such questions are being explored today, in search of the best way forward.

TO FIND OUT MORE

The trade web site (*www.oecd.org/trade*) provides a gateway to OECD information on these and other topics. You can also find a wealth of statistical information, analytical reports, working papers and policy briefs that can be downloaded freely.

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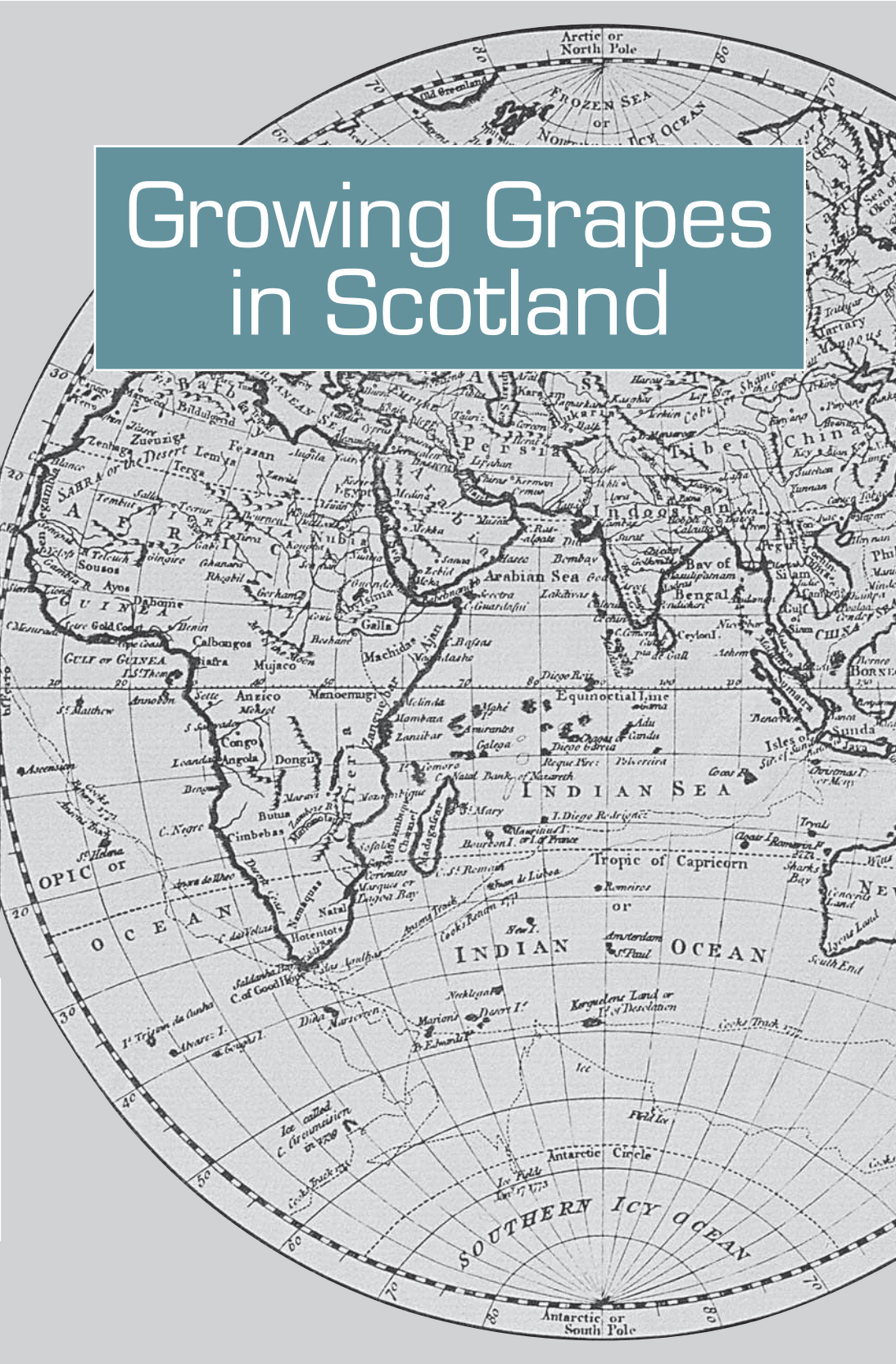
Some features of the modern economy, including globalisation and financial crises, have existed for thousands of years. And debates about the best way to handle certain issues have been around for centuries. The same is true for international trade, and many of the analyses and concepts developed in the 18th and 19th centuries still form the basis for the work of today's trade economists and policy makers. Knowledge of the basic history and ideas that shaped international trade and its study is an asset in any discussion about international economic relations.

Growing Grapes in Scotland



By way of introduction…

"Quinquireme of Nineveh from distant Ophir,
Rowing home to haven in sunny Palestine,
With a cargo of ivory,
And apes and peacocks,
Sandalwood, cedarwood, and sweet white wine.

Stately Spanish galleon coming from the Isthmus,
Dipping through the Tropics by the palm-green shores,
With a cargo of diamonds,
Emeralds, amythysts,
Topazes, and cinnamon, and gold moidores.

Dirty British coaster with a salt-caked smoke stack,
Butting through the Channel in the mad March days,
With a cargo of Tyne coal,
Road-rails, pig-lead,
Firewood, iron-ware, and cheap tin trays."

John Masefield, *Cargoes*

Most people's first reaction on reading Masefield's poetical history of world trade may be to wonder what a quinquireme was. And Nineveh and Ophir are probably not too clear either. A quinquireme was a huge warship. Once its contingent of rowers and marines plus their weapons, ammunition and stores were loaded, there wouldn't be much room for a cargo. Anyway, while having a cargo of apes cavorting around the decks in the middle of a naval battle might certainly add to the fun, it wouldn't really increase your chances of winning. Nineveh was in what is now Iraq, but the exact location of Ophir has not been determined. Many historians think it may have been in Yemen or perhaps Pakistan or India, although others think it may have been in Zimbabwe.

Whatever quibbles we might have with the technical, historical or geographical accuracy of the poem, Masefield got it right on three essential points. First, ships (and other means of transport) have been moving goods across the world for thousands of years, in fact, throughout much of recorded history. During the Stone Age, flint and obsidian were traded, while Egypt traded in luxury goods 5 000 years ago. Trade routes linking the civilisations of the Tigris and Euphrates to those of the Indus appeared around the

same time. The Phoenicians (from areas of what are now Syria, Lebanon and Israel) sent traders all over the Mediterranean and even as far as England.

Second, the type of cargo worth trading changed over the centuries. In earlier days, the uncertainty of goods actually reaching the sellers and making it back again to potential clients meant that whatever was transported had to have an extremely high resale value. Long-ago examples would have been ivory and peacocks. After the Industrial Revolution, transport technology was cheaper and more reliable, trade costs had fallen considerably and markets were much bigger. You could make a profit shipping bulk goods (pig-lead, cheap trays) for industry and for consumers.

Third, the centre of world trade and the nations that control it change. No empire, however powerful, dominates the world economy forever. Rome, Mongolia, Spain, the Netherlands, the Ottoman Empire and Britain have all controlled vast areas of the globe at one time or another. Today no single country enjoys that kind of domination. Economic power is concentrated in three main centres – North America, Europe and Japan. But they won't dominate forever, and new forces are already emerging or re-emerging, as in the case of China.

Masefield was also on target on a more subjective level. Listen to the rhythm of his language. It starts slowly, gradually speeds up and finishes in a breathless scramble. Wherever Ophir was located, today its sweet white wine could be shipped to sunny Palestine within hours if need be.

We don't really know if most of what was being sent around the ancient world would be classified as "international trade" using modern definitions. In fact, during the early Pharaonic dynasties the economy was a royal monopoly, and there was no word in the Egyptian language for "trader". Exotic animals and woods may have been gifts intended to reinforce diplomatic ties. The many jars found in shipwrecks may simply have been transporting wine for a rich landowner from one property to another. In a world where practically everybody lived by subsistence farming and had few resources to devote to anything other than the basics, and where the costs of trade were high, such trade as existed was mostly local. On the other hand, there is plenty of evidence that the Romans imported large numbers of wild animals for their

games. So it seems reasonable to suppose that people skilled in this trade could deal in other goods, too. We do know that the ancients imposed trade taxes – fees levied by rulers or bandits to enter or cross territories and fiefdoms. In fact, until very recently, trade taxes were a major source of government revenue around the world, and they still are in the poorest countries.

Here we encounter an issue that will crop up again and again in the following pages, that of empirical data. The bones of lions have been found in ancient shipwrecks, but any less resilient goods have long since disappeared. We have no records of what else was carried in the ships' holds, beyond what is mentioned in literary accounts (for instance, fine wool from Spain). Today, we have figures on what is traded but we don't always know clearly the impact of trade. Economists have been developing theories of how the economy works for hundreds of years and perfecting highly sophisticated mathematical models to test the hypotheses these theories generate. But often the data available, the figures on imports and exports, GDP, wages and so on, do not allow us to state that one explanation or proposal is better than another. That doesn't mean that any one proposition is false but simply that, as in the case of antiquity, we don't know.

In this chapter we'll look at some of the theories economists have developed to explain the role of trade in the capitalist economy. We'll sketch out how the world economy has evolved since the early days of capitalism studied by early economists like Adam Smith and David Ricardo. We'll introduce some of the concepts that are useful to know in order to understand what follows and to form an opinion about it. Finally, we'll explain the special terminology used elsewhere in the book and in research on international trade in general.

The invisible hand

Many aspects of trade and what we think of as modern economics emerged very early on in history. In the third century AD, the Roman Empire was hit by a major financial crisis that caused trade to collapse and the economy to shrink. The impact would last for centuries and influence even the Middle Ages. For example, large open cities were replaced by walled towns; manufactured goods

were made on the landowners' estates rather than bought from specialists. One lesson for us today is that globalisation is not a one-way process – it can stop or even reverse. Another lesson is that trade tends to be influenced by non-trade factors rather than dominate them. In the Roman case, those factors included military spending and inflation.

Later periods also show similarities to our own. Medieval Europe witnessed a consumer-led boom that revolutionised trade and, through innovations in accountancy and other services, still influences how trade is conducted today. We tend to think of things like the international division of labour and outsourcing of commercial services as modern developments. But by 1200, the great Italian trading families had developed their businesses to such an extent that specialisation in commercial services became the most efficient way to negotiate and manage deals. The merchants themselves no longer travelled with their goods, but relied on agents and transporters to carry out these tasks. They also developed new bookkeeping methods, and by the middle of the 14th century also had insurance contracts.

Demand for consumer goods – essentially luxury items like silk or tea from the Orient – did not just stimulate trade. Urban centres began to flourish too, and local industry started to produce both luxury goods for the well-off and more mundane objects for the rapidly increasing urban population. This meant that demand for raw materials also grew, as did demand for food for town dwellers. The Silk Road is the most well-known of the pre-industrial trade routes. But cereals, salt, spices, wine and many other products that urban populations couldn't produce themselves, also started to be traded in significant quantities.

Trade helped to disseminate not only physical goods but also new ways of doing things, organisational innovations as we'd say now, and new knowledge of how to make things, or technology diffusion. The pace of change was still slow, and it would take a few centuries before industrial capitalism would overthrow the medieval socio-economic organisation based on hereditary landowning and agricultural wealth. There is debate among historians about when the Industrial Revolution actually started. Some would argue that the printing press and mechanical clocks heralded the start of standardised mass production; others see the mechanisation of the textile industry in the second half of

the 18th century as the starting point. As far as the science of economics is concerned, the key date is 1776, when Adam Smith published *An Inquiry into the Nature and Causes of the Wealth of Nations*.

Smith's work was to be as important to economics as that of Isaac Newton to physics or Karl Marx to politics, although when Smith wrote it, the term "economics" didn't exist. On the book's cover, the author is described as "Formerly Professor of Moral Philosophy in the University of Glasgow". Even the term "capitalism" was to come later. Smith is responsible for inventing another expression that has passed into common usage (at least in economics): "the invisible hand", a metaphor for the way markets influence and co-ordinate activities. He used it to describe the fact that people act in their own interest and in doing so may also contribute to the common good. Now his phrase is more often used to express the idea that the market can correct a number of imbalances without intervention from the government or other actors.

One of Smith's reasons for writing the book was to counter the ideas of Louis XIV's finance minister Jean-Baptiste Colbert, who advocated a vigorous role for the state, including protectionism, export subsidies and public procurement. This debate about whether, when and how the state should intervene in the economy is still continuing, and it returned to the fore in the context of the various bailout and stimulus packages proposed in 2008 and 2009 to deal with the financial crisis and its consequences for the rest of the economy.

Smith identifies the division of labour as a cause of improvement in economic well-being. The idea that work is broken down into small, highly specialised tasks now seems natural. But in Smith's day, workers would carry out a range of tasks. Today, we use slightly different terminology, but the basic concepts are the same. Where Smith uses "dexterity" we'd use "skill level" or perhaps "human capital" – the training, experience and personal know-how that workers bring to their jobs. The second element Smith identifies is the fact that increased specialisation allows work to be organised in a more efficient way. Workers don't waste time changing tasks or tools and can concentrate all their efforts on doing one or two things efficiently. Finally, as he notes, specialisation is accompanied by technological innovation, boosting productivity even more.

The Wealth of Nations calls upon the "trifling" industry of pin making to illustrate how these phenomena influence even the least glamorous occupations. A century later, in *L'Assommoir*, Emile Zola provided a memorable illustration of what Smith was talking about. He describes a contest between two workers over who could make the most bolts in a given period of time to acceptable standards. It gradually becomes clear that one is much more highly-skilled – more dextrous – than the other, steadily producing bolt after bolt while his rival, trying to go faster, damages the iron, miss hits and generally makes a mess of the task. But, as Zola perfidiously points out, in a workshop a few yards away, a clunking machine is spitting out bolts by the hundred.

As well as examining what positively influences national wealth, Smith also attacks two theses of "mercantilism" (another term he invented), a major economic doctrine of the day: the need for protectionist tariffs and the importance for a nation of large gold reserves (or reserves of other precious metals). According to mercantilists, for one nation to gain from trade, another had to lose, and so the government should do everything in its power to promote exports and discourage imports, hence the protectionism. Second, since gold and silver were in demand everywhere and could be used to obtain other commodities, it was vital to amass stores of bullion (all the more important at a time of constant wars among trading rivals). These notions inspired another great economist, David Ricardo, who would develop a premise that is at the basis of the theory of international trade: comparative advantage. Smith laid the foundations for this development, using the example below that gives this chapter its title.

> **"By means of glasses, hotbeds, and hotwalls, very good grapes can be raised in Scotland, and very good wine too can be made of them at about thirty times the expense for which at least equally good can be brought from foreign countries. Would it be a reasonable law to prohibit the importation of all foreign wines, merely to encourage the making of claret and burgundy in Scotland? ...As long as the one country has those advantages, and the other wants [lacks] them, it will always be more advantageous for the latter, rather to buy of the former than to make."**
>
> Adam Smith, *The Wealth of Nations*

Smith is talking about one country having an absolute advantage over another in producing something – in this case, France over Scotland in wine production. In his *Principles of Political Economy and Taxation*, published in 1817, Ricardo takes the point even further. He argued that even if a country could produce everything it needed more efficiently than another country, it would still benefit if it specialised in what it was best at producing and used the profits to buy the other things it wanted from elsewhere. This is what economists call comparative advantage and, as we said, is the basis of the theory of international trade (see the box for a fuller explanation). What can trip up people is the opposite case: it still pays a country to specialise and trade when it can produce *nothing* as efficiently as other countries.

Ricardo agreed with Smith that tariffs were generally harmful. In another example of how some things don't seem to change much over the centuries, the question of agricultural tariffs was highly controversial at the time. Britain's "Corn Laws" imposed tariffs on foreign agricultural imports. The Laws had been passed in 1815 by a parliament dominated by landowners seeking to protect themselves from the fall in the prices of agricultural commodities after the end of the Napoleonic Wars. In scenes similar to the Seattle riots during the G8 Summit in 1999, the Houses of Parliament had to be protected by the army from angry protesters.

Ricardo was against the Corn Laws on the grounds first that they distorted the value of land, causing artificially high prices and making it profitable to exploit less productive tracts. His second objection was that the investment attracted to agriculture would be better employed in encouraging the development of industry. These questions are still being addressed today. A 2008 OECD report analysed how subsidies distort the value of land in terms that Ricardo would have found familiar. And as we'll see in later chapters on trade barriers and multilateral trade negotiations, disagreement over agricultural tariffs is as deep now as it was in the early 19th century.

A helping hand?

In political terms, the Corn Laws opposed the emerging industrial capitalists plus the workers in manufacturing towns like Manchester on the one hand, and the traditional landed aristocracy on the other. The balance of power was shifting. Britain was becoming an industrial, trading empire, and Parliament repealed the Corn Laws in 1846. This was a defeat for the big landowners who had been using the state to protect their own interests. But the idea of state protection for specific parts of the economy against "cheap foreign imports" or to promote exports never went away. Some of these interventions, like Britain's invasion of China in 1840 to force the Chinese to remove a ban on opium imports, seem incredible to us today. Britain took advantage of its victory in this "Opium War", and another that started in 1856 (with France as an ally), to impose trading conditions on China such as the opening up of ports to foreign trade at fixed tariffs.

The industrial capitalists, like the farmers and merchants before them (and like many business leaders today), weren't against state intervention as such, only against intervention that harmed their own interests. Smith and Ricardo were writing from the centre of industrial power. But thinkers from countries on "the periphery" were also elaborating theories on issues of particular concern to them – issues that are still with us. Foremost among them is protection of "infant industries" from international competition. This has nothing to do with babies' bottles and the like. In 1791, Alexander Hamilton, the USA's first Treasury Secretary, published his *Reports of the Secretary of the Treasury on the Subject of Manufactures*. Hamilton argued that foreign competition and the "forces of habit" would prevent new industries that could soon become internationally competitive (infant industries) from flourishing in the United States without government protection. This protection, he said, could take the form of import duties or a ban on imports and low duties on raw materials. (Indeed, one of the earliest acts of the American Congress, in July 1789, was to set up tariff barriers against textile and clothing imports.)

The arguments of Hamilton and the "American School" were taken up by Friedrich List to make the case for protection of German manufacturing against British industry. In his 1841 book *Das Nationale System der Politischen Ökonomie* (The National System of Political Economy), List maintained that "any nation

which… is behind others in industry, commerce, and navigation… must first of all strengthen her own individual powers, in order to fit herself to enter into free competition with more advanced nations". He had considerable impact, first in Europe and the Americas, and later in Japan following the opening of that country during the Meiji period in the second part of the 19th century.

In the latter half of the 20th century, some other economies, particularly in Asia, adopted growth strategies inspired to some extent by List, initially protecting domestic producers until they were strong enough to trade in international markets. The approach remains popular despite few documented success stories.

> **"It can even be argued that [this approach] is built into the WTO architecture that allows developing countries special and differential treatment partly on the ground that they need more time to develop their industries behind protective trade barriers."**
>
> *Dynamic Gains from Trade*
> (an OECD Trade Policy Working Paper)

The problem is not that protection is always bad. The success stories may be few, but they do exist, even if the importance of protection in achieving success can be contested. Rather, the problem is that protection is given and maintained even when the costs exceed the benefits. In reality, the infant industry example shows how difficult it can be to move from economic theory to practice. Protecting industries until they can stand on their own two feet sounds logical, but it raises a number of questions. How do you know which industries are going to become world class? How do you stop less efficient firms cashing in on the protection? How do you know that protecting the industry will allow it to grow more quickly than opening it to the new technologies and methods of foreign competitors? We will return to this question of making trade policy in Chapter 4.

Rise and fall and rise again

As we said above, the infant industry argument was developed in the United States and Germany at a time when they were not as competitive as Britain. In *The World Economy, a Millennial Perspective*, Angus Maddison describes how Britain's might grew

and how new powers came to replace it. Between 1820 and 1913, British per capita income grew three times as fast as in 1700-1820 due to the acceleration of technical progress, rapid growth of capital, and improvement in the education and skills of the labour force. As Maddison explains, changes in commercial policy also made a substantial contribution. In addition to the repeal of the Corn Laws, by 1860 all trade and tariff restrictions had been removed unilaterally. Free trade was imposed in India and other British colonies, and in Britain's "informal" empire.

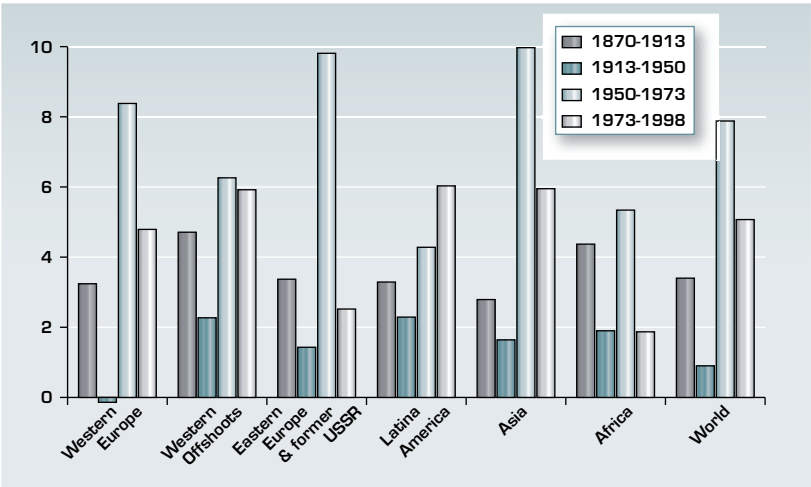
Apart from China, other countries including Persia, Thailand and the Ottoman Empire were also obliged to maintain low tariffs and grant special rights to foreigners. This regime of free trade imperialism favoured British exports. But it was less damaging to the interests of the colonies than policies pursued in the 18th century, when Jamaica could only trade with Britain and its colonies, while Guadeloupe could trade only with France.

> **"The British policy of free trade and its willingness to import a large part of its food had positive effects on the world economy. They reinforced and diffused the impact of technical progress. The favourable impact was biggest in North America, the southern cone of Latin America and Australasia which had rich natural resources and received a substantial inflow of capital, but there was also some positive effect in India which was the biggest and poorest part of the Empire."**
>
> *The World Economy: A Millennial Perspective*

Britain already played an important role in international finance, and the empire enjoyed a system of property rights that appeared to be as securely protected as those available to investors in British securities. From the 1870s onward, there was a massive outflow of British capital for overseas investment. The United Kingdom directed half its savings abroad. Outflows of French, German and Dutch investment were also substantial.

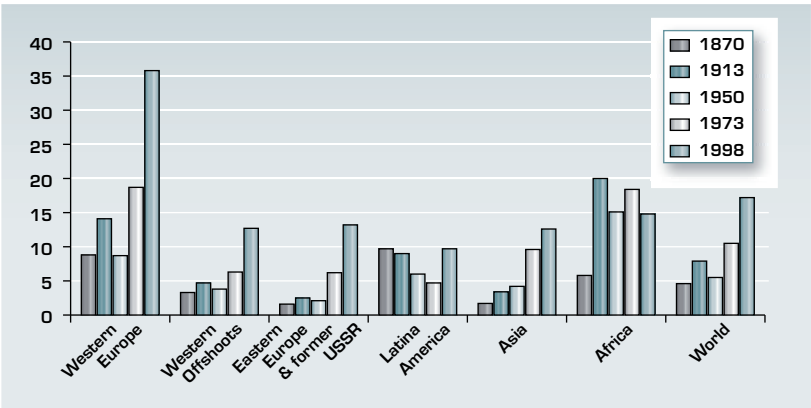
ANNUAL GROWTH IN VOLUME OF MERCHANDISE EXPORTS

World and major regions, 1870–1998



MERCHANDISE EXPORTS AS PER CENT OF GDP

In 1990 prices, world and major regions, 1870–1998



Source: The World Economy: A Millennial Perspective.

StatLink : http://dx.doi.org/10.1787/545180232734

The old global order was shattered by two world wars. Globalisation retreated with the collapse of capital flows, migration and trade. Between 1913 and 1950, the world economy grew much more slowly than in 1870-1913. World trade grew much less than world income and the degree of inequality between regions increased substantially, with Asia suffering the most.

The period from the 1950s to the 1970s saw the end of most of the colonial empires. After the Second World War, the United States emerged as the dominant power in the West, competing with the Soviet bloc in the newly independent countries of Asia and Africa. Despite political and military tensions, the world economy grew faster from 1950 to 1973 than it had ever done before. World per capita GDP rose nearly 3% a year (a rate which implies a doubling every 25 years). World GDP rose by nearly 5% a year and world trade by nearly 8% a year. The acceleration was greatest in Europe and Asia. There was some convergence between regions, essentially with a narrowing of the gap between the United States and Western Europe and Japan.

Several reasons explain the unusually favourable performance of the post-war "golden age". The advanced capitalist countries created a new kind of liberal international order with explicit and rational codes of behaviour, and institutions for co-operation – including the OECD, International Monetary Fund (IMF), World Bank and the General Agreement on Tariffs and Trade (GATT), the forerunner of the WTO. The Cold War reinforced the harmony of interest between capitalist economies, so the damaging isolationism and protectionism of the pre-war years did not recur. The United States provided a substantial flow of aid for Europe through the Marshall Plan and, by authorising purchases from Canada, helped stimulate the Canadian economy, too. Until the 1970s it also provided the world with a strong anchor for international monetary stability. The huge expansion of trade in the advanced capitalist economies transmitted a dynamic influence throughout the world economy.

Domestic policies promoted high levels of demand and employment in the advanced countries. Growth was not only faster than ever before, but the business cycle of expansion followed by contraction also virtually disappeared. Investment rose to unprecedented levels and expectations became euphoric. Until the 1970s, there was also much milder inflationary pressure than could have been expected.

Another element was that throughout Europe and Asia, there was still substantial scope for recovery from the years of depression and war. Additionally and more importantly, technical progress continued to accelerate in the US.

The golden age started to wane in the early 1970s, and oil shocks following the 1973 Arab-Israeli war and the 1979 Iranian revolution helped bring it to a close. Per capita growth slowed to less than half its previous rate and there was greater divergence in the performance of different regions. In Western Europe and Japan, per capita growth fell well below that in the golden age, although it was still better than in 1870-1913. However in the countries of "resurgent Asia", which have half the world's population, the success was quite extraordinary. Per capita growth was faster after 1973 than in the golden age, and more than ten times as fast as in the old liberal order.

Since then, the world has seen the collapse of another empire and the emergence of new economic powers, notably those sometimes referred to as the BRICs – Brazil, Russia, India, China (or BRIICS if Indonesia and South Africa are included). These events have been accompanied by a new upswing in globalisation, with world trade and investment expanding considerably. However, unlike earlier periods, there has been no dramatic increase in international migration. In part this is due to restrictions on the international movement of people, but is also related to the fact that a greater number of people can improve their life without abandoning everything and emigrating. The number of people living in high growth economies or in countries with per capita incomes at OECD levels has increased fourfold over the past 30 years – from 1 billion to 4 billion.

Averages hide big differences among individual situations which social and employment policies, rather than trade policies, have to address. World trade can provide increased opportunities for economies to grow. But to take advantage of these opportunities, countries need to build up the skills of their workforce, have good infrastructures and put in place policies to attract and make the most of investment.

Some key concepts

International trade has a number of useful terms that express complex ideas concisely. The ones you'll see the most in the following chapters are these:

Comparative advantage
The mathematician Stanislaw Ulam did not have a high opinion of the social sciences. He once challenged Paul Samuelson, Nobel laureate in economics, to name one social science proposition that was both true and non-trivial. Samuelson nominated comparative advantage: *That this idea is logically true need not be argued before a mathematician; that it is not trivial is attested by the thousands of important and intelligent men who have never been able to grasp the doctrine for themselves or to believe it after it was explained to them.*

Samuelson was right. The absolute advantage Adam Smith talks about is simple and intuitive: it makes obvious sense for France to export wine to Scotland and import Scotch whisky. Comparative advantage is much more complicated. Ricardo used the example of England and Portugal and the production of cloth and wine. Portugal is more productive than England in both. Intuitively, you'd say that it makes sense for Portugal to export both, and that English industry would have little to gain from trade. Ricardo demonstrated numerically that in fact if England specialised in one of the goods, and Portugal in the other, total output of both goods would rise.

Why? Resources are finite and what Portugal devotes to producing wine cannot be used for cloth production. This is called the "opportunity cost". So if producing ten units of wine in Portugal means losing the opportunity to produce one unit of cloth, while in England producing ten units of wine "costs" two units of cloth (to pay for the hotwalls and all the rest), Portugal should concentrate on wine and import cloth from England since it can make more from spending its resources on wine production than from splitting them between wine and cloth. A more modern example that is sometimes quoted goes like this: even if Bill Gates could type faster than his secretary, Microsoft would be better off if he didn't spend his time typing but concentrated on designing and selling software. That assumes, of course, that his secretary is not a latent genius in software development or marketing. The example raises a couple of important implications that arise from comparative advantage that you might use to test yourself. First, could China develop a comparative advantage in everything? The answer is no, comparative advantage is a concept of the relative costs of doing things, so some things have to be comparatively more or less advantageous. Second, all countries must have a comparative advantage in something – what about tiny island states?

A more thorough explanation can be found here: *http://internationalecon.com/Trade/Tch40/T40-0.php*.

Economies of scale This simply means that production at a larger scale can be achieved with lower average costs per unit produced. If Smith's pin factory, for example, produces 10 million pins a week, it can negotiate more favourable prices for the steel than a factory that only produces 1 million, a better deal for the packaging the pins are sold in and so on, meaning the average pin costs the firm less. Trade can create economies of scale by expanding markets so that the costs are spread over more customers.

Factors of production These are the human and natural resources needed to produce goods and services: land, labour, capital, technology, entrepreneurship. Factor endowments are the resources a country possesses.

Conclusion

Talking about an epoch when nations and states didn't exist, archaeologist Barry Cunliffe argues that the development of the Mediterranean was shaped by "imbalances productive of change". Economists could interpret the networks that evolved to exchange resources among the different regions of Europe at the time as something similar to the comparative advantage that drives trade among nations. The terminology may differ, but the underlying reason for trade is the same across the centuries: obtain from somebody else something you need or want at a better price than you can make it yourself, if you can make it at all.

Find Out More

... FROM OECD

On the Internet

For an introduction to OECD work on trade, visit *www.oecd.org/trade*.

Publications

The World Economy: A Millennial Perspective (2006):
This pioneering effort to quantify the economic performance of nations over the very long term looks at the development of the world economy over the past 1 000 years. It identifies forces which explain the success of the rich countries, and explores the obstacles which hindered advancement in regions which lagged behind. It also examines the interaction between the rich and the rest to assess the degree to which this relationship was exploitative.

Also of interest

Dynamic Gains from Trade, an OECD Trade Policy Working Paper (2006):
The objective of this study is to assess to what extent the observed growth and deepening international economic integration are related.
doi:10.1787/276358887412

... AND OTHER SOURCES

Power and Plenty: Trade, War and the World Economy in the Second Millennium, New Haven, Princeton University Press (2007):
Ronald Findlay and Kevin O'Rourke examine the successive waves of globalisation and "deglobalisation" that have occurred during the past thousand years, looking closely at the technological and political causes behind these long-term trends. They show how the expansion and contraction of the world economy have been directly tied to the two-way interplay of trade.

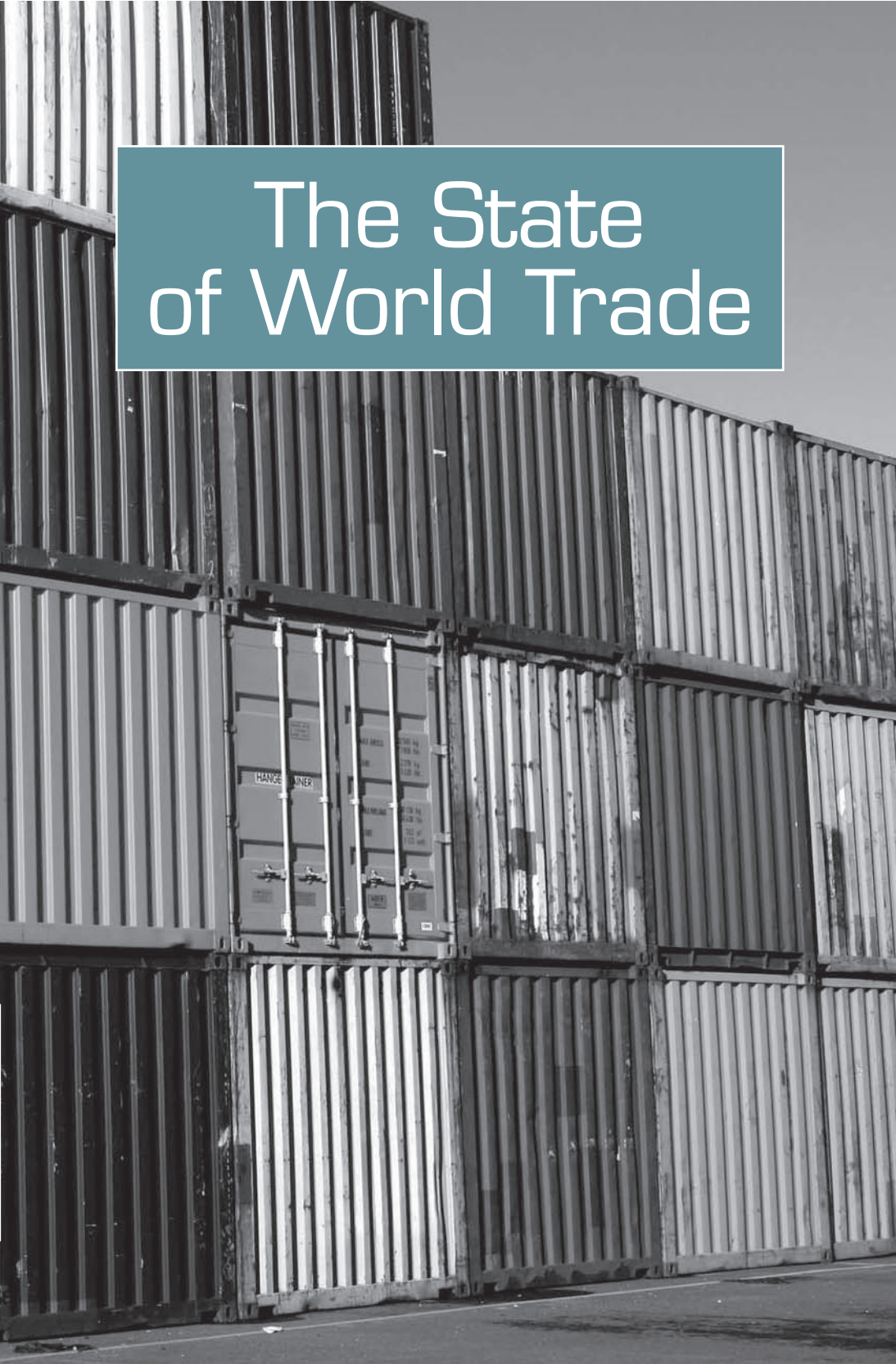
Europe Between the Oceans: 9000 BC to AD 1000, Barry Cunliffe, Yale University Press (2008):
Barry Cunliffe examines how Europe, a relatively minor peninsula attached to the Eurasian land mass, became one of the most innovative regions on the planet, whose people traversed the globe to trade and often to settle. Cunliffe sees Europe not in terms of states and shifting land boundaries, but as a geographical niche particularly favoured in facing many seas. These and the great transpeninsular rivers ensured a rich diversity of natural resources, and encouraged the interaction of dynamic peoples across networks of communication and exchange.

Power and Profit: The Merchant in Medieval Europe, Peter Spufford, Thames & Hudson (2005):
The 13th century saw a "commercial revolution" which created much of the economic landscape we know today: holding companies, corporate shares, insurance, personal cheques and double-entry bookkeeping. Concentrations of wealth in aristocratic courts and capital cities stimulated a spectacular trade in luxury goods. Spufford describes this revolution and the ancient trade routes by which Asian spices and Venetian glass, furs from Russia and falcons from Iceland, wines from Bordeaux and tapestries from the Netherlands, were distributed.

3

Every nation in the world participates in international trade to some extent. And practically every product is either traded or relies on components from international suppliers. Trade is not just about physical goods, though. Knowledge and experience can be bought and sold internationally as well. So too can the many services we rely on each day. The world's richest countries still dominate international trade, but their position is being challenged by emerging economies in what is still referred to as the "developing world".

The State of World Trade



By way of introduction…

In September 2008, the BBC launched an ambitious project to follow The Box. The Box in question was an ordinary shipping container, except it had been painted with the BBC logo and equipped with a GPS transmitter. The plan was to follow it as it moved around the world. (The project is named after a book by Marc Levinson that describes how the humble container changed the face of world trade.)

Within a few weeks, The Box had travelled around the British Isles, crossed the Mediterranean, sailed down the coast of Africa and headed across the Indian Ocean. It had been spotted on the road, on trains and of course on ships. A project like this is only possible and only interesting because of the development of the modern economy and technology. For one thing, the GPS tracking device just became small enough and affordable enough to play a role in the past few years. Further, the journey piques our curiosity because we have no idea where the container is going next or what it will be carrying. This is another new development. For most of the history of world trade described in the previous chapter, merchants knew exactly what was in their boxes, and had a pretty good idea of the route those containers would take.

Today, the shippers know the next destination of a cargo and the composition of the load, but these can change according to the opportunities and obstacles encountered. A project like The Box shows in a strikingly visual fashion what we mean by trade networks, or the intricate patterns formed by the flow of goods across the planet.

In the previous chapter we examined the basic rationale for gains from trade – comparative advantage. It is a simple but powerful model, but it misses an important point. Trade in the same goods and services flows in both directions between the same countries. As *The Economist* reported in 2008, "52% of Germany's exports to France are things France also produces and exports to Germany". That can mean Renaults for Volkswagens, for example. Ricardian theory does not take into account this common consumer demand for variety in goods. Varieties are sometimes seen as being superfluous, but judging by the sales of variations on a practically identical product, most consumers actually want greater choice of this kind. In 2008, the Nobel Prize in economics was awarded

to Paul Krugman who has developed a theoretical framework that helps us understand this two-way trade based on economies of scale. Firms can provide the varieties of products people want in an efficient manner by extending their production runs outside the confines of the local economy.

In this chapter we'll look at the figures behind these patterns. We'll summarise the values of the different types of products being traded and which countries dominate each kind of trade. The Box has the BBC's name on it, but if you get the chance to look at containers in a port, you'll see the names of innumerable companies, written in dozens of languages, so we'll also look at how the patterns are changing as new countries emerge to challenge the dominance of the OECD countries.

But before we go any further let's be clear what is meant by "dominance" in the last sentence. Total world trade in goods and services has grown faster than world economic growth over the last 70 years and is expected to continue to do so. Trade has grown for OECD and non-OECD countries alike. But over the last 20 years, trade growth has been faster in countries outside the OECD area. The share of trade of non-OECD countries has also been increasing. Efforts to stimulate economic development and alleviate poverty in non-OECD countries since 1945 are finally paying off. The fast growth in non-OECD trade is an important global dividend from these investments.

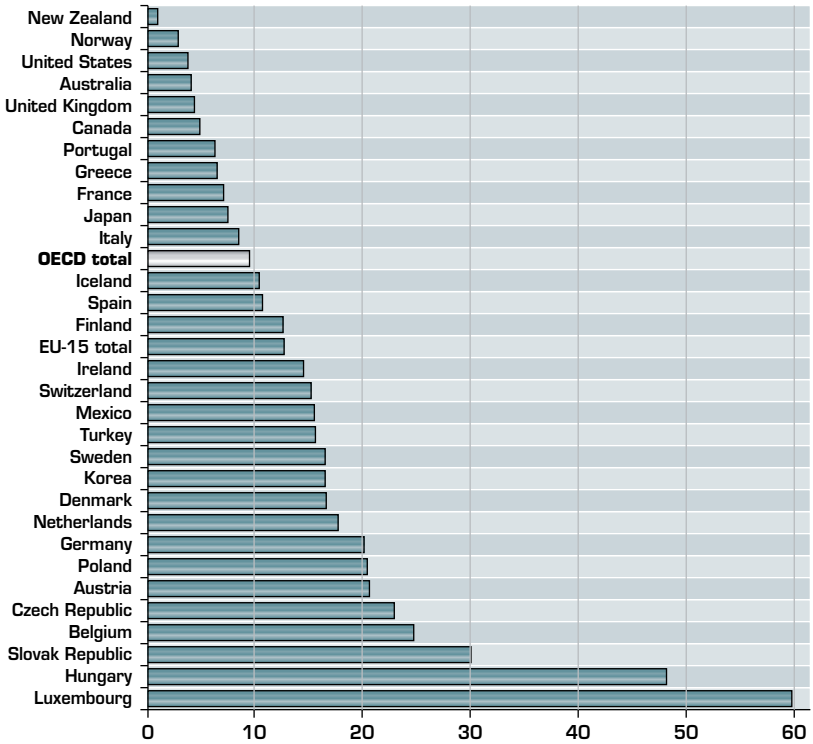
Agriculture and food

A distinguishing feature of trade in food and agricultural products is that imports represent a very small proportion of consumption – on average, 95% of the food we eat is grown in the country where we live. While this percentage is consistent across most countries, there are a few exceptions. Small island states and Japan rely more heavily on imported food, for example. There are two reasons why most food is home-grown. First, most countries have an adequate supply of farmers and farm land in good climatic zones or they have the technology to overcome climatic deficiencies.

Second, unlike electronic products or other relatively small, high-value goods, many agricultural and food products have a low value for a given weight and are very bulky. The transport costs

TRADE TO GDP RATIOS

Difference between 2006 and 1993 ratios in percentage points



A convenient way to measure the importance of international trade is to calculate the share of trade in GDP. International trade tends to be more important for countries that are small (in terms of geographic size or population) and surrounded by neighbouring countries with open trade regimes than for large, relatively self-sufficient countries or those that are geographically isolated and thus penalised by high transport costs. Other factors also play a role and help explain differences in trade-to-GDP ratios across countries. These include history, culture, trade policy, the structure of the economy and the presence of multinational firms.

Source: OECD Factbook 2008: Economic, Environmental and Social Statistics.

StatLink : *http://dx.doi.org/10.1787/545137874310*

of some grains can be a quarter of their imported value, compared with only 1% to 3% for manufactured or processed goods. A tonne of milling wheat cost 285 euros in the summer of 2007 when prices reached record highs but transporting costs varied from $36 to $74 per tonne depending on the destination. The relatively high shipping costs for agricultural products influences a country's comparative advantage in this sector. Exporters tend to have easy access to major shipping routes or to sell higher-value produce that justifies air transport costs.

We could add a third reason as well. The high level of tariffs and government support provided to farmers in many countries – particularly some highly developed OECD countries – protects them from competition from suppliers around the world that may be more competitive.

Within this general context, more and more countries are participating in agriculture trade, but a relatively small number of them capture most of it. The top 20 exporting countries accounted for almost 80% of exports in 2004. The least developed countries, the group receiving special consideration in the Doha Round, account for less than 1% of the total. OECD countries continue to dominate agriculture trade although their share of the total has declined somewhat over the past couple of decades. Most of the gains have been made by countries that are in the G-20 group of the world's biggest economies.

The data suggest that the growth in agriculture trade is chiefly about trade in processed products, where profits are highest. A tonne of pasta can be sold for much more than the cereal that is used to make it. The growth rate for this sector (almost 9% a year) is comparable to the growth rate of non-agricultural products, and as a result this group of commodities has steadily increased its share of agriculture trade. Trade in bulk products, on the other hand, is growing at the lowest rate among the agricultural sectors (2.6% a year). At the same time, their share in agricultural trade is declining, even though some bulk products (including grains and soya beans) are still among the most traded agricultural goods.

The value of world trade in agricultural products depends on whether or not trade among the 27 European Union countries is counted. The EU has a single internal market within which trade flows freely and it applies common measures at its borders. The

EU negotiates as a single block on trade policy matters. Excluding intra-EU trade lowers world agricultural export figures by a third for 2004. The EU members trade chiefly among each other. Trade among the EU-15 alone (the 15 countries that were members of the EU before May 2004) accounted for 36% of world agricultural exports from the mid-1980s to the mid-2000s. The share was even bigger in the exports of horticultural and processed products, with intra-EU trade accounting for 43% of the world's total exports.

Comparative advantage in agricultural products reflects the relative availability of farmland in relation to other factors of production. For example, Japan has some farmland but it has a great deal more capital equipment. Accordingly, Japan tends to have a comparative disadvantage in many agricultural products. Kenya and many developing countries are in the reverse position, with plenty of land and workers, and a comparative advantage in land and labour-intensive agriculture. In other cases, countries that have a huge endowment of mineral resources like oil or iron ore struggle to develop comparative advantage in other products.

As economies grow and accumulate resources, human and physical capital become more important relative to farm workers and farm land. Comparative advantage tends to shift away from agriculture to manufactured products and services. Within agriculture, trade is often discussed in terms of bulk, semi-processed and final (or processed) products. Wheat, for example, is a bulk product. It is used to make flour, a semi-processed product, which in turn is used to make bread, a final product.

The least developed countries and countries with lower incomes tend to have a comparative advantage in the production of land-based bulk agricultural and horticultural products. Comparative advantage in processed products, the items with the highest export growth rate, is currently dominated by high-income OECD countries. But that dominance is expected to weaken in the future. A number of countries in the lower middle-income category have a comparative advantage in semi-processed products.

Many of the leading exporting countries are also among the leading importing countries, often for similar products, suggesting two-way trade in agro-food products. Differences in varieties, production methods and tastes can promote this two-way trade, as well as the fact that products are in season at different times in different parts of the world.

Agricultural tariffs remain relatively high. Protection of processed products seems to be above average in most countries while semi-processed products, on average, have the lowest tariffs. The least developed countries (LDCs) protect their agriculture sector at levels below the world average, while protection of agriculture among members of the G-10 is above average, although the wealthier countries also provide preferential rates for selected partners. When these rates are taken into account, the average tariff for OECD countries is comparable to that of developing countries.

Many LDCs have a comparative advantage in agriculture, suggesting that further trade liberalisation should help boost growth. However, their advantage in the past has been mostly in the production of bulk products, which is the slowest expanding agricultural segment. Many high-income and upper-middle-income countries with a comparative advantage in agriculture have a comparative advantage in the production of semi-processed and processed products. These countries should be able to obtain a sizeable share of further gains from trade liberalisation, assuming protection for all products is reduced proportionately. As in any policy discussion, however, the "devil is in the details". LDCs produce the cheapest sugar, cotton, bananas, rice and other products that are highly protected in some high-income countries. More importantly, comparative advantages are continuously but slowly shifting. A case in point is the shift in cut flower production from countries like Israel, which is short of water, to African countries like Kenya.

Other primary materials

This group of products includes the world's most valuable trade – energy products like oil, gas, electricity and coal. It also includes mineral ores and timber. These products are highly traded because their availability is unevenly distributed around the world and they are very important in the manufacture of high demand products. We use huge amounts of energy. Computers, other information technology products, automobiles and aircraft use small but critically important amounts of various precious metals. Steel and aluminium products are deeply embedded in our everyday lives.

A distinguishing characteristic of this group of products is the level of import protection they face. Exporters of mineral products face very low and very often zero tariffs in importing countries. In many cases the total supply to a country is provided by imports so there is no import-competing industry to lobby for tariffs. Furthermore, the price of these products has pervasive effects on the cost structure of importing countries, including on the cost of living. In a sense, they are too important to tax at the border. However, there is concern that some industries assume they will have reliable supplies of strategic minerals and metals that may be found in only a few countries, such as the columbite-tantalite (coltan) used in electronic products.

Manufactured products and components

This group of products makes up the largest share of world trade in goods. The group is comprised of computers, televisions, videos, automobiles, aircraft, machinery, chemicals, clothing, footwear and just about everything else you can think of. A large part of this trade is not in the final products you find on the shelves. In order to make the product it will actually sell, a manufacturing firm needs a number of components that might range from the highly sophisticated, like computer chips, to mundane plastic casings. There are two sources of demand, therefore, for manufactured goods: demand for final goods by consumers and demand for components of various kinds by firms. Some factories will only be making the casings or the chips, and this makes the manufacturing sector a large consumer of its own output.

The chain metaphor with backward and forward linkages from a given firm is used to describe the trade in components. If we stay with the example of plastic casings, a forward linkage consists of the utilisation of the casing firm's output as a component for the televisions, computers or whatever the other firms make. A backward linkage refers to firms providing components for the first firm, for instance the powders used to make the plastic for the casings or the dyes used to colour them.

Supply chains have become much more complex in recent decades. The computer chip manufacturer, Intel, might commission a Swedish firm of engineers to design a new chip. The design is emailed to a chip manufacturer in Taipei who exports

the chips to a Malaysian circuit board manufacturer who exports the board to Ireland which, in turn, exports the computers to the EU with after-sales service provided by a call centre in Bangalore, India. If you included all the actors and steps needed to make a computer, the description would fill a few pages of this book. This makes describing the trade in such products difficult. In 2006, computers were the highest valued export item from China and digital integrated circuits were one of China's largest imports. To further complicate matters, digital integrated circuits were also one of China's largest export products. In fact, after oil, integrated circuits were the second largest world export item in 2006.

A look at national statistics on manufacturing shows just how important components have become. In the United States, the average share of components in the output of the manufacturing sector was 35% while in the nonmanufacturing sector the figure was less than 9%. The ratios are quite similar in the other major OECD countries. In Germany, the ratio was 40.8% in manufacturing to 8.5% in nonmanufacturing. In emerging economies, such as Brazil and China, the share of manufactured intermediates in the manufacturing sector was between 40% and 50%. Within manufacturing itself, the sectors with the highest share of use of components in the OECD countries are motor vehicles (58.6%) and office, accounting and computing machinery (54.3%). For the emerging economies, the sectors with the highest share of use of components were electrical machinery and apparatus (55.8%) and motor vehicles (53.1%).

There has been a spectacular increase in the number of global supply chains created in recent years and in the volumes passing through existing chains. One of the forces driving this growth has been cheaper, more efficient communications and office technology. This enables multinationals and strategic alliances of firms to effectively split up the supply chain and produce increasing numbers of components in different countries according to comparative advantages. However, there are other forces at play. The price of oil affects transport costs and, accordingly, the optimal locations for production in relation to final markets. These types of influences are referred to as "real economy" forces.

The crisis in global financial markets that began in mid-2007 is a good reminder that the real economy and real trade are also affected by financial markets and the performance of the banking

system. The crisis involved volatile changes in investment patterns around the world and associated volatile exchange rate movements that made it very difficult for multinationals to plan future developments with their global supply chains. Reduced demand from trading partners had repercussions everywhere, leading to cutbacks in output from factories not only in the OECD countries but also in China and the other emerging economies.

One of the reasons for this turmoil was the availability of cheap finance in selected OECD countries after 2001. This led to riskier investments by OECD firms in emerging markets than would otherwise have been undertaken. In short, global supply chain expansion after 2001 was very likely much higher than will be the case over the next decade, and we are likely to see some contraction because the cost of capital (the interest rates companies have to pay) has risen. When the crisis struck in 2007 there was a flight to financial safety and some closure of productive capacity in particular economies. Financial markets can have important effects on the real trading economy.

Agglomeration effects and global value chains

Despite globalisation of supply chains and sales, many industries tend to be concentrated in certain places or locales, suggesting that there are economic benefits from firms being located in close proximity to one another. The concentration of computer-related activities in California's Silicon Valley is one example, but the phenomenon is not new. The textiles sector has been clustered around the same areas of Italy for centuries, for instance.

Under certain economic conditions, geographic concentration increases the productivity of all the firms located in a particular place and it makes their total output larger than if each one had been operating in a different region. These "agglomeration effects" occur because workers, and thus their skills and knowledge, move between sectors and geographical regions and because one manufacturing firm can use components supplied by a neighbour ("intermediate inputs") in its own production. Likewise, services can be provided more efficiently to firms that are near each other. There are also a number of benefits that are hard to quantify but no less real, such as the informal networks of researchers and other specialists that emerge from social contact.

Modelling trade flows

Literature on the analysis of trade flows often refers to computable general equilibrium (CGE) and gravity models.

The CGE models use detailed information on the structures of selected economies and policies, and integrate them in a multi-country, multi-sector, "market-clearing" framework with a sophisticated representation of demand and supply relations.

Market-clearing is the idea that markets will eventually clear excess supply or unmet demand. This approach is used for predictions of the future effects of a set of economic policies and enables a rich analysis of trade liberalisation scenarios at various levels.

In contrast to the gravity approach, CGE analysis allows direct assessment of welfare effects of trade reforms. Each result can be traced back to theoretical assumptions and the structural characteristics of the economies analysed.

The gravity approach uses historical data to study the statistical significance and magnitude of relationships between trade and other factors, including the effects of trade policies.

The basic version of the gravity model relates the volume of bilateral trade flows to the economic size of two trading countries as well as to economic "distance" as measured by various trade costs.

This approach can help in understanding historical trends and in particular to separate the impact of trade policy changes from other factors affecting trade volumes. But it is not directly useful for assessing the welfare implications or distributional aspects of trade policy changes ("winners and losers" in the country concerned).

Incidentally, behind an expression like "analysis of trade flows" there lies a phenomenal amount of data collection and processing. The gravity model analyses this chapter draws on, by OECD economists Kowalski and Shepherd, involved processing 1.5 million lines of data.

At the same time, there are other forces working against agglomeration, so-called centrifugal forces that encourage economic activity to spread out geographically. Trade has a crucial influence in deciding which tendency will dominate at a given stage in the evolution of the economy. The expansion of manufacturing requires attracting labour from agriculture by the possibility of higher wages. But then countries that are essentially agricultural may start to develop industry, and offer lower wages than the traditional core industrial nations. This helps to develop manufacturing in these less central economies. If trade costs continue to fall, low wages may prove sufficiently attractive to overcome the disadvantages of manufacturing goods with a relatively unskilled workforce away from the main markets.

Although there has been some decline in the share of manufacturing output from the core group of industrial countries over the past quarter of a century, this decline has been relatively small. These countries accounted for about 86% of world manufacturing output in 1976, and in 2002, their share was still about 81%. This focus on manufacturing as a whole may, however, hide changes in specific sectors. In the case of iron and steel, for example, the core's share has fallen from more than 70% to about 50% of global output. The takeover of the Anglo-Dutch steel group Corus by Indian-based Tata Steel in 2007 shows how multinationals originating in developing countries are starting to have an impact on world markets.

Recent economic literature has also looked at the impact of falling trade costs on the location of production, focusing on the location of different production stages. In particular, this strand of literature predicts that a reduction in trade costs leads to greater fragmentation of production, with firms spreading the different stages of their production process to different locations. In other words, it may be more profitable to import components from different places for final assembly rather than concentrating production in one country.

Trade costs are only one factor determining the decision to fragment production. The likelihood of offshoring (moving part of production to a foreign country) is higher in the case of standardised tasks where little investment in training and quality control is needed. In addition, countries with a good institutional framework, good quality infrastructure and flexible administration (for example, short times to cross the border or to set up a business) are more likely to attract foreign firms looking to offshore.

No systematic evidence exists on the factors determining fragmentation. But data on quality of infrastructure, the institutional environment and administrative costs indicate that low-income countries are poorly placed to participate in production networks, despite their advantage in terms of costs. If it's hard to get the goods to international markets on time and to the standard required, low wages will not persuade companies to invest.

Trade in services

The term globalisation is commonly used to describe the interconnectedness of our world since 1945 in terms of trade in goods and services, migration and other factors. However, as the poem in Chapter 2 illustrates, there is nothing new in all this. People have been trading ideas and products for millennia. What is distinctive in trade terms about the last 60 years is the degree to which technology now enables us to spread the supply chain of many products among different countries and the speed with which firms can now locate and relocate the various country links in the chain. Before the 20th century trade consisted mainly of countries importing a series of raw materials and manufacturing the entire final product at home.

The last half century has seen an increase in the trade in parts and components, and the related international fragmentation of production helps explain why trade is growing faster than GDP. Actual physical production cannot be done without the logistics, accountancy, banking, personnel management and all the other services needed to support it. But that doesn't mean that all of these elements have to take place in the same location, and many services tasks are now done elsewhere. Tasks where the higher wages in the home country are not justified by higher productivity are the first to go abroad. Call centres are one example. This has prompted some economists to talk of a new era of trade, driven by cheaper, more efficient communications and lower trading costs.

By their very nature, some services cannot be done abroad. Others can. But they can all be "traded". The WTO's General Agreement on Trade in Services (GATS) describes four different ways ("modes") of doing this. The first mode covers those situations where the service provider and client may be in different countries. In the second mode, the client goes abroad. A third mode involves a company opening a business abroad to provide services. The fourth mode concerns individuals who travel to another country to carry out a task, but not to immigrate. Trade in services is covered by the GATS, which is defined in more detail in the chapter on the WTO and trade rounds. So-called "South-South" trade in services is dealt with in the chapter on trade and development.

The low volume of trade in services compared with merchandise may seem surprising, given that most jobs in OECD economies and many other countries are now in services, and services account for

70% of the total value-added in the economies of OECD countries. Yet for OECD countries overall, service exports in 2006 accounted for around 22% of total exports, for a value of $2.1 trillion (75% of total world services exports) compared with $7.5 trillion for OECD goods exports.

Service imports to OECD countries in 2006 accounted for 19% of the total imports, worth $1.9 trillion (70% of total world services imports) and OECD imports of goods were worth $8.2 trillion.

Why is there less trade in services than in goods internationally? For a start, many services have to be consumed at the point of production – hotel rooms or office cleaning, for instance. Companies may provide these services abroad, and although this is trade as defined by mode 3 ("commercial presence") the value of such business would not show up in balance of payments data since these only show cross-border trade. This type of trade is growing as new domains, such as education, health and municipal services like waste management, are opened up to international competition.

Another factor to consider in this type of trade is that it is harder to measure services and their value than it is to measure goods. Restaurants and their staff, for example, may not include tips in their bookkeeping or tax returns. And the spread of Internet-based services is making the problem of measurement even more difficult, especially when companies hide their transactions to avoid paying taxes.

Transportation, travel and "other commercial services" (including communication services, construction services, insurance, financial services, IT services and leisure-related activities) are the largest categories. "Other" has been both the largest and the fastest growing category throughout this decade. Incidentally, such a broad classification shows the difficulties that can arise in analysing trade flows and developments.

Once again, Europe is the world's biggest trading region, accounting for over half of commercial services exports and just under half the world's imports. Trade in services is similar to agriculture in that it is highly concentrated among a small group of countries. The developed countries and emerging Asian economies account for 85%, with China and India the only developing countries in the top 20. That said, trade in commercial services

is expanding quickly everywhere. In Africa, for example, services exports and imports expanded by 21% and 19% respectively in 2007, higher than the world averages of 18% and 16%.

The new trading nations

Global trade relative to world GDP has grown from around 40% in 1992 to over 50% today. At the same time, the share of world trade of OECD countries has gone down from 73% to 64%. This is due to the emergence of a new set of players on the world stage. For the sake of convenience, we often divide countries into binary categories such as North and South, developed and developing, industrialised and emerging. For many analyses, the group we're

CENTRALITY INDEX

Ranked according to 2005 results	1980	1985	1990	1995	2000	2004	2005	Ranked according to share of world trade amongst countries shown
United States	100	100	100	100	100	100	100	1
China	74	93	94	95	96	99	99	3
Germany	98	98	99	99	99	99	99	2
India	87	86	86	90	91	92	94	7
Spain	93	94	94	94	94	95	94	4
Soviet Union/Russia	94	94	89	85	93	92	93	6
Brazil	91	92	88	92	89	91	91	9
South Africa	74	69	65	91	91	90	91	11
Thailand	78	85	89	92	90	89	90	8
Mexico	81	81	84	85	86	84	84	5
Indonesia	82	78	82	80	84	83	82	10

A *centrality* index is an indicator that summarises the status of a country within the world trade network. "Centrality" here means the strategic importance of the country in the supply chains of the world trade network. It measures how a country is connected to other important trading partners and how those trading partners are, in turn, connected to all other countries.

Source: Globalisation and Emerging Economies: Brazil, Russia, India, Indonesia, China and South Africa.

StatLink : *http://dx.doi.org/10.1787/545182278747*

concerned with doesn't fit neatly into any of the traditional categories, so it is known by the acronym BRIICS, for Brazil, Russia, India, Indonesia, China and South Africa.

The results shown in the centrality index table suggest that the BRIICS countries, except Indonesia, are either highly integrated into the world trade networks or are increasing their degree of integration to such an extent that some of them are now part of the core. China, India, and Russia are as central as the highest-income OECD countries. Brazil and South Africa are close behind. If the EU were treated as a whole, China would probably be third and not second in the overall ranking of centrality, but still it has clearly displaced Japan. The results also suggest that some BRIICS economies could play increasingly valuable roles in international trade organisations like the WTO.

The result for India is particularly interesting. The analysis is based on merchandise trade, and it is likely that if the same analysis could be done to include services, India would belong to the core group. The future of Brazil and South Africa's centrality is unclear. They are not members of the core, but they may be becoming more central, assisted by the boom in commodity prices, although if the boom peters out their progress may stall.

The results also show the strong influence of policy on trade. South Africa benefited from the end of Apartheid and the lifting of sanctions. China's boom can be dated to the "Reforms and Openness" programme initiated by Deng Xiaoping in 1978. And India's trade policy reforms in the early 1990s had a dramatic impact.

Conclusion

International trade is growing and every country in the world is now involved in it. Millions of tons of goods worth billions of dollars criss-cross the globe each year. The BBC's container will, however, sometimes stop for days or even weeks at a time. Most often, this will be because The Box is waiting to be loaded or unloaded. Sometimes, though, it will pause in its journey because there's a problem with a cargo. The papers are not in order or the goods are suspect. This is the theme of the next chapter, where we look at the various obstacles that can hinder The Box or even halt it completely. We will describe the different kinds of trade barriers and what they cost.

Find Out More

... FROM OECD

On the Internet

International Trade and Balance of Payments Statistics

Apart from governments, OECD trade data are used by other international organisations, central banks and private institutions, economic research institutes, universities and private businesses. Six databases are available:

1. *The International Trade by Commodities Statistics* (ITCS) database is OECD's largest database covering world trade for OECD countries by commodity and partner country.
2. *Monthly Statistics on International Trade* (MSIT) provides monthly and quarterly aggregated trade data, also by detailed partner countries.
3. One database for *Trade in Services* (TIS) covers detailed data by category of services.
4. The second TIS database provides data by partner country.
5. *Balance of Payments* (BOP) provides a systematic summary of economic transactions of an economy with the rest of the world.
6. *Trade Indicators* (TI) contains ready-to-use statistical indicators for the analysis of international economic integration (trade aspects). The database combines data from different sources, thus providing cross-disciplinary information. The indicators are available both on macro and micro levels. *www.oecd.org/std/its*

Publications

Globalisation and Emerging Economies: Brazil, Russia, India, Indonesia, China and South Africa (2008):

This study assesses the changes in the structure of the world trade network over the last ten years, and in particular, the evolving role of the BRIICS and other emerging economies in world trade.

... AND OTHER SOURCES

From the WTO

The *Statistics Database* provides interactive access to the most up-to-date WTO trade statistics.

International Trade Statistics is an annual publication including detailed analysis and tables for leading traders, trade by sector and product, regional trade, least developed countries, etc.

Comprehensive Tariff Data provides tariff data for all WTO members. The data are standardised by making them available at the same level of detail. This is achieved by identifying products using 8-digit codes under the World Customs Organization's internationally agreed "Harmonized System" for defining product categories. The broadest categories are identified by two digits (for example, 04 represents dairy products, eggs and other edible animal products). These are then sub-divided by adding more digits: the higher the number of digits, the more detailed the categories. For example the four-digit code 0403 is a group of products derived from milk. At six digits, 0403.10 is yoghurt; at the eight-digit level, 0403.10.11 could be low-fat yoghurt.

World Trade Report

This is the main WTO research publication on global trade policy, with special topics, analysis and new developments. *www.wto.org*

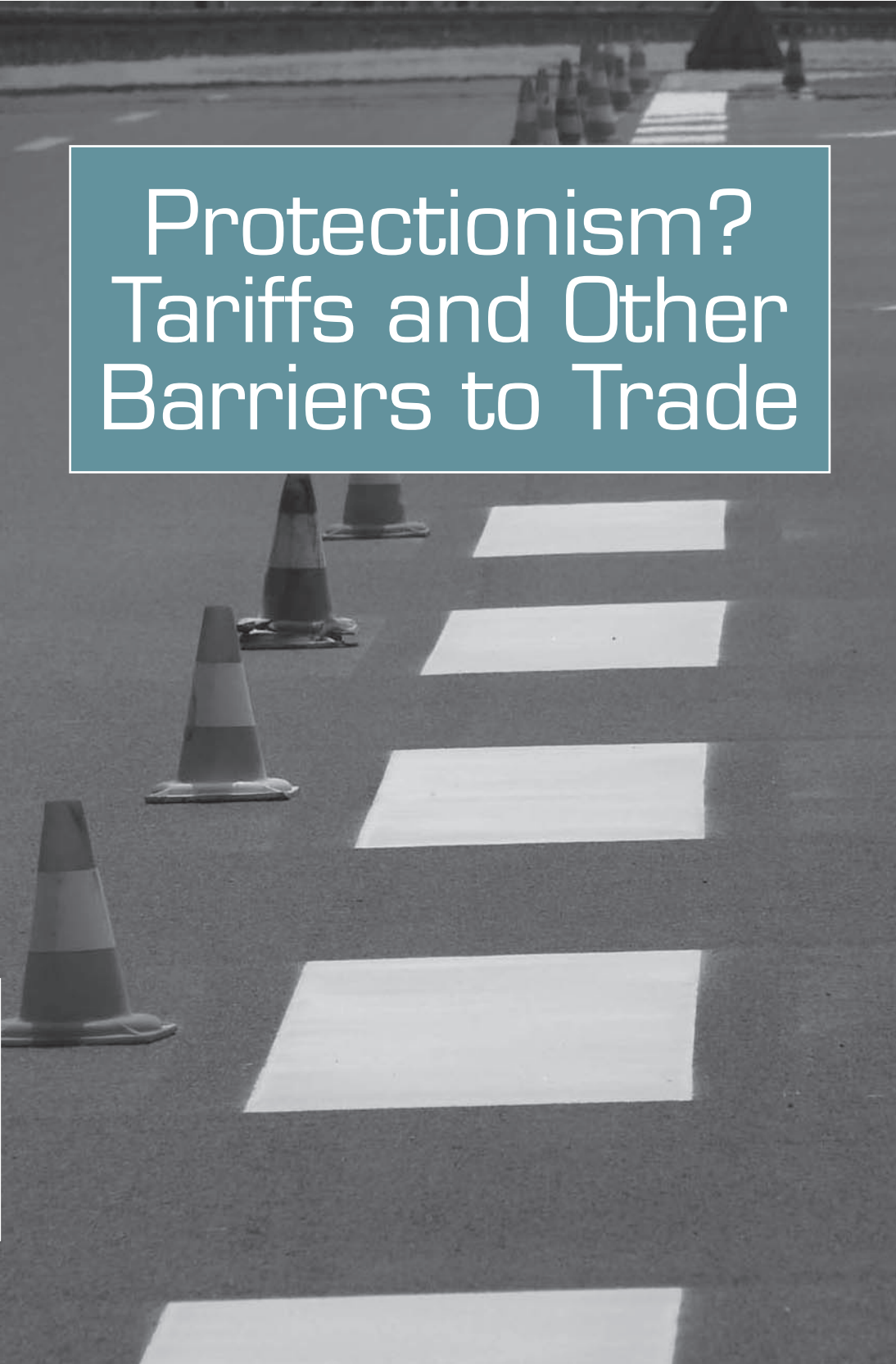
From UNCTAD

The United Nations Conference on Trade and Development (UNCTAD) releases statistics that are relevant for the analysis of international trade, foreign direct investment and commodities, and more explicitly for understanding the economic trends of developing countries over the past decades, particularly in the context of globalisation. *www.unctad.org*

4

Goods and services do not flow completely freely among countries, even among those with excellent relations. Countries put up barriers to trade for a number of reasons. Sometimes it is to protect their own companies from foreign competition. Or it may be to protect consumers from dangerous or undesirable products. Or it may even be unintended, as can happen with complicated customs procedures. Tariff barriers have been reduced considerably over the past few decades but other obstacles remain. Getting rid of unnecessary trade barriers would give a great boost to global economic welfare.

Protectionism? Tariffs and Other Barriers to Trade



By way of introduction…

"Would you mind opening your suitcase?" Your heart sinks as you picture that extra bottle of perfume the customs officers are going to find. Or maybe you've got nothing to hide but any delay means you'll miss your connection. What if that guy who bumped into you at passport control slipped a kilo of cocaine into your bag?

You may not think about it in these terms, but you've just entered the world of trade barriers. Any international airport provides a microcosm of the issues we'll be discussing in this chapter. The language may be more technical and the implications more global, but tariffs and non-tariff barriers, quotas and prohibitions affect us all, either directly, as when our luggage is examined at a border crossing, or indirectly through the price we pay and the constraints on what we can and cannot buy. Customs inspectors, after all, are not just trying to catch people going over their duty-free allowance. They are looking for dangerous items or items that are banned for some reason, like certain animal and plant species. They are also controlling the import of entire categories of merchandise.

The opening of markets has boosted trade and economic growth worldwide in the past few decades. Yet tariffs – taxes imposed by importing countries on foreign goods – remain a key obstacle to market access. The potential benefits of further reducing this obstacle are significant. The OECD estimates that scrapping all tariffs on merchandise trade and reducing trade costs by 1% of the value of trade worldwide would boost global welfare by more than $170 billion a year, in some areas adding the equivalent of up to 2% to GDP.

Conservative estimates suggest there would be significant welfare gains for developing and developed countries alike. Under many of the scenarios, developing countries as a group could expect greater welfare gains than the developed countries. But all regions stand to gain if tariff reductions are combined with substantial progress toward reducing trade costs, such as through more efficient customs procedures.

▶ In this chapter we'll look at different kinds of trade barriers. We'll examine formal barriers, such as tariffs on imports, but also other kinds of barrier that can hinder trade, such as complicated

administrative procedures. We'll discuss how trade barriers can sometimes be useful, even vital, but also how they can miss their mark and simply be an attempt to protect the interests of a given group at the expense of the wider community.

Tariff barriers

Successive rounds of multilateral trade negotiations since 1947 have helped achieve deep reductions in import duties. This is particularly true for industrial goods, on which tariffs have fallen from around 40% at the end of World War II to a tenth of that today. Nevertheless, tariffs continue to influence trade patterns. By making products more expensive to consumers, tariffs hamper demand for imports. They also alter the relative prices of products, and can protect uncompetitive companies and their overpriced products. These distortions are particularly pronounced in many non-OECD countries where tariffs remain substantially higher than in the OECD area.

Tariffs on agricultural products are on average much higher than those on industrial products, although there is considerable diversity from country to country. Moreover, tariffs may be coupled with quotas whereby a country sets a tariff of, say, 10% on the first 10 000 units of imported grain (called the tariff rate quota, or TRQ) but increases it to 100% on any additional grain imports (called the above quota tariff). One OECD study found that such tariffs on agriculture products were equivalent, on average, to a straight tariff of 36% for OECD countries and 63% for selected non-OECD countries, compared with agricultural tariffs of 15% in OECD countries and 43% in non-OECD countries.

Even when tariffs have been reduced, the way they are structured continues to pose problems in both agriculture and industry. Problems exist with tariff escalation, low "nuisance" tariffs, high tariff dispersion and tariff peaks. Tariff peaks, defined as tariffs of 15% or more, often apply to products of particular concern to developing countries such as textiles, clothing and some agricultural products. In developing countries products such as tobacco, leather, cocoa, cotton, wood and paper are often subject to tariff escalation, meaning the rate is increased according to how much processing is involved in the product.

Ban the Sun!

The 19th century French economist Frédéric Bastiat wrote a number of amusing articles to explain economic issues to the general public. The extract below is from his book *Economic Sophisms* and is a petition from candlemakers asking parliament to ban sunlight to protect the country from being flooded by cheap foreign imports.

A Petition From the Manufacturers of Candles, Tapers, Lanterns, Candlesticks, Street Lamps, Snuffers, and Extinguishers, and from the Producers of Tallow, Oil, Resin, Alcohol, and Generally of Everything Connected with Lighting. To the Honourable Members of the Chamber of Deputies.
Gentlemen: We are suffering from the ruinous competition of a foreign rival who apparently works under conditions so far superior to our own for the production of light that he is flooding the domestic market with it at an incredibly low price; for the moment he appears, our sales cease, all the consumers turn to him, and a branch of French industry whose ramifications are innumerable is all at once reduced to complete stagnation. This rival is none other than the Sun.

We ask you to be so good as to pass a law requiring the closing of all windows, dormers, skylights, inside and outside shutters, curtains, casements, bull's-eyes, deadlights, and blinds – in short, all openings, holes, chinks, and fissures through which the light of the sun is wont to enter houses, to the detriment of the fair industries with which, we are proud to say, we have endowed the country.

If you shut off as much as possible all access to natural light, and thereby create a need for artificial light, what industry in France will not ultimately be encouraged?

It needs but a little reflection, gentlemen, to be convinced that there is perhaps not one Frenchman, from the wealthy stockholder to the humblest matchgirl whose condition would not be improved by the success of our petition. We anticipate your objections, gentlemen; but there is not a single one of them that you have not picked up from the musty old books of the advocates of free trade.

Will you tell us that though we may gain by this protection, France will not gain at all, because the consumer will bear the expense? We have your answer ready: you no longer have the right to invoke the interests of the consumer. You have sacrificed him whenever you have found his interests opposed to those of the producer. When told that the consumer has a stake in the free entry of iron, coal, sesame, wheat, and textiles, "Yes", you reply, "but the producer has a stake in their exclusion". Very well! If consumers have a stake in the admission of natural light, producers certainly have a stake in its prohibition.

If you grant us a monopoly over the production of lighting during the day, we and our numerous suppliers having become rich, will consume a great deal and spread prosperity into all areas of domestic industry.

Make your choice, but be logical; for as long as you ban, as you do, foreign coal, iron, wheat, and textiles, in proportion as their price approaches zero, how inconsistent it would be to admit the light of the Sun, whose price is zero all day long!

http://bastiat.org/

Textiles and clothing are in some ways a special case. The Multi-Fibre Arrangement agreed in the Uruguay Round brought an end to quotas on these goods – the system whereby only a specified quantity of goods could be imported over a given period. Countries that cannot use quotas to protect national industries may use tariffs instead, and the tariffs levied on textiles and clothing by some OECD countries remain relatively high.

Who gains from tariff reduction?

Tariff reduction benefits both developed and developing countries. Consumers have more choice, with more products and a wider price range. By removing price distortions, tariff reduction also encourages resources to be used in a way that takes better advantage of a country's strong points with respect to its partners. In other words, it allows comparative advantage to reveal itself. For developing countries, improved resource allocation and higher export revenue contribute to national income and increase the pool of resources available for development-related investment. In turn, economic development in these countries broadens the potential markets for OECD products. And by encouraging contacts between people, expanding trade can also contribute to increased cultural exchanges, co-operation in humanitarian efforts and healthier international relations.

Most studies suggest that the developing countries with the highest initial tariff rates stand to gain most from reducing their tariffs. Trade liberalisation will have economic and social costs associated with transition of labour from one activity to another. Still, these costs tend to be short-term and are outweighed on average by the potential welfare gains that result from lowering trade barriers. Complementary economic, social or labour market policies can help ease the pain of adjustment and make trade liberalisation more effective in promoting growth.

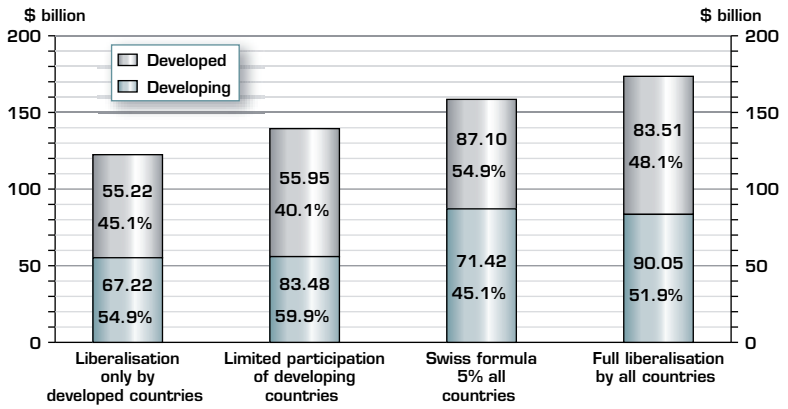
> **"OECD estimates indicate that scrapping all tariffs on merchandise trade and reducing trade costs by 1% of the value of trade worldwide would add the equivalent of up to 2% to the present annual gross domestic product (GDP) in some areas."**
>
> *The Doha Development Agenda: Tariffs and Trade*
> (an OECD Policy Brief, 2003)

Taking the fully implemented Uruguay Round as a starting point, the OECD examined eight scenarios designed to reflect different levels of tariff reduction and the uniform reduction in trade costs by 1% of the value of trade. All these scenarios demonstrate the advantages of trade liberalisation.

The least beneficial scenario involves a 50% cut in tariffs overall and the uniform reduction in trade costs, which nonetheless yields annual global gains of $117 billion.

An approach which reduces high tariffs by a higher proportion, with a maximum after-reform tariff of 5% on any item and the uniform reduction in trade costs, provides an even bigger lift. This so-called "Swiss formula" yields global gains of $158.5 billion – and all regions gain from the tariff reduction.

WELFARE GAINS IN TRADE LIBERALISATION SCENARIOS



Complete tariff elimination and a reduction in trade costs would bring welfare gains equivalent to 1.37% of annual GDP in developing countries and 0.37% in developed countries. More than half of the benefit would accrue to developing countries if tariffs were eliminated.

Source: The Doha Development Agenda: Welfare Gains from Further Multilateral Trade Liberalisation with Respect to Tariffs.

StatLink: *http://dx.doi.org/10.1787/545021026011*

The largest overall gains result from a complete abolition of all merchandise tariffs and the uniform reduction in trade costs, which would boost the world economy by $173.5 billion per year.

It is important to bear in mind that these estimates, like many others, measure what are called static gains. They assume for ease of computation that the economy doesn't build on initial improvements in productivity.

Economists know, however, that dynamic gains will also gradually accrue and these will be many times the size of the static gains. But they find it hard to measure such gains. Narrowly defined, dynamic gains are trade-related changes in the long-run rate of productivity growth. There is robust evidence that open economies are richer and more productive than closed economies. Trade and foreign direct investment (FDI) affect productivity levels and growth rates through better resource allocation, higher return to investment in capital and R&D, deepening specialisation and technology spillovers. An increase in the share of trade in GDP of one percentage point raises the income level by between 0.9% and 3%.

If tariffs were eliminated, more than half (52%) of the benefit would be expected to accrue to developing countries. A combined package of complete tariff elimination and a reduction in trade costs would bring welfare gains equivalent to 1.37% of annual GDP in developing countries and 0.37% in developed countries. Under the Swiss formula scenario, developing countries' share of the benefit would be 45% and if tariffs were halved, it would be 60%. While tariffs are an important source of government revenue in some countries, certain scenarios can minimise the loss of this revenue while still delivering significant welfare gains. This is true even under the Swiss formula approach, which cuts relatively high tariffs the most.

Both industry and agriculture contribute significantly to the overall welfare gains that can be achieved by reducing tariffs. However, under a full liberalisation scenario, roughly two-thirds of the developing-country welfare gains come from removing tariff-related distortions in just three sectors: motor vehicles and parts; textiles and clothing; and processed agricultural products. Developing countries could benefit from liberalisation that is limited primarily to developed countries. But they would benefit even more in absolute terms if they liberalised as well.

Non-tariff barriers

Before the Uruguay Round, import quotas and other quantitative restrictions on imports or exports were quite common in both developed and developing countries in the case of products such as steel, textiles and clothing, footwear, machinery and autos. Today, exporters are concerned less by traditional measures applied "at the border", like quotas and prohibitions, than by difficulties arising from product standards, conformity assessments and other "behind the border" policies in importing countries. Such concerns help explain the substantial efforts made by negotiators in the Uruguay Round to strengthen the rules governing the use of technical and sanitary and phytosanitary (SPS) measures such as food safety and animal and plant health measures.

Thanks to databases, changes in tariffs can be readily measured and analysed. Non-tariff barriers, or NTBs, are not subject to comprehensive reporting requirements, however. Collecting data is made more complicated by the fact that compared to tariffs, NTBs take many different forms and often are not transparent. Under the broadest definition, NTBs comprise all measures other than tariffs that restrict or otherwise distort trade flows. UNCTAD maintains and periodically updates a Trade Analysis and Information System

Developing countries and non-tariff barriers

Developing countries rely heavily on exports to developed countries. Customs and administrative procedures and technical barriers to trade are the main non-tariff barriers of concern here. For trade among developing countries, technical barriers are reported less prominently in surveys of exporters.

However, customs and administrative procedures, notably procedures for import licensing and rules of origin, seem to be of more concern in trade among developing countries than in trade between developing and developed countries. Measures such as fees and charges on imports are also important barriers, in particular for intra-regional trade among developing countries.

In terms of products, live animals and related products, especially fisheries, deserve particular attention for reported sanitary and phytosanitary measures and customs-related problems.

Among the barriers reported for items of machinery and electronics, issues related to technical barriers dominate as they do for pharmaceutical products.

An analysis of national export strategies and programmes from a sample of countries confirms that these sectors and products are of key interest to developing countries in their pursuit of export growth and diversification over the longer term.

(TRAINS) database with data on more than 100 different types of NTBs, but this is not a complete list. Moreover, in practice, the use of measures changes over time and new types of measures appear.

Another problem is that NTBs are not, in fact, readily measurable, so it is difficult to evaluate their effects on trade and economic welfare. As mentioned above, not all NTBs may be transparent or presented as such, and may be linked to non-trade policy objectives such as consumer protection. This type of measure is legitimate under WTO rules even though it does restrict trade. As shown by BSE ("mad cow disease") countries may ban imports of farm products for food safety reasons or require special labelling in response to consumer demands for information about the origin of a product. The issue here is not whether governments have the right to protect citizens from dangerous goods – this is not only a right but a duty – but whether they are restricting imports more than is necessary to achieve their objectives. Multilateral trade rules are not meant to allow unscrupulous companies to sell dangerous or substandard products. They exist to ensure that neither consumer protection nor other interests are used as an excuse to penalise foreign companies or keep prices high.

Although it is hard to say with certainty whether NTBs are decreasing or increasing overall, broad tendencies can be detected. Data collected in business surveys is one way to identify measures that exporters perceive as barriers to foreign markets. These studies reveal that businesses are more concerned about behind the border policy issues than about quantitative import restrictions and other traditional types of NTBs. One reason may be that the reduction or elimination of import tariffs has made NTBs relatively more conspicuous, and for some sectors the main form of government intervention in trade today consists of such barriers.

Prohibitions and quotas

The simplest way to discourage trade is simply to ban it outright or, once a certain threshold is crossed, to apply what specialists call "prohibitions and quotas". This type of practice became headline news in Europe and Asia when quotas were applied to textile imports from China to protect European producers. That measure was temporary and was said to have been employed for

domestic economic reasons. But prohibitions put in place for non-economic reasons, especially to protect the environment and human safety and health, are found in virtually every country. Their use seems to be on the rise, increasing faster in developed countries with stricter social regulatory frameworks. In contrast, in developing countries the application of quotas and prohibitions for economic reasons, such as balance-of-payment problems and industry protection, generally seems to be declining.

BUREAUCRACY AT THE BORDER

Region or economy	Export			Import		
	Number of documents	Number of signatures	Days at the border	Number of documents	Number of signatures	Days at the border
	Regional Averages					
East Asia & Pacific	7.1	7.2	25.8	10.0	9.0	28.6
Latin America & Caribbean	7.5	8.0	30.3	10.6	11.0	37.0
Middle East & North Africa	7.3	14.5	33.6	10.6	21.3	41.9
OECD: High Income	5.3	3.2	12.6	6.9	3.3	14.0
South Asia	8.1	12.1	33.7	12.8	24.0	46.5
Sub-Saharan Africa	8.5	18.9	48.1	12.8	29.9	60.5
	World Summary					
Average	7.4	11.0	31.6	10.8	16.4	39.8

The length of time that goods are held up at the border by administrative procedures ("red tape") can influence trade performance. Firms working in markets where fast delivery is important may find that they are no longer competitive – not because of the price or initial quality of their product but because customers can't wait or the product arrives in poor condition. As the table shows, the differences can be enormous: around three signatures are needed to import goods into some OECD countries, compared with over 20 in some others. And exporters have to wait for over seven weeks on average in some countries before their goods can be shipped abroad.

Source: World Bank (2005), "Doing business: benchmarking business regulations".

Import prohibitions are commonly applied to trade of certain used goods, such as automobiles, auto parts, clothing and machinery. The circumstances surrounding these measures appear unclear at times, and may merit further investigation and possibly discussion in international trade negotiations. Some countries apply non-automatic import licensing. If it is made extremely difficult to obtain a licence, this kind of measure is, in practice, a prohibition.

When applied for non-economic reasons, import prohibitions are policy solutions aimed at ensuring that various regulatory objectives are met, and sovereign governments have every right to apply them. At the same time, governments should also consider whether import bans are the best solution and whether there exist other means to achieve their objectives without harming trade.

Procedural barriers

The way that border and behind the border policies are applied or administered can become a "procedural barrier to trade" which deserves attention in its own right. Trade can be influenced by the specific ways in which customs classification, valuation and clearance procedures are handled. It can also be affected by lengthy or duplicative product-approval or certification procedures, or even private restrictive practices that are tolerated by governments. For example, import quotas, product standards and other policies that directly or indirectly affect trade can be designed, applied or enforced in a non-transparent or arbitrary manner that puts foreign producers at a disadvantage.

These procedural aspects cause additional difficulties in export markets. WTO agreements covering various types of non-tariff barriers set out more or less detailed provisions that are designed to prevent, or at least minimise, adverse effects resulting from procedural barriers to trade. Yet exporters and policy makers continue to identify such barriers as significant impediments to trade and look towards further improvements of existing rules.

Customs fees

As any traveller carrying purchases through customs knows, imported goods are frequently subject to various customs fees and charges. On a bigger scale the same applies to businesses, and

customs fees combined with tariffs add significantly to the costs of trading in many parts of the world. Low- and middle-income countries in particular levy high fees that may negatively affect trade. The use of customs fees and charges has evolved over time. More countries now charge importers fees for the use of various customs-related services. In practice, a great majority of these fees, like most other types of fees and charges, are applied *ad valorem*, meaning they are based on the value of the goods being imported and not on the underlying cost of the services rendered (if any). This is true for high-income and for lower-income countries alike. Traders would like to see a more precise definition of what constitutes the "services" that the fees are intended to cover, and along with many trade economists, they would argue that if fees were calculated on the basis of services actually rendered, trade costs would come down.

Export duties and export restrictions

Imports are not the only goods taxed. Some countries, mainly developing and least-developed countries, also tax their own exports. Goods subject to such taxes include mineral and metal products, leather and hide and skin products, forestry products, fishery products, and various agricultural products. There are three main reasons why a country would tax its own exports: to hold down the domestic price of a key product, to gain revenue and to promote certain industries, such as those processing the taxed good.

In addition to export duties, governments sometimes set minimum export prices, or reduce VAT rebates which directly increases export prices. Other forms of export restrictions affect export volumes and include export bans, quotas and licensing requirements. Recent years have seen increased use of export restrictions, notably for agriculture and food products during 2007 and 2008. While these measures may have temporarily increased supply to the domestic markets, they prevented domestic producers from benefitting from higher world prices and put increased pressure on prices in importing countries. Overall, the restrictions probably exacerbated the situation and undermined trust in trade.

Technical barriers

Technical barriers to trade (TBT) refer to technical regulations and standards that set out specific characteristics of a product such as its size, shape, design, functions and performance, or stipulate the way a product is labelled or packaged before it enters the marketplace. These measures also include the technical procedures for confirming that products comply with the requirements stipulated in regulations and standards.

Many of these measures serve legitimate goals of public policy, such as protecting the environment or human health and safety. At the same time, product standards and other TBTs have an important influence on market access and the export performance of businesses. They can be costly and burdensome by design, or effect, and restrict international trade. The WTO Agreement on Technical Barriers to Trade contains rules expressly aimed at preventing these measures from becoming unnecessary barriers, but they still exist and still create substantial difficulties for traders.

Benefits from liberalising non-tariff barriers

There could be substantial economic benefits from further liberalisation of some non-tariff barriers, but given the problems collecting data on these barriers, the wide-scale impacts of removing them are hard to quantify. Attempts to do so tend to focus on one type of measure, and this probably underestimates both the importance of these barriers and gains from their removal. One study showed that removal of a selection of barriers would generate global gains on the order of $90 billion. Another calculated that lowering trade transaction costs by 1% would result in global welfare gains of $40 billion. This is far less than estimates for gains from improvements in ports, customs, regulations and service sector infrastructure, for example. Improvements of these types would raise countries with below-average performance halfway to the global median and would generate global increases in merchandise trade amounting to $377 billion, an almost 10% increase in total trade.

Making trade policy

Let's take up this question of lobby groups, or rent-seeking behaviour as it is formally described. We argued earlier that trade barriers could have positive and negative consequences, depending on whether you look at their economic, social, environmental or other motivations and consequences. Trade barriers and trade policy can promote inequities and should not be examined in isolation from their political-economic environment. Tariffs, for example, tend to be highest on goods that represent an important portion of the purchases made by poorer consumers. They also tend to provide the most protection to goods that are produced by the most politically powerful industry groups, although there are notable exceptions such as oil. Both factors combined skew the distribution of income towards the richest groups in society.

Policy decisions then are influenced by a number of factors other than efficiency or well-being, including special interests, biases and access to information. At the start of this book, we mentioned how the price of sugar influenced Hershey's decision to move chocolate production to Mexico. The US sugar industry is often quoted as an example of how poor trade policy can harm business and consumers. Tariffs, quotas and subsidies make the product twice as expensive in the American market as on world markets, and in fact the industry would probably not exist in Florida if the government hadn't drained the Everglades and managed the ecosystem for the benefit of growers.

Adam Smith and his contemporaries considered these aspects, while in modern times James Buchanan, Kenneth Arrow, Douglas North and Mancur Olson are among the leading thinkers on the subject. A few of their conclusions are worth mentioning here.

- If government appears to be increasingly sympathetic to calls for trade protection, lobbyists will be increasingly employed by groups to argue their case – and consequently trade barriers will tend to rise, more new infant industries will tend to get support and more old infant industries will not lose their subsidies.
- Politicians need to target median voters (in democratic states) or median constituents (in other states) to retain power – so middle income people will tend to benefit more from policy action than the poor and trade barriers will never disappear because foreigners don't get a vote.

Countries make good but different beer

Many government regulations are introduced with the very best of intentions but end up penalising the public rather than protecting it. The German beer "purity law" is a classic example. The law, now no longer in force, was initially made to protect consumers but it also prevented some German drinkers from consuming imported beer that they may have preferred. The story demonstrates the power of lobby groups to convert a health regulation into a non-tariff barrier.

The Reinheitsgebot ("purity law") for beer dates back to a Bavarian law of 1516, and set out rules on how a product meant for human consumption had to be produced in order for it to enter the market. The Reinheitsgebot was partly motivated by concerns about food safety in that it aimed to ensure that the right ingredients (water, barley, hops) were used. Another motivation was to restrict the use of wheat in beer brewing so as to divert wheat into bread production.

Four and a half centuries later the German insistence that beer had to be brewed according to this standard had to give way, in the interest of freer trade in the internal market of the EU. Since the unilateral German standard has been abolished, consumers can now enjoy beers from other European and non-European suppliers alongside beer that is still produced under the old Reinheitsgebot.

The law also regulated the sales of beer in terms of packaging requirements and pricing. Bavaria even insisted on national acceptance of the Reinheitsgebot as a precondition for German unification under Otto von Bismarck in 1871.

It became a Germany-wide law only in 1907. The application of the law to the entire territory upset brewers in some parts of Germany where a century-long tradition of beer-brewing relied on ingredients, such as spices or added sugar, that were not allowed under the Reinheitsgebot. The controversy over what may properly be called "beer" in Germany continues to this day.

In 1991 when Germany began opening its borders to foreign beers, total beer consumption amounted to 114 million hectolitres, with 2.5% of that beer imported. In 2006 beer consumption had dropped to 95 million hectolitres but imports had grown to a 6% share. Obviously some Germans like imported beer and their tastes were being repressed by the old law. The consumer welfare of beer drinkers in Germany has increased with trade liberalisation.

www.europeanbeerguide.net

- Groups where potential policy gains are concentrated will lobby harder than groups with more diffuse gains – meaning firms will tend to get more trade protection and consumers will lose out.
- Civil servants are at least partly motivated by working in expanding organisations and on relatively good employment terms – and thus government programmes have a tendency to expand beyond the size required to perform a specific function.

The factors listed above can cause complications for countries trying to ensure that scarce resources are used wisely and that the distribution of income is in accord with the wishes of society. We cannot assume that government intervention will definitely correct market failure. Government intervention may actually make matters worse.

For these reasons public economics puts forward a three-part framework for policy analysis:

- How is a market performing?
- Is there market failure (a necessary condition for government intervention)?
- If government intervened with a particular policy intervention, would it be likely to improve matters or make them worse ("collective" failure)?

Now, if we refer back to our discussion on infant industries, there are a few classic examples of collective failure in the OECD countries. OECD agricultural policies were designed before and after World War II to deal with various crises. The original problems have long since disappeared but the median voter problem and other political economy issues are making it very difficult for governments to remove agricultural support policies. Witness the hold-ups in the WTO. A couple of other industries have had similar histories. For many years, motor vehicle industries were heavily subsidised in many countries. So too were "national" airlines. They were considered strategic or infant industries, or else national champions, and it often took decades to wean them off high levels of subsidy. It is also worth noting the choice of wording in government support presentations. Calling an industry "strategic" infers commercial promise. In fact, most government subsidies are given to failing firms.

What can trade policy contribute to resolving the economic crisis?

Trade policy is not the cause of the economic difficulties that emerged in late 2008, nor does it offer the solution. But trade policy can contribute in three important ways.

First, a clear statement of concrete plans by governments to stop the spread of protectionism and to open markets further to competitive suppliers would help to restore confidence in markets, and in governments' ability to work together in pursuit of common aims.

Second, action is needed to avoid a policy shift towards greater protectionism. Protectionism has a high cost. By closing borders or otherwise restricting markets, consumers pay more, firms incur higher costs, and choice is limited. Consider a world with just two traders: you and me. If I no longer import from you, you no longer have the foreign exchange that is needed to import from me. And so on, across the globe. While an individual government might have some success with protectionist policies, as more governments employ the same approach, every country loses. In short, global protectionism means job losses, including in the relatively competitive export sector, to the long-term benefit of no one.

We generally think of protectionism in terms of measures at the border – tariffs, quotas or other mechanisms that restrict trade or make imported products more expensive. But there is a wide array of measures that governments can take behind their borders that have very similar effects – including various forms of direct subsidies. Support to one sector in one country, whatever the motivation, disadvantages competing sectors in other countries. As other countries then move "to level the playing field", a subsidy competition is launched that in the end benefits no country. But those that receive the subsidies may be better off than otherwise, and will vigorously defend their new entitlements. This explains in large part why subsidies to deal with a short term problem often prove almost impossible to remove.

Developing countries that do not have the fiscal resources to compete on subsidies will be major losers in this situation, finding themselves excluded from protected markets. There is an enormous

danger that the important advances made in recent years by some developing countries, helped by aid and by trade, will be lost.

Agriculture, one of the most highly-protected sectors in many developed countries, illustrates this point. Support to producers in the OECD region in 2007 – a period when many commodity prices were already very high – totalled $258 billion, of which two-thirds highly distorted production and trade patterns. The difficulties in rolling back such high levels of support and protection are well known, as shown in the on-going conflict in the current Doha Development Agenda negotiations.

Agriculture also illustrates the extent to which the "distributive impacts" can go awry. Most of the benefits of support go to a small number of the largest producers, or leak away to input suppliers or processors. Very little goes to the vulnerable family farms that were the reason for creating the policies in the first place. And of course those competitive suppliers located outside the OECD area are denied an opportunity to compete on an equal basis in many OECD countries and in global markets.

Finally, governments have an opportunity to stimulate economic growth that does not require increased public spending – conclude current WTO negotiations. There is little standing in the way of willing governments quickly moving to do so. Agreement on modalities for agriculture and non-agricultural market access (NAMA) would help pave the way for progress in other areas of the negotiations.

The reductions in levels of protection that are currently "on offer" in WTO negotiations would restrict the capacity of countries to raise protection from current levels in order to protect home industry and would, in many cases, force a significant further increase in market access and reduction in support that distorts trade. This is the case both for agriculture and for industrial goods. Concluding the Doha Round would help to avoid protectionist reactions to the current economic situation. It would also make trade more predictable. This is good for trade and growth because it avoids the disruption to supply chains and to consumers caused when trade can be switched on and off.

Opening markets further would improve overall economic well-being as resources could be used more efficiently thanks to the impacts of specialisation, scale economies, international

investment, competition effects, innovation, and so on. According to OECD analyses, the economic gains from the removal of remaining trade barriers would be significant:

- A 10% increase in trade is associated with a 4% rise in per capita income.
- An "open" FDI climate could be expected to yield a 0.75% increase in OECD area GDP per capita.
- Lower regulatory barriers to competition could result in a 2% to 3% increase in per capita GDP in the OECD area.
- More efficient customs procedures (*i.e.* trade facilitation) could improve global welfare by $100 billion.
- Full tariff liberalisation in agriculture and industrial goods could increase global welfare by a further $100 billion.

Much higher gains would be expected if services trade was liberalised. And these are only "static" gains. In addition, "dynamic" gains associated with trade-related changes to the long-run rate of productivity growth would be many times as large again, providing a further boost to economic prospects.

Of course there are also challenges to opening markets further. As we discuss in more detail in Chapter 6 on trade and employment, while aggregate employment would increase, some jobs would be lost and some who move to new jobs would likely do so at lower wages. Adjustment policies, in particular in the area of labour market flexibility, would be required.

Conclusion

The reasons for imposing barriers to trade can be economic, environmental, social, political, or a combination of these. Any number of factors may be more important than a particular trade opportunity. But what is important is that such decisions are clear and transparent, and that the benefits and the costs are well understood. Tariffs, even complex schemes, are relatively visible; many non-tariff barriers are much more complex, seldom very transparent, and their impact unclear.

Governments have a particular responsibility to ensure that the full range of impacts of tariff and non-tariff barriers, both intended and unintended, is considered before putting them in place. This is

essential if explicit policy objectives are to be met at the least cost and without unintended negative consequences. It is also essential in order to ensure that narrow special interests do not benefit at the expense of others. Experience has shown that even ineffective policies, once in place, are difficult to remove. The "first best" course of action is to avoid poor policy choices.

Find Out More

... FROM OECD

On the Internet

For an introduction to OECD work on trade, visit *www.oecd.org/trade*.

Publications

Looking Beyond Tariffs: The Role of Non-Tariff Barriers in World Trade (2005):
This volume reviews the concerns of exporters and governments about market access. It analyses where and why certain non-tariff measures are being applied to traded goods covered by multilateral agreements, and how they continue to represent challenges for exporters and policy makers.

Also of interest

Examining the Trade Effect of Certain Customs and Administrative Procedures, an OECD Trade Policy Working Paper (2007):
Although customs and administrative procedures are necessary for the smooth application of trade and other policies, they can reinforce the borders between trading partners if procedures are more stringent than necessary or are inefficient. All countries can benefit from more efficient practices, with the greatest benefits going to those countries with the least efficient procedures.
doi:10.1787/278266703766

The Impact of Services Trade Liberalisation on Trade in Non-Agricultural Products, an OECD Trade Policy Working Paper (2008):
This study finds that trade in services contributes to a broader services supplier base that in turn supports competitiveness in high-technology and high-value added manufacturing. With low but still significant trade costs in services, large countries have a comparative advantage for services-intensive manufactured goods.
doi:10.1787/227107117401

Logistics and Time as a Trade Barrier, an OECD Trade Policy Working Paper (2006):
Delays reduce trade volumes, and lengthy procedures for exports and imports reduce the probability that firms will enter export markets for time-sensitive products. Furthermore, a broader range of products is becoming time-sensitive following the proliferation of modern supply chain management in manufacturing and retailing. Many developing countries urgently need to shorten lead times to stay competitive in the clothing and consumer electronics sectors.
doi:10.1787/664220308873

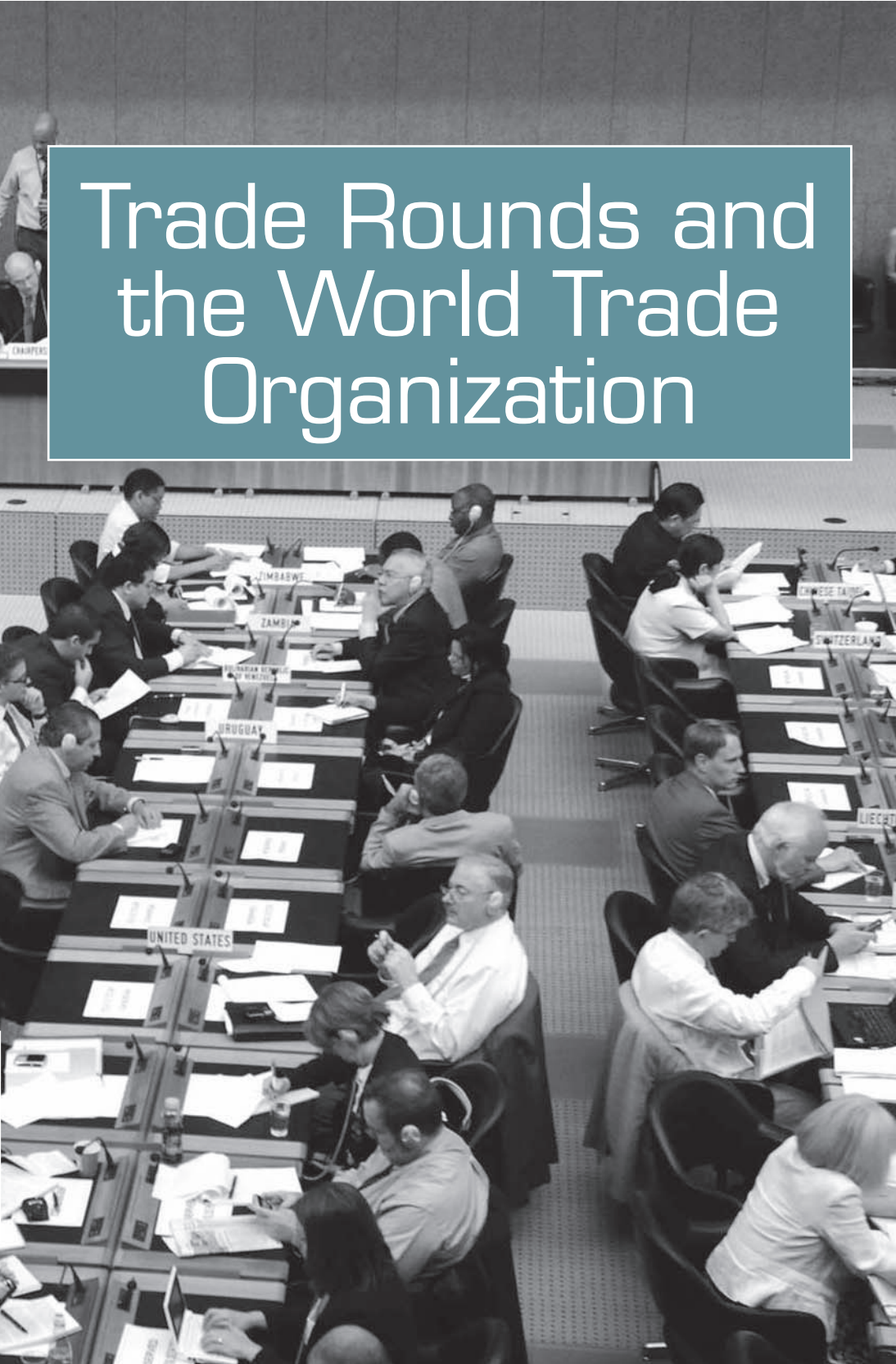
The Doha Development Agenda: Tariffs and Trade, an OECD Policy Brief (2003):
The opening of markets has boosted trade and economic growth worldwide in the past few decades. Yet tariffs still remain a key obstacle to market access. This study looks at the potential benefits from tariff reduction and who stands to gain.

The Costs and Benefits of Trade Facilitation, an OECD Policy Brief (2005):
Steady increases in trade volumes and complexity in recent years have highlighted the negative impact of inefficient border procedures on governments, businesses and ultimately on the customer and the economy as a whole, particularly in developing countries. These "hidden" costs of trade are so high – as much as 15% of the value of the goods traded in some cases – that for many countries, the welfare benefits from more efficient customs procedures could be as high as those from reducing tariffs.
www.oecd.org/publications/policybriefs

5

International trade usually hits the headlines only when a major disagreement degenerates into a "trade war". Most of the time, trade is carried out peacefully under a set of rules overseen by the World Trade Organization. "Multilateralism" is the basis of the WTO system – that is, the more partners there are to an agreement, the better. But getting 150 or more countries to agree is a long process, carried out over a number of years in the various rounds of trade talks.

Trade Rounds and the World Trade Organization



By way of introduction…

Governments are still trying to reach agreement on the Doha Round of trade talks that were interrupted in summer 2008. You may remember images of what looked like a gigantic examination hall, as hundreds of representatives from the WTO's member countries tried, unsuccessfully, to work out a deal to prevent the whole process from stalling. Why all the effort? Or, to put it another way, why should countries sign trade agreements? Why not just let the market decide the most economically efficient way to organise international trade?

The economics of exporting are part of the explanation. All countries want to increase their market size by trying to convince their trading partners to reduce trade barriers impeding their exports. Others may want to attract foreign investment. Or an agreement may be a kind of insurance policy against future restrictions on access to foreign markets. Countries whose producers have preferential access to particular markets through an earlier regional agreement may want to protect themselves from pressures to remove the preference. Each country has a complex agenda influenced by producer lobbies at home and by politically active organisations concerned with the environment and other issues like the use of child labour and prison labour. Agendas also are shaped by each country's concerns about the ways other countries around the negotiating table produce things.

With each of the negotiating teams from 153 member countries having a long wish list, it's not surprising that it usually takes so long to reach an agreement that all parties can accept. And in one sense, reaching the agreement is only the start. However farsighted the negotiators, however all-inclusive the final document, unexpected situations will arise and the interests and priorities of the signatories will change. Even the circumstances that created the need for the agreement in the first place will evolve. Because of these dynamics, disputes are inevitable.

▶ This chapter looks at trade rounds and multilateralism, focusing on the WTO, the most important organisation involved in the process. The origins of the WTO are recalled and its various bodies and working mechanisms are described, including how trade rounds are conducted, and the procedures used to settle disputes between members.

From the ITO to the WTO

The WTO was created in 1995 but its origins go back to the end of World War II, when efforts got underway to create a specialised UN agency known as the International Trade Organization (ITO) to operate alongside the World Bank and the International Monetary Fund. The thinking behind this initiative was that markets work best if all the participants can agree to be bound by a set of trade rules, just as commercial law at home helps domestic markets to function more smoothly. Furthermore, if these rules are set on a multilateral basis (one country, one vote) then each country has an equal say. This multilateral basis is important to help balance the tendency for the largest economies to get better deals than smaller economies by virtue of their greater political and economic leverage.

The draft ITO Charter included rules on employment, commodity agreements, restrictive business practices, international investment and services. The aim was to create the ITO at a UN Conference on Trade and Employment in Havana, Cuba, in 1947.

Meanwhile, separate talks involving 15 countries began in December 1945, aimed at reducing and binding customs tariffs. This first round of negotiations resulted in a package of trade rules and 45 000 tariff concessions affecting one-fifth of all world trade at the time. The core negotiating group had expanded to 23 by the time the deal was signed on 30 October 1947. The tariff concessions went into effect by 30 June 1948, through a "Protocol of Provisional Application". And so the new General Agreement on Tariffs and Trade was born, with 23 founding members officially referred to as "contracting parties".

The ITO Charter was finally agreed in Havana in March 1948, but a number of countries refused to ratify it. This meant that the ITO was effectively dead, and the GATT became the only multilateral instrument governing international trade. For almost half a century, the GATT's basic legal principles remained much as they were in 1948, but were supplemented or amended in the series of multilateral negotiations we know as "trade rounds". The early trade rounds concentrated on further reducing tariffs on manufactured goods but agricultural liberalisation was left on the sidelines. The Kennedy Round in the mid-1960s brought about a GATT Anti-Dumping Agreement and, for the first time, a section on development. Then, during the 1970s, the Tokyo Round saw the first major attempt to tackle non-tariff barriers.

Lower tariffs, combined with a series of economic recessions in the 1970s and early 1980s, drove some governments to devise other forms of protection for sectors facing increased foreign competition, such as subsidies and bilateral market-sharing arrangements with competitors. These moves undermined GATT's credibility and effectiveness. At the same time, the context in which GATT operated was changing. By the early 1980s world trade had become far more complex and important than it had been 40 years earlier. Globalisation was accelerating and international investment had expanded. Trade in services, not covered by GATT rules, was also of major interest to more and more countries. In agriculture, loopholes in the multilateral system were being heavily exploited, and efforts at liberalising agricultural trade met with little success. In the textiles and clothing sector, an exception to GATT's normal disciplines was negotiated in the 1960s and early 1970s, leading to the Multifibre Arrangement. Even GATT's institutional structure and its dispute-settlement system were causing concern.

The Uruguay Round was meant to comprehensively address these concerns. The first meetings were held in November 1982, in Geneva, but it proved impossible to reach an agreement on agriculture. Nevertheless, the work programme formed the basis for what was to become the Uruguay Round negotiating agenda, launched in September 1986, in Punta del Este, Uruguay. The new agenda covered virtually every outstanding trade policy issue, including agriculture and textiles, and it introduced several new areas, notably trade in services and intellectual property. All the original GATT articles were up for review in the biggest negotiating mandate on trade ever agreed. The Round was supposed to take four years, but took twice as long. This was not surprising given the number of countries that were members of the GATT by then (more than 100), the complexity of the issues under negotiation (non-tariff barriers) and the highly sensitive nature of the issues at stake (including agriculture). The final agreement was signed in Marrakech, Morocco, in 1994.

One of the most visible results was that the WTO replaced GATT in 1995, even though the General Agreement still exists as the WTO's umbrella treaty for trade in goods.

The Uruguay Round was highly significant in reinforcing the architecture of the world trading system. For the first time agriculture was subject to multilateral trade disciplines. Existing

Key dates in GATT/WTO history

1947 23 countries sign the General Agreement on Tariffs and Trade (GATT) in Geneva, Switzerland, and delegates from 56 countries meet in Havana, Cuba, to start negotiating the charter of a proposed International Trade Organization.

1948 GATT comes into force. ITO Charter signed but does not receive enough support for the ITO to be created.

1949 Second GATT round of trade talks in Annecy, France.

1950 Third GATT round held in Torquay, England. Countries cut the 1948 tariff levels by 25%.

1956 Fourth round starts in Geneva.

1960-62 Fifth round starts. It is not named after a place, but in honour of US Under-Secretary of State Douglas Dillon who proposed the negotiations. The Dillon Round involved negotiations related to the creation of the European Economic Community.

1964-67 The Kennedy Round, named in honour of the assassinated US president, covers anti-dumping as well as tariffs. Membership increases to 62 countries.

1986-93 The Uruguay Round, launched in Punta Del Este, is the most ambitious and far-reaching trade round so far. Achievements include reductions in agricultural subsidies, full access for textiles and clothing from developing countries, and an extension of intellectual property rights. 123 members.

1994 The Uruguay Round is completed.

1995 The WTO is created in Geneva.

1999 Protesters disrupt WTO meeting in Seattle, in the US state of Washington.

2001 WTO meeting in Doha, Qatar, agrees on the ninth round, known as the Doha Development Agenda or DDA. The DDA covers the opening of markets to agricultural goods, manufactured goods and services. Ministers also approved a linked decision on implementation to address problems developing countries face in implementing WTO agreements.

China formally joins the WTO. Chinese Taipei is admitted shortly after.

2002 Supachai Panitchpakdi of Thailand becomes the first WTO head to come from a developing nation.

2003 Talks in Cancun, Mexico, break down over differences about whether to negotiate four new trade-related issues – investment, competition, trade facilitation and transparency in government procurement – and how to reform trade in agriculture.

2004 Geneva talks achieve framework agreement on opening up global trade. The US and EU are to cut agricultural subsidies; developing nations are to cut tariffs on manufactured goods.

2005 Hong Kong ministerial meeting fails to achieve any major breakthrough.

2008 The Doha Round stalls in July after the US and India fail to agree on measures to help poor countries protect their farmers. The OECD Secretary-General states that "a Doha breakthrough… now depends on political leadership more than on anything else". In December, plans to hold a further ministerial meeting are abandoned.

multilateral rules, disciplines and enforcement procedures were strengthened, including the Agreements on Subsidies and Countervailing Measures, and on Safeguards, as well as the Dispute Settlement arrangements.

In addition to progress on the traditional agenda on tariffs and non-tariff barriers, three new agreements were signed: the General Agreement on Trade in Services (GATS), the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS). Nevertheless, the Uruguay Round left unfinished business. A specific commitment to restart negotiations in some areas saw a new round launched in Doha, the capital of Qatar, in November 2001.

Developing countries in the multilateral trading system

For a long time developing countries did not participate much in GATT activities, confining their involvement mainly to seeking exceptions from the rules and more favourable treatment from industrialised nations. This started to change with the Uruguay Round. The shift came about in part due to an awareness of the limitations of development policies based on import substitution and to the success of the East Asian "tigers" in international markets. Moreover, some developing countries faced the threat of unilateral action against their exports in certain markets. Others, especially smaller developing countries, came to fear they would be excluded from emerging regional trading blocs.

Some countries also lacked the resources to implement certain obligations in the Uruguay Round, and considered that the transition periods provided to ease the adjustment process were inadequate. Calls intensified for further differentiation in WTO rules to take account of the special needs and capacity limitations of developing countries. Some of these concerns are addressed in the Aid for Trade initiative led by the WTO and OECD. One of its goals is to ensure that relevant agencies understand the trade needs of WTO members and work together more coherently and effectively to address these needs.

This effort coincides with a renewed recognition that government interventions may be justified to address particular development

challenges. New approaches that seek to make WTO rules more responsive to development needs often involve a more or less explicit recognition of the fact that not all developing countries face the same problems. This is why the WTO Agreements contain provisions which give developing countries special rights. These are called "special and differential treatment" provisions (S&D or SDT – see the box on key concepts).

Negotiating in the WTO

Up to the Kennedy Round (which began in 1964) the basic approach to tariff negotiations was "request and offer", under which participants sought to balance the concessions they were offering against those they were seeking. The negotiations were essentially bilateral, but were then extended to other GATT contracting parties through the MFN (Most Favoured Nation) principle.

In the Kennedy Round, a general formula was agreed whereby tariffs would be reduced by 50% for industrial goods. Exceptions were negotiated between countries. In the Tokyo Round tariffs were reduced according to what is generally described as the "Swiss Formula". This formula has the effect of generating deeper cuts in the highest tariffs thereby addressing the issue of tariff peaks – exceptionally high tariffs. Negotiation, however, resulted in some sectors, notably textiles, avoiding the full impacts that a full application of the Swiss Formula would have brought about.

The Uruguay Round, launched in 1986, used a combined approach with aspects of "request and offer" and a general tariff reduction target of 30% on average. In agriculture, an average 36% reduction was agreed for developed countries, with additionally every product subject to a minimum of 15%.

By the end of the Uruguay Round the notion of a "single undertaking" had become established. This means that virtually every item of the negotiation is part of a whole and indivisible package and cannot be agreed separately. The Doha Declaration re-asserts the single undertaking nature of the negotiation, but allows for early implementation of agreements reached in advance of agreement on the whole package. The staging of implementation – the timetable – is also part of the negotiations. Typically it takes place in equal steps over several years.

The approach to tariff reduction in the Doha negotiations is formula based, although considerable complexity has been introduced into the formulas under discussion. The negotiation on services trade liberalisation is "request and offer".

For the WTO, as for any rules-based organisation, the more members that are involved in negotiations the better. But as the history of trade negotiations shows, getting countries to agree is a long and arduous process even when all of them acknowledge that an agreement is needed. Different countries and groups of countries have different priorities, and each comes to the table to defend its own interests first. The process would stretch out even longer if everything had to be discussed from the start by everybody. Decision making can also take place within the regular committee structure of the WTO, outside of the context of multilateral trade negotiations. Such decisions or recommendations supplement the legal texts.

In parallel to the formal meeting track open to all members of the organisation, there is also an informal track where positions are prepared. Many groups and coalitions have emerged during the Doha Round around this informal give-and-take, and are becoming increasingly important in the WTO decision-making processes and in the formulation of substantive negotiating positions. Developing countries compose many of these groups. But since few issues split only along North-South lines, any given developed or developing country may find itself allied to or opposed to another, depending on what is at stake.

Informal arrangements help speed up the negotiations. Yet the meetings that produce them sometimes lead to concerns about the "internal transparency" of trade talks. External transparency issues also arise, with respect to negotiations or dispute settlement, particularly as related to relations with NGOs and civil society. The WTO is an intergovernmental body, and decisions are made by consensus among member governments. There is thus no formal role for outside groups in the decision-making process although they can influence the agenda and negotiating positions. NGOs attend WTO Ministerial Conferences and may participate in issue-specific symposia and, of course, many governments consult extensively with internal stakeholders in developing negotiating positions.

Key concepts of the GATT/WTO system

The sight of those hundreds of negotiators in Geneva reminds us that in practice, international trade negotiations are complicated affairs. The debates, however, rely on a small number of key concepts and issues.

- Most-favoured-nation (MFN) principle. Countries cannot normally discriminate between their trading partners: grant one a special favour (such as lower customs duty) and you have to do the same for all other WTO members.

- National treatment: 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.

- Reciprocity. This means an outcome each member considers equally advantageous.

- Binding tariffs. This means not only reducing tariff rates, but committing not to increase them above the new reduced rates.

- Special and differential (S&D) treatment. S&D provisions allow countries to provide more favourable treatment to developing and least developed countries who may have more difficulty in adjusting to the impact of trade liberalisation, to take advantage of new trading opportunities and to shoulder the costs associated with reform.

- Contingency measures. Contingency measures are a kind of escape clause to deal with political demands for protection, in the hope that a temporary brake on liberalisation will lead to its flourishing in the long run.

- Enforcement. Rules of enforcement reduce the risk of a breakdown of co-operation by providing agreed mechanisms for the detection, examination and quantification of possible infringements. In the absence of a supra-national authority, however, most trade agreements must rely on self-enforcement. Successful dispute resolution remains in the hands of the parties, dependant either on the willingness of the offending party to co-operate or the capacity of the membership to punish the offender.

- Transparency. Transparency helps to improve compliance to commitments by countries and helps firms understand the environment in which they operate, thereby enabling them to make better decisions.

- Surveillance. Members' compliance with their obligations is monitored through surveillance. But the monitoring is accomplished through dialogue rather than litigation and takes place within an institutional framework rather than being left in the hands of the parties concerned.

Dispute settlement

One of the most striking features of the WTO is its system for dispute settlement. This is intended to help resolve disputes that arise among governments with respect to their legal obligations under the WTO rules. Detailed procedures exist for resolving these disputes, with emphasis initially put on direct consultation between the parties involved. Such consultations are very often successful, but if they are not, ultimate responsibility for settling disputes still lies with member governments, through the Dispute Settlement Body. As demonstrated by the cotton subsidies case brought by Brazil against the United States, developing countries are becoming more active in seeking WTO arbitration and have initiated more than 40% of the disputes submitted to its Dispute Settlement Mechanism. But, 42% of developing country complaints to the WTO were directed against other developing countries, compared to 5% under the GATT.

Complaints most frequently target non-tariff barriers in general, followed closely by a large number of cases dealing with unfair trade practices or the measures taken to offset them. By far the largest number of disputes concern agriculture.

Most cases are ultimately settled, predominantly in favour of the complaining party, and in a majority of cases the parties to the dispute comply with the ruling. However, the proceedings can be protracted and implementation can prove to be problematic. When no agreement is reached, countries may ask the WTO for the right to impose retaliatory measures, such as a surtax on imports. This can even happen between very close trading partners such as the US and the EU, or the US and Canada.

A number of suggestions have been put forward to improve the dispute settlement process. Some proposals would strengthen the ability of smaller and poorer countries to bring cases, while others aim to improve practices in general and the adjudication procedure specifically. There is also a need to work out the appropriate responses in the face of persistent non-compliance as well as how to calculate equivalent damages.

TRIPS

The WTO's Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement establishes minimum levels of protection that each government must provide for the intellectual property of fellow WTO members. Governments are allowed to reduce any short-term costs through various exceptions, or for example to tackle public health problems by bypassing property rights in specified ways.

The TRIPS agreement covers:

- Copyright and related rights in fields such as rental and broadcast. Performers must have the right to prevent bootlegging, or the unauthorised recording, reproduction and broadcast of live performances, for a period of no less than 50 years. Producers of sound recordings must have the right to prevent the unauthorised reproduction for 50 years.
- Trademarks, including service marks. Service marks are logos and other such symbols used to identify services companies whose activity, repairing a burst pipe for example, cannot be stamped with a physical mark like other products.
- Geographical indications. Often these are place names related to food and drink such as the bubbly wine, Champagne, which can only be named as such if it is produced in the Champagne region of France.
- Industrial designs. They must be protected for at least 10 years.
- Patent protection. It must be available for at least 20 years for both products and processes and in almost all fields of technology. Governments can refuse to issue a patent for an invention if its commercial exploitation is prohibited for reasons of public order or morality. They can also exclude diagnostic, therapeutic and surgical methods; plants and animals other than microorganisms; and biological processes for the production of plants or animals other than microbiological processes. Protection is required for plant varieties either by patents or by a special system, such as the breeder's rights provided in international conventions.
- Layout-designs, or topographies, of integrated circuits.
- Undisclosed information, including trade secrets.

The scope of the multilateral system

Trade negotiations in the early GATT days were essentially about access to markets. They concerned the reduction of barriers to trade in the form of measures applied at the border, like tariffs. Later negotiations tackled strategies that countries use to get around tariff reductions. For example, some countries use subsidies or product standards to protect home producers against the impact of lower tariffs on imports from competitors. In the late 1970s and 1980s, debate also focused on whether trade in services had a place in GATT and now similar discussions are taking place regarding labour standards, environment, investment and competition.

GATS

The General Agreement on Trade in Services (GATS) entered into force in January 1995. It is the first multilateral, legally enforceable agreement covering international trade in services.

The GATS consists of two types of obligations: general obligations that apply to all service sectors, and sector-specific obligations that apply only to sectors listed by Members in Schedules of Specific Commitments.

The Agreement does not apply to services supplied in the exercise of governmental authority; matters relating to national security; non-discriminatory regulations taken for public policy reasons, including health, safety, public order and morals; measures affecting air transport traffic rights and related services, or to measures relating to immigration and permanent employment.

The GATS covers most internationally-traded services including banking, telecommunications, tourism, and professional services. It defines four "modes of supply" for trading services:

- Mode 1: Cross-border supply (*e.g.* an architect in Country A sends designs to a consumer in Country B.
- Mode 2: Consumption abroad (*e.g.* Consumer from Country B travels to the architect in Country A).
- Mode 3: Commercial presence (*e.g.* Country A architect establishes an office in Country B).
- Mode 4: Presence of natural persons/ temporary entry (*e.g.* Country A architect travels to Country B to draft designs).

Each WTO Member schedules its commitments for market access, national treatment, and additional commitments across the four modes of supply for specific service sectors and subsectors. These schedules operate under a "positive list" approach, indicating the sectors for which a Member accords market access or national treatment to foreign service suppliers, subject to any listed limitations. Schedules also contain "horizontal" commitments and limitations that apply to all sectors listed.

The market access and national treatment obligations, as well as certain obligations related to domestic regulation apply only to those sectors where Members have undertaken sector-specific commitments.

There is also debate over how far to go in defining international obligations in established areas of GATT/WTO work, including areas like product standards and food safety. The determination of what finally gets on the agenda, and how far any decisions apply, is a political process.

Along with access to markets, issues related to competition in markets have played an increasing role in shaping the multilateral trading system. But should the WTO be involved in what happens in a country's domestic markets? According to one argument, the more an internal measure is able to affect the relative competitive positions of foreign and domestic suppliers and supplies of goods and services, the stronger the case for subjecting that measure to WTO discipline. This analysis is problematic in that it does

not indicate in a precise manner the possible impact of internal measures on the conditions of competition or on welfare. The direct link to trade is only one element in the equation, and not necessarily the key one for the governments concerned.

Likewise, measures that target a particular group of suppliers or consumers may be motivated by considerations other than trade policy and market access or competition, such as the environment. It is already an important factor in negotiations.

A final aspect that has to be taken into account is that an agreement may be beneficial for the trading system globally, but penalise certain countries. Countries that stand to lose out may accept an agreement for the sake of the greater good, but they are more likely to do so if they are compensated for the loss either in other trade agreements or in ways not related to trade.

The Doha Round

One aim of the Doha Development Agenda, to give it its official name, is to boost the integration of developing countries into world trade. Once again, agriculture is at the centre of discussions, both because of its importance to developing countries and because of questions left unresolved from previous negotiations. The discussions on agriculture concern three "pillars": market access measures, notably tariffs; trade-distorting forms of domestic support; and various forms of export subsidies. Economies with a strong comparative advantage in agriculture, such as Australia, Brazil, Thailand and the US, would be major beneficiaries, but consumers in OECD countries would also benefit. A hypothetical halving of OECD trade-distorting farm support measures would help both developed and developing countries alike through lower prices or increased exports.

> **"Opening up markets further in the Doha negotiations is one of the most important contributions we can make to stimulating the world economy and to allowing all nations to benefit from global economic progress."**
>
> "Doha trade negotiations: let's go the last mile",
> Angel Gurría, OECD Secretary-General

Along with agriculture, trade in goods (NAMA or Non-agricultural market access) and services are prominent elements of the DDA negotiations. The aim of the negotiation on goods is to reduce, or, as

appropriate, eliminate tariffs, including the reduction or elimination of tariff peaks, high tariffs, and tariff escalation, as well as non-tariff barriers, in particular on products of export interest to developing countries. Services were one of the areas where a resumption of negotiations was already mandated by the Uruguay Round – these had started already in 2000, but were then incorporated into the DDA. There is also an extensive work programme to improve aspects of the rules or the way they are implemented, the latter mainly at the request of developing countries.

Regional trade agreements

Countries also get involved in regional and bilateral trading arrangements negotiated with one or a number of other countries. There are a host of these arrangements and various titles are used to describe them, the most common being free trade agreements or regional trade agreements (in the following, RTA is used for bilateral and regional free trade agreements). These are very popular at present because they are easier to negotiate and because they discriminate between the countries entering into the agreement and other countries.

RTAs often use different sets of rules to stimulate trade between the participants than are agreed under the WTO. In theory this can be good or bad. It can be good if it encourages new, broader or deeper trade liberalisation than WTO negotiations have achieved. It can be bad if the result is that commitment to the multilateral trading system is eroded.

Conclusion

The time and effort it takes to obtain multilateral trade agreements and work with them explains why organisations such as the WTO are needed. An impartial trade institution enhances the efficiency of trading arrangements because it provides members with a number of practical services. The WTO is a uniquely member-driven organisation with a very small staff. It can facilitate negotiations, develop rules and disciplines, disseminate information, settle disputes, administer agreements, monitor policies and provide capacity-building and technical assistance. At the end of the day, an organisation such as the WTO is the vehicle whereby countries (currently 153 of them) together create the well-functioning multilateral trading system which they believe is essential to long-term growth and prosperity.

Find Out More

... FROM OECD

On the Internet

For an introduction to OECD work on trade, visit *www.oecd.org/trade*.

Publications

The Doha Development Round of trade negotiations: understanding the issues
While the multilateral trade negotiations launched in 2001, known as the Doha Development Agenda, have momentarily stalled, it is important to keep sight of the benefits of further opening up markets in agriculture, services and industrial and consumer goods. Who stands to gain from more open markets and less government support in agriculture? How can developing countries make the most of new trading opportunities? What would be the result of substantial market opening in services? OECD data and analysis provide answers to some of these questions.
www.oecd.org/doha

Also of interest

Harnessing the Political Economy in Support of an Open Multilateral Trading System, Report on a special seminar at the 150th session of the OECD Trade Committee (2008):
The benefits of open, multilateral rules-based trade are discussed. These benefits are questioned by different stakeholders, especially as regards trade-related risks (to employment, security, health and safety, environment, climate change, the distribution of benefits and so on). Related to this is the institutional challenge of responding in a timely way to the needs of a dynamic multilateral trading system in which over 150 countries are now participating.

The Investment Architecture of the WTO, a report to the Working Party of the OECD Trade Committee (2003):
To the extent that trade and foreign direct investment are related (around one-third of global trade is intra-firm trade), all WTO agreements are relevant for foreign investors, even when they don't address investment issues as such. This paper distinguishes three different dimensions of the WTO architecture, and concludes that the GATS is the only WTO agreement that displays the elements of "traditional" investment architecture, with modalities for progressive liberalisation and provisions for dispute settlement.

... AND OTHER SOURCES

Understanding the WTO, WTO, Geneva (2007):
In this publication, the World Trade Organization describes its origins, actions and philosophy. Simply put, the WTO deals with the rules of trade between nations at a global or near-global level. It's an organisation for liberalising trade. It's a forum for governments to negotiate trade agreements. It's a place for them to settle trade disputes. And it operates a system of trade rules.

The World Trade Organization: A Very Short Introduction, Narlikar, A., Oxford University Press, (2005):
Amrita Narlikar explains what the WTO is, what it does and how it goes about executing its tasks. She also describes the organisation's mandate, structure and functioning.

6

Jobs are created and lost all the time. When the jobs that are lost reappear again soon afterwards in another country, it can seem that international trade makes unemployment worse or that it makes jobs less secure and lowers wages. There is clear evidence that open economies achieve higher levels of wages and economic growth.
But trade is only one of many factors at play. A wide array of policies is needed, from education and health to infrastructure and innovation. Effective labour market policies are needed to ensure that the benefits are shared equitably.

Trade and Employment

By way of introduction…

Your computer crashes in Bristol or in Boston. You phone the software manufacturer's tech support line and find you're speaking with someone sitting in a call centre in Bangalore. Why, you may ask yourself, is that job there and not here? It's a question that runs through any discussion of the benefits of trade. No matter the opinion, it is likely to be coloured by concern over the impact of free trade on workers, wages, job conditions and labour markets. In a 2006 German Marshall Fund poll, a substantial majority of the respondents in seven OECD countries agreed that freer trade yields benefits to business and consumers. Yet around half of them also said they believe that "freer trade costs more jobs than it creates". Another poll, by Eurobarometer in 2005, found that more people had a negative than a positive view of globalisation (46% versus 37%) and that "the relocation of jobs to countries where wages are lower" was the most frequently cited consequence of globalisation.

It's interesting to compare these findings with worldwide polls of the kind mentioned in the next chapter on trade and the environment. A poll for the BBC early in 2008 revealed a widespread belief, especially in the developed countries, that economic globalisation, including trade and investment, is advancing too quickly. On the other hand, the poll found, many people in developing countries thought that globalisation was happening too slowly.

Most economists would agree with the more upbeat view, arguing that the operators in Bangalore are optimistic about globalisation because it gives them job opportunities that would not exist otherwise. Alternatively, the call centre might never have been created at all had not wages been lower in Bangalore, because it would not be economically viable in an OECD country with higher employment costs.

It is difficult to precisely measure the gains from trade, but the OECD Growth Study estimated that a 10 percentage point increase in trade openness translates over time into an increase of around 4% in per capita income in the OECD area. China and India demonstrate how policies that liberalise trade and investment can contribute to raising incomes in developing countries. At the same time, such policies also provide new opportunities for further gains from trade for OECD countries.

Still, every news report about a factory closing because it's cheaper to produce goods abroad serves to fuel fears that international trade and investment are costing jobs in OECD countries, or are putting downward pressure on wages. Globalisation has indeed brought about a shift in labour resources and activity. Brazil, Russia, India and China (the "BRICs") now represent 45% of world labour supply, compared with less than 20% for the 30 OECD countries. It should also be noted that the BRICs are increasingly open to trade and investment. Over the past 15 years, total trade as a proportion of GDP grew by over half in Russia, nearly doubled in China and more than doubled in Brazil and India.

Globalisation has been accompanied by rapid advances in information and communications technologies that also influence employment patterns. These innovations make it easier to fragment the production of goods and services and to outsource certain activities (like call centres) to countries with lower wages.

▶ This chapter will look at how these trends are affecting workers in OECD countries, and will try to answer the following questions. Does competition from emerging economies reduce the number of jobs and lower wages in OECD countries? Do imports increase employment insecurity? Are labour markets now more volatile? Is inequality growing as a result of global economic integration? What kinds of labour policies can ensure that the benefits of open markets are shared more equitably?

Moving jobs around

In these discussions it is common to view the job market at home and in foreign countries as being very static affairs: particular people work in particular jobs they have had for a long time and will have for a long time in the future. For a few people this is a reasonable picture. But it is a quite unrealistic one for most. Job markets are very dynamic. Every week new jobs are being created in selected industries as a result of growing competitiveness and a wide range of innovations. Jobs are lost in less competitive firms. Job change is also occurring because many people voluntarily leave their jobs every week to move to another job. They leave because they want new challenges, higher pay, less pay for more free time, the same pay but more training, personal reasons and so on.

A dynamic job market brings many benefits to individuals and to society as a whole because it enables the economy to adjust, adapt and move with changing consumer demand patterns and changing technological opportunities. It is not painless, though, because it does mean that some people will need to switch jobs involuntarily.

So, when a firm in Bangalore creates a new job in a call centre, the position is filled by a new worker or somebody who wants to change his or her job in India for one of the reasons given above. The person is better off changing jobs, so that is a plus for the worker, the firm, India as a whole and for the world.

Now if the new job in India was created because India developed a comparative advantage in this type of call centre, another country (your country?) will have developed a comparative disadvantage in these call centres. Your country may never have hosted this type of call centre and in that case, no job is being taken away from anyone. There is an extra job in the world.

Why do firms outsource?

A Finnish survey in 2006 examined why firms outsourced and offshored work.

Outsourcing is purchasing a task from outside suppliers while offshoring is purchasing a task from a foreign supplier. Offshoring is thus a subset of outsourcing.

Two-thirds of all companies with more than ten employees outsourced tasks to other companies, but only 15% of all manufacturing firms and about 6% of services firms offshored tasks.

The tasks that are most likely to be outsourced are services, but only 2.7% of all companies offshore services.

About 80% of firms cited acquiring additional capacity as a major motive for outsourcing production, closely followed by increasing flexibility and cost savings (75%).

For R&D, the most important motivation for outsourcing was acquiring technology (75%), closely followed by increasing flexibility and cost savings.

The motives for offshoring of production are similar, but here cost savings rank on top with more than 80% citing this as an important reason. Two-thirds cite increased flexibility as a motive for offshoring production and more than 80% for offshoring R&D.

Taking advantage of a foreign country's logistics location was the third most important motive for offshoring production. Access to markets or improved consideration of customer needs was cited as the second most important motive for offshoring R&D.

Source: Hill, S., M. Lesher and H. K. Nordås (2008), "Trade and labour market adjustments", *OECD Trade Policy Working Papers*, N° 64, OECD Publishing.

Alternatively, this type of call centre may be operating in your country and yet the number of jobs may be decreasing because India can provide the service more effectively. There may be layoffs in your country. There still may be an additional (net) job in the world though. Why? Because the Bangalore call centre industry may be cheap and efficient enough to stimulate the demand for such services worldwide. Companies that couldn't afford a helpline previously can afford one now, so the global call centre industry grows and employment grows with it.

If your country is in the OECD, your government may have a wide range of programmes to support you while you are out of a job and to help you find a new job. Furthermore, OECD governments often have regional development programmes to provide infrastructure and other facilities to stimulate job creation in areas where old ("sunset") industries are developing comparative disadvantages. But the region may not be creating many jobs for people to choose from. These labour market adjustment programmes require constant attention from policy makers, and this is where problems can arise. People who are losing their jobs can get very disgruntled and demand action.

The best way to deal with the problem is to fix the labour market adjustment programme or regional development programme. When trade policies such as export taxes or limits on imports are used to address the problem, the cost to society will be much higher and can take the form of less efficient firms, fewer jobs, more expensive consumer services, or outmoded technology.

Trends in employment and job security

In the 1992 US presidential election campaign, independent candidate Ross Perot famously warned of "the giant sucking sound" of US jobs draining across the border into Mexico if the North American Free Trade Agreement (NAFTA) came into force. It was a dramatic image but he was proved wrong. In developed countries, however, such worries remain widespread.

The main argument against globalisation of production is that firms relocate their facilities abroad. Workers in OECD countries are faced with competition from low-wage economies and employment rates stall or sink. However, this scenario is not backed up by

employment data. While trade openness has been increasing over the past ten years or so, the average unemployment rate in the OECD area fell from 7.8% in 1994 to 6.7% in 2005. There has been a slight tendency for employment rates to grow less in countries where trade openness increased the most rapidly. But countries with similar patterns of trade and foreign direct investment liberalisation have widely different employment and unemployment rates, suggesting that domestic policy plays a major role in how labour markets respond.

> **"Despite the potential of trade-deepening to render workers more vulnerable, recent experience shows that good domestic policies can assure that workers receive their fair share of the gains from globalisation."**
>
> *OECD Employment Outlook* 2007

It's possible for overall levels of employment to remain the same, or grow, but for jobs to become less stable. Data on the share of workers with less than a year of job tenure, as well as data on average job tenure, indicate no clear trend in job stability during the past decade. But data on job stability reflect people leaving jobs voluntarily and not only those losing their jobs. And of course they do not account for the crisis affecting the world economy in 2008 and 2009. The question of job stability will be discussed in more detail below.

Trends in earnings

Another often-heard concern is that firms are using the threat of moving abroad to keep wages down or pressure their workers into accepting poorer working conditions, such as longer hours. Once again, overall data do not confirm this fear. Average real wages continue to grow and openness to trade does not necessarily go hand in hand with lower wages. Indeed foreign competition can lead to gains in productivity or specialisation in higher-value sectors that offset the pressure from imports.

Workers do not always share, or share alike, in the gains from globalisation. The share of wages in national income has declined quite sharply since 1980 in the EU-15 and in Japan, and more gently in the United States. This implies that average wages have not risen as much as productivity. Growth in trade and FDI help

to boost productivity, but this does not explain why wage shares in national income declined. Whatever the causes, workers see that company earnings are growing more than their own, and see factories that were making money closed and the production moved abroad. This heightens the feeling that globalisation either is of little benefit, or is even a threat.

> **"Put plainly, the acceleration of international offshoring and the relocation of industrial and service sector activities, whatever spin economists put on it, have heightened the sense of job insecurity among many groups of workers, and not just blue collar ones. To them, talk of long-term benefits is not a comfort. To them, globalisation is a threat to decent living standards."**
>
> John Evans, General Secretary, Trade Union Advisory Committee to the OECD, *OECD Observer*

Moreover, trade affects different groups of workers in different ways. The economic model commonly used in this kind of analysis is the Heckscher-Ohlin-Samuelson trade model. It suggests that when OECD countries trade more with developing countries that have large supplies of low-skill workers, the wages of their own low-skill workers can fall. Figures for ten OECD countries confirm that earnings inequality has tended to increase since 1980. Surprisingly, the differences are more marked among higher earners, who are less exposed to import competition from developing countries, than they are among the lower paid. This suggests that trade is not the main reason for the growing inequality.

Wages are not the only source of income showing an increase in inequality. Final income includes money received from investments, welfare benefits, tax breaks and so on, and final income inequality has risen about as rapidly as earnings inequality since 1985, with most of the increase occurring before 1995. The income share of the wealthiest 0.1% of the population in five large OECD countries dropped during most of the 20th century, but it has begun to grow again in Canada, the United Kingdom and especially the United States. While the reasons for this turnaround are only beginning to be studied, one possible explanation is that globalisation is creating opportunities for a small elite of investors and workers. The fact that no such trend is evident for France and Japan also suggests that differences in national policies and institutions play an important role.

How do international trade and investment affect OECD labour markets?

The trends outlined above give a broad picture of how import competition may affect earnings and jobs. The following is a more detailed look at links between the openness of OECD countries to trade on the one hand and, on the other, the rising importance of trade with developing economies and the continuing development of international production networks.

In terms of the global labour market and wages, a few basic arguments should be kept in mind. First, the integration of developing countries with large pools of labour into the world trading system creates potentially large gains from trade, since these countries have different comparative advantages to OECD countries. The Internet and other technological advances add to this potential by making the international division of labour easier and more efficient. Jobs are not just created in developing countries. Export sectors in OECD countries benefit too. Figures for the US for 2006 for example, show that in manufacturing, export-related employment accounts for a fifth of industry employment. As you might expect, the figure is particularly high for computers and electronic products (almost 40%). But it's quite high even in sectors often cited as sources of job losses to foreign competition – almost 11% in textiles and apparel, for instance.

Second, the rapid expansion of exports from China and other emerging economies may be intensifying the downward pressure on the wages of low-skill workers by pushing down the relative prices of products manufactured using large amounts of low-skill labour.

Third, as production processes become more fragmented, an increasing share of the labour force, including many medium- and high-skill workers, may face direct competition from workers in developing countries where wages are much lower.

In addition to these basic interactions, globalisation could have more pervasive impacts on workers' economic security or bargaining power. As industries become more open to international trade, investment and competition, firms are increasingly exposed to international shocks such as the credit crisis and exchange-rate fluctuations. This could increase turnover in labour markets as firms seek to adjust to expanding or contracting demand. If globalisation

permanently increases volatility in markets, another issue is that employers may be less willing or less able to insulate workers' earnings from changing external conditions. Globalisation could also reinforce the propagation of shocks, by more closely linking different parts of the production chain. All this could weaken workers' bargaining power in general. One exception may be the so-called "superstars", workers and managers possessing much-sought talents. Globalisation increases their value and, as a result, their bargaining power.

In the manufacturing sector, data from 11 OECD countries and 20 industries over 1980-2002 show increasing influence of imports on labour demand. This pressure can take two contrasting forms. It can encourage firms to upgrade their production technologies and innovate to increase productivity, thus reducing labour demand through this so-called technology effect. An industry can also respond to import competition by increasing the scale of its production. The idea here is that by reducing prices you stimulate demand, and employment benefits from the need to produce more. In practice, the technology and the scale effects work in opposite directions, so the overall impact on employment is ultimately an empirical question.

In general, data from developed countries support the expectation that jobs are lost in industries that face competition from cheaper imports, and that import competition from emerging economies such as China and India can produce more striking consequences for employment than import competition from other developed countries.

Consider the example of the textiles industry, where offshoring is highly developed. In January 2005, the first month following the expiration of quotas on textile and apparel products, imports from China to the United States in major apparel products doubled compared to January 2004, according to figures from the US Office of Textiles and Apparel. According to the Cotton Council of America, textile and apparel job losses accelerated sharply with over 12 000 jobs lost in the combined sector that month.

It's worth mentioning in passing that the competition isn't just between developed and developing countries. China's apparel exports to the US dropped 11.7% in January 2008 compared to a year earlier, while Vietnam's rose by 58%, allowing Vietnam

to close in on Bangladesh as the number-two apparel supplier to the US market. China's exports, meanwhile, were switching more towards electronics.

> **"Although there are good reasons to conclude that globalisation is a potential source of diminished job security, data for OECD countries suggest that overall job stability has not changed much during the past decade."**
>
> *Globalisation, Jobs and Wages* (an OECD Policy Brief)

Within a given industrial sector, offshoring can actually compensate for employment losses. The data suggest that the gains in productivity and sales that result from offshoring are sufficient to produce as many new jobs in the same industry as were lost when firms moved parts of their production abroad. That may not be of much help to individual workers who see their jobs moved offshore. The jobs that are created tend to require higher skills than the ones that are lost. That means that low-skilled workers who cannot upgrade their skills are more likely to suffer than medium- or high-skilled colleagues, at least in manufacturing. This disparity is confirmed by studies comparing different skill groups, even though the data do not provide a sufficiently long time-series to analyse in detail what happened within any one group. High-skill workers, it should be noted, are not entirely immune from the effects of offshoring, especially in services. India is an example of an emerging economy that has been very successful in attracting medium- and high-skilled jobs in computing.

Remember as well, that we are talking about broad trends here and what it is reasonable to expect on the basis of both theory and experience. The actual impacts on a given industry or country can vary considerably from the average. And even at the broad level, import competition produces different consequences for manufacturing and services and among workers of different skill levels.

In sum, the evidence suggests that the establishment of international production networks has expanded the flexibility of firms and put pressure on labour demand. Increased competition due to rising trade may have tended to increase this effect, but the empirical evidence is not clear on this point. Further expansion of international production networks might contribute to significantly increasing employment and earnings volatility.

Now we come to the issue that generates so much debate, anxiety and distress. What does all this mean for individual workers?

One way to frame a response is offered by the European Community Household Panel (ECHP), a harmonised longitudinal survey of households and individuals conducted by Eurostat which allows individual workers to be tracked through time. Job security, and job stability more generally, can be analysed using what are called quarterly hazard rates, that is, the probability that a worker will leave his or her job within a given quarter. Hazard models are estimated for each of the three possible consequences of leaving a job (for whatever reason): either starting another job, unemployment and inactivity. The analysis includes a wide set of controls for individual characteristics such as age, gender, having a child, living as a couple, education level, occupation categories and whether the job is in the public sector. Most importantly for our purposes here, foreign competition is also measured.

Analyses can also be done by categories describing job security (low- and high-tenure workers) and skill level of the occupations. Results from the ECHP show the following:

- 79% of the workers who leave a job move directly to another one. Only 12% go into unemployment. The other 9% are "inactive", meaning they are not employed but not seeking work either (carers staying at home to look after someone for instance).
- An increase in foreign competition tends to reduce labour demand in the sector concerned.
- The impact of foreign competition on individual workers differs across the workforce. Workers with relatively low job tenure (less than five years in the job) are more likely to find themselves unemployed or moving to another job. Workers in medium-skill occupations are also more likely to have to change jobs, but the risk of unemployment is not so bad. This may mean that medium-skill workers have more options than other workers and have an easier time finding comparable alternative employment when their employer experiences financial difficulties or they are displaced.
- Foreign competition increases transitions out of the labour force, particularly among low-tenure and low-skill workers, suggesting that increased foreign competition induces some low-skill workers to retire early.

The ECHP analysis suggests that an intensification of foreign competition reduces job stability by increasing the probability that workers will leave their jobs. Since transitions to another job, unemployment or inactivity all increase, it appears that import competition stimulates both voluntary and involuntary mobility. The analysis also highlights the differing impact of foreign competition on different groups in the workforce, with low-tenure and low-skill workers experiencing the biggest increase in transitions out of employment and workers in medium-skill occupations showing the largest increase in job-to-job transitions.

What about wages? A number of factors determine wage levels and stability, including the level of skill required to do a job, the law, the number of school leavers or workers about to retire, technological change and so on. Foreign competition is often discussed in terms of unemployment, but it's worth looking at the impact on people who stay in a job, too. This issue was examined by analysing data for "job stayers" with stable jobs who were in their job for at least 12 months and had a permanent contract. Low- and high-tenure workers, and low-, medium- and high-skill workers, were studied. In general, foreign competition has only a small negative effect on wages but the effect is somewhat stronger, however, for low-tenure and low-skill workers. The analysis also found:

- Although the wages of job stayers with stable jobs are relatively insensitive to market conditions, substantial differences exist across different subgroups of the workforce. The wages of low-tenure workers (one to five years in a job) and workers with less than an upper-secondary education are more likely to suffer.
- The intensification of foreign competition tends to amplify the impact on wages of shocks hitting the industry. Once again, low-tenure and low-skill workers are more vulnerable, for instance, workers on fixed-term renewable contracts on auto assembly lines.
- There is some evidence that foreign competition reduces the ability or willingness of employers to insulate wages from changing market conditions. By contrast, no evidence is found that wage volatility rises for workers with at least a medium level of skill or more than five years of job tenure.

To help those most negatively affected, labour market policies should aim to lower the costs of adjusting to change by devising an environment in which job creation is robust, training is readily available to upgrade skills, and mechanisms are in place to direct workers towards those jobs in which they will be most productive. Well-designed and targeted direct assistance programmes may also be needed to help workers who lose their jobs. In practice this will mean finding the right balance between income support for those who lose their livelihood, assistance in finding a new job, training and re-employment incentives.

Conclusion

Despite the anxieties and insecurities around the question of employment and globalisation, the share of the population in employment grew, unemployment levels fell and real wages rose in OECD countries up to 2008. Overall, job instability did not change all that much. What changed is the composition of the work force, away from low-skill manufacturing towards more white-collar service type jobs.

Some categories of workers are more vulnerable to the forces of globalisation than others. Low-skill, low-wage workers in particular find their jobs threatened by cheaper production from countries that have a plentiful supply of cheap labour. But these workers and their governments are not powerless in the face of the various global forces affecting their employment. The right mix of labour market, adjustment and direct assistance policies can generate strong labour market performance, even in very open economies. The impacts of globalisation on labour markets are manageable. But at the same time, international economic integration makes it urgent for governments to enact pro-growth and pro-employment policies so that political support for open trade and investment will not be eroded by high levels, or perceptions of high levels, of insecurity or inequality.

Governments can also help by admitting that globalisation has employment costs and take account of the public's wider concerns about economic insecurity and inequality. They need to explain how their policies are addressing those concerns while also supporting international economic integration.

The economic crisis that emerged in late 2008 underscores the importance of this conclusion. Opening markets further, and accompanying such liberalisation efforts with appropriate policies, can boost economic activity around the globe. Resorting to protectionist measures, and closing markets further, will increase costs for the "protected" households and firms, restrict the availability of products and services to them, and contribute to decreased demand. As more countries seek to "protect" themselves by isolating their economies, both imports and exports decline further, and more jobs are lost in competitive export sectors than can be (temporarily) "saved" in non-competitive import competing sectors. In the end, no one wins, everyone loses.

Find Out More

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Publications

Offshoring and Employment: Trends and Impacts (2007):
What is the scale of offshoring and how many jobs are affected? Why is it done? Which jobs, countries and sectors are affected most? What are the benefits of offshoring and how can they be evaluated? What are the policy responses and what can be done to facilitate adjustments and restore confidence?

The OECD Employment Outlook 2007
Chapter 3 of the 2007 *Employment Outlook* "OECD Workers in the Global Economy: Increasingly Vulnerable?" shows that the expansion of trade is a potentially important source of vulnerability for workers. However, good domestic policies can assure that workers receive their fair share of the gains from globalisation, while also allowing firms the flexibility they need to seize new opportunities in the global economy.

Also of interest

The Internationalisation of Production, International Outsourcing and Employment in the OECD, an OECD Economics Department Working Paper (2007):
This paper reviews possible changes in the national labour markets of OECD countries as a result of international trade and the internationalisation of production. The overall impact on aggregate labour market outcomes has been comparatively small, although particular skill and occupational groups have been affected more strongly.
doi: 10.1787/167350640103

Globalisation, Jobs and Wages, an OECD Policy Brief (2007):
Is globalisation reducing the number of jobs? Are rising imports a source of insecurity? Is globalisation boosting inequality? Are globalised labour markets more volatile? Are popular concerns about globalisation justified? What should governments do?

Jobs and Globalisation: Promise or threat?, John Evans, *OECD Observer*, No. 249 (2005):
John Evans argues that the acceleration of international offshoring and the relocation of industrial and service sector activities have heightened the sense of job insecurity among many groups of workers. A "whole of government" policy response in the industrialised countries is needed to deal with the consequences of offshoring on jobs. Governments must guarantee core workers' rights on a global basis.

... AND OTHER SOURCES

European Community Household Panel
The ECHP interviews the same people year after year on a wide range of topics related to living conditions.
http://epp.eurostat.ec.europa.eu

Offshoring and the internationalization of employment: A challenge for a fair globalization? Proceedings of the France/ILO Symposium, Annecy, 2005
The International Labour Organization analyzes trends and patterns in the internationalisation of employment, and argues that while winners might outnumber losers over the long term, policies for losers are of utmost importance for a fair globalisation to progress.

US Department of Commerce: Export-Related Jobs
National- and industry-level estimates of jobs supported by exports of manufactured goods from the United States.
www.trade.gov/td/industry/otea/jobs/index.html

7

Producing goods, consuming goods and moving goods all have an environmental cost that is rarely included in the price we pay. This is also true for trading goods internationally. But it is by no means always the case that a locally sourced product is more environmentally friendly than one that has travelled a long distance. Trade can also help to reduce the negative consequences of economic growth by making environmentally-preferable products and technologies more easily available.

Trade and the Environment

By way of introduction…

Is international trade bad for the environment? There's certainly plenty of spectacular evidence that many natural resources are not valued as they should be around the world. Think of the tropical forests being cut down so we can have nice floors or furniture. Or beaches covered in oil after a boat sinks, or simply because a ship has cleaned its tanks at sea. Less visible, but just as worrying, is the pollution caused by transporting goods from one side of the world to the other. And then there is the damage caused to the environment by producing the goods in the first place.

Deforestation of the Amazon Basin is often given as an example of the impact of trade on the environment, probably because it seems so obvious. The trees are chopped down to supply international markets. So without international trade, the trees would still be growing. At first sight, trade policy does seem like the answer to problems like this. As well as the trade in wood, the trees are being destroyed to make way for products that will be exported, for instance beef. The "modern" period of deforestation started with the Transamazon Highway, opened in 1970. Small farmers, many brought by the government from other parts of Brazil, quickly settled the land on either side of the road. They were soon followed by cattle ranchers, who took advantage of tax incentives and subsidies to set up much bigger operations. They also started illegal logging both to clear more land and to finance their ranches.

By 1973, environmentalists in many countries were demanding that the Brazilian government do more about the illegal logging. The government argued that it did not have the resources to cope with the situation. The Minister of Finance at the time told reporters that if foreigners wanted more done to protect the Amazon, they should pay for it. He had a valid point. Each society has a different set of values (or priorities), and when the resources to finance them all are limited, why should one country be forced to accept another's view?

▶ Such conflicts of interest raise a number of questions. Are retaliatory policies socially just or fair to foreign countries? Are they the most efficient response? Would they be good for the planet as a whole? This chapter tackles these complex issues. Often though we have to respond by saying, "It depends." It depends on whether you're a producer or a consumer it depends on whether you're an

importer or an exporter in a developed country or a developing one. This ambiguity can be frustrating if you're looking for a clear, black and white answer. But it can also be rewarding to look at the many impacts and interests at stake in the debate.

How are trade and environment linked?

There is little doubt that many environmental problems are related to the increased scale of global economic activity. Trade is part of that, indeed a growing part. Nowadays, all the elements needed to produce a particular good or service – parts, design, assembly, management, and marketing – may have been sourced from different countries. As a result, the importance of trade in the global economy has risen, and trade has in fact expanded even faster than economic activity.

There is no simple answer as to whether trade is good or bad for the environment. In the absence of effective environmental policies, increased economic activity from increased international

World public opinion on globalisation, trade and the environment

In 2007, the Chicago Council on Global Affairs and WorldPublicOpinion.org, in co-operation with polling organisations around the world, surveyed public opinion on economic globalisation and international trade. The countries surveyed represent over half the world's population.

Respondents generally believe that globalisation and trade benefit national economies, companies, and consumers. But many people also think trade harms the environment and threatens jobs. In four countries, the idea that trade is bad for the environment is the most common view: France (66% bad, 29% good); the United States (49% bad, 45% good); Argentina (46% bad, 27% good), and Russia (44% bad, 25% good). Opinion is divided in Armenia (36% bad, 37% good), Mexico (41% bad, 41% good), and South Korea (49% bad, 47% good).

In none of the countries polled do large majorities believe trade helps the environment. Those most optimistic about trade's environmental impact are the Chinese (57%), Israelis (56%) and Palestinians (53%).

The public in both developing and developed nations shows strong support for environmental standards. Large majorities in all ten countries surveyed – ranging between 60% and 93% – say that trade agreements should include "minimum standards for protection of the environment". The Chinese favour environmental protections by 85% to 8% against; the Indians by 60% to 28%.

The full survey can be found at *www.worldpublicopinion.org* under the topic Globalization/Trade, April 25, 2007.

trade can contribute to environmental problems. On the other hand, trade can have positive effects by improving resource allocation, promoting economic growth and increasing overall welfare. Going back to the title of an earlier chapter in this book, growing bananas in Latin America and transporting them to Europe is more efficient, and will bring about a better outcome in terms of the environment, than trying to grow them in greenhouses in Scotland heated using fossil fuel.

Also, well-off societies are usually more aware of environmental problems and more interested in solving them, and have the means to do so. Trade allows environmentally friendly technologies to be more widely available, including in countries that might not have had the expertise to develop them by themselves, or that might not have a big enough market to do so.

Trade restrictions and the environment

If trade is bad for the environment should it be restricted? Let's return to our example of illegal logging. Is the best way to reduce it to restrict Brazilian exports until regulators do as you wish? Probably not. It may be better to adopt the "fireman's approach" to selecting efficient policy – that is, aim the extinguisher at the base of the fire. The problem starts with loggers cutting down trees illegally. So our attention needs to focus on how to stop the problem at its source. A trade restriction would affect exports, but it may not resolve the fundamental issue if one aim of logging is to clear land for other uses, such as farming. This could actually make deforestation worse, and illustrates the drawbacks in using trade policy to address non-trade issues.

Many environmental problems are caused by undervaluing a desirable resource, such as clean water or air, rainforests, or wildlife. (We'll come back to this point in more detail below.) The key to solving environmental problems is then to somehow push up the value of these desirable items. There are a variety of ways of doing this. The Kyoto Protocol addressing climate change (and whatever is to follow it) encourages governments to tax greenhouse gas emissions in various ways, thereby making pollution more costly. It is hard to imagine any trade-restricting policy that would be as effective as governments around the world acting together in this way.

> **"The importance of eliminating barriers to trade in renewable forms of energy and the technologies used to exploit them has been stressed in various quarters as part of a broader strategy to reduce dependence on more polluting and less secure energy sources."**
>
> *Environmental and Energy Products: The Benefits of Liberalising Trade*

Most economists would agree that international trade brings benefits to trading nations by allowing them to exploit their comparative advantage. If this is the only aspect considered, the argument is straightforward. However, impacts on the environment, particularly negative ones, complicate the analysis.

For example, air pollution from a factory or power plant damages health and can also damage property, through acidity for instance. But the costs of medical treatment, building maintenance or lower property values are not included in the price of the electricity or goods produced. Economists call this a negative externality.

Including damage to the environment or human health in the price is called internalising the externalities. Governments try to do this through so-called "green" or ecotaxes on producers and consumers, for example on cars or electrical appliances. Imagine I want to buy a car made in another country. If the negative environmental effects associated with the production of that car have to be added to the cost, the manufacturers will do everything they can to minimise them and there is less reason for me to be worried about the environmental effects. Again, this is an example of dealing with the problem at source. With effective environmental policies in place there is no need to resort to restrictive trade measures. This is almost always the case, the exception being externalities that spill over borders or that are global in nature. We will look at this kind of problem in the next section.

First, let's return to the environmental implications of trade in well-known products. For the sake of illustration, we'll take a familiar product many of us own, an MP3 player. These gadgets were very expensive only a few years ago and not many people had one. Now you can get one for ten dollars and most people in OECD countries can afford one easily. In this case, you could plot a simple diagram (a supply curve) showing how sales rise as price falls and how producers and consumers benefit – producers because they sell more even if they're cheaper, and consumers because they pay less.

Now let's consider environmental externalities. Making MP3 players consumes natural resources and energy and causes pollution, among other things from the highly toxic chemicals needed to manufacture the microchips and from the fuel burned getting the final product (and consumers) to the shops. If the machines are made abroad, domestic consumers gain by not having to treat the waste or breathe the polluted air.

But consumption has externalities, too. The transport just mentioned is one, but managing the amount of waste generated is another. According to the UN, 20 to 50 million tons of waste from electrical and electronic equipment are gener ated globally each year from the products we throw away. In this case, the solution lies within the responsibility of each country involved in the different stages of production and consumption. As long as these countries have effective policies – which may be regulations, taxes, or take-back recycling programmes to deal with used equipment, the environmental problem can be dealt with without preventing producers and consumers of MP3s and similar products from gaining from trade through lower prices or greater choice.

To return to our example of exotic wood, we can say that consumers in importing countries benefit by being able to buy teak or mahogany they couldn't produce locally. Exporters benefit from a bigger market than their domestic one. But what of the damage to ecosystems and the people who were living in the forest? There is also a global dimension to this issue. One of the services provided by forests to the global environment is to capture atmospheric carbon.

At the 2007 UN climate change conference in Bali, it was proposed to pay countries with large forests not to cut down trees, even if in some cases this meant paying them simply to respect the law. Some countries opposed this scheme, arguing that carbon markets like these allow developed countries to keep the same level of emissions because they can afford to buy pollution permits. Forest nations that have prevented deforestation raise the point that they also should be rewarded for respecting the law, too.

These are complex issues. But we have already seen that effective policies implemented at home to solve domestic problems will provide part of the solution. Voluntary codes of conduct such as those put in place by the Marine Stewardship Council and the Forest Stewardship Council (see the box on eco-labelling) also

have much to offer as citizens and consumers throughout the world become more aware and more demanding. There is also, as we will see later, a role for international co-operation.

The environment and competitiveness

It is sometimes argued that a country that reinforces its environmental protection would become less competitive internationally. There is, however, no convincing empirical evidence that environmental standards have had a systematic

Eco-labelling

Food, fish and forest products are among the most heavily traded goods in the world, and developing country suppliers account for an important share of exports of these products.

Developing countries could exploit their knowledge and natural advantages to make the most of the opportunities offered by eco-labelling programmes such as those managed by the Marine Stewardship Council, the Forest Stewardship Council and the International Federation of Organic Agriculture Movements.

At the same time, eco-labelling programmes involve extra costs not borne by producers of competing, non-eco-labelled products – higher-cost production methods, certification fees, and additional documentation requirements.

Procedural issues seem to be more important obstacles to developing-country access to eco-labelling programmes than the standards themselves. Nevertheless, developing country producers have successfully participated in eco-labelling programmes, and shade-grown coffee is specifically aimed at producers in developing countries.

Many major eco-labelling schemes are making efforts to improve the participation of developing country producers. When combined with international work to harmonise standards and establish equivalence arrangements under certain labelling programmes, these efforts should eventually improve developing country access to the markets targeted by these programmes.

Studies of the environmental and economic effects of eco-labelling programmes show some impact on the behaviour of both consumers and producers.

In general, eco-labels seem to raise consumers' awareness of environmental issues and change their purchasing behaviour while leading manufacturers to increasingly produce environmentally preferable goods. Environmental attributes are then often emphasised in advertising and marketing campaigns.

While the studies find that most eco-labels have a positive effect on the environment, it is difficult to measure this effect precisely, or dissociate it from the effects of other measures.

Source: Potier, M. and C.T. Less (2008), "Trade and environment at the OECD: Key issues since 1991", *OECD Trade and Environment Working Papers*, 2008/1, OECD Publishing.

Food miles: buy local, think global?

On 27 May 1882, *The Times* newspaper proclaimed, "Today we have to record such a triumph over physical difficulties, as would have been incredible, even unimaginable, a very few years ago." They weren't talking about Queen Victoria avoiding a recent assassination attempt by a poet she'd annoyed or Jesse James having less luck with a friend he'd trusted. They were talking about sheep meat. The triumph was the arrival at London docks of the *Dunedin*, carrying a cargo of frozen mutton and lamb from New Zealand. Only one of the 5000 carcasses transported was declared unfit for human consumption. The rest were sold. The *Dunedin* proved that shipping frozen food from one side of the planet to the other could be a commercial success.

After the First World War, Clarence Birdseye, a fur trapper, taxidermist and gifted inventor who had lived in Canada's frozen north, perfected deep freezing techniques after seeing how the Inuits' quick-freeze methods provided a far superior product to that found in markets in New York.

World trade in food products would not have expanded as much as it has if canning and salting were still the main methods for preservation. Nowadays, practically any food can be frozen and sold anywhere else. But progress comes at a cost to the environment. Transporting all this produce around the globe burns up fuel, contributing to CO_2 emissions. Tim Lang, Professor of Food Policy at City University, London, invented the term "food miles" to "highlight the hidden ecological, social and economic consequences of food production to consumers in a simple way, one which had objective reality but also connotations". And in 2005, a report published by the UK Department of the Environment, Food and Rural Affairs (DEFRA) calculated that the direct costs for the country of food transport are over £9 billion a year, mostly due to traffic congestion.

The food miles argument is used in campaigns to convince consumers and shops to "buy local". Of course retailers do this anyway when it is to their advantage, but for many environmentally-conscious shoppers, the argument is convincing. However, as the DEFRA report points out, distance travelled is only one of many factors in the environmental impact of food production and distribution.

The *Dunedin*'s voyage was so remarkable because New Zealand and England are as far apart as two trading partners can be. It's interesting then to see how this trade shapes up over a century later in environmental terms. A 2006 report compared the environmental impact of importing agricultural products to Britain from New Zealand versus using local products. The results show that for dairy and sheep meat production, New Zealand is far more energy efficient than the UK, even when transport costs are included – twice as efficient in the case of dairy, and four times as efficient for sheep meat. Importing from New Zealand is also a better environmental choice for the two other products studied, apples and onions.

Another point worth remembering is that in terms of sustainable development, the environmental impact is only part of the story. The social and economic benefits have to be considered too, and these can be significant for a developing country.

www.lincoln.ac.nz/story_images/2328_RR285_s13389.pdf

negative impact on competitiveness. Fears that countries would compete by maintaining high levels of production and employment at the expense of the environment have not been realised. Indeed, stringent environmental requirements may help rather than hinder the competitiveness of certain sectors which are prompted to innovate to meet such requirements.

The environment in international trade agreements

WTO (or GATT) provisions relating to the environment recognise a country's sovereign right to preserve its own resources using environmental and development policies appropriate to its circumstances. International trade law however, does not allow countries to use trade restrictions to put pressure on other countries to change their policies and practices if the effects are limited to the jurisdiction of those countries. In practice, the jurisdictional boundary of an environmental effect is not always clear.

Article XX of the GATT allows exceptions to the general rule where measures are necessary to protect human, animal or plant life or health, or when the issue relates to conservation of exhaustible natural resources. In all cases though, WTO members must avoid unjustifiable or arbitrary discrimination among countries and must not use these exceptions as disguised restrictions on trade.

The first big international dispute involving trade and the environment occurred in 1991, under the GATT. The US government banned imports of tuna from Mexico on the grounds that Mexican fishing methods killed large numbers of dolphins. The legal basis for the US case was its Marine Mammal Protection Act of 1972, which specifically addressed tuna fishing in areas of the Pacific. The Mexican challenge argued that the US law violated the free trade terms of the GATT, and that the ban could not be justified on the grounds foreseen by GATT for exemptions – danger to the health and safety of the citizens of the country enforcing the ban. Moreover, Mexico said, the dolphins were not in US territorial waters. The GATT supported Mexico, but the Mexican government did not press for the ban to be lifted.

In 1999, the GATT's successor, the WTO, issued a somewhat different ruling in a case where the killing of sea turtles was cited by the US as a reason to ban shrimp imports from some countries.

A group including India, Malaysia, Pakistan and Thailand disputed the WTO legality of the ban. Although the ruling went against the US, this time it was on procedural grounds. On environmental grounds the ruling was something of a landmark in that (a) the interpretation of natural resources was broadened to include living resources; and (b) the idea was admitted that an import could be banned because of the process by which it was harvested (in WTO speak "processes and production methods" or PPMs), and not only because of some detectable characteristic in the product itself.

Some countries may want to move more quickly, or apply stricter rules on environmental issues than is allowed for under the WTO by including environmental provisions in regional and bilateral agreements. Some countries, while recognising the importance of environmental protection do not think that trade agreements are

Pollution havens

In many regional trade agreements (RTAs), the signatories pledge not to lower environmental standards in an effort to increase exports or to attract investment. These provisions are clearly aimed at preventing strategic distortions of trade and investment flows, by creating so-called "pollution havens". One example of an RTA that includes this kind of provision is the Trans-Pacific Strategic Economic Partnership, whose Parties agree that "it is inappropriate to relax, or fail to enforce or administer, their environmental laws and regulations to encourage trade and investment".

There is a vast literature on the "pollution haven" hypothesis, but little actual evidence to support it. A number of studies in the 1990s found that the fear that states would strategically lower or under-enforce their environmental standards was misplaced. The studies typically found that environmental compliance costs are low, and are only one of many considerations for firms considering relocating.

More recent studies, however, have criticised the early work on fundamental methodological grounds, and have consistently found a statistically significant "pollution haven" effect, albeit relatively small, and only present in a small number of industries.

The sectors most likely to relocate tend to face high environmental costs, are relatively "footloose" – not tied to specific locations by the need for particular mineral resource inputs, for example – and are traded between industrialised and developing countries. Even where the effect is found to exist, there may not necessarily be strategic intent to foster it. In fact, lack of enforcement of environmental standards in many states (as distinct from a lowering of standards) appears to be related more to lack of capacity than to any strategic intent.

a good way to deal with these issues. For the others, the reasons for including environmental provisions in these agreements vary. It might be to promote sustainable development in another country, or to prevent low environmental standards providing an advantage to a developing country (see the box on "pollution havens"). The scope and depth of environmental provisions also vary significantly.

Multilateral environmental agreements

What can countries do if an environmental problem crosses borders, or, as in the case of climate change, is global in nature? Is there a role for trade policy? There may well be, but if the use of such measures for purely protectionist purposes is to be avoided, international co-operation and co-ordination as to what actions are acceptable would be far better than a proliferation of unilateral measures that may not achieve the desired environmental goal. Recent decades have seen the development of many multilateral environmental agreements that address regional or global environmental problems through co-operation. Not very many of them include specific trade provisions although some do. The main ones are described below.

Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES). This agreement, which dates from 1973, regulates trade in certain species and their parts. Measures range from total bans to licensing. One of the best known products subject to CITES is ivory from elephant tusks – trade is banned except in specific highly controlled circumstances in an attempt to prevent extinction.

Montreal Protocol on Substances that Deplete the Stratospheric Ozone Layer. Agreed in 1987 under the umbrella of the Vienna Convention for the Protection of the Ozone layer, this agreement controls production and trade of several industrial chemicals known to be ozone-depleting.

The Cartagena Protocol on Biosafety (itself a protocol of the Convention on Biological Diversity) covers trade in most forms of living genetically modified organisms (LMOs). As part of a specific risk-management system, it creates an advanced informed agreement system for LMOs destined to be introduced to the environment (such as micro-organsims and seeds), and a less complex system of monitoring for those destined for use as food, animal feed, or processing.

The Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal essentially requires written consent to the import of hazardous waste and generally prevents its import or export to countries that are not parties to the agreement. Members also agree not to export a hazardous waste if they have reason to believe that it will not be treated in an environmentally sound manner at the destination.

Source: IISD and UNEP (2005), *Environment and Trade: A Handbook*.

Among OECD members, Canada, the European Union, New Zealand, and the United States have included the most comprehensive environmental provisions in recent RTAs. Among non-OECD countries, Chile in particular has made significant efforts to include environmental provisions in its trade agreements. A number of developing countries have accepted strong environmental commitments in trade agreements with developed countries. However, at present, relatively few trade agreements between developing countries include a reference to the environment. Overall, the number of RTAs including significant environmental provisions remains small, but it is growing.

Conclusion

Producing goods for international markets and getting them to those markets obviously affects the environment. And just as obviously, some of the impacts are negative. So the question is not whether trade damages the environment. It does, as do many other human activities. The question is whether a more liberal trade regime would make this damage worse or improve the situation.

The relationships between the environment and trade, and the environment and economic globalisation more generally, are complex. Although trade liberalisation combined with effective environmental management can promote the more efficient use of natural resources and the diffusion of cleaner technologies, other features of globalisation counteract these trends, such as the growing scale of production worldwide. So any environmental benefits are not automatic. Robust environmental policies and institutional frameworks are needed at the local, national, regional and global levels. Generally speaking, problems that are contained behind national borders should be solved using national policies. Remember the fire fighter tacking the fire at its source. Global problems may call for global solutions although not usually trade policy solutions.

And as we argue elsewhere, complex problems cannot be solved equitably by single policies. In a globalising economy, environmental policies are effective when they are part of an approach that includes trade and investment liberalisation, support for innovation and its dissemination, as well as environmental co-operation with emerging and developing economies.

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On the Internet

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Publications

Sustainable Development: Linking Economy, Society, Environment (2008): A succinct examination of the concept of sustainable development: what it means, how it is impacted by globalisation, production and consumption; how it can be measured; and what can be done to promote it.

Environment and Regional Trade Agreements (2007): Approaches to environmental issues in regional trade agreements are studied and country experiences in their negotiation and practical application are described.

Environmental and Energy Products: The Benefits of Liberalising Trade (2006): This collection helps trade negotiators navigate the international discussion over liberalising trade in environmental goods and services by exploring environmentally preferable products, renewable-energy products and energy-efficient products.

Environmental Goods and Services: The Benefits of Further Global Trade Liberalisation (2001): Ways to address trade impediments to the transfer and adoption of environmental goods and services, and promote environmental protection and economic growth, are considered. How developing countries can also benefit is examined.

... AND OTHER SOURCES

Food Miles – Comparative Energy/ Emissions Performance of New Zealand's Agriculture Industry, Saunders, C. *et al.*, Lincoln University New Zealand (2006): This report argues that the food miles argument is too simplistic. Total energy used rather than distance travelled should be considered.
www.lincoln.ac.nz/story9430.html

Trade and environment in the WTO
The WTO argues that it provides an important means of advancing environmental goals. Sustainable development and protection and preservation of the environment are enshrined in the Marrakesh Agreement which established the WTO, and complement its objective to reduce trade barriers and eliminate discriminatory treatment in international trade relations.
www.wto.org

WWF Macroeconomics for Sustainable Development Program Office (MPO)
The MPO develops analysis and undertakes interventions to address the environmental implications of a changing global economy. The trade programme seeks to promote a better understanding of the impacts of trade liberalisation on critical ecosystems and the rural poor who depend upon them.
www.panda.org/mpo

Greenpeace: Encourage sustainable trade
Greenpeace demands that the WTO adopt a policy of trade that truly works for all and that preserves and restores the environment. It argues that sustainable development means integrating environmental, social and economic priorities and that trade must not take priority.
www.greenpeace.org

World Public Favors Globalization and Trade but Wants to Protect Environment and Jobs
Public attitudes to trade and globalisation were surveyed in countries representing over half the world's population.
www.worldpublicopinion.org

8

Sustained growth and development have rarely if ever been achieved in countries that have refused to open up to trade and investment. Trade alone though is not enough. Many other factors contribute to development, including education, infrastructure, governance, and institutions. It is only when progress is made on all these fronts that developing countries will be able to harvest the full benefits that come from integration into the global trade and investment system.

Trade and Development

By way of introduction…

> **"Fifty years ago, Korea was poorer than the Sudan. Its main export was wigs made from human hair. Today it is an industrial leader with a GDP per capita more than nine times greater than that of Sudan."**
>
> Duncan Green, *From Poverty to Power*, Oxfam International

Korea's success is spectacular, but it is not the only example of how economic development can transform a country in only a few decades. In fact it's not even the only example in Asia. It happened in Japan. China and India are the most talked-about examples of countries where it's happening now. The West has its examples as well. Just 40 years ago, a third of the Irish population was living below the poverty line. In Africa, Botswana's annual growth rate was almost 9% over 1970-2000 (a world record) and GDP per capita has grown a hundredfold since independence in 1966.

According to the World Bank's Growth Commission, over the last 60 years there have been 13 "star" performers in the world – countries that have grown in real terms by more than 7% per year for at least 25 years. In addition to Korea, Japan and China, the group includes Indonesia, Malaysia, Malta, Oman, Singapore and Thailand. The second little-known fact unearthed by the Growth Commission is that over the past three decades, 3 billion more people (equivalent to half the world's population) are now living in high-growth economies or in high-income economies – from 1 billion initially to 4 billion today.

In the view of the Commission, trade was one of the five important ingredients in these spectacular developments. Importantly, trade was not the only ingredient. Stability, government credibility, savings and reliance on markets were also important. There is no one recipe for countries to follow in order to grow fast, because each country has its own unique set of conditions and these conditions change as the country develops.

▶ The developed countries dominate world trade and were behind the rules that govern it. But this is changing with the emergence of major economic and trading powers from what was once called "the Third World". In this chapter we'll look at the potential for trade to drive growth in developing countries.

We'll examine which regions would benefit most from increased integration with one another and at what we can learn from the more successful countries. Services are increasingly important in the economies of developed and developing nations alike, so we'll look at these separately from trade in goods. Since the chapter is about development, the last section will examine the importance of trade, and its limits, in the fight against poverty.

North-South or South-South trade: what matters for growth and development?

The Doha Development Agenda negotiations (DDA or "Doha Round") have been very much aligned along the North-South divide. The North, with its generally lower trade barriers, has been urging ambitious commitments to liberalisation by the South. At the same time, the South has continued to seek derogations from WTO rules and commitments on the grounds of its development needs. The reasoning is that further liberalisation would disproportionately burden these countries with additional short-term costs. At the same time, developing countries are seeking large concessions from developed countries across the board, especially in agriculture.

So who is right? What kind of liberalisation, and by whom, would be most beneficial to developing countries? Imagine that all tariffs were removed worldwide. An OECD study showed that almost 60% of the welfare gains that would result would accrue to South countries. Of these gains, about half would come from liberalisation by the North, while the rest would be thanks to South-South liberalisation. The same study also showed that South-South trade is relatively more sensitive to policy barriers (such as tariffs) than other kinds of trade flows.

All of these factors support the argument that liberalisation by the developing countries themselves is at least as important for their future growth and prosperity as liberalisation by the developed world. We can understand this better when we realise that trade barriers affecting South-South trade are still much higher than those affecting North-North trade: 11.1% on average, compared to 4.3%, respectively. It is also a fact that distance is a much greater handicap to South countries wishing to trade more.

If other barriers to trade are removed or reduced, then South-South trade is likely to increase faster than other flows, simply because the countries are nearer each other.

South-South goods trade

Developments in recent years show the potential for increased South-South goods trade. South-South trade in goods doubled from 3% of world trade in 1985 to 6% in 2005. South-South trade grew on average at an impressive 12.5% a year over 1985-2002, compared with 7% and 9.75% for North-North and North-South trade, respectively. Over the same period, South-South trade became relatively more important as a share of total trade involving the South, rising from less than 10% to around 14%, which means of course that North-South trade still accounts for the bulk of total goods trade involving the South. South-South trade mostly concerns upper-middle- and lower-middle-income countries, while the low-income countries are less involved.

On average, a 10% cut in South-South tariffs is associated with a 1.6% increase in exports. This translates into an additional $5.7 billion in export earnings a year (based on 2002 data). An equivalent reduction in North-North or North-South tariff barriers does not result in an equally significant impact on trade flows. This suggests that there is scope for trade policy to boost trade between (and potentially the welfare of) low- and lower-middle-income countries.

South-South services trade

Services are the main employers in the developed economies. While industry or agriculture is the basis of many developing countries' integration into the world economy, services will play an ever bigger role in the years to come. For that reason, the following sections look in some detail at the role of services in the economies of developing countries.

As a group, low- and middle-income countries' share in cross-border supply of world services trade rose from 16% in 1990 to 23.5% in 2002. (This corresponds to "mode 1" described in the box on GATS in Chapter 5.) Their dynamism is reflected in an

increase in their participation in all segments of services exports. Developing country exports now account for 23% of world exports of transport services, 30% of world exports of travel services and 20% of world exports of other commercial services.

Mode 2 requires the movement of consumers to the supplier's country of residence. Tourism is the most important example of this kind of trade.

According to World Tourism Organization data for 208 countries in 2002 in which "South" includes all non-OECD countries, South-South exchanges represent 20% of total visitors, South-North arrivals 9%, North-South arrivals 14% and North-North arrivals 57% of total visitor flows. Around 70% of visitors in non-OECD or developing countries come from other developing countries. Figures for intra-regional flows between 1999 and 2002 suggest that South-South exchanges were the most dynamic, with growth rates of 6.2%.

In mode 3, "commercial presence", a service supplier establishes a foreign-based corporation, joint venture, partnership or other establishment in the consumer's country of residence to supply services to persons in the host country.

Information on non-OECD countries is scarce, but estimates based on sources such as the World Bank, the IMF, the OECD and UNCTAD suggest that by 2010, more than one-third of foreign direct investment in developing countries will originate in other developing countries, with India, China, Brazil and South Africa among the main sources.

Developed countries remain the main source of outward FDI, but the developing countries' share grew from 1% in 1990 to 10% of global outward FDI services stock in 2002. On the inward side, developing countries' FDI has increased (to 25% of inward FDI stock in services), although developed countries remain the main recipients.

However, these figures should be interpreted with great care given the quality of data and for other reasons, such as the impossibility of clearly distinguishing between North-South flows routed through locations in the South (*e.g.* a Mexican affiliate of a US company investing in Brazil) and genuine South-South flows. Another problem is what is known as "round-tripping"

of FDI to China: capital sent abroad to escape foreign exchange controls before being sent back to China. The Asian Development Bank suggests that this could account for a third to a half of FDI in China.

The last type of trade in services, movement of natural persons (mode 4) is when an individual temporarily travels abroad to deliver a service in the consumer's country of residence.

There are no reliable global figures on the size of mode 4 trade. Rough estimates suggest that mode 4 is the smallest type of services supply. Nevertheless, it has been a relatively important issue in the Doha Round because it is important to multinational companies based in developing and developed countries, and because developing country governments see mode 4 movement as key to exploiting their comparative advantage in the services sector.

Given the dynamic growth in the share of low- and middle-income countries in world services trade and their increased participation in all segments of services exports, it can be expected that technological progress, together with business practices, will allow developing countries to develop modern services and acquire a competitive advantage in more advanced services sectors. In 2003, 12 of the more advanced developing countries were among the world's leading exporters of services. So it seems reasonable to expect intra-developing country services exports to be concentrated among these economies and, in a next stage, between them and poorer developing countries. It is particularly in the interest of the more advanced countries to support greater services trade liberalisation.

Trade and poverty

So far we've looked at trade as such. But how can trade help people to improve their standard of living? And how can the developed countries help developing countries take advantage of opportunities from more trade openness? In theory, access to larger and richer foreign markets helps domestic firms generate the level of demand required to exploit economies of scale which, in turn, creates the opportunities for sustained economic growth. This is especially true for low-income countries with small domestic

markets. More importantly, trade allows developing country firms to access the technologies essential for improving their productivity and competitiveness. The resulting greater efficiency of domestic firms benefits consumers, including the poor, through lower prices. Of course, exports must grow in line with the demand for imports. Otherwise the country will be threatened by the build-up of an unsustainable external debt.

The degree to which trade benefits economic growth and poverty reduction varies considerably across countries. The least developed countries have been integrating well into the global economy compared to other groups of developing countries, but without the positive impacts on the volume and diversity of their exports that other developing countries have experienced. Furthermore, low- and middle-income countries have been dismantling trade barriers over the past two decades, but this has not unleashed sustained export growth in all of them. The decline in the share of poor countries' exports is worrying, considering that it took place against a dramatic rise in developing countries' exports in world trade overall. The poor performance of low-income countries in trade, as well as persistent mass poverty, appears to be due to factors other than insufficient trade liberalisation.

It is worth looking again at the conclusions of the World Bank Growth Commission cited at the beginning of this chapter. Trade openness is one of the five factors that seem to be present in all the fastest growing developing countries. The problem is that if any of the other four factors other than trade openness is not present, then development is likely to be slow. This is what makes development so difficult and why, as noted above, only 13 countries are "stars" that have managed to achieve 7% growth over 25 years. The five key ingredients all have to be there – and they have to be managed in ways that suit the historical, cultural, social and institutional context of any particular country. The great hope, of course, is that if 13 countries can achieve star performance in both growth and poverty alleviation over a 60-year period, the others can too.

The OECD countries are often blamed for the economic difficulties of the developing countries. In particular, they are accused of keeping developing countries out of their markets through trade barriers or through subsidies given to their own industries that mean that developing countries cannot compete. These accusations are levelled in particular at agriculture and

textiles. It is also argued that procedural difficulties, rules of origin, or non-tariff-measures still (or even increasingly) keep out developing country exports.

Are these accusations justified? Once again there is no absolutely clearcut answer concerning blame. Textiles were certainly a problem in the past, but quotas no longer control access to developed country markets, although tariffs remain much higher than on many other types of merchandise. There has also been progress in lowering trade barriers in food and agricultural trade. Significant obstacles remain in this sector however, and farmers in many OECD countries still receive large direct support from their governments.

On the other hand, the EU's "Everything But Arms" initiative grants duty-free access to its enormous market to a group of the poorest developing countries, with the very few exceptions due to run out in September 2009. Similarly, the US offers preferential access under its Generalized System of Preferences (GSP) and other preferential schemes to more than 130 developing and transition economies.

Whatever the cause of the persistent difficulties that some developing countries have in exporting to developed country markets, the share of the poorest countries in world trade remains small. It is clear that lower barriers in the destination countries are not the only solution. We will look at other factors that need to change in the following paragraphs. The poorest countries need help to upgrade their infrastructure, their facilities and expertise to ensure that the right quality products reach the target markets on time. Considerable effort is being invested to improve these aspects of trade performance, notably through the Aid for Trade Initiative set in motion by the 2005 Hong Kong WTO Ministerial.

> **"Developing countries control many of the policy levers that can work to ensure positive outcomes for themselves; their own actions are critical in establishing the essential conditions for growth. Developed countries have an important role to play as well by improving market access, avoiding damaging actions (*e.g.* through barriers to trade or harmful market interventions), and provision of effective, targeted assistance."**
>
> *Trading Up: Economic Perspectives on Development Issues in the Multilateral Trading System*

Fairtrade

Fairtrade has evolved from a marginal movement selling coffee in charity shops to a brand with high customer awareness that proposes a wide range of products in supermarkets. Sales of Fairtrade-certified products grew by 40% a year on average over 2001-2007, amounting to around 2.3 billion euros in 2007. There is still some confusion about terminology though. Fairtrade is the certification and labelling system of the Fairtrade Labelling Organizations International (FLO) to identify goods produced under agreed labour and environmental standards. The FLO itself is an umbrella organisation regrouping labelling initiatives and producer networks.

Fairtrade refers to the Fairtrade movement as a whole and can be used to describe both labelled and unlabelled goods and the work of Alternative Trade Organisations (ATOs).

According to the FLO, there were 632 Fairtrade-certified producer organisations in 58 producing countries, representing 1.5 million farmers and workers in 2007. With their families and dependents, FLO estimates that 7.5 million people directly benefit from Fairtrade.

As well as a minimum price, participants in the scheme receive a Fairtrade premium – money paid on top of the Fairtrade price for investment in social, environmental or economic development projects.

The FLO argues that by requiring companies to pay sustainable prices (which must never fall lower than the market price), Fairtrade addresses the injustices of conventional trade.

The movement has its critics. The Adam Smith Institute, for example, argues that Fairtrade helps only a very small number of landowners, not the agricultural labourers who suffer the severest poverty, and that the great majority of farmers, unable to qualify for Fairtrade certification, are left even worse off. The Institute also maintains that Fairtrade operates to keep the poor in their place, sustaining uncompetitive farmers on their land and holding back diversification, mechanisation and advancement up the value chain.

A reply published by the Centre for Business Relationships, Accountability, Sustainability and Society (BRASS) concluded first that the case against Fairtrade is not strong enough to recommend a rejection of such a well-established mechanism that is empirically proven to help reduce poverty in a significant number of cases. And second, it said, the management of market incentives systems cannot be rejected wholesale, but instead individual strategies must be evaluated on the specifics of individual cases and contexts.

Both sides of the debate agree on the need for research and evaluation of Fairtrade to ensure that resources are not wasted in well-intended yet inefficient or utility-reducing strategies.

Source: Fairtrade Labelling Organizations International, *www.fairtrade.net*.

Sidwell, A. (2008), *Unfair Trade*, Adam Smith Institute, London, *www.adamsmith.org/publications/economy/unfair-trade-20080225961*.

Smith, A. (2008), "A Response to the Adam Smith Report & A New Way to Think About Measuring the Content of the Fair Trade Cup", BRASS, *www.brass.cf.ac.uk/uploads/TheFairTradeCupResponsetoAdamSmithD9_1.pdf*.

Domestic obstacles can damage developing countries' performance internationally. These include geographical constraints, lack of infrastructure, poor governance, inefficient institutions and inadequate skills. Transaction costs (such as communication, transport and energy costs) tend to be systematically higher in developing countries. In Africa, for example, total freight costs represent more than 10% of the imported value of goods, compared with 8.8% for all developing countries and 5.2% for developed countries. According to some calculations, inefficient ports are equivalent to being 60% farther away from markets for the average African country. Poor infrastructure accounts for over 40% of predicted transport costs (and up to 60% for landlocked countries).

Two other factors should be kept in mind when talking about trade's potential to relieve poverty. First, in many low-income countries the informal sector represents a very high proportion of the domestic economy and cross-border trade. While informal sectors are unregulated and can sometimes thrive because of that freedom, it's much harder for informal enterprises to gain access to the financing, technology and contracts that trade both makes available and requires if firms are to become internationally competitive.

Second, more than half the population in developing countries and more than three-quarters of the poor live in rural areas where agriculture typically constitutes 50% to 90% of household income. Connecting poor farmers to markets and enabling them to sell their crops provides significant benefits. When various physical and institutional constraints are removed, farmers can earn more by specialising in crops for which they have a comparative advantage and purchase commodities that are relatively costly for them to grow. Indeed, those who produce mainly for their own consumption are the poorest, whereas those who are well integrated into markets and specialise in a smaller number of products tend to be better off. And boosting agriculture can help other sectors too. A study by the UN Food and Agriculture Organization (FAO) of Eastern Africa estimated that for every 100 litres of milk produced locally per day, up to five jobs are created in related industries like processing and transport.

Inequality

Countries with rapid economic growth and trade liberalisation can achieve absolute poverty alleviation, but even so inequality can increase. For example, food price increases can benefit poor farmers who at the very least will see their earning opportunities expand, while the urban poor, who spend a very large proportion of their income on food are made worse off. But trade alone will not be enough. Cambodia is a major rice producer and net exporter, yet despite the rise in prices seen in 2008, poorer farmers saw their living standards worsen. Their situation shows what it means in practice when we talk about lack of the necessary infrastructures and other capacities to make the most of opportunities. The country does not have adequate means to store and process rice, so has to buy its own production back from Vietnam and Thailand after processing. The UN World Food Programme had to temporarily suspend programmes to feed school pupils because the price rises meant that rice was too expensive.

Aid for Trade

The OECD Aid for Trade website (*www.oecd.org/dac/trade/aft*) explains the rationale behind the initiative like this: "Many developing countries, in particular the least developed, face supply-side constraints that severely limit their ability to benefit from the multilateral trading system." A simple example can help explain what this means in practice. You may have noticed how quickly fashion collections change, and you may be aware that developing countries are major suppliers to Western markets. And you've probably heard explanations or complaints about production going to countries with the lowest wages. However, wages are not the only factor. Some African countries have lower wage rates than China. But in the fashion business, if the clothes are late getting to the shops, it's too late to sell them, so reliable shipments are important too. Better transport infrastructures would help African suppliers expand their sales.

The 2005 Hong Kong WTO Ministerial Declaration called for the expansion and improvement of aid for trade and set in motion a process to achieve this. Aid donors agreed to help developing countries, particularly the least developed, build the capacity and trade-related infrastructure they need. Aid for Trade is expected to provide a framework within which to connect wide-ranging assistance activities (from training negotiators to building roads) within a coherent trade and development strategy. Between 2002 and 2005, donors committed on average $21 billion per year to the aid categories more closely associated with aid for trade. This included $11.2 billion to build economic infrastructure, $8.9 billion to promote productive capacities (including $2 billion for trade development) and $0.6 billion for increasing the understanding and implementation of trade policy and regulations.

The 2005 OECD Trade and Structural Adjustment Project argued that the most successful trade reforms had been accompanied by help for those bearing the brunt of the changes. The most effective and equitable targeted assistance schemes have defined time limits and have a clear strategy for how to end the scheme. They are not linked to production and are aimed at re-employing displaced workers. Mauritius is a good example of a small developing country that explicitly integrated vocational training for workers affected by economic restructuring in its Aid for Trade strategy. Mauritius radically restructured its economy by transforming traditional sectors (textiles and sugar), promoting growth in existing sectors like financial services and developing higher value-added industries, such as information and communication technologies.

Education also plays a key role in promoting labour productivity and mobility. China shows how a better education makes it easier to move from farm to non-farm sectors, often a pathway out of poverty. One additional year of schooling in China boosts a worker's chance of finding off-farm employment by 14%.

These studies demonstrate a well-known link between the distribution of skills and inequality (and the issue is relevant in OECD countries where the same problem has arisen over the last 35 years). Professor Edward Leamer introduced this subject by asking the question, "Is a computer more like a microphone or a forklift?" The forklift tends to equalise differences in strength between people while a microphone tends to amplify differences in singing ability. A lot of modern technology is thought to be like the "microphone" which tends to pull up skilled wages relative to unskilled wages, causing inequality.

The distribution of R&D expenditure worldwide is very uneven with the bulk spent in the US, EU and Japan. In these countries R&D tends to be devoted to technology most suited to high-income countries, so this includes labour-saving technology. As a group, developing countries do not need labour-saving technology. They need capital-saving technology for initial development. Accordingly, developing countries face the challenge of overcoming an initial deficit in technology appropriate to their circumstances. Furthermore, they can be tempted to import too much labour-saving technology and make inequality even worse than it would otherwise be.

All is not lost on the technology front for developing countries, though. A lot of technology is also like the forklift. Here the new ideas are built into the hardware. The forklift operator does not need to know why the forklift operates the way it does – only how it operates (and most of that can be self taught by an unskilled person with a few hours of practise). It is amazing how production processes have been simplified by developing "forklift" technology over the last 60 years, even for sophisticated operations such as computer assembly or aircraft maintenance. "Forklift" technology has been the key to offshoring possibilities in Japan in the 1950s, then Korea (1960s), Thailand (1970s), Indonesia (1980s) and China (1990s), and it hopefully will soon be expanding in India and Africa. Spectacular development, growth and poverty alleviation have resulted by importing this type of technology, provided the five major development planks are addressed as well.

Once incomes have grown somewhat, then the resources and institutions required to produce more home-grown technology increase. R&D expenditure has to be combined with basic education and skill-acquisition policies to make better use of "microphone" technology. Furthermore, education itself has important precursors on the development agenda. Health status and access to basic amenities are vital even to get children to school and keep them there.

Conclusion

Trade, development and poverty are linked in multiple ways that we do not fully understand. The same set of policies produces dramatically different results in different countries. The outcome is affected by physical and geographical characteristics of the countries; the nature of the implementation of the policy measures; the capacity and quality of institutions under which the reforms are implemented; and a country's political and social environment. As the World Bank Growth Commission put it, we do not know the recipe but we do know the ingredients – at least in some of the most successful developers. Trade has always been one of them.

Trade plays a part in a strategy that tries to enhance the productive capacity of the whole economy by better integrating it into domestic, regional and global markets. It facilitates the availability of technology, know-how and other services. It helps

to make goods cheaper and more widely available. As a side effect, trade weakens the grip of local monopolies. The trade strategy requires parallel investments in human capital (education, health and nutrition) and rural infrastructure, access to credit and technical assistance, as well as safety nets and policies to promote stability. Such policies, which reduce the risk and vulnerability of poor men and women, help them adjust to make the most of the changes and take advantage of opportunities created through their resourcefulness, intelligence and energy.

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Publications

Trading up: Economic Perspectives on Development Issues in the Multilateral Trading System (2006):
Trade liberalisation is a hotly debated issue, especially concerning developing countries. This book examines the issues using empirical approaches and dispassionate analysis.

Agricultural Trade and Poverty: Making Policy Analysis Count (2003):
Agricultural policies are important for the world's poor, whether or not they work in agriculture. How can agricultural trade reform help them? What are the benefits of agricultural trade liberalisation, and what are the potential dangers?

Also of interest

Trading Out of Poverty How Aid for Trade Can Help (2008):
The potential contribution of trade to economic growth and development, the challenges of realising that potential and the role of Aid for Trade in addressing these challenges are discussed.
www.oecd.org/dac/trade/aft

South-South Trade: Vital for Development, an OECD Policy Brief (2006):
If developing countries want to reap the maximum gains from multilateral trade liberalisation, they too need to open up their markets and boost trade among themselves.

Making Open Markets Work for Development, an OECD Policy Brief (2005):
Although most developing countries stand to gain from further multilateral trade liberalisation, a number of issues need to be tackled, including the likely effect on developing countries' trade preferences, the impact on government revenue of tariff changes and the impact of liberalising services trade.

The Development Dimensions of Trade, an OECD Policy Brief (2001):
This Policy Brief looks at factors promoting the integration of developing countries into the world economy and how the multilateral trading system addresses key interests of these countries. It also examines areas of disagreement and where more needs to be done.
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... AND OTHER SOURCES

A Flat World, a Level Playing Field, a Small World After All, or None of the Above? A Review of Thomas L. Friedman's The World is Flat, Leamer, E. (2007):
Leamer criticises Friedman's warnings about the perils of a relationship-free world in which every economic transaction is contested globally. He argues that although standardisation, mechanisation, and computerisation all work to increase the number of "footloose" tasks, innovation and education work in the opposite direction, creating relationship-based activities.

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Trade liberalisation affects growth in a number of ways. It gives producers access to bigger markets and allows them to increase the scale of their production. It gives consumers access to a wider range of goods at lower prices. It helps knowledge to circulate and encourages finance to seek new outlets. *Trade policy* also has an effect on growth by influencing the extent to which opportunities are seized. But trade liberalisation and good policy require a number of other conditions to be met to have the greatest impact, such as good infrastructures and a skilled labour force.

Trade and Growth

By way of introduction…

They say that if you ask any two economists what they think about something, you're bound to get at least three opinions. Recipes for economic growth and the role of trade is a case in point. For a start, economists would make a distinction between the impact of *trade* and the impact of *trade policy* on productivity and growth. This sounds like splitting hairs, but while economists generally agree that trade as such is good for growth, they might disagree as to whether a policy of trade liberalisation is good, bad or irrelevant for growth in a given country at a given moment.

There is a basic consensus that trade, income and productivity levels are positively and strongly correlated, with robust evidence to support it. An increase of one percentage point in the share of trade in GDP raises income level by 0.9% to 3%. Nevetheless, a policy of trade liberalisation alone will not guarantee income and productivity growth. Economic growth is an extremely complex phenomenon, and trade is only one contributor, interacting with many others. That's why throughout this book, we stress the importance of other influences ranging from physical geography to education, health and culture.

Productivity growth depends on human and physical capital and on the way production is organised. Behind this first, readily identified layer of phenomena, there are deeper causes. These include the quality of the financial sector and the legal situation, especially property rights and enforcement of contracts. Such institutional factors are often difficult to quantify. They may be affected by hundreds of years of history and tradition and be influenced by foreign and domestic customers and suppliers, investors or changing social norms and ideas. Think of the growing influence of environmental concerns, for instance.

▶ In this chapter, we won't try to prove that trade is good for growth and that liberalisation is good for trade, so liberalisation is always good for growth whatever the circumstances. But we will demonstrate that an open trade policy is more likely to contribute to economic growth than alternative policies. We'll start by looking at the different factors that contribute to economic growth and how trade affects them, and then we'll look at the relationship between trade and R&D, trade and the diffusion of new technologies, and trade and investment.

Trade and the sources of economic growth

Expanding knowledge is the ultimate source of long-run economic growth. The great leaps in productivity brought about by the Industrial Revolution and the Agricultural Revolution that preceded it were made possible by new understanding of the laws of physics, chemistry, biology and the other sciences. But for this knowledge to generate economic growth it had to be transformed into new machines, the skills to use them and better ways of organising production to make the most of those machines and skills. The steam engine, for instance, revolutionised production and transport. But to do so, it needed a whole range of new professions and new ways of organising work. Society had to accept (or at least tolerate) the changes. We take these changes for granted now. Yet the idea of working a fixed number of hours with set times for starting and finishing was a radical change. An agricultural economy traditionally thought in terms of years, seasons and days, not weeks, hours and minutes. Even then, different towns had different times, and Britain only adopted Greenwich Mean Time as the nationwide official time to replace "local mean time" in 1880 (although the railways had adopted it in 1847).

So if growth is stimulated by adopting knowledge, how does trade contribute? For a start, trade helps to pass on the knowledge people elsewhere have put into goods. When you buy a computer, you buy a share of the research and know-how that went into designing, building and selling the final product and its many components. Knowledge isn't just contained in physical objects – trade in services can also be important for the transmission of knowledge. For instance, if the computer has a problem, the hotline you call may be in another country, so in effect you're importing the after-sales service. Licenses are another way to gain access to knowledge – the technology isn't transferred, but the information needed to recreate or use it is. Nowadays, foreign technology accounts for the bulk of domestic productivity growth in most countries and the smaller the country, the more this is the case.

Trade liberalisation also allows the most productive firms to expand into the bigger markets it creates. The least productive firms will not only be unable to profit from the new opportunities, they may be forced out of business completely by competition

from new companies. It can be argued that the higher level of productivity of firms that export has little to do with trade in itself since the firms that take advantage of the new opportunities have to be more dynamic and more productive in their traditional markets to begin with. In other words, there is a kind of self-selection of exporting firms.

Trade also encourages gains from specialisation and the division of labour. Previously, this happened within the firm. In the auto industry, for instance, the big companies made most of the parts that went into a vehicle themselves. Today, the industry still has a relatively high degree of vertical integration – a BMW still has a BMW engine and is sold in a BMW dealership. But a modern car is assembled from over 30 000 components, compared with 700 in a Model-T Ford, and it doesn't make economic sense for a single company to try to develop all the mechanical and electronic parts it needs.

Specialisation therefore takes place *among* firms rather than within firms. Trade expands potential markets, and these larger markets mean that a firm can specialise more narrowly and still find enough customers. The result is a deeper division of labour, and this means that even a firm from a small country can prosper in activities where its home market is restricted. But even firms in large countries take advantage of the international division of labour to reduce costs and expand sales. The extent to which a country or a firm can benefit from global value chains depends on how much it costs to trade, not only in financial terms such as tariffs, but in the time it takes to transport goods or deal with the paperwork.

Does it have to be high-tech?

If specialisation contributes to growth, what kinds of specialisation should a government encourage or should a company or investor concentrate on? The obvious answer would be the new dynamic sectors. Profit margins are low in mature sectors and leave few resources for R&D and growth. Worse, in a free trade regime, and given the pace of change in today's economy, it would become harder and harder to catch up, leaving those countries specialising in mature sectors further and further behind.

A look at productivity growth statistics for manufacturing lends some support to this argument. A study of US data over 1960-1996 shows that, as you might expect, computer-related sectors have the fastest productivity growth. But a closer look reveals some interesting changes over time. For a start, "computer-related" is a huge category and while this broad definition is at the top of the classification, the subsectors that compose it change places over time. Semiconductors were in sixth place over 1960-1987, with computer storage devices taking first place. Over the following ten years, storage slips to seventh place, and semiconductors are top. Even more interesting, the entire ranking for the first period consists of what most of us would spontaneously consider as high-tech sectors. But take a look at the next period. Three of the ten sectors seeing the fastest growth are in clothing and footwear. Indeed shoes rank fourth. Competition from imports probably incited the US clothing industry to upgrade its operations using the latest product design and manufacturing technologies. So what matters for productivity levels and growth rates is less what is produced than how it is produced.

THE TEN US MANUFACTURING SECTORS WITH FASTEST GROWING PRODUCTIVITY, 1960-1987 and 1987-1996

1960-87		1987-96	
Name	**Productivity**	**Name**	**Productivity**
Computer storage devices	20.8	Semiconductors and related services	8.2
Electronic computers	20.2	Electronic computers	2.9
Computer peripheral equipment not elsewhere classified	19.7	Computer peripheral equipment not elsewere classifed	2.1
Computer terminals	15.7	Footwear except rubber, not elsewhere classified	1.7
Magnetic and optical recording media	5.6	Computer terminals	1.7
Semiconductors and related services	5.0	Telephone and telegraph apparatus	1.6
Calculating and accounting machines, except electronic computers	3.4	Computer storage devices	1.5
Laboratory analytical instruments	3.0	Cigars	1.5
Optical instruments and lenses	3.0	Dress and work gloves, except knit and all-leather	1.5
Medicinal chemicals and botanical products	2.9	Knit outwear mills	1.4

Source: "Dynamic Gains from Trade", *OECD Trade Policy Working Papers.*

StatLink : *http://dx.doi.org/10.1787/545156886545*

Historical data confirm that there are various paths to improving productivity and growth. A country that has a high rate of capital investment over time will gradually come to specialise in capital-intensive sectors. In other words the countries' comparative advantages are moving towards capital-intensive operations. Likewise, a country that invests in education will shift towards skills-intensive industries or skills-intensive activities within industries, provided markets are permitted to allocate the resources. Data for Japan suggest that companies focus on more skills-intensive activities while outsourcing the less skills-intensive activities to neighbouring countries.

The empirical evidence then does not justify fears of being locked into an unfavourable pattern of specialisation in a free trade scenario. A country that invests in human and physical capital as well as in R&D can shift its comparative advantage and adapt its industrial structure to take advantage of new opportunities, as Korea has shown.

Trade and investment

To profit from trade liberalisation then, a country has to invest. Trade liberalisation in turn can help countries to make the most of this investment in several ways. Open countries have access to larger markets. This makes it worthwhile to invest in sectors where the initial costs for machinery and so on are high – capital-intensive sectors – because fixed costs can be spread out over a larger number of units of output. For example, in 2007 Intel opened Fab 32, a new factory in Arizona to produce the latest generation of microprocessors. This single factory cost $3 billion, but it will produce tens of millions of processors for world markets.

Trade liberalisation also facilitates the import of cheaper foreign-produced intermediate goods and services. The price of capital goods and services also drops, and since the production of capital equipment is concentrated in a small number of countries, trade liberalisation is particularly important in providing access to them. The spectacular success of some developing countries as exporters would not have been possible without affordable machinery (and sources of intermediate products).

And in many cases foreign capital has been a valuable addition to local savings. Liberalisation of trade and investment encourages

FDI from foreign firms seeking to rationalise their production and benefit from economies of scale. At the same time, high trade barriers can also encourage FDI. This is known as "tariff-jumping" – investing in a country to which it's hard or impossible to export, in order to get around trade barriers. But in this case, investment is likely to concentrate on producing only for the domestic market.

Trade and R&D

Now we'll look at how international trade affects R&D, the search for knowledge. Private firms, motivated by expected profits, engage in R&D to develop new products or processes. Innovating firms can earn a handsome profit both in relatively small protected markets and in large competitive markets – and of course even more profits in large and protected markets. Trade is relevant to R&D insofar as it determines the size of the market. When the domestic market is of small to medium size, trade policy involves a trade-off between large margins and small volumes, in other words a more protectionist policy, or it involves small margins and large volumes, that is, a more open approach. To put it another way, trade leads to lower margins, but higher volumes.

The optimal policy probably depends on the strength of intellectual property protection, with higher margins where intellectual property rights are protected. Here again, there may be a trade-off, this time between protection of intellectual property rights and technology diffusion. If intellectual property protection is weak, then technology that exploits an innovation will spread more quickly, boosting growth. At the same time, weak protection reduces the incentive to spend money on R&D.

History provides some interesting examples to fuel the debate on the ideal level of intellectual property protection. One of the most quoted ones is the light bulb. Joseph Swan patented a carbon filament lamp in England in 1878, and Thomas Edison patented essentially the same thing a year later in the US. At that time, there were no patent laws in the Netherlands, so in 1891 Royal Philips Electronics, as Philips was known at the time, could simply take the invention and turn it into the money spinner that would finance the firm's expansion and inventions of its own. Ericsson did something similar in 1876 – it reverse-engineered Bell's telephone, which he hadn't patented in Sweden.

The optimal balance between intellectual property protection and technology diffusion may shift in the direction of intellectual property protection if efficient markets for innovations are developed. In that case the innovator can realise the market value of the innovation directly through licensing. Trade in innovations enables innovation to be separated from production and allows the division of labour between R&D firms and manufacturers across countries, and R&D becomes a traded service.

Apart from lowering margins, trade is also likely to increase the number of competitors who imitate an innovation, thereby discouraging private investment in R&D. On the other hand, trade provides a larger market from which to recoup R&D expenditure and opens up a large market for licenses, encouraging R&D if, as we said, intellectual property is adequately protected. If the latter effect dominates, trade may contribute to a rising share of R&D in countries relatively abundant in human capital, both in OECD and emerging economies.

Spillovers

So far we've mainly discussed the impact on firms that invest in new technology. But there are also linkages between trade and productivity growth through technological spillovers to other firms in the same sector. Even nation-level productivity can improve because the average stock of knowledge of the sector or of the economy increases. Knowledge spillovers can be described through three learning effects that can increase productivity:

Learning-by-doing effects are a by-product of ordinary production and refer to the role of experience in increasing productivity. These effects were often quoted as justifying a policy of import substitution, that is to say encouraging local production rather than depending on foreign suppliers. In fact, learning-by-doing effects are usually stronger in an open economy because of the higher degree of specialisation resulting from trade. If, as a consequence of trade liberalisation, a country specialises in sectors where there are more economies of scale, there will be also more opportunities to learn. Trade increases the size of markets and the scale of specialisation. There is also a potential impact from trade on the composition of production, as specialisation switches from sectors with low technological spillovers to sectors with important learning-by-doing effects.

Learning-by-importing effects occur when domestic producers have indirect access to the foreign stock of knowledge (without having to invest in R&D) and can draw on this stock to increase their productivity. This type of learning is linked in particular to the import of intermediate goods, since these goods generally incorporate the latest technology and are used by domestic companies in their production process. The role of trade is to bring foreign technologies to the domestic economy or to let domestic firms improve their own technologies or products through reverse engineering and imitation. These effects can result from trade in services as well. Multinational corporations often have office systems and other technologies that local firms can emulate.

Learning-by-exporting effects refer to a situation where exporting firms learn from their foreign clients and are in contact with clients and competitors using more advanced technologies in foreign markets. Trade encourages exporters to become as efficient as their competitors, and in fact they may be forced to learn if they want to stay in the market – for example, a market with higher quality standards than domestic ones.

These three types of learning all boost the level of productivity. We can also add a fourth type: "learning-to-learn". Contact with foreign products or foreign clients means that firms can learn how to further increase their productivity not only by using the available technology but also by improving their own technologies at a faster rate than before. Firms also have incentives to use better inputs and to adopt foreign technologies more rapidly. Trade could then have an impact not only on the level of productivity, but also on how quickly productivity grows.

FDI, vertical specialisation and outsourcing

The relationship between trade and technology transfer doesn't just depend on what happens in the firm or country adopting the new technology. It also depends on foreign direct investment and multinational corporations. Foreign direct investment is an important channel of international technology diffusion, placing technologies in the host economy where they can be studied, where domestic workers can learn from them and where they can be used as inputs for domestic production. The foreign firm itself

uses FDI to provide the technology needed to improve the supply of its inputs or to create a market for its products.

Linkages with domestic suppliers are called backward linkages; those with firms further down the production chain are called forward linkages. A firm can also have linkages with competitors (horizontal linkages). This might sound odd, but can make sense when a firm is trying to create a market for final products or for suppliers in order to reach the appropriate scale economies and the firm is too small to do so alone – which is often the case in global markets. Large companies, for example, may co-operate to create and impose standards, while small companies may form associations to negotiate better prices on bulk products they all use.

Multinationals are important in technological spillovers from trade and FDI for three reasons:

- Their more advanced production methods and technology.
- Their network of international suppliers, customers and contracting firms, involving contacts with skilled people all over the world with knowledge-sharing and international training programs.
- Their intangible assets that are the source of their value creation, such as management and marketing skills.

The influence of multinationals is seen in the dramatic changes in production processes over the past 20 years. The reduction in transport and communication costs and trade barriers has made it possible to fragment production across many countries, each specialising in a particular stage of the production sequence. Each part of the sequence trades with the next in a vertical trading chain, and today vertical specialisation explains 21% of world trade. It has increased FDI flows and intra-firm trade in a complementary relationship and has encouraged many of the interactions that characterise the global economy.

The second phenomenon that has changed world trade and has encouraged the diffusion of technologies through trade is the development of international outsourcing. This is closely related to vertical specialisation and the emergence of global value chains. The difference is that international outsourcing creates trade flows instead of FDI flows. It generates services trade when the outsourced activity is performed by another company in another

country. There is, however, a relationship between trade, FDI and outsourcing, as most of the companies that provide outsourced services are subsidiaries of multinationals or domestic firms that have benefited from the technological spillovers. Business-process outsourcing services in India, for example, developed through FDI by foreign information technology firms. Outsourcing has significantly contributed to the increase in the growth of trade in intermediate inputs and thus to the potential technological spillovers from this type of trade.

As with the impact of trade on productivity, empirical studies on FDI and technology diffusion have to take account of the fact that FDI is generally attracted to sectors where productivity is already the highest and productivity growth strong. Firms invest in sectors with the most promising growth rate and in the best companies. The impact on domestic firms of the entry of foreign companies is twofold. On the one hand, domestic firms can expect productivity gains through technological spillovers. On the other hand, the increased competition from foreign firms may diminish the production of domestic firms and take market share from them. The net impact of FDI on the productivity of domestic firms can thus be either positive or negative, depending on the firm involved.

Empirical studies only analyse the manufacturing sector, whereas services are the main sector in many countries and are more and more open to trade. Bearing these limitations in mind, the question is to know under what circumstances FDI has been found to generate technology transfer and under which circumstances it has not. Some general conclusions emerge:

- Spillovers are more likely in joint-ventures or companies whose capital is shared between domestic and foreign investors.
- Technological spillovers will only occur if there are interactions between local and foreign producers or workers.
- Export-oriented FDI or FDI to improve efficiency is more often associated with positive spillovers than FDI that merely seeks to jump tariff barriers and exploit protected local markets.
- The productivity difference between domestic and foreign firms should not be too wide.

- The host country needs to have a certain absorptive capability. This depends on a number of factors, ranging from social and human capital and information networks to the number of students studying abroad.
- There seems to be a "threshold effect," where the benefits of FDI can materialise only after a certain amount of foreign capital has been accumulated.

Conclusion

Trade, as we stress throughout this book, fuels domestic growth, opens doors to global markets and improves access to goods and services. As the example of the medieval merchants described in Chapter 2 shows, it also promotes specialisation and the division of economic activities into separate functions. Specialisation, trade, good infrastructures and a skilled workforce are typical characteristics of prosperous, growing economies with high standards of living.

So while trade is necessary for growth, it is not sufficient in itself. There's no point in importing a new technology if there's nobody to carry out maintenance work, for instance. Access to international agricultural markets means nothing if the products cannot be stored and transported correctly.

It is not always easy to decide whether trade is a cause of growth, an effect or both in any given situation. What we do know is that when a new idea, product or way of doing things appears, trade helps to spread it. In the following chapter, we'll look more closely at the links between trade and the different types of innovation.

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Publications

Economic Policy Reforms: Going for Growth 2008
Going for Growth 2008 takes stock of progress in implementing policy reforms to improve labour productivity and utilisation. A set of internationally comparable indicators enables countries to assess their economic performance and structural policies in a broad range of areas.

Trade and Structural Adjustment: Embracing Globalisation (2005):
Requirements for successful reallocation of labour and capital to more efficient uses in response to the emergence of new sources of competition, technological change and shifting consumer preferences are analysed. Means to limit adjustment costs for individuals, communities and society as a whole are considered.

Understanding Economic Growth: A Macro-level, Industry-level, and Firm-level Perspective (2004):
This book is a unique tool providing facts, figures and analysis of economic growth in OECD countries. The analysis identifies the fundamental drivers of growth and looks at how and why countries react differently to these drivers. It examines growth at the macroeconomic level, industry level and firm level and also analyses the contribution of information technology at each of these levels.

Also of interest

The Contribution of Economic Geography to GDP per capita, an Economics Department Working Paper (2008):
This paper examines how economic performance across OECD countries is influenced by geography. Reduced access to markets relative to the OECD average could contribute negatively to GDP per capita by as much as 10% in Australia and New Zealand. Conversely, a favourable impact of around 6%-7% of GDP is found for Belgium and the Netherlands. Endowments in natural resources also have a significant positive effect on GDP per capita.

... AND OTHER SOURCES

The Growth Report: Strategies for Sustained Growth and Inclusive Development (2008):
The World Bank's Commission on Growth and Development says developing countries can achieve fast, sustained, equitable growth if they engage with the global economy and have committed leaders. Developing countries also need to know the levels of incentives and public investments required for private investment to take off in a manner that leads to the long-term diversification of the economy and its integration into the global economy.

Online encyclopaedias
The following encyclopaedia entries give a general overview of growth theory. The *Encyclopedia of the Earth* article is shorter, but more technical.
www.eoearth.org/article/Economic_growth
The Stanford article is a reprint from *The Concise Encyclopedia of Economics*, David R. Henderson, ed. Liberty Fund, 2007.
www.stanford.edu/~promer/EconomicGrowth.pdf

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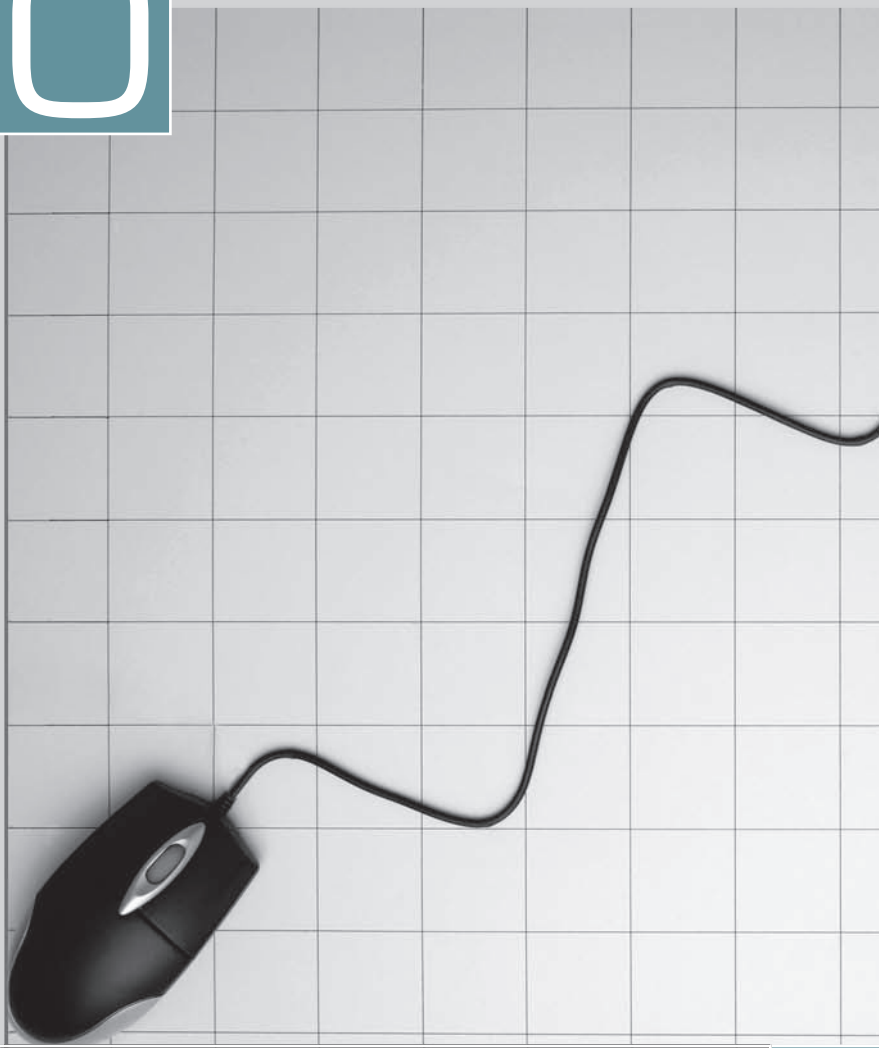


Trade and innovation are closely intertwined and mutually beneficial. Trade allows new technologies to move more freely around the world, benefitting more firms and more people. This process increases the size of the market both for the innovator and for those who acquire and apply the innovation. And that in turn stimulates competition and more innovation. This is true not only of products, but also of the processes used to produce goods and services, firms' business practices and organisation, as well as marketing and distribution systems.

Trade and Innovation

By way of introduction…

Writing in the first century of our era, Sextus Julius Frontinus, the Roman Empire's Chief Military Engineer, declared: "I will ignore all ideas for new works and engines of war, the invention of which has reached its limits and for whose improvement I see no further hope". Such a proclamation sounds ridiculous when we look at the engines of war that were yet to come, but it's not as silly as it sounds. Military hardware evolved very little, and very slowly, over the following centuries. The catapult had been around for 500 years at Sextus' time and guns only appeared in the West a thousand years later.

It was the same in non-military domains, too. The great Chinese and Islamic empires made remarkable contributions to science and technology, but change was slow. It was slow because, in today's terms, the inventions were not commercialised – not made widely available. In fact, for most people in 15th-century Europe, the routines of work and daily life would not have been much different from that of their ancestors back in the Roman Empire, although in most countries they would no longer be serfs or slaves.

If you look at a timeline of inventions, you'll notice that a single decade of the industrial era takes up as much space as a whole century, or even several centuries, in earlier periods. The modern economy was created thanks to innovation and thrives on it, and in turn the economy encourages new ways of doing things, the invention of new products and the search for new discoveries.

▶ In this chapter, we'll look at innovation and how trade interacts with it. In doing so, we'll use the following definition:

> **"An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations."**
>
> *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*

The four types of innovation

As the definition from the OECD and European Commission Oslo Manual shows, inventions are only part of the story. Four main types of innovation are of interest as far as trade and investment are concerned.

Product innovation is the introduction of goods or services with new or significantly improved characteristics or intended uses. The improvements may be in technical specifications, components and materials, software incorporated in the product, user friendliness or other functional characteristics. New products don't have to use new technologies. Microprocessors and miniature hard drives both existed before MP3 players, for instance, but the player itself was a new product. Product innovation can also mean a new use for an existing product. The most spectacular example of this is probably the angina treatment sildenafil citrate that went on to win fame (and fortune) as Viagra.

Product innovations in services can include significant improvements in how they are provided (for example, in terms of their efficiency or speed), the addition of new functions or characteristics to existing services or the introduction of entirely new services. For example, online banking or courier services guaranteeing next-day delivery would count as product innovation.

Process innovation is the implementation of a new or significantly improved production or delivery method. It includes significant changes in techniques, equipment and/or software. In other words, it signifies new ways of making or doing things. Automating a production line is an example of process innovation in production, while courier services provide numerous examples of innovation in delivery – using bar codes and RFID tags to assemble and track shipments, for instance.

Marketing innovation is the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing. Soft drinks provide some of the best examples here, for instance with the introduction of automatic vending machines in the 1920s.

The average consumer in an OECD country is exposed to over 3 000 ads a day and will ignore most of them, so it's not surprising that product promotion is a constant source of innovation, with each new media challenging the previous ones, as the Internet is

doing now. The web also enables innovative pricing policies. For example, if you're thinking of buying a computer you can vary the specifications to see how much a given configuration will cost.

Organisational innovation covers new methods in a firm's business practices, workplace organisation or external relations. For business practices, this involves the implementation of new methods for organising routines and procedures for the conduct of work. One example would be the implementation of new practices to improve learning and knowledge-sharing within the firm, such as establishing databases.

Innovations in workplace organisation involve the implementation of new methods for distributing responsibilities and decision-making among employees for the division of work within and between firm activities (and organisational units), as well as new concepts for the structuring of activities, such as the integration of different business activities. For example, this could be the establishment of formal or informal work teams in which individual workers have more flexible job responsibilities. New organisational methods in a firm's external relations could include outsourcing or subcontracting for the first time or business activities in production, procurement, distribution, recruiting and ancillary services.

Whatever the form, innovation and the diffusion of innovative products and processes result from "technology push" and "demand pull". The push to innovate comes from the emergence of new technologies and knowledge, while corporate investments in response to demand pull innovation and diffusion along. The traditional view was that in firms doing the innovating, innovation is a linear process that starts with research, design and development, followed by manufacturing, then marketing and distribution. In reality there are numerous feedback loops and innovation is increasingly realised in networks. These can involve internal R&D, new equipment, imitation, reverse engineering, agreements with other companies and learning from other sources such as the factory floor (many companies have a "suggestions box" to gather ideas from employees).

No firm, not even the biggest market leader, has all the internal skills, knowledge and capabilities needed to cope with global competition. But as we said above, innovation can come

from outside and large multinationals are moving towards a *double network structure*. The internal network involved in the company's use, generation and absorption of knowledge is linked to numerous external networks with other firms and institutions. Firms seek strategic alliances in R&D and other areas such as setting standards, even with potential rivals. Think of the battle to impose the new standard for videodiscs, with one alliance of electronics giants supporting the eventual winner, Blu-ray, and another the competing HD-DVD technology.

So how does trade affect innovation? First, remember that by innovation, we don't simply mean being the first in the world to do something. Innovation means introducing something for the first time in a new environment, be it a firm or a market. There is a two-way link between trade and innovation. Innovation gives the innovator a technological advantage. Together with differences in how much capital, natural resources and labour are available ("factor endowments") this is the source of comparative advantage that of course drives trade. Technology gaps are one determinant of trade and investment. Developed countries tend to export more high-technology goods compared to developing countries. Innovative and more productive companies export, invest abroad or license their technologies to exploit the benefits of their innovations. As such, open markets benefit innovative firms since the market in which the firm can make money from its innovation is bigger. This is particularly important when the costs of developing and marketing a new product are high, such as the billion dollars it takes to develop and market a new aircraft or drug, for instance.

Trade and investment affect practically every stage of innovation in various ways. In the R&D phase, researchers with access to the latest equipment have an advantage, and no country is a world leader in all the devices modern science uses. Even the United States imported a quarter of the analytic and scientific instruments its laboratories bought in 2006 (excluding optical equipment). In addition, most companies now use research conducted in universities and other companies through licensing agreements, often with international partners.

Trade can also provide an incentive for greater R&D through competition – new rivals often force companies to develop new products with new features. Exports also allow companies to cover

R&D costs, a benefit that might not be possible if these countries only produced for the smaller domestic market. Likewise, trade and investment play an integral role in providing innovative inputs to manufacturing by making new machinery and components available. Innovation can also be stimulated by efforts to gain an advantage over other firms.

Process innovations are also affected by trade and investment, as are marketing and organisational innovations. In developing countries, for example, the main source of process innovation is often capital goods – the machines, tools, equipment and so on needed to make other goods. Information and communication technology has been the main driver of recent marketing and organisational innovations, and trade in ICT goods has been central to this innovation.

Integration into global production networks with foreign partners, sometimes called "trade in tasks", is an organisational innovation which has increased efficiency in the manufacturing process. One way it does this is by allowing the various partners to concentrate on what they do best, and to focus efforts on doing it even better. Clothing brands, for instance, can devote resources to design and marketing of products and leave manufacturing to outside contractors. International trade and cross-border investment allow this specialisation to be realised on a greater scale. They also give firms from smaller economies access to bigger markets and more investment than their own country could provide, and thus the possibility of "economies of scale" that allow them to become globally competitive.

Trade can affect innovation in three ways then: technology transfer, competition and economies of scale. We'll now look at each of these aspects in more detail.

Technology transfer and diffusion of innovation

New technologies can be transmitted across countries through different channels, and history provides some vivid examples. In the era of the Silk Road, China's competition policy regarding the silk trade was simple: anyone caught trying to export silkworms, cocoons or eggs was executed. This crude but effective dissuader protected Chinese manufacturers until around 200 BCE when

Chinese immigrants to Korea started production there too. A hundred years later, a princess smuggled eggs to India in her hair. A hundred years after that two monks smuggled eggs on the orders of the Byzantine emperor and so the industry gradually became established in the West.

This example shows that new technology does not have to be imported readymade. It can take the form of intermediate or capital goods. It can also be the result of people moving from one place to another. The immigrants to Korea wouldn't have needed to smuggle eggs as their knowledge about mulberry bushes and silkworms was enough to allow them to find new sources in the country.

That said, imports of capital goods and inputs are an important channel for technology diffusion as foreign machinery can embody more technology than domestic machinery. Modern Korea and India provide examples of this. Samsung imported semiconductor manufacturing equipment from the US and Japan when creating its computer memory business. Imports into India of computer hardware were critical in developing the software export industry. The imports don't have to be high-tech. Chile imported fish tanks and other equipment for salmon farming, and tanks and barrels for wine-making. Kenya imported greenhouses for floriculture. These imports are usually a one-off, and of themselves may be insufficient to create a more dynamic process of innovation. Investment in human resources and R&D is necessary to make the most of the new technology.

While the technology embedded in imported goods is of great importance, technology diffusion through lower prices is just as significant. One study found that capital goods could cost over four times more in developing countries than in developed ones depending on domestic levels of technology and access to foreign capital goods through trade. In such cases, cheaper foreign equipment can contribute to more efficient capital accumulation.

The cost effect of imports may be especially important for information and communication technology (ICT) goods and services which are closely related with marketing and organisational innovations. For example, the introduction of mobile phones to fishermen in India led to an increase of 8% in the profits for fishermen and a decline of 4% in consumer prices as fishermen

could use their phones to call several nearby markets from their boats to establish where their catch would fetch the highest price. (Fish and phones seem to go together. The first call ever placed on a commercial GSM phone was on 1 July 1991. Harri Holkeri, governor of the Bank of Finland, telephoned the mayor of Helsinki to talk about the price of Baltic herring.)

These examples may give the impression that imports are not important for technology leaders with large economies that focus more on "first in the world" innovations. It's true that developing economies and smaller economies generally rely more on foreign technology, but large developed economies benefit too. In Europe, half of total innovation expenditure is in plant, machinery and equipment purchased by industrial firms, with their own R&D accounting for a fifth. And studies of Japanese firms also show that imports contribute to accelerating the speed of catch-up with other countries.

Trade plays an important role for "first in the world" innovation by increasing the pool of technology available for the domestic innovation process. As demonstrated by the example of Chinese silk, technology can be either embodied in goods or "disembodied" in the knowledge held by some people. Trade plays an especially important role for "first in the world" marketing innovations and organisational innovations, particularly trade in ICT products. One estimate for the US suggests that globalisation of IT hardware resulted in IT prices some 10% to 30% lower than they would be if the country had had to rely on domestic production and technological advances alone in the 1990s. This translates into an increase of $250 billion in American GDP over 1995-2000 compared with what it would have been without globalisation of IT hardware.

Trade in technology through licensing

Protection of intellectual property rights and a well-functioning technology licensing market are important parts of an effective innovation system. International receipts for intellectual property (including patents, copyrights, trademarks, etc.) increased from $10 billion in 1985 to $110 billion in 2004 with more than 90% of the receipts going to the European Union, Japan and the United States. This is changing, as emerging economies such as China,

India and Israel encourage R&D and file more and more patents. The need to both access international innovations and protect domestic ones means that intellectual property protection is also being reinforced in these countries.

INVESTMENT IN INTELLECTUAL ASSETS AS A PERCENTAGE OF GDP

	United States 1998-2000	United Kingdom 2004	Japan 2000-02	Netherlands 2004	Finland 2005
Computerised Information	**1.7**	**1.7**	**2.0**	**1.2**	**1.0**
Innovative property	**4.6**	**3.4**	**3.7**	**2.4**	**4.0**
Scientific R&D	2.0	1.1	2.1	1.5	2.7
Mineral exploration	0.2	0.0	0.0	0.0	0.0
Copyright and licence costs	0.8	0.2	0.9	0.1	0.1
Other product development, design and research	1.6	2.0	0.7	0.7	1.1
Economic competencies	**5.4**	**5.0**	**2.5**	**3.6**	**4.1**
Brand equity	1.5	0.9	1.0	1.6	1.7
Firm-specific human capital	1.3	2.5	0.3	0.8	1.2
Organisational structure	2.7	1.6	1.2	1.2	1.1
Total investment in intangible assets	**11.7**	**10.1**	**8.3**	**7.5**	**9.1**

The importance of intellectual assets for value creation is reflected in corporate expenditure, where investment in "intangible" assets appears to be approaching levels comparable to investment in tangibles. Several studies suggest that firms now often spend as much on intellectual assets as on tangible assets. The problem is that these assets, which include not just R&D, patents and trademarks, but also human resources and capabilities, organisational competencies (such as databases and routines) and "relational" capital (such as customer and supplier networks), are difficult to measure and most do not appear in firm-level or national accounts. As a result, firms with a significant share of such assets can face particular difficulties for accessing finance, and resource misallocation can occur as investors put their money in more certain, but less economically efficient, projects.

Source: OECD Science, Technology and Industry Outlook 2008.

StatLink : *http://dx.doi.org/10.1787/545148765637*

Licensing increases the efficiency of innovation processes by putting inventions in the hands of those best capable of commercialising them. It allows the licensor to recoup some of the costs of developing the technology, while the licensee gains the right to use the technology, and possibly gain access to detailed information on the technology depending on the terms of the contract. Purchasing patents can be more effective than R&D in increasing productivity, especially for developing countries and countries with low R&D productivity. Licensing enables rapid acquisition of product and process knowhow, while preserving local control over adaptation and modification. But once again, it requires a significant level of local capability to put licensed technology to work.

Trade, licensing and investment used to be considered alternative ways of exploiting technology in foreign markets, but they are increasingly complementary. There were only 7 000 multinational enterprises at the beginning of the 1970s. Today, there are ten times that number, each with, on average, ten foreign affiliates. Multinationals and their affiliates tend to be more productive and generate more ideas than their purely domestic counterparts and affect the economy in multiple ways.

First, innovation and average productivity increase as firms become multinationals or affiliates of them. Second, if the share of multinationals and affiliates increases in the economy, this increases innovation and average productivity not only in the firms themselves, but also in the general economy. Third, there can also be an indirect effect, when there are spillovers to other purely domestic companies, for example through enhanced competition, imitation and worker mobility. Local suppliers have to upgrade their production processes, quality and delivery methods to satisfy an internationally competitive client, a process known as "backward vertical linkages".

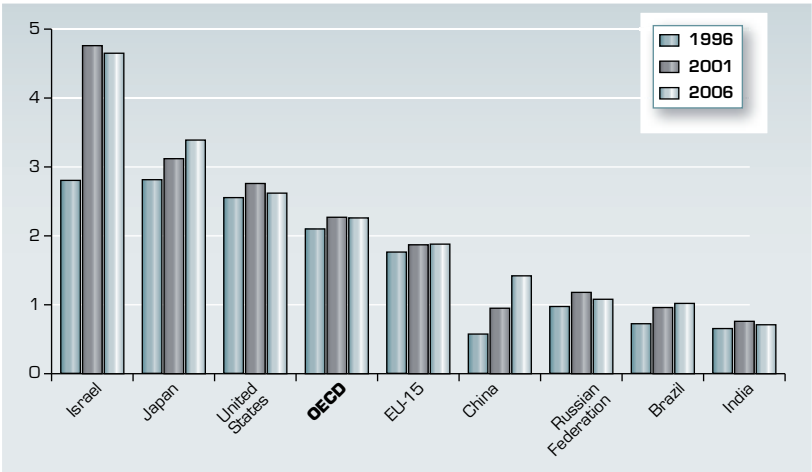
Research and development, the very basis of innovation, are subject to the same forces as the products and processes that finally emerge. The developed countries used to carry out practically all the world's R&D, but four trends are changing that: the increasing presence of non-OECD countries in global R&D; the increasing presence of non-OECD multinationals in global R&D; the increasing internationalisation of multinationals' R&D; and the increase in international alliances.

> **"Non-OECD economies account for a sharply growing share of the world's R&D – 18.4% in 2005, up from 11.7% in 1996. The growing weight of these countries in the global economy accounts for part of this shift, but so does the growing intensity of investment in R&D relative to GDP, notably in China."**
>
> *OECD Science, Technology and Industry Outlook 2008*

The combined R&D expenditure of China, Israel, Russia and South Africa was equivalent to almost 17% of that of OECD countries in 2004, up from 7% in 1995, and R&D expenditure in some non-OECD countries is growing faster than in OECD countries. There has also been an increase in the number of developing-country firms setting up R&D units abroad, and developing-country companies are increasingly using mergers and acquisitions to access R&D capabilities. For example, the Chinese company Lenovo bought IBM's PC business in 2005 to become the world's third-largest personal computer company.

GROSS DOMESTIC EXPENDITURES ON RESEARCH AND DEVELOPMENT

As a % of GDP



Source: OECD Science, Technology and Industry Outlook 2008.

StatLink : *http://dx.doi.org/10.1787/544876773566*

However, even if technology is transferred, it still has to be absorbed by the firm involved and by the local economy in order for the technology to be exploited. This means having a good supply of human capital. Analyses of FDI flows from industrial countries to 69 developing countries show that FDI is more productive than domestic investment only when the average adult male in the host country has at least a little secondary school education. But technology plus human capital are not enough. Trade in knowledge or technology is only one part of a complex equation. Macroeconomic stability, health status, political stability, supply of capital and basic infrastructures such as telecommunications, electricity and transportation, all affect absorption capacity.

Of course many of these factors are outside the control of firms and depend on general conditions in the country. The implications for trade policy of absorption capacity at the level of a country could be summarised as follows. Outside sources of knowledge are important for innovation, but the contribution to domestic innovation will depend on absorption capacity, which is probably greater in areas where the country has some prior knowledge. Diversity of background is also important for absorption capacity. Countries with a varied range of production and exports are more exposed to innovation and are more likely to create an environment conducive to domestic innovation.

Trade affects innovation through competition

When looking at the role of trade and investment in innovation, it is necessary to take into account indirect effects as well as the direct effects of imports or investment by foreign firms. For companies that export or invest abroad, or who sell to exporters, changes in foreign markets can have competition effects even in the absence of imports or inward FDI. There are two views on the effect of competition on innovation. Under the first view, erosion of profits through increased competition reduces a company's ability and incentive to innovate. The opposing view is that greater competition increases the incentives to improve performance through, among other things, innovation. The empirical evidence tends to support the latter.

Firms that export are more productive than those that do not and innovation has an important role to play. This is partly due to the fact that there are fixed cost to exporting and to make the investment to pay these fixed costs, exporting firms by definition need to be more productive. A second explanation is a "learning by exporting" effect. Although the empirical evidence is ambiguous, it could be argued that exporters become more productive thanks to exporting by getting more access to technology, getting new ideas from customers and by being subject to stronger competition. One reason for the ambiguity is that firms often make deliberate decisions in terms of investment, training and technology to raise productivity before trying to conquer export markets, making it more difficult to pick up differences before and after.

The third explanation why exporters are more productive is that trade, especially exports, extends the size of the market in which profits can be earned, providing greater incentives for increased investment in innovation. A large part of R&D costs are fixed (they don't change depending on how much is sold) so a company selling to both domestic and export markets may be able to recoup R&D investments over a larger quantity of sales. These scale economies are especially important for countries with smaller domestic markets. Earlier, we mentioned Samsung. The company spent $4.6 billion or 8.3% of total sales on R&D in 2004. If its sales had been limited to Korea, Samsung would have had to spend nearly 50% of its sales to maintain R&D at a similar level.

Global value chains

An Apple iPod includes parts designed and manufactured by other American companies as well as components and software from Japan and Scotland. It's assembled in China. This is what we mean by global value chains. This globalisation is an innovation in its own right, as an organisational innovation in business practices. Multinationals are driving this innovation because of their search for efficiency, entry into new markets and access to strategic assets. Changes in industrial structure amplify the effects. Economists describe this as a change from vertically integrated structures to horizontal structures. In a vertically integrated structure, the same company does just about everything from R&D to sales and marketing, so innovation is more likely to come from

inside rather than outside the firm. In a horizontal structure, a number of companies specialise in a particular aspect of the value chain.

The computer industry illustrates both structures. Until around 1980, computer companies were strongly integrated vertically. The machines were mainly large mainframes whose hardware and software were all developed by one company. The company also handled sales and marketing, and you couldn't buy a computer or a programme in a shop. With the advent of personal computers assembled from standardised components for the mass consumer market, the computer industry has shifted to a horizontal structure. One company makes the hard drive, another makes the graphics card, a third supplies the software and so on.

The transition towards a horizontal structure has encouraged contract manufacturing of electronics manufacturing services. Contract manufacturers are the firms who actually make the products sold under brand names. If only the factory mattered, your mobile phone or MP3 player would be a Celectica, Flextronics, Jabil Circuit, Hon Hai Foxconn, Sanmina SCI or Solectron rather than an Ericsson, Nokia or iPod. Each of these firms that most of us have never heard of employs between 50 000 and 200 000 people globally and has sales between $8 billion to $16 billion.

In the semiconductor industry, the emergence of companies specialising in the manufacture of semiconductors (called foundries) means that other companies can specialise in design and sales without having a fabrication plant – so-called "fabless" firms. Contract manufacturers focus on managing the production facilities, allowing original equipment manufacturers to focus on product development.

The fragmentation of the production process and changes in the structure of global production networks mean that companies no longer need to excel in a wide range of activities in order to add value. They can concentrate on what they do best and buy products and services from other specialists. Global value chains give small companies the chance to add large value by excelling in one part of the value chain. New niches for the supply of novel products and services continuously emerge and allow small and medium enterprises (SMEs) to exploit their flexibility and their ability to move quickly. Dynamic SMEs see co-operation with

partners and innovation as a key to successful participation in global value chains. And as you might expect, firms buying from or selling to multinationals innovate more than firms that have weaker relationships.

The global value chain gives successful innovators, whatever their size, the chance to access global markets, upgrade their technological capabilities and move up the value chain. At the same time, this may mean that companies or even countries who fail to innovate can lose market shares, or disappear from markets completely. Government policy can play a decisive role in encouraging innovation. For example, telecommunications deregulation allowed new service providers to enter the market, stimulated the offer of new products and reduced prices.

Conclusion

We started this chapter by talking about catapults and guns and ended by talking about telecommunications. One thing that hasn't changed over the centuries is the difficulty of technology forecasting. In the early 1980s, AT&T hired the consultancy firm McKinsey to study cellular telephony. McKinsey estimated that by the year 2000, there could be 900 000 cell phones worldwide. Today, twice that many handsets are sold in a week. One lesson from this and other spectacular forecasting failures is that you should never underestimate the power of innovation. The McKinsey forecast would probably have been roughly correct if phones and services had stayed much as they were at the time. In 1985, a mobile phone weighed 20kg and in the UK it cost the equivalent of 320 Euros at today's prices to rent for three months.

Another lesson is that innovation is part of a virtuous circle. To stick with our example, more efficient batteries and progress in miniaturisation of all the technologies needed in a phone meant the weight could be reduced and the number of potential uses expanded beyond the initial in-car applications. The expanded market, and the promise of an even bigger potential market, made it reasonable to invest in developing an even more practical product. The bigger market also meant it was possible to reduce prices and increase profits at the same time, and have more money to invest in R&D.

Today, Nokia produces mobile phones in nine countries and buys components from over 30 countries. Firms like Nokia increasingly see themselves as an extended enterprise, orchestrating the inputs from multiple partners. Sources of innovation can emerge in different companies scattered across the world, but the trade networks they belong to help to transmit innovations and transform them from bright ideas into better products, better ways of making products or better ways of selling them.

Try to imagine the new technology we are going to see in your lifetime, to deal with environmental issues for example. But keep in mind that numerous interactions and competing influences mean that simply extrapolating from today's conditions is likely to make you look foolish in a few years' time.

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For an introduction to OECD work on trade, visit *www.oecd.org/trade*.

The OECD Innovation Strategy
In 2007, with productivity losing momentum, OECD ministers agreed on the need to improve the framework conditions for innovation. The OECD Innovation Strategy project is built around evidence-based analysis and benchmarking. It will include a framework for dialogue and review, new indicators on the innovation-economic performance link, initiatives for innovation-friendly business environments, and the development of best practices and policy recommendations.
www.oecd.org/innovation/strategy

Publications

Staying Competitive in the Global Economy: Moving up the Value Chain (2007):
Moves up the value chain are reviewed in OECD countries as well as in China, since R&D is increasingly going to emerging countries. The report examines how OECD countries are affected by the globalisation of production. It discusses the costs and benefits of globalisation, emphasising employment, productivity and competitiveness. The need for an effective innovation strategy is stressed.

Enhancing the Role of SMEs in Global Value Chains (2008):
The reorganisation of production at the international level is having significant effects on small and medium-sized suppliers. New niches for the supply of products and services continually emerge from the fragmentation of production, where small firms can quickly position themselves, exploiting their flexibility and their ability to move quickly.

OECD Science, Technology and Industry Outlook 2008
Chapter 2 looks at the internationalisation of R&D and innovation, and analyses the drivers behind this trend. It presents indicators related to the globalisation of inputs, outputs and trade of R&D. It also examines the changing innovation strategies of multinational enterprises; considers the policy challenges and opportunities posed by R&D-internationalisation; and traces initiatives undertaken by governments in OECD countries.

International Investment Perspectives 2006
Chapter 2, "Globalisation, New Technology and International Investment", takes stock of how new technologies are advancing the closer integration of economies, reconfiguring both the external and internal organisational structures of international businesses. Chapter 4. "Outward Direct Investment: What Benefit to the Home Countries?" finds that outward investment almost invariably has a beneficial macroeconomic effect.

Also of interest

Innovation and Growth: Rationale for an Innovation Strategy (2007):
Today companies create value-added by investing in "intellectual assets" rather than in machinery and equipment as such. This reports looks at how governments can help this process through innovation strategies.

Summary Report of the Study on Globalisation and Innovation in the Business Services Sector (2007):
The different roles of business services in the innovation process are analysed: source of innovation, facilitators of innovation or carriers of innovation.

11

Trade affects practically everything we buy at some stage, and influences many aspects of our daily lives. Whether this influence is good or bad depends on how you look at things. Trade can be a powerful force for positive developments, but it can also bring problems and uncertainties. It may not be the most important factor determining the prosperity of countries and people, but prosperity has rarely if ever been achieved or sustained without it. Trade must therefore be an important component in any overall economic strategy that aims to generate sustained growth and prosperity.

What's in It for Me?

By way of introduction…

Practically everything you buy has depended on international trade at some point. Even locally-grown food could not be produced in large quantities and carried to the shops without the oil imports that provide fertiliser for the farmers, fuel for tractors and trucks and components to assemble the tractors in the first place. The expression "global value chain" is a useful metaphor for the process that links consumers to products, but it implies something orderly and linear. In reality we're talking about something more like a spider's web. Each link in a chain only touches two other links, and if one link is broken, the whole thing is useless. The web of manufacturing, distribution, retailing and all the services associated with them is being spun, ripped, extended or retracted all at the same time.

You normally only see the end result – the final product. The box it comes in only indicates one of many places involved, although sometimes it will say "assembled in" rather than "made in", thus at least hinting at the number of intermediate stages and products that went into manufacturing. This country of origin is often mentioned in a negative way when something goes wrong. For example, if toys are found to contain dangerous paints, the media will usually brand them as "Chinese toys" or "cheap imports from China", giving the impression that the whole country and its billion inhabitants are somehow to blame for a failure in quality control by a multinational manufacturer.

Trade can bring benefits through making available a larger number of goods, at lower prices, to a greater number of people. But larger, lower or greater than what? A modern economy without trade doesn't exist, so the comparison has to be among markets with varying degrees of restrictions on trade or other factors that distort competition, such as subsidies. What's in it for you depends on whether you're a customer or a seller, on where you are, on your profession and on a range of other personal factors. It also depends on the policies of your government, the trade agreements it has signed and the measures it takes to promote potential gains from opening markets and to adjust to the associated costs of doing so.

▶ In this final chapter, we'll look at what's in it for various groups that make up an economy and a society. We'll examine what trade can do for manufacturers, workers, shopkeepers and the one group we all belong to – consumers.

Making things

Economics can be complicated and confusing, and the branch dealing with international trade is no exception. Yet the basics are simple: you need things to make and sell other things, you need people to buy them and the more of these you have, the cheaper it becomes.

Trade gives the companies that produce goods and services lower costs, access to bigger markets for what they buy and sell and access to a bigger supply of knowledge, skill, experience, competitive pressure and finance to do this. Take mobile phones, for instance. There are now over three billion subscriptions worldwide and the mobile phone is the most common electronic device on the planet. It's still used for its primary purpose of making phone calls of course, but also to make films, listen to music, watch TV or surf the Web. It's a prime example of how people will quickly adopt a technology that is seen as useful and good value for money. In remote areas of Africa, shepherds use it to make electronic payments to each other.

Think for a moment about all that goes into making this possible. A phone contains hundreds of components. It embodies physical and intellectual inputs from every continent. It requires manufacturing precision unthinkable a few decades ago. It relays its messages through networks of satellites. And most of us throw it away or forget it in a drawer after a year or two because we get a better model. That's how cheap this amazing technology has become.

And without trade, it wouldn't have happened. Even supposing a company in Finland, Korea or wherever had its own supply of the rare metals and everything else needed to manufacture the phone, if the only sales were to the few million domestic customers (or few hundred million for a big country like the US) the price would not be the same as in a market with a thousand times as many potential buyers.

By definition, international trade benefits multinational companies from developed and developing countries – they wouldn't be multinationals otherwise. What's interesting is how the strategies of firms from emerging economies are changing, and also what their role is in the international economy. These firms have used their cost advantages to enter world markets and

consolidate their place. As more countries try to imitate them, cost is becoming less of an argument, so they're trying to develop the skills, brands and products to compete with Western firms. One way to do this is to buy Western companies, as Chinese firm Lenova did with IBM's PC manufacturing.

This has implications for how these firms' home countries see international trade. Companies seeking to take advantage of international markets are more likely to push for openness in trade policy. Moving up the value chain means they are more likely to push for other policies to be brought into line with standards in OECD countries, as happened in the Indian pharmaceutical industry when its companies started making major acquisitions abroad.

Small and medium-sized enterprises are involved in international trade too, although figures vary widely from one country to another. According to the Australian Trade Commission, in 2002, only 4% of the total number of firms in the country exported, whatever their size. An EU study a year later found that 18% of SMEs were exporting and 30% had foreign suppliers. The higher figure for Europe is no doubt influenced by geography. EU firms don't have as far to go to export to each other, and some of their international relationships will be in border zones where local economies are fully integrated even though two or more countries may be involved.

The main barrier for an SME trying to internationalise is a lack of capital, but there is a series of other obstacles, mainly to do with communications. It can be difficult to identify foreign business opportunities; information on markets is limited or expensive to obtain; and there can be language and other practical obstacles to contacting potential customers. As trade barriers come down and communications improve, more SMEs will find a place in international networks, although not necessarily as exporters. They may also be importers or form joint ventures with foreign firms for instance.

> **"Countries which strengthen their core labour standards can increase economic efficiency by raising skill levels in the workforce and by creating an environment which encourages innovation and higher productivity."**
>
> *International Trade and Core Labour Standards*

What about the workers who are making all these products and providing all these services? Trade and globalisation increase the chances you will have to change jobs and maybe careers during your working life. As a country's comparative advantages shift, the value of your skill set to potential employers will change. As individuals, this means we need to keep an eye on the trends. Where are the new jobs arising? What skills are in growing demand? How can we adapt to the changing work environment?

The negative impacts of trade on employment – jobs moving abroad – grab the most headlines, and these impacts are the most immediate and most easily identified. But as we pointed out earlier, jobs are also created, and not just in lower-wage economies. The export sectors of OECD countries are major employers, and as low-skill, low-wage jobs move elsewhere, better jobs are created in the "home" economy.

This doesn't happen automatically though. If workers are to benefit from higher productivity jobs and higher real wages, we need to encourage forward-looking labour, health and pension policies that are buffered from changes in employment. We need to encourage policies that encourage on-the-job training and facilitate further education.

Selling things

The local family businesses that once dominated the retail trade no longer do so. You can often find the same stores, selling many of the same makes of food and drink, clothes and other consumer items wherever you go. You'll also find a fair number of them even if you go to another country. Yet unlike the producers of goods, most retailers are confined to the national market, although some truly global retailers are emerging.

That doesn't mean that retailers only trade nationally. Products are imported from all over the world, although food retailers tend to buy as much as possible locally. At the same time, trade statistics show a significant and growing share of imports in food products, suggesting that although the direct supplier to the retailer may be mainly local, a bigger share of the products or ingredients is imported. Apart from the differences between food and non-food

items, imports are also affected by the label under which a product is sold. The "own brand" labels found in many stores are often sourced from developing countries.

The fact that a retailer has stores abroad also affects the role of international trade in its business at home. These retailers tend to import products to their home operations from the foreign countries where they are present. The impact can be quite large. For instance, France imports about 20% more from countries in which the French supermarket chain Carrefour is present than from countries where it is not. To benefit from these opportunities, suppliers in developing countries have to meet international standards of quality, hygiene and delivery. This can boost development, including in rural areas, if the necessary infrastructures and human resources are mobilised.

Donors and their partners in charge of organising "aid for trade" could learn from the successes and failures of efforts to join the international supply chains of large retailers, and channel assistance into easing bottlenecks related to transport, for example, and through technical co-operation related to complying with new standards.

The disappearance of the small family business through mergers, being bought out or bankruptcy, and their replacement by larger firms, is known as market concentration. This can have positive and negative effects for consumers. The bigger the retailer, the more its bargaining power with suppliers, and some of the benefits of lower prices are passed on to customers. But if a market is not competitive, the retailer can still drive down prices paid to suppliers but keep prices paid by consumers high. The incentives to drive down prices by sourcing from foreign suppliers would be less, too.

Buying things

Consumers benefit from trade in a number of ways. For a start, trade makes local markets more competitive. It increases the number and variety of goods available. Of course you could argue that we don't need dozens of different styles to wear, hundreds of different foods to eat and so on. That's a discussion worth having. The range of things available in any department store or big online

shop suggests that individual consumers have different tastes – a fact borne out by the numerous varieties of food products such as cheese, for instance. They also appreciate the lower prices that trade brings.

One way to illustrate the impact of trade on everyday life is to look at how prices of internationally traded goods have changed over the past few years and how the prices of goods that are not traded have changed. A loaf of bread, rent or a hair cut are all examples of goods or services that are not traded much internationally. Have their prices gone up, down or remained the same? How about a pair of shoes, a camera or a watch?

Prices of goods that are the most open to international trade have fallen to the point that many of them are now so cheap that it would be more expensive to repair them than to replace them when they break. Electronics items probably come to mind, but some of the most radical changes in recent years concern clothing. In fact the textile trade sums up many of the points we've discussed in this book.

Consumers have benefited enormously from international trade in this sector. If you get the chance, have a look at the prices of goods in old catalogues and compare them with average wages in your country at the time. The prices of many items seem ridiculously low, but not when you figure out how long you'd have had to work to pay for them. In the US in the early 1930s, for instance, an average male factory worker earned just under $17 a week. A coat would have cost him a dollar or two more than his weekly wage. That's like paying over $500 today.

Today, you can still buy a coat in the US for around $20; in fact you can buy just about any item of clothing for that price or less. You can even find low-cost versions of the expensive clothes seen in magazines within about a month of the first pictures appearing. When you think about it, it's an incredible achievement. Within the space of a few weeks, buyers have passed their orders; designers have produced the models; cloth has been made, bought and sent to the factories; the patterns have been drawn; programmers have written the code that controls the machines; workers have manufactured the items, packed and shipped them; agents have taken care of customs and other formalities; advertising agencies and the media have devised,

produced and broadcast campaigns; and salespeople have started selling the new fashion.

Yet in the past, textiles, like agriculture, was one of the hardest-fought issues in the WTO, as it had been in GATT. From 1974 until the end of the Uruguay Round, textiles trade was governed by the Multifibre Arrangement (MFA). The MFA was a framework for bilateral agreements or unilateral actions that established quotas limiting imports into countries whose domestic industries were facing serious damage from rapidly increasing imports.

In essence, the MFA protected developed countries from competition from rivals in developing countries. The World Bank and IMF calculated that the system cost the developing world 27 million jobs and $40 billion a year in lost exports. During the Uruguay Round, textile trade was brought under the jurisdiction of the WTO, and the Agreement on Textiles and Clothing provided for the gradual dismantling of the MFA quotas. This process was completed on 1 January 2005, although large tariffs remain on many textile products.

International trade isn't the only reason for the fall in the price of many things we buy. Advances in production and other technologies are vital too, but trade joins together all the different stages of the process. It welds the links of the value chain.

By way of conclusion

In Chapter 2, we described the history of world trade. Looking at what happened in the past and comparing the experiences of countries that did things in different ways can help us to understand the issues. It can also fill in some of the gaps created by uncertainties in the economic theory and empirical data used to analyse trade and its benefits.

The first lesson is that no country has grown in wealth and power for very long while shutting itself off from international trade. China was the most advanced country in the world until it turned in on itself, and it is only now re-emerging. Its neighbour Korea is practically a caricature of the difference between two systems, one open, one closed.

It is useful shorthand to say "trade is responsible" for a socioeconomic phenomenon we are talking about. This can be meant in a positive or a negative way, as when somebody claims that trade is responsible for increased well-being or that trade is responsible for environmental destruction. But whether we're attacking or defending freer trade, it's important to remember two things.

First, trade (and the policies that shape it), is only one of a number of influences which determine outcomes. We argue that a country that is more open to trade is more likely to prosper, but trade alone will not bring prosperity, at least not to the population as a whole. Politics, infrastructures, health, education, the legal and banking systems, history, culture and geography all play a part.

Second, trade is not an abstract natural force. It is something that people decide to do, and the more power they have to take decisions, the more responsible they are for the outcomes. Trade destroys some jobs in some countries, but it creates other jobs in the process.

The woman who leaves her village in Bangladesh to find work in a garment factory is not the enemy of the woman in an OECD country whose job has been outsourced. Both can benefit. The Bangladeshi woman, however hard her working conditions, can provide better prospects for her children by working in the factory than if she stayed in the village. Because they will have had better nutrition and more education, there is a chance that life for this woman's children will be better than what she has known. The woman who buys the clothes she makes pays far less than she would for the same article if it was made in her own country. The OECD woman will be much more productive in an alternate occupation, though she may need some assistance to find it.

We could develop the example by trying to account for all the people and all the institutions involved in making a product in one country and selling it in another. In doing so, we'd quickly realise that the network was practically limitless. We'd also realise that the controversial issues have no simple solutions. Trade affects all the issues we've discussed in this book but as we said, it does not decide them. It is only one among many factors, and trade policy is not the ideal way to tackle problems involving a complex mix of the environment, development, justice, employment and so on.

You may know the African saying, "It takes a village to educate a child". But to feed and clothe children today and give them all they need for a happy and fulfilled life, it takes the world. That means trade, but it also means health care, education, infrastructure and institutions. When progress is made on all fronts, today's poorer and less developed countries will be able to reap the full benefits that come from integration into world markets.

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International Trade and Core Labour Standards (2000):
Developments at the national and international levels concerning trade, employment and core labour standards are reviewed. Increasing international competition is changing the priorities for foreign investors who tend to favour investment locations with highly skilled workers and modern infrastructure. There is no robust evidence that low-standard countries provide a haven for foreign firms.

Staying Competitive in the Global Economy (2007):
Chapter 2, "The Growth of Global Value Chains," offers a broad range of empirical evidence which shows the increasingly global integration of OECD countries and discusses the economic importance of emerging countries. New evidence that demonstrates global linkages among countries is presented. In an analysis of differences among industries, the increasing outsourcing/offshoring of services is discussed. The key role of multinational enterprises in globalisation is stressed.

Also of interest

Market structure in the distribution sector and merchandise trade, an OECD Trade Policy Working Paper (2007):
Developments in the retail sector that affect trade in consumer goods are studied, notably internationalisation, market structure, and the growing market share of retailers' private labels. Food and non-food products are analysed separately as there are significant differences between the sourcing patterns of these two product categories.
doi:10.1787/244328264654

... AND OTHER SOURCES

Internationalisation of SMEs, Observatory of European SMEs, European Commission, Brussels, (2003):
Exporting is the traditional way to internationalise, but during the last decade foreign partnerships, foreign investments and cross-border clustering have come to represent viable ways to facilitate exchanges of knowledge and technology and to strengthen international business strategies of SMEs.

Friends of the Earth
Friends of the Earth argues that the current "free" trade system is flawed because it says all economic growth is good; trade barriers should be removed; and the rules don't take into account changing economic and environmental needs.
www.foe.co.uk/campaigns/global_trade/issues/trade_explained_index.html

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