

No block to trade

Rapid expansion into regional trading blocks should not be feared

New
Economy

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The world has recently become, to a great extent, a collection of regional trade blocks, with seven of the 14 in existence being formed since 1992 (see Box on page 191). Though organised differently, they all feature preferential or free trade for their members and, generally, common policies towards outsiders.

The European Union started this trend. It had six members after the Treaty of Rome in 1958, 10 by 1981, and now includes 14 countries. Since 1985, its economy has grown about 18 per cent. Today the EU houses 6.5 per cent of the world's population and it allows the free movement of goods, people, services and capital around an area accounting for about one-quarter of the world economy. It is the largest of all regional trade zones, with average income of about US\$21,000 per head. The North American Free Trade Agreement (NAFTA), set up in what appears to be a strategic response to this development, has an average output per head of US\$15,800. ASEAN, although long existing, has recently begun to build up their free trade area while MERCOSUR, the South American Common Market, with an area 3 times that of western Europe, and GDP per head of \$3,285, was formed in December 1994 after years of aimless discussion.

The trend is thus clearly established. The

question is whether we should fear or welcome these developments.

Global trade

While regional free trade agreements have prospered, negotiations towards the liberalisation of global trade have moved slowly. The background for these negotiations is the General Agreement on Tariffs and Trade (GATT), which emerged as one of many institutions created to manage the world economy after the Second World War.

Global free trade is still troubled: the recent GATT negotiations generated little good will; and the USA's recent sanctions against China for alleged violations of intellectual property rights, and China's reprisals, show the strain the system is under.

The contrast between the GATT's lackluster

Other works by the author on this subject include:

Trade Regimes and GATT, Journal of International Comparative Economics (1994).

North-South Trade and the Global Environment, American Economic Review, (1994).

Traditional Comparative Advantages vs. Economies of Scale, CEPAL/UN report (1991).

A General Equilibrium Theory of North-South Trade Equilibrium Analysis, Essays in Honour of Kenneth Arrow, CUP (1986).

tre performance and the success of regional trade pacts raises concerns about the ultimate impact of trading blocks on world trade. Some people take a positive view of the emergence of regional blocks as a varied and piecemeal way of organising international trade. Others fear that since such 'customs unions' are inherently opposed to global free trade, they could lead to increasing protectionism and a dampening of world economic growth. Since the Second World War, international trade has grown three times faster than the world economy. Anything that alters this trend could have major consequences.

Do custom unions interfere with global trade? Do they increase trade with insiders at the cost of diverting trade with outsiders? Since the 1950s, there has been little conceptual advance on the subject of trading blocks. But the issue is very much alive, and requires our attention.

Trade strategies

Two strategic questions seldom asked are: What type of trading block leads to trade wars, and what type would expand global trade? And what strategies within blocks encourage free trade?

Recent research establishes that trade strategies inside blocks determine the trade relations among them (Chichilnisky, 1991). When trade within the blocks is organised around the principles of traditional comparative advantage, the formation of blocks hinders global free trade.

But when blocks are organised around the principle of 'external' economies of scale – a concept explained below – they can contribute to the liberalisation of world trade. How does this work?

Diversion and creation

There are two classic arguments about how trading blocks negatively influence global trade. The first says that free trade blocks could be 'trade diverting'. This is where imports from a lower cost source outside the

block are replaced by sources inside the block which have higher production costs but more attractive prices because their goods are not subject to tariffs. Insiders' products do not pay tariffs, so they are less expensive to consumers. This leads to trade diversion, the wrong specialisation within the block and efficiency may be lost as a result.

The effects of Trading Blocks – the 'classic' case

Cost of vegetable oil (\$) per tonne (hypothetical)

	0	Tariffs	
		8	12
Germany	20	20	20
Portugal (before EU)	16	24	28
Portugal (after EU)	16	16	16
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Diversion

The Table illustrates this argument with a hypothetical example involving Germany, Portugal and the USA trading vegetable oil. In terms of initial production costs, the USA is the cheaper than Portugal which is cheaper than Germany.

Initially, Germany has a low tariff of \$8 that applies equally to all imported oil. It imports American oil, because the USA offers the best overall (second column). Suppose Germany imposes a higher tariff (at \$12). It now uses its own oil even though it has the highest price of production. Now it enters a free trade agreement with Portugal. The effect of the pact is to make Portuguese oil (at \$16) cheaper than Germany's and the USA's. In this case, Germany replaces its domestic oil with one less expensive to produce (from Portugal) and uses its domestic resources in more productive sectors. Welfare increases.

However, if the tariff had initially been at the lower rate (\$8), Germany would have been buying US oil before the free trade agreement and Portuguese oil after. Germany has replaced a low cost source – the USA – by a

higher cost producer. In this case, the free trade zone lowers welfare.

Extra trade among the members of a trading block generally increases welfare. The trade which is not additional but is a diversion from efficient outside sources, lowers welfare. If northern Europe is induced, by the entry of southern Europe, to buy oil from Portugal rather than an equivalent from the USA, and the US source is more efficient but less competitive after tariffs are eliminated with in Europe, there has been a welfare loss.

Tariff wars

The second problem with trade blocks is that they can lead to tariff wars because they increase the market power of the bargaining units. When traders are competitive, free trade leads to efficient allocations: in other words, there is no way to make everybody better off. Why, then, impose tariffs? Are countries irrational in evading free trade? Or does a lack of co-ordination prevent them from reaching the best solution?

No. The world's problems with free trade derive not from irrational behaviour, nor from a lack of co-ordination. There is a simple explanation for tariffs. Free trade is the best option in competitive markets, but not when countries can influence prices – that is, when they have 'market power'. Larger traders have this capability; smaller traders do not. The larger the region, the larger its market power.

Free trade is not optimal for larger traders because they can manipulate world prices in their favour by restricting the quantities they import. The manipulation of prices makes allocation less efficient for the world as a whole, but it can improve the position of the large region itself. Examples abound. OPEC routinely puts ceilings on the oil production of its members in order to keep oil prices from dropping. Reciprocally, the USA, which consumes 25 per cent of the world's production of oil, could drive down world oil prices by imposing tariffs on imported oil. Indeed, before 1973, oil importing countries had been known

to exercise their market power in the market.

A tariff decreases a region's demand for imports and can therefore force down the price. This improves the importer's terms of trade: the region pays relatively less for what it imports, and this is a favourable outcome.

But there are drawbacks to this strategy. By distorting prices, the tariff can also distort production and consumption at home. Nevertheless, under classical assumptions it can be shown that a positive level for the tariff can always be found at which the gains outweigh the losses. The importing region is better off with the tariff than without (Krugman and Obstfeld, 1988). This is why large countries prefer tariffs to free trade.

Trade wars

In recent decades, a world of small and relatively competitive economies has merged into a few large trading blocks, each with substantial market power. The blocks are larger and therefore have more market power than the countries had initially and this has implications for free trade.

Free trade is the best response in a world of small, competitive countries. Not so for regions with market power. The larger the market power of a region, the greater its incentive to raise tariffs. When the incentives are reciprocated, this could escalate into trade wars.

The EU is a case of several small countries joining forces, acquiring a common trading strategy and becoming a major player in world markets. After its formation there were stronger incentives for imposing tariffs than there had been before (Kennan and Riezman 1988). In other words, regional trade blocks, under traditional conditions, can lead to protectionism. The creation of regional free trade zones can encourage tariff wars.

Economies of scale

This analysis of tariffs is widely understood, accepted and applied. Surprisingly, though, tariffs have not been examined in the context of the most dynamic sectors of the world

economy, such as electronics and telecommunications. In these industries, productivity increases rapidly at higher levels of output and diffuses across firms throughout the sector. Most knowledge-driven industries have these characteristics, which I call 'external economies of scale' – 'external' referring to the spillover of productivity across firms.

Where there are external economies of scale, the classic analysis of tariffs breaks down (Chichilnisky, 1991) and the two major dangers posed by the formation of trade blocks can be averted: free trade can be better than tariffs, even for regions with market power; and trade diversion can be mitigated. Before explaining why, it is worth reviewing the empirical evidence for external economies of scale.

Evidence for economies of scale

Even standard textbooks say that, in the long run, average costs in many industries decrease up to a point, and then remain constant (ie increasing returns to scale as opposed to the standard assumption of decreasing returns to scale). Examples of this are the passenger car industry, aerospace, electricity generation, railroads, and commercial banking. This happens in consumer electronics and hardware as well, sectors where there has been an dramatic drop in prices as production has increased.

Increasing returns to scale have played a prominent role in the EU. Taking advantage of economies of scale was an important factor in the Treaty of Rome, and central to the success of the European Common Market. Larger markets and the associated rationalisation of production led to efficiency gains, which took precedence over possible trade diversion. In Europe, the (controversial) figure of a 7 per cent efficiency gain resulting from European union rests primarily on estimates of gains from increased competition and rationalisation.

Internal and external economies of scale

Traditional economies of scale are internal to

the firm. This means each firm is more efficient at larger output levels, producing at lower unit costs. This happens in industries with substantial 'fixed costs' in large plant and equipment, such as airlines, communications networks, insurance services and utilities. Internal economies of scale often lead to 'natural monopolies'.

External economies of scale, a relatively recent phenomenon, occur in the most dynamic sectors, such as electronics, financial markets, biotechnology and communications. They are typically associated with small or medium plants and firms, and do not require large fixed capital stock. External economies of scale are connected with skilled labour and appear often in knowledge-based industries. Most interesting of all, they can occur in competitive markets, and need not induce monopolies.

Knowledge-intensive sectors

How do external economies of scale arise? In the electronics industry, which is at the core of today's transformation of every sector of the economy, each computer manufacturer faces a highly competitive market. However, as the overall level of output of the industry expands, knowledge about new technologies develops and diffuses quickly across the industry, leading to lower costs for all. Each firm in isolation faces decreasing returns; but for the industry as a whole, costs drop as output expands. There are increasing returns to scale.

The main factor in all this is the skill of the labour force, which embodies knowledge. Knowledge spreads rapidly and cannot be captured by a single firm – there are abundant examples in the software and hardware industry. Knowledge creates skilled labour – for example, skilled management – which can move freely between firms, transferring new ideas and methods from leaders to others and raising overall productivity. This in turn leads to increasing returns to scale external to the firm. The result is the best of both worlds:

economies of scale within competitive and efficient markets.

The Asian Tigers

Knowledge-intensive sectors are also more successful as a foundation for export-led development than traditional comparative advantages. The successful development of Japan, Korea, Taiwan and, more recently, Singapore, Hong Kong and the Philippines, shows that export-led policies based on the external economies of scale connected with skilled labour, are more successful than those which use inexpensive and uneducated labour.

The latter are typical of labour-intensive sectors on which traditional comparative advantages are based: for example, resource-intensive industries in Latin America and Africa. These two regions have been particularly unsuccessful in their development efforts based on traditional comparative advantages (Chichilnisky, 1986).

To summarise the two trade strategies: in one, regional trading blocks are organised around the strategy of traditional comparative advantages, and in the other around external economies of scale. The latter revolves around new technology and the most dynamic sectors of the world economy – knowledge-intensive sectors.

Economies of scale vs protectionism *Mitigating trade diversion*

The idea of trade diversion remains central to the analysis of free trade zones. But in practice it misses an important aspect. The increased size of the market can lead to more efficient production. If so, the block may not divert trade at all.

For example, as Portugal expands its oil

production because of its new trade with Germany, it becomes more efficient (see Table). After the tariffs are removed, Portugal produces and exports more vegetable oil and its costs of production per unit fall to \$10, the same as the US level. Now it is efficient for Germany to buy from Portugal in all circumstances. The block does not divert trade. Economies of scale can therefore mitigate trade diversion.

Pacifying tariff wars

We saw that a large region is always better off with tariffs than free trade under traditional conditions. By restricting imports, the region improves its terms of trade and is thus better off. However, when the imported good is produced with economies of scale, tariffs

can backfire. Even countries with substantial market power can be better off with free trade than with any tariff (Chichilnisky, forthcoming).

A good example is the electronics industry. The past 15 years have seen a dramatic drop in prices together

with a rapid expansion of output of computer hardware. The growth in output led to rationalisation and increased efficiency: the more produced, the lower the unit costs.

Putting a tariff on electronic imports might 'kill the goose that lays the golden egg'. The tariff reduces imports and, under conditions of increasing returns to scale, the less that is produced, the lower the productivity per unit of output. The final effect is actually higher import prices. Therefore, tariffs would mean the consumer ends up paying more for imports. The tariff worsens the region's terms of trade and decreases its welfare. So the existence of increasing returns to scale radically changes the incentives to use tariffs.

For this reason, trade blocks with external

The effects of Trading Blocks – with economies of scale

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economies of scale have weaker incentives to go in for protectionism. Indeed, during the recent debate in the USA over ratifying the GATT Uruguay Round, industries with external economies of scale, such as electronics and telecommunications, favoured ratification. The more traditional sectors, such as agriculture, were against.

The EU and NAFTA

What does this argument tell us about NAFTA and the EU? NAFTA can be seen as a strategic response by the USA to the creation of the EU. In seeking a trading block with its natural trading partners in the Americas, the USA answered the creation of substantial market power by trying to create more market power itself. This is a rational response if the USA expects a united Europe to impose tariffs on the rest of the world.

Under traditional conditions, the larger country wins trade wars. The USA will probably seek to expand its free trade deal with Canada and Mexico to include as many other countries in the Americas as possible. The aim is to achieve greater market power than that of a unified Europe.

Comparative advantages vs economies of scale

Trade in the Americas is mostly based on traditional comparative advantages. It emphasizes the countries' different stages of development. By contrast, European and East Asian countries perceive gains from trade as a matter of exploiting economies of scale.

The development of the EU was closely associated with a vision of rationalising production towards a larger market. France has based its nuclear energy strategy of the past 20 years on the creation of large nuclear facilities to drive down unit costs in the long run and save on energy imports. Today, France exports energy to take advantage of its increasing returns in nuclear energy production. Its policy is based on the rational exploitation of the nuclear industry's large fixed costs.

Japan and the newly industrialised countries in Asia have a dynamic vision of comparative advantages. They have prioritised moving up the ladder of comparative advantages in the production and trade of skilled-labour manufactures, of consumer electronics, and of products based on specialised knowledge and on technological skill.

By contrast, within the Anglo-Saxon sphere of influence, the prevailing vision of trade is still based on traditional comparative advantages. This permeates thinking about international trade at all levels – in government, international organisations, academic circles, and even among journalists.

THE MAIN TRADING BLOCKS

European Union (EU), inaugurated 1957.

Association of South East Asian Nations (ASEAN), 1967, including Malaysia and Thailand.

ANDEAN Pact, 1969, Peru, Bolivia, Ecuador, Venezuela, Colombia.

Central American Common Market (CACM), 1974, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua.

Economic Community of West African States (ECOWAS), 1975, including Ghana and Nigeria.

Southern Africa Development Community (SADC), 1992, including Somalia and Uganda.

North American Free Trade Association (NAFTA), 1994, USA, Canada, Mexico.

South American Common Market (MERCOSUR), 1994, Brazil, Argentina, Uruguay, Paraguay.

COMESA (formerly PTA), 1982, (covering Eastern and Southern Africa).

Group of three countries: (G3) Columbia, Venezuela, Mexico in 1994/5.

Asia-Pacific Economic Cooperation (APEC), 1994.

Visegrad, 1994, Czech Republic, Hungary, Poland, Slovakia.

The European free trade zone is, to a certain extent, a zone of equals. To encourage this equality, the introduction of free mobility of labour across the EU was one of the first steps in the European market integration of 1992. The Americas, instead, have the USA as 'hub' which concentrates on exporting manufactures and skill-intensive goods to the 'spokes' in exchange for their resources. The free mobility of labour between the hub and the spokes has not been mentioned by any of the relevant governments. In some cases, the free trade agreement has even been mentioned as a way to limit the mobility of labour between Mexico and the US.

To the extent that labour remains immobile within the Americas, traditional comparative advantages based on labour will be invoked as a foundation for policy. The concern is that an American free trade zone may reflect the historical patterns of trade between industrial and developing regions, which is usually called North-South trade. Our analysis shows that this can lead to tariff wars and restrict world trade.

Knowledge vs resources

As the world economy moves into the next century, two patterns will emerge. One is modelled on knowledge-intensive economies, and is driven by external economies of scale. These economies will grow rapidly and will open their boundaries towards other similar economies, merging into one large knowledge-intensive region of the world economy. The Asian economies and the USA are good examples. These will trade with each other, following the principle that trading opens up larger markets and thus increases everyone's productivity.

The second pattern is modelled after resource-intensive growth, and has typically decreasing returns to scale. These regions will be segmented, and will follow much slower growth patterns, as Africa and Latin America have done in the past 20 years. Protectionism against resource-intensive regions will continue as long as their production exhibits de-

creasing returns to scale. Resource-intensive economies will refrain from joining trade blocks (as Norway has done vis-à-vis the EU) or prefer slower integration patterns, as in the UK's case. Developing countries that follow strategies based on traditional comparative advantages as the foundation for trade, will fall behind (Chichilnisky, 1994). These are the patterns of trade prevailing in Latin America and Africa today.

The global environment is another reason to prefer knowledge-intensive growth over traditional comparative advantages as a foundation for trade. Two-thirds of the current exports from Latin America are resources, so this problem is very real for NAFTA. It is also very real with respect to international trade in wood and agricultural products which leads to deforestation of the world's tropical forests.

Traditional comparative advantages emphasise the production and export of goods which deplete environmental resources. For example, wood pulp and cash crops overuse rainforests, and minerals combustion creates greenhouse gases. Knowledge-intensive growth is kinder to the environment. Replacing resource-intensive exports based on traditional comparative advantages by knowledge-based industries with external economies of scale could be a necessary feature of sustainable growth for the world economy.

The traditional comparative advantages of developing countries in resource-intensive exports may be illusory. What appears as a comparative advantage may simply be a reflection of lack of property rights on environmental resources. Differences in property rights on inputs of production can, by themselves, explain today's patterns of North-South trade. In these circumstances, what appear as gains from trade may actually be losses ●