ECN330 Module 4 SRP. Safeguards, CVMs, AD and Competition in WTO

Contingency Measures in the WTO: Safeguards, Countervailing Measures, and Anti-Dumping

A firm can ask its government for three types of protection from foreign rivals: an 'emergency' safeguard tariff when there has been a surge in imports, a countervailing duty in the event a foreign rival or the rival's product is subsidized, and an anti-dumping duty when foreign products are sold at below cost (without the support of a subsidy). Thus, the WTO has built into its rules contingency measures that allow member states to act if or when import competition creates domestic hardships (i.e., injury to domestic industry) or unfair trade practices are suspected. The logic behind the contingency measures is that it is better to have a rules-based plan for responding to domestic hardships or unfair trade allegations rather than to have countries bilaterally sort out disputes that might result in tit-for-tat trade policy responses or place limits on market access such as a voluntary export restraint.

1. Agreement on Safeguards (SGs)

The Agreement on Safeguards sets forth the rules for application of SG measures pursuant to Article XIX of GATT 1994. SG measures are "emergency" import protection measures that limit market access in cases where there has been increased imports of a product, when such imports have caused or threaten to cause serious injury to the importing Member's domestic industry. Such measures take the form of suspension of concessions or obligations and can consist of quantitative import restrictions or of duty increases higher than bound rates [1].

The guiding principles of the Agreement with respect to SG measures are that such measures must be temporary; that they may be imposed only when imports are found to cause or threaten serious injury to a competing domestic industry; that they be applied on a non-selective (i.e., MFN basis); that they be progressively liberalized while in effect; and that the Member imposing them must pay compensation to the Members whose trade is affected [1].

The SG Agreement was negotiated in large part because GATT Contracting Parties increasingly had been applying a variety of so-called "grey area" measures (bilateral voluntary export restraints, orderly marketing agreements, and similar measures) to limit imports of certain products. These measures were not imposed pursuant to Article XIX (quantitative restrictions), and thus were not subject to multilateral discipline through the GATT, the legality of which was doubtful. The Agreement clearly prohibits such measures [1].

The SG Agreement, which explicitly applies equally to all Members, aims to: (1) clarify and reinforce GATT disciplines, particularly those of Article XIX; (2) re-establish multilateral control over safeguards and eliminate measures that escape such control; and (3) encourage structural adjustment on the part of industries adversely affected by increased imports, thereby enhancing competition in international markets [1].

A WTO member may restrict imports of a product temporarily (take "safeguard" actions) if its domestic industry is injured or threatened with injury caused by a surge in imports. The injury must be serious. Safeguard measures were always available under GATT (Article 19). However, they were infrequently used, some governments preferring to protect their domestic industries through "grey area" measures — using bilateral negotiations outside GATT's auspices, they persuaded exporting countries to restrain exports "voluntarily" or to agree to other means of sharing markets. Agreements of this kind were reached for a wide range of products, e.g.: cars, steel, and semiconductors.

The WTO agreement broke new ground, prohibiting "grey-area" measures, and sets time limits on all safeguard actions. The agreement says members must not seek, take or maintain any voluntary export restraints, orderly marketing arrangements or any other similar measures on the export or the import side [2].

An import "surge" justifying safeguard action can be a real increase in imports (an *absolute increase*); or it can be an increase in the imports' share of a shrinking market, even if the import quantity has not increased (*relative increase*) [2].

The WTO agreement sets out requirements for SG investigations by national authorities. The emphasis is on transparency and on following established rules and practices — avoiding arbitrary methods. The authorities conducting investigations must announce publicly when hearings are to take place and provide other appropriate means for interested parties to present evidence. The evidence must include arguments on whether a measure is in the public interest [2].

The agreement sets out criteria for assessing whether "serious injury" is being caused or threatened, and the factors which must be considered in determining the impact of imports on the domestic industry. When imposed, a safeguard measure should be applied only to the extent necessary to prevent or remedy serious injury and to help the industry concerned to adjust. Where quantitative restrictions (quotas) are imposed, they normally should not reduce the quantities of imports below the annual average for the last three representative years for which statistics are available, unless clear justification is given that a different level is necessary to prevent or remedy serious injury [2].

In principle, SG measures cannot be targeted at imports from a particular country. However, the agreement does describe how quotas can be allocated among supplying countries, including in the exceptional circumstance where imports from certain countries have increased disproportionately quickly. A SG measure should not last more than four years, although this can be extended up to eight years, subject to a determination by competent national authorities that the measure is needed and that there is evidence the industry is adjusting. Measures imposed for more than a year must be progressively liberalized [2].

A country applying a SG to restrict imports to help its domestic producers in principle must give something in return. The agreement says the exporting country (or exporting countries) can seek compensation through consultations. If no agreement is reached the exporting country can retaliate by taking equivalent action — for instance, it can raise tariffs on exports from the country that is enforcing the SG measure [2].

To some extent developing countries' exports are shielded from SG actions. An importing country can only apply a SG measure to a product from a developing country if the developing country is supplying more than 3% of the imports of that product, or if developing country members with less than 3% import share collectively account for more than 9% of total imports of the product concerned [2].

For agricultural goods, the Agreement on Agriculture, article 5, spells out the conditions for special (agricultural) safeguards (SSGs). The SSG raises tariffs of agricultural goods, triggered either by an import surge or a fall in the domestic price, virtually automatically, i.e., without any need to test injury or to negotiate compensation [3]. The SSG ensures market stability for commodity markets that are considered sensitive.

Figure 1 illustrates the trigger mechanisms for a SSG. Suppose the price differential, $[P_D]_1 - [P_W]_0$, is the result of the applied MFN bound tariff rate, i.e., the desired level of protection the country sought during multilateral trade negotiations. The import volume, $[Q_M]_1$, and the domestic price, $[P_D]_1$, correspond to the equilibrium under the MFN tariff. Since then, however, the market situation changes. The volume of imports surges to $[Q_M]_2$, (say because of an unexpected increase in the excess supply). A SSG could trigger a rise in the tariff rate (or the imposition of a quota) to reduce the import volume back towards $[Q_M]_1$. If instead the domestic market price fell to $[P_D]_2$ (left-hand panel), then a higher tariff could be applied above the MFN rate (equivalent to $[P_D]_1 - [P_W]_2$) to ensure that $[P_D]_1$ was maintained.

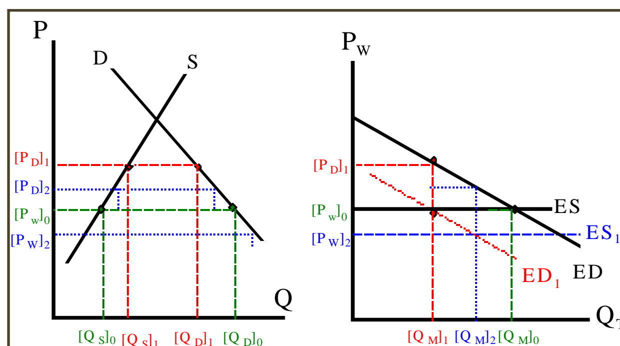


Figure 1. Illustration of special safeguard triggers

The rules allow that SSGs can only be used on products that were "tariffied" (e.g. quantitative restrictions converted to equivalent tariffs). Further, they can only be used if the government reserved the right to do so in its lists or "schedules" of commitments on agriculture [3]. As part of the commitment, the member state would have to specify the trigger levels of import volume and domestic price, i.e., $[Q_T]_1$ and $[P_D]_1$, in the schedules. Imports under tariff quota commitments are exempted from the SSG.

2. Subsidies and Countervailing Measures

Subsidies are measures, i.e., government transfers, that can give a domestic firm(s) an unfair advantage over foreign rivals. The WTO Agreement on Subsidies and Countervailing Measures (SCM) disciplines the use of subsidies, but it also regulates the policy responses that countries can take to counter the effects of subsidies. Under the SCM Agreement, a country can use the WTO's dispute-settlement mechanism to seek the withdrawal of the subsidy or the removal of its adverse effects. Or, the country can launch its own investigation into the unfairness and ultimately charge an extra duty (a "countervailing measure" or CVM) on subsidized imports that are found to be hurting domestic producers. A CVM, or anti-subsidy duty, is a means of neutralizing the adverse effects of a subsidy [4].

Thus, a CVM is a market access restriction applied by an importing country, exceeding its negotiated bound rate, as a response to an imported good that has been subsidized (excluding agricultural goods supported within their bound level of support). That is, a CVM cannot be applied on agricultural imports that receive government support that complies with the exporting country's allowable level of DS or export subsidy.

A member may impose a CVM only when it determines that there are subsidized imports, injury to a domestic industry, and a causal link between the subsidized imports and the injury. The SCM Agreement spells out the criteria that must be met to determine the existence of a specific subsidy and the criteria that regards industry and causation [5].

3. Dumping and Anti-Dumping Duties

Countervailing duties are sometimes referred together with anti-dumping duties — "AD-CVD" — and indeed many countries handle the two under a single law and give a single authority responsibility for investigations, but there are fundamental differences [2]. The WTO definition of a subsidy has a legal definition that limits the measure to be a transfer from a government or government agency that provides a benefit. Any unfairness is related to the transfer from the government. Dumping, by contrast, is an action by a company. reflects the behavior of a firm and does not involve a transfer by a government. That is, the firm, by its own strategy and financing, sells a good at different prices in different markets or sells at a price below its costs.

However, because the WTO is an organization of countries and their governments, the WTO does not deal with companies and cannot regulate companies' actions such as dumping. Therefore, the Anti-Dumping Agreement only concerns the actions governments may take against dumping. With subsidies, governments act on both sides: they subsidize, and they act against the other's subsidies. Therefore, the SCM Agreement disciplines both the subsidies and the reactions [2].

In an international context, dumping is when a firm sells on a foreign market (i.e., at the world price) lower than on its domestic market (i.e., $P_W < P_D$). Another definition is that the firm sells a good on the world market at price below its costs (either below the marginal or average cost). The argument

As with the CVM, the reaction to dumping is often a special offsetting import tax (anti-dumping duty in the case of dumping). This is charged on products from specific firm from the particular country and therefore it breaks the GATT principles of a binding tariff and treating trading partners equally (MFN). The agreements provide an escape clause, but they both also say that before imposing a duty, the importing country must conduct a detailed investigation that shows properly that domestic industry is hurt [2].

If a company exports a product at a price lower than the price it normally charges on its own home market, it is said to be "dumping" the product. Is this unfair competition? Opinions differ, but many governments act against dumping to defend their domestic industries. The WTO agreement does not pass judgment. Its focus is on how governments can or cannot react to dumping — it disciplines anti-dumping actions, and it is often called the "Anti-Dumping Agreement" [2].

The legal definitions are more precise, but broadly speaking the WTO agreement allows governments to act against dumping where there is genuine ("material") injury to the competing domestic industry. To do so, the government has to be able to show that dumping is taking place, calculate the extent of dumping (how much lower the export price is compared to the exporter's home market price), and show that the dumping is causing injury or threatening to do so.

GATT (Article 6) allows countries to act against dumping, but the Anti-Dumping Agreement clarifies and expands Article 6, and the two operate together. They allow countries to act in a way that would normally break the GATT principles of binding a tariff and not discriminating between trading partners — typically anti-dumping action means charging extra import duty on the particular product from the particular exporting country in order to bring its price closer to the "normal value" or to remove the injury to domestic industry in the importing country [2].

There are many ways of calculating whether a particular product is being dumped. The agreement narrows down the range of possible options. It provides three methods to calculate a product's "normal value". The main one is based on the price in the exporter's domestic market. When this cannot be used, two alternatives are available — the price charged by that exporter in another country, or a calculation based on the combination of the exporter's production costs, other expenses and normal profit margins. The agreement also specifies how a fair comparison can be made between the export price and what would be a normal price [2].

Calculating the extent of dumping on a product is not enough. Anti-dumping measures can only be applied if the dumping is hurting the industry in the importing country. Therefore, a detailed investigation must be conducted to evaluate all relevant economic factors that have a bearing on the state of the industry in question. If the investigation shows dumping is taking place and domestic industry is being hurt, the exporting company can undertake to raise its price to an agreed level to avoid anti-dumping import duty [2].

Detailed procedures are set out on how anti-dumping cases are to be initiated, how the investigations are to be conducted, and the conditions for ensuring that all interested parties are given an opportunity to present evidence. Anti-dumping measures must expire five years after the date of imposition, unless an investigation shows that ending the measure would lead to injury. Investigations are to end immediately in cases where margin of dumping is insignificantly small (i.e., less than 2% of the export price of the product), or if volume of dumped imports is negligible (i.e. if the volume from one country is less than 3% of total imports of that product — although investigations can proceed if several countries, each supplying less than 3% of the imports, together account for 7% or more of total imports) [2].

History of Anti-dumping

In 1904 Canada's parliament, angered by the soaring imports of cut-price steel from the US, imposed punitive tariffs. The threat was all too real when Canada adopted its pioneering law. The US corporate monopolies of the day were more than willing to manipulate markets to put rivals out of business. Even US lawmakers came to take aim at their "predatory pricing", creating the first modern competition laws.

Dumping is the practice of selling goods in foreign markets at an unfairly lower price – typically, one lower than the going rate in the exporter's home market. AD rules are intended to prevent a company from selling goods below cost to drive competitors out of business, before using the resulting market power to gouge consumers.

Such laws usually bar firms from selling their wares below the cost of production. AD rules, in contrast, tend to set a lower bar: they can be invoked if the price in one market is lower than in others. That makes it easy for firms seeking to shelter themselves from foreign competition to abuse them.

AD rules can be more damaging than run-of-the-mill protectionism, because like other trade barriers, they cause economic harm by shrinking markets and excluding efficient producers, raising prices for consumers. Anti-dumping measures do additional harm because big global firms know how to game the system. Should rival firms attempt to cut prices to gain market share, the firm files anti-dumping claims against them. That encourages everyone to keep margins plump, in effect creating an unspoken cartel. Such tacit collusion inhibits innovation and creative destruction, holding back growth.

In 2016, during the Trump administration's trade war, anti-dumping duties reduced US consumption by 3%, an effect equivalent to a uniform tariff of 7%. US steelmakers have often asked for anti-dumping protection, and China was one of many sources of steel. The government announced plans to impose an anti-dumping tariff on steel imports from China (and a handful of other countries) of up to 266%.

Economist, "Free exchange: Dumping and tub-thumping", 9 Apr 2016, p. 66.

Examples of contingency measures

In 2010 the EU opened a new front in its trade battle with China after member states gave their assent to a proposal to put anti-subsidy (countervailing measures) duties on imports of high-end paper. This marked the first instance in which the EU imposed anti-subsidy tariffs against Chinese manufactured goods. The move suggested the EU was willing to take more aggressive measures to confront what it believed were unfair trade practices by the world's largest exporter [6].

This was feared to start a wave of complaints as many European companies believed that Chinese competitors had eaten into their domestic markets with cheap financing and other help from Beijing. The Commission ultimately agreed with those claims and proposed a 12% anti-subsidy duty on the imported paper. It also called for an 8% duty for "dumping", i.e., selling goods below cost [6].

Analysts warned that the strategy could backfire by provoking Chinese retaliation and souring relations with one of the bloc's most important trading partners. "The likely effect of this is. . . tit-for-tat retaliation," said Fredrik Erixon, director of the European Centre for International Political Economy, a Brussels-based think-tank. Mr. Erixon warned the EU was vulnerable to subsidy cases because it had a record of lavishing benefits on its own companies. "These things happen all the time in Europe," he said [6].

Asia Pulp & Paper – China, the country's largest paper exporter, disputed the claims. Its lawyers argued that the analysis was unfair because the EU used Taiwanese real estate prices as a proxy for China when evaluating the complaint [6].

The EC has broad leeway to make such judgments because it does not consider China a "market economy", a source of frustration for Beijing. The company also noted that Chinese manufacturers account for less than 5% of the EU market, and accused the EC of in effect double-counting by imposing tariffs for both subsidies and dumping [6].

In practice, anti-dumping cases are far more popular among European manufacturers because they are easier to prove than subsidy cases. The EU's history of subsidising its own industries also made it inconvenient to point the finger at other nations, analysts say. But Karel De Gucht, EU trade commissioner, told Bloomberg in October 2010 that he believed anti-subsidy cases against China would "become a trend" [6].

In fact, anti-dumping tariffs are among the most pernicious weapons in a protectionist's arsenal. Countries can impose these tariffs on imports that are ostensibly "dumped" or sold below cost. For US shrimpers, they were a way to extract legal pay-offs from foreign competitors [7].

In 2004, urged on by domestic producers, the US slapped anti-dumping duties on shrimp from China, Thailand, India, Brazil, Ecuador and Vietnam. Much to the chagrin of the US producers, these tariffs were often not high enough to shut out the foreign competition. Exporters from Thailand, for instance, paid dumping duties of 5-10% and still saw their business burgeoning in the US. Overall shrimp imports were worth around $3 bn in the mid-2000s [7].

Foreign shrimpers' access to the US market is highly uncertain. Anti-dumping duties are not set in stone. Both exporters and domestic producers can ask for a review. In 2005, the Southern Shrimp Alliance (an umbrella group representing US shrimpers and processors) demanded a review of the duties paid by all exporters in the six countries accused of dumping, some 700-800 firms [7].

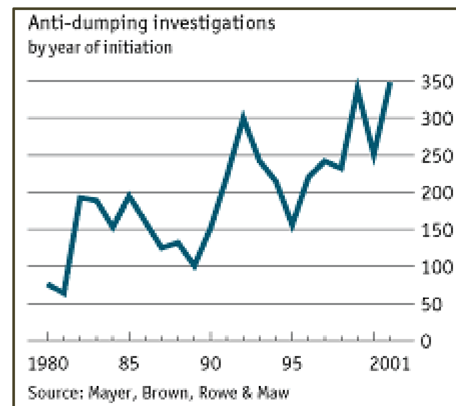
When anti-dumping duties are reviewed, the Commerce Department looks closely at the books of foreign exporters to work out how much "dumping" has occurred. Since it could not possibly examine the internal accounts of the hundreds of firms cited by the shrimpers, most people expected the department to take its traditional approach: look at the three biggest exporters in each country and apply a weighted average of their tariff rates to everybody else [7].

Foreign shrimp companies were desperate to avoid a reappraisal of the dumping duties. And the Southern Shrimp Alliance duly obliged, for a fee. In exchange for a pay-off, reputed to be up to 2% of the value of the foreigners' sales, the US shrimpers promised to withdraw their request for a reappraisal. Over 100 foreign companies, accounting for the majority of imports, signed up. Although the Southern Shrimp Alliance refused to divulge financial details, the pay-off was clearly worth many millions of dollars [7].

What is more, the deals allowed US shrimpers to get hold of the proceeds of the dumping duties themselves. Thanks to the Byrd Amendment, a US law declared illegal by the WTO and subsequently repealed by Congress, firms which filed anti-dumping complaints could also collect the proceeds. Since the repeal of the Byrd Amendment did not take effect until October 2007, the shrimpers collected some $150m of duties [7].

These trade remedies increasingly threaten the global trading system. For a start, they are proliferating promiscuously. Work by a law firm, Mayer, Brown, Rowe & Maw, showed that they had reached unprecedented levels in 2001: a record one for anti-dumping and safeguard investigations, and the second highest year for anti-subsidy investigations. Driven largely by the US's actions in the steel industry, 53 safeguard investigations were initiated in 2001, up from five in 1996. Some 24 countries initiated 348 anti-dumping investigations, involving 139 different products.

Anti-dumping cases have tripled since the 1980s (see chart, AD investigations) [8]



Although rich countries, notably the US and the EU, have traditionally been the most ardent users of anti-dumping duties, India began to rival them. It initiated 170 anti-dumping investigations between 1999 and 2002, one short of the US total. By contrast, it initiated a mere 15 investigations in the first half of the 1990s. Elsewhere, emerging economies have turned to anti-dumping protection: in 2001 they accounted for 18 of the 24 countries that launched anti-dumping actions. Rich countries increasingly became the targets of anti-dumping. According to Brink Lindsey at the Cato Institute, a think-tank, the US became the world's third-largest target of anti-dumping actions in the last half of the 1990s, after China and Japan [8].

This proliferation was concerning. Most observers reckoned that China, as a member of the WTO, would become a big user of anti-dumping actions, as well as being on the receiving end. The products targeted by such actions would also likely to broaden. Until the early 2000s, most anti-dumping actions focused on steel and chemicals. Yet once the global quota system for textiles was removed in 2005, rich countries were suspected to resort to trade-remedy rules to protect themselves from increases in textile imports from poor countries. That is why many developing countries were keen to see trade-remedy laws reformed during the Doha round, even though they themselves increasingly were using them [8].

The US's decision to impose steel safeguards in 2002 soured the environment for global trade. It unleashed safeguard actions in other countries, along with the threat of retaliation. The list of complaints at the WTO about the US's action on steel grow longer: besides the EU, seven countries filed formal complaints. Although the US claimed it acted entirely within WTO rules, the EU disagreed and pointed out that the US lost several safeguard disputes at the WTO [8].

In 2002, China also won its first-ever case in the US against an anti-dumping decision. The EU and Japan threatened retaliatory tariffs over steel. The furore about the US's steel safeguards was yet another argument for clearer global rules about trade remedies [8].

How Trade Remedies affect Competition: Case of US Washing Machines

Whirlpool, a US manufacturer of washing machines, first sought protection in 2011 when it accused Samsung and LG, South Korean competitors, of selling at prices that were too low. The rivals said its failure to innovate was the problem. The US International Trade Commission (USITC), which follows trade-remedy law written to protect producers, not consumers, found for Whirlpool. That led to tariffs of up to 82% on some washing machines from South Korea and Mexico (where Samsung had a factory).

Back in 2005, Whirlpool used competition from Samsung and LG to justify industry consolidation at home. US competition authorities were suspicious of a merger with Maytag, a US rival, which united more than 70% of domestic production of household washing machines. The Maytag-Whirlpool merger was allowed because of the promise of stiff foreign competition. William Kovacic, then at the US Federal Trade Commission, was so peeved by the case that he argued that merger approvals should require firms to waive their right to seek tariff protection.

But the duties Whirlpool had secured were easy to dodge. Samsung and LG started sending machines from their factories in China to the US, so Whirlpool asked the USITC to hit imports from there, too. Accused of undercutting again, the South Korean firms protested that "bundled pricing" distorted the facts. Washing machines often looked like they were sold at low margins, but in fact were being bundled together with driers, which were sold at high margins. When seen as an integrated unit, an apparently low-return washing-machine business could in fact be making adequate profits. But USITC ruled in favour of Whirlpool again.

The source of imports had already changed, though—to Thailand and Vietnam. So, rather than continue with the game of whack-a-mole, in 2017 Whirlpool made a bolder request: for a safeguard tariff, which hits imports whatever their source. (It is also temporary, to give domestic firms time to become competitive.) The USITC recommended tariffs of 20%, rising to 50% above a quota of 1.2m units in the first year, with the protection fading over three years. A US president can veto such requests, but Mr Trump did not.

The new restrictions were implemented in February 2018. As the law intended, imports fell, and US production rose. According to a study by Aaron Flaaen of the Federal Reserve and Ali Hortaçsu and Felix Tintelnot of the University of Chicago, retail prices of washing machines also rose, by 12%—with those of dryers rising in step. Whirlpool made some investments, including in a new training centre in Clyde, Ohio. A review of the tariffs in 2019 found that its profitability increased.

Yet Whirlpool came back for more. In November 2020 its lawyers complained that the tariff was meant to give it three fat years of profits to recover from the harm caused by imports. But Samsung and LG had brought in machines before the tariff came in, dampening its effect. Then came covid-19. Had the USITC known what market conditions would be, Whirlpool's lawyers argued, it would surely have recommended greater protection.

By then Samsung and LG had opened factories in the US. (How much of this, and the resulting jobs, reflects the tariff is up for debate, but it may have speeded up the decision to set up shop in the US.) The Korean firms argued that they were now part of the domestic industry—and did not need tariffs. They pointed out that the domestic industry was clearly thriving: around 80% of washing machines bought in the US were now home-made. Still, the USITC decided that, without an extension, cheap imports would flood in. Mr Trump did not disagree, so the tariffs remain until 2023. (Whirlpool says the decision reflects its efforts to ensure fair trade and to protect employees.)

The result is close to a decade of protection, arguably at the cost of customers' wallets. But Whirlpool has little recourse for protection left, and now faces stiff competition at home. Canny use of tariffs might help some producers some of the time. But competition cannot be avoided forever [9].

4. Imperfect Competition and WTO Rules

Rules related to competition under the WTO illustrate how the multilateral trading system has had to look beyond just disciplining trade policy. In some areas, WTO agreements address government procurement practices or the regulation of state trading enterprises, but multilateral overreach was prevented from the creation of common competition rules that supered the national competition authority.

Article XVII of GATT 1994, On Regulating State Trading Enterprises

A private firm, if it has significant power in a given market, may exercise this power in a way that distorts trade and thus causes economic detriment, rather than benefit. Furthermore, governments can act in indirect ways to influence world trade in an uneconomic direction; for example, acting through firms or enterprises to provide protection against imports or to advance exports, to the detriment of foreign producers. Thus, the drafters of the General Agreement sought to place the STE in the same competitive position — with regard to governmental support or protection — as the private firm. In other words, they sought to make State traders behave as private competitive traders, and thus to remove the potential for trade distortion offered by government involvement in an enterprise's decisions and activities [17].

The GATT rules impose two main obligations on member countries in regard to state trading enterprises (STEs). First, they require STEs to conduct their business on the basis of commercial considerations. Second, to ensure transparency in the products imported and exported by STEs, they require member countries to notify the WTO secretariat of relevant information on their activities [15][16].

With the increasing trend towards privatization in the 1990s, countries had been reducing their reliance on state trading. However, particularly among large emerging market economies it continues to play an important role in the import and export of certain goods, particularly food and food products and commodities traded in bulk. STEs are broadly defined under the WTO as:

> Governmental and non-governmental enterprises, including marketing boards, which have been granted exclusive or special rights or privileges, including statutory or constitutional powers, in the exercise of which they influence through their purchases or sales the level or direction of imports or exports [16].

Particularly important in this definition is the phrase: "in the exercise of which they influence through their purchases or sales the level or direction of imports or exports", as this goes to the heart of what the regulation of state trading in the WTO is aimed at – that is, the potentially distorting effects on trade of the operations of STEs. Conversely, the WTO does not seek to prohibit or even discourage the establishment or maintenance of STEs, but merely to ensure that they are not operated in a manner inconsistent with WTO principles and rules [15] [16].

What is a State trading enterprise?

Throughout the history of Article XVII, a major lacuna has been the absence of any clear definition of what a STE is, or what State trading is. Many attempts were made at such a definition, but all of them failed. Needless to say, this was a serious handicap in the efforts to enforce the transparency obligation under Article XVII. How can you make a notification when you don't understand what it is you are supposed to be notifying? Thus, it is likely that many STEs of many countries went unreported for years. To further complicate this already unsatisfactory situation, very few contracting parties to GATT complied with the notification requirement to make a notification annually, even where there were no STEs to report.

Definition in the WTO Understanding

The first paragraph of Article XVII itself provides the basic idea of what a STE is, without attempting an actual definition. Three fundamental elements are identified in this "working definition":

1. "State enterprises", i.e., a governmental or non-governmental entity, including marketing boards;
2. Enterprises granted special rights or privileges by the state (e.g., a subsidy or subsidy equivalent); and
3. Enterprises granted exclusive privileges (i.e., a monopoly in the production, consumption or trade of certain goods) resulting influence, through the enterprise's purchases or sales, on the level or direction of reports or exports.

Thus, a private corporation or enterprise that receives some special right or privilege from the State (that is, a right or privilege not generally available to other private sector entities in the same area and thus giving the enterprise an advantage over those firms) and that as a result of this right or privilege is in a position to influence the level or direction of trade, could be considered to be a STE. It is important to note that the special right or privilege granted need not give the enterprise a monopoly position.

Once again, it must be emphasized that an enterprise need not be State owned, nor need it have a monopoly position, to be covered by Article XVII and subject to WTO rules on STEs. The important criteria are that it enjoys exclusive or special rights or privileges, and that in the exercise of these rights and privileges it influences imports or exports by its buying and selling activities.

Types of STEs

1. Statutory marketing boards
Statutory marketing boards, also referred to as "statutory marketing authorities" and "control boards", appear to be the most common type of STEs in the agricultural sector. They often combine a monopoly on foreign trade with responsibility for management of domestic production and distribution (e.g., Norway's Vinmonopolet).

2. Export marketing boards
Entities with full control over foreign sales.

3. Regulatory marketing boards
Regulatory marketing boards have functions similar to statutory marketing boards, with one distinctive feature: they do not themselves engage in foreign trade operations, but rather contract out the actual trading operations to private entities.

4. Fiscal monopolies
Fiscal monopolies are typically established to cover trade in goods for which domestic demand is relatively price-inelastic and foreign demand is relatively price—elastic, and with respect to which the government may have a policy of protecting public health. Ethyl alcohol, alcoholic beverages, tobacco, salt, and matches and related inflammables are products frequently covered by such monopolies.

5. Canalizing agencies
Canalizing agency is the term used by a number of developing countries to describe the STEs they maintain. The term refers to the channelling, or "canalizing", of imports and/or exports through a designated product-specific enterprise. Such STEs aim to provide some degree of price stabilization, particularly for producers, as well as to ensure availability of supplies for domestic consumers.

6. Foreign trade enterprises
Foreign trade enterprise is the term used for STEs of some current and former non-market economies.

7. Boards or corporations resulting from nationalized industries
This includes private firms that become state-owned through a forced sale to the government.

Source: [17]

State trading needs to be distinguished from what is termed "government procurement", i.e. imports of products for immediate or ultimate consumption in governmental use. Under government procurement, the domestically produced or imported product is purchased by a government agency for its own use or consumption or for the production of goods or services for sale. In the case of state trading, imports are obtained primarily for sale in the home market and domestic products are purchased for sale in the home market and for export to foreign markets [15][16].

The basic obligations of GATT rules apply to STEs engaged in the import and export of goods, requiring them to "act in a manner consistent with the general principles of non-discriminatory treatment". It states that, in practice, this can be achieved by:

- Making "purchases or sales solely in accordance with commercial considerations, including price, quality, availability and marketability, transportation and other conditions of purchase or sale"; and
- By affording adequate opportunity to enterprises in other countries to "compete for participation in such purchases and sales" [15][16].

The substantive obligations of Members under the rules governing state trading are summarized in the following four points. STEs:

- Operate on the basis of commercial considerations and in a non-discriminatory manner, commonly referred to as "most favoured nation" (MFN) treatment;
- Do not erode or nullify the value of negotiated tariff concessions [i.e, are predictable];
- Do not serve to implement otherwise WTO-inconsistent measures, such as quantitative restrictions or subsidies; and
- Activities are fully notified to the WTO on a regular basis [i.e., STEs operations are transparent].

An STE, in its purchases or sales involving imports or exports, must act in a manner consistent with the general principles of non-discriminatory treatment set out in the General Agreement for governmental measures affecting imports or exports by private traders". This standard of conduct for STEs is further explained as "... such enterprises shall... make any such purchases or sales solely in accordance with commercial considerations including price, quality, availability, marketability, transportation and other conditions of purchase or sale, and shall afford... other contracting parties adequate opportunity... to compete for participation in such purchases or sales. [15][16].

It should be noted that a strict MFN treatment was not intended, as is shown by the Interpretative Note to Article XVII:1, which allows a STE to charge different prices for its sales of a product in different markets, provided this is done for commercial reasons, to meet conditions of supply and demand in export markets. Also, a country's receipt of a "tied loan" (whereby country "A" receives a loan from country "B" in order to buy goods from country "B") falls in the category of "commercial considerations". (This too is spelled out in the Interpretative Note to XVII:1 (b)) [15][16].

The exclusivity arrangement that STEs have to operate give rise to opportunities to limit import volumes (quantitative restrictions) or other 'import restrictions' or 'export restrictions'. Thus, a law which granted an STE exclusive import rights in a certain product, and a decision by that enterprise to refuse to import at all, would be violations. Any monopoly of the importation of any product covered in a GATT Schedule shall not result in protection which is on the average in excess of the amount of protection provided for in that Schedule. The clear purpose of provisions relating to monopolies was to preserve the value of negotiated tariff concessions — i.e. to prevent an import monopoly from instituting protection for domestic producers and thus nullifying a tariff concession [15] [16].

Given that so little is known of STE operations world-wide, the transparency obligation is perhaps one of the most important rules at present. As more becomes known and understood of the functions and operations of STEs, there may be efforts to further tighten the rules governing them. [15] [16] The notification obligations that the GATT imposes for this purpose have been further strengthened by the adoption of the Understanding on the Interpretation of Article XVII of GATT 1994 (State Trading) in the Uruguay round. The Understanding requires member countries to notify the Council or Trade in Goods of:

- State enterprises engaged in foreign trade;
- The products imported or exported by them; and
- Other information (given in accordance with a questionnaire) so as to permit a clear appreciation of the manner in which the enterprises conduct their trade [15] [16].

"In order to ensure the transparency of the activities of state trading enterprises, Members shall notify such enterprises to the Council for Trade in Goods...". The notification requirement is an essential element in the rules on State trading. One reason for notifications is to make it possible for Members to judge the extent to which State trading enterprises serve as a substitute for other measures covered by the General Agreement, e.g. quantitative restrictions, tariffs and subsidies. Another is to allow Members to assess the possible trade distortion resulting from the operations of notified STEs [15][16].

Measuring the trade effect of STEs

The principal task in monitoring the effect of STEs is to measure the effects on quantities traded, consumed and produced of activities of STEs. Distortions that arise from STE activities are quantifiable in principle. The international trade literature addresses "equivalence" of state trading and tariffs. Lloyd (1982) shows that a state trader restricting imports has a tariff-equivalent effect on the domestic price. Similarly, an STE that restricts or expands exports can be shown to have an export-tax or export-subsidy equivalent effect on the domestic price. Hence, one can build state trading into an analytical framework as a set of equivalent tariffs or subsidies, or as one of several instruments that might be used to pursue objectives of governmental policy. This approach treats state trading activity as an application of existing theory of (private) trading [18].

This approach has relevance for analyzing two separate issues: policy under current international trade rules, and its ability to capture distortions in trade flows relative to a free-trade (or welfare-maximizing) norm. These issues are separable both in practical and theoretical terms. One deals with rules that exist, the other suggests possible changes in the rules. One is easily definable and subject to straightforward quantitative estimation, the other is dependent upon a range of assumptions about the behavioral functions of imperfectly competitive enterprises [18].

Framework to analyze distortion under current rules

Historically, the provisions of the GATT have generally proved inadequate to curb the activities of STEs and have been weakly enforced. Most STEs trade in agricultural goods. This undoubtedly contributed to the lax enforcement of existing regulations. Because agricultural policies were not controlled by trade rules, it would have been futile to have tight restrictions on the agencies that carried out policies. This gave room for the possible defense of STEs as administrators of non-trade barriers allowed under Article XI (2) and, perhaps more than any other factor, prevented the strict application of Article II (4), rules on use of quantitative restrictions, on agricultural trade. When dispute settlement panels considered the activities of state importers (e.g., case of the Australian complaint against the Korean Livestock Product Marketing Organization in 1989), they found that Article II (4) did not apply to the quantitative restrictions legally applied under Article XI. The comparison of the mark-up and the bound tariff was not deemed appropriate when quantitative restrictions were present. [The fact that agricultural lines were not previously bound would make this mostly irrelevant anyway.] However, now that quantitative restrictions have largely been removed as a result of the UR Agreement on Agriculture, the rules are easier to enforce [18].

State-trading importers have one overriding obligation, to satisfy local demand for the imported product, and one rigid constraint, to avoid giving more protection than the bound tariff. In addition, the rules state that these enterprises should behave like commercial concerns, and that MFN should be respected. Thus, the analytical issue is whether local demand is satisfied and whether the operation of the STE grants more protection than the bound tariff. The question as to whether they act commercially is best thought of as a combination of the two more precise conditions: if they import to satisfy the level of domestic demand that would face a private importer paying the bound tariff, they could be deemed to be behaving "commercially" [18].

The analytical framework for measuring protection is well developed in the literature. Consider an import demand function for a product, ED. The gap between the

world price level and the wholesale price of the same (or like) good is the tariff equivalent of the set of policies (including market structure conditions) that operate to determine the import quantity. This is illustrated in figure 2 where the STE is a trading agency operating under competitive norms. ED is the excess demand faced by the STE and ES is the excess supply schedule, which is perfectly elastic at the world price, P_W [18].

The tariff equivalent combines both the demand-satisfying and tariff-binding constraints. If the STE imports and sells at the same price (accounting for handling costs too), then there will be a zero-tariff equivalent. If the STE merely sells in competition with private importers, then the tariff equivalent will be the actual tariff applied to private transactions. The trade effect of the STE is the reduction in import volume, Q_{Mo} - Q_{M1}, that would be caused by a specific bound tariff rate (τ_o) equal to the domestic-border price differential, P_D - P_W [18].

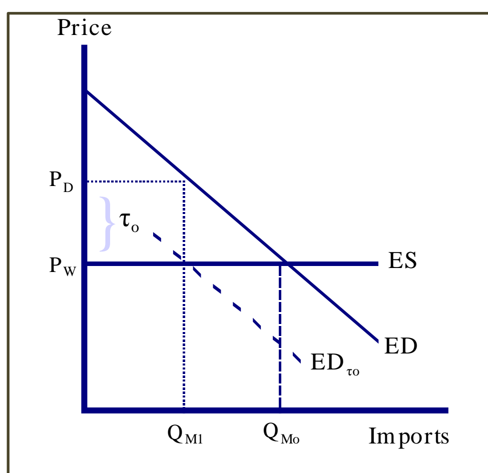


Figure 2. Tariff equivalent for STE importer under current rules

State-trading exporters are subject to only one strict WTO/GATT constraint, that they should not grant export subsidies that would exceed the allowable subsidies in the Schedules. The same general injunction to behave commercially applies to STE exporters, but this again can be taken to be shorthand for a prohibition on the granting of subsidies. The analytical issue is, therefore, whether the STE in question grants an export subsidy and if so whether that subsidy is within the value and volume limits specified in the schedule. The traditional analysis of export subsidies is also adequate for dealing with the problem of state traders, as depicted in figure 3 [18].

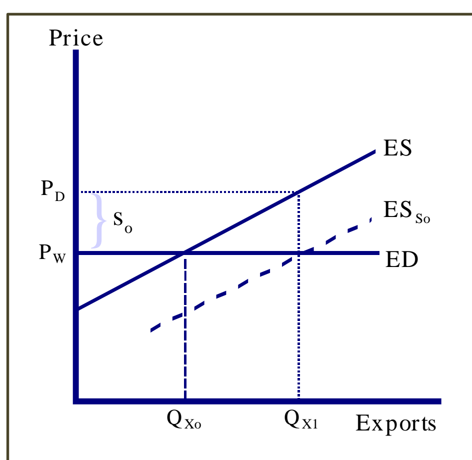


Figure 3. Export subsidy equivalent for STE exporter under current rules

An STE will exhibit to the world an export supply schedule (ES), which will be observable at the price (P_W) and quantity of sale (Q_{Xo}). In addition, there will be a domestic price, P_D, by the STE. The degree of subsidy can be measured as an export subsidy equivalent (s_0), analogous to the tariff equivalent of the importing STE. The trade effect is the amount by which an export subsidy of amount s_0 would expand the quantity exported (Q_{X1} - Q_{Xo}). The value of the subsidy multiplied by the quantity of exports would yield the equivalent expenditure on export subsidies [18].

Framework to analyze distortion under imperfect competition

The second issue, the analysis of distortions arising from imperfectly competitive behavior of STEs, is somewhat more complex. Monopoly power can be exercised by both private and public enterprises in several ways that will affect trade flows. Analysis of the trade effects of state trading from a welfare perspective thus takes one immediately into a deeper area of enquiry than that of whether state trading violates current trade rules [18].

If one takes the view that the WTO should move the world toward more perfect competition in domestic and international markets, then all public and private abuses of power are potential targets for regulation. Activities by STEs would be one aspect of this approach. The question becomes which set of non-competitive activities should be targeted? The playing field could be level, but the players come in different sizes. Which departures from the competitive norm are likely to cause the greatest problems for other countries? The case of a purely domestic monopoly in a non-trade sector would be of little interest. Ignoring such cases the focus is on two aspects: (a) the effect of domestic market power on the trade outcome, and (b) the exploitation of international market power through the manipulation of trade prices or quantities. The first can be thought of as the "small-country" case; the second as a "large country" problem [18].

Small-country case:

The analytical issue in the small-country case is how to derive the trade effects from the use of monopoly power on domestic markets. Monopoly power can come in three guises: (1) the control over domestic production, (2) the control over domestic use or consumption, and (3) the control over traded quantities. Suppose these functions are separate, i.e., the same agency does not control production and trade, and that the country complies with WTO regulations. The STE cannot grant protection above the bound tariff and does not impose trade quotas, or if an exporter, does not exceed export subsidy commitments. Thus, the nature of the trade distortion is related to something other than hidden protection through non-tariff barriers and camouflaged export subsidies [18].

The issue of what constitutes a quantitative restriction is important here. If the agency charged with trading restricts sales or purchase on/from the world market, then this would violate WTO rules. If the STE does not have monopsony rights, but merely chooses a level of imports appropriate for a given market need and local market conditions, then it is not. The key question is whether the STE imposes quantitative restrictions on other actors in the market. This is not the case assumed here [18].

Suppose a domestic monopoly (public or private) tries to use market power to maximize profits. An import monopoly would restrict production below the competitive level to drive up domestic prices. However, consumers can buy from abroad at the world price. The monopolist acts so as to bring marginal cost of domestic production into line with marginal revenue as given by the price of imports (i.e., world price plus applied tariff). If a domestic monopolist has no help from any quantitative controls over imports, then buyers can

always satisfy their needs from imports. The quantity of imports would not be different from that of a competitive industry situation. The trade effect of a domestic monopolist is limited in the absence of an import quota. The exporter case is similar. The monopoly producer would try to gain monopoly rents by restricting production until marginal cost is equal to world price plus the tariff. Again, if the monopolist is also selling abroad and has no control over imports, then a competitive market situation occurs [18].

The case of control over the domestic use or consumption requires a domestic monopsonist (public or private) that acts as the sole purchaser of domestic output and tries to minimize cost. The monopsonist would purchase less from domestic suppliers than would a competitive purchase sector. There would be rents from purchasing less of the domestic product (at a lower price than the cost of imports) to equate the marginal cost of buying from the domestic market with the world price (plus the tariff). This would require export controls (or the compulsory purchase of all domestic product to prevent exports, e.g. Canadian Wheat Board). If domestic firms could export, the monopsonist would lose its market power. Hence, the export restriction is key for the firm to use monopsony power on the domestic market, and is the link to the effect on trade flows [18].

The decision over how much to produce under a non-competitive market situation (in the small-country case) is unconstrained by existing trade rules. The trade effect of monopoly (or monopsony) power at the national level arises not from the production decision *per se*, but from the support of domestic monopolies (and monopsonies) with non-tariff trade restrictions. Tariffication and removal of trade quotas would render largely irrelevant the non-competitive domestic market structure [18]. In other words, a monopolist will not be able to abuse its market power unless it is given sufficiently high tariff protection.

Monopoly control over trade, however, cannot be dismissed lightly as with control over production or use. A trade monopoly is a "pure" profit maximizer, or rent-seeker, using control over trade to exploit domestic buyers or domestic sellers or both. If the objective of the STE is to maximize profits by exploiting consumers, then even in the small-country case with no power to change world prices, the trader would impose trade restrictions equivalent to a tariff or an export subsidy [18].

Figure 4 provides an illustration of this case for a net importing country. The rent-maximizing tariff for the STE importer would be the gap (τ_0) between marginal and average revenue on the domestic market, while the restriction on the volume imported would be D_1 - S_0, a quantity $D_0 - D_1$ smaller than under free trade (D_0 - S_0).

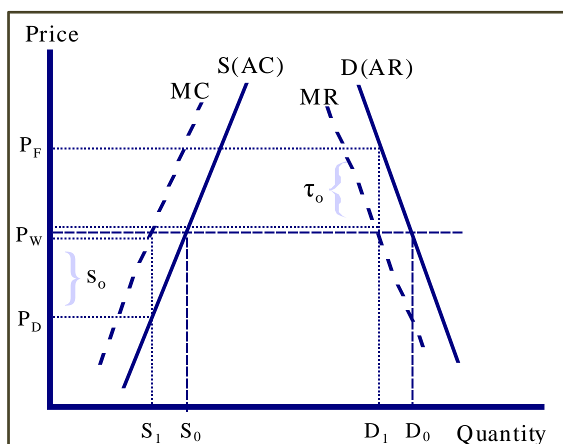


Figure 4. Tariff equivalent for STE in a net importing country under imperfect competition

Conversely, if the objective of the STE was to exploit domestic producers, the equivalent policy effect on producers would be a subsidy on imports that lowered the domestic price from P_W to P_D (and production to S_1), where the marginal cost of buying from domestic producers equaled the world price. The level of rent-maximizing subsidy would be the difference between the supply price and the marginal cost of purchasing from domestic sources, s_0 [18].

If the STE importer controlled domestic marketing as well as trade and decided to exploit both consumers and producers to maximize its profits, then imports and the locally sourced product could be sold domestically at the high price, P_F, while the domestic product could be purchased at the low price, P_D. This situation existed in several countries of the former Soviet Union [18].

Measuring the trade effect of a consumer-exploiting STE importer amounts to the equivalent of a tariff. In the case of a producer-exploiting STE, the measurement of the trade effect is the import-subsidy equivalent. In the case of exploiting both domestic producers and consumers, the trade effects would no longer be simply represented by a tariff equivalent – it would have to be calculated from the producer and consumer subsidy equivalents [18].

In the case where the trade monopoly is in place to support the producer monopoly (e.g., a situation approximating the Norwegian case with Tine, a dairy processor), the result is the exploitation of domestic consumers. If the entire rent is handed over to producers as decoupled payments, this scenario differs from the consumer-exploiting trade monopoly only in the distribution of rents. If the rent is distributed to producers in the form of higher prices, P_F in figure 4, then the trade effects would be as if the STE were exploiting consumers. In either case, the tariff equivalent would still represent the trade effects of the STE's activities [18].

In the final case, where there is a producer-exploiting monopsony linked to a trade monopoly, domestic prices would be kept low with import subsidies or export taxes (both acting as a tax on domestic producers). This would be tantamount to the cheap food policy pursued by some developing countries. The trade impact, S_1S_0, would be measured, as before, by the subsidy/tax equivalent [18].

In summary, in the small-country case, the operation of domestic monopolies and monopsonies unsupported by trade monopolies (or trade quotas) pose no problem for trade analysis. If they are linked to a body that controls trade flows, they can exploit either domestic consumers with tariff-like policies or domestic producers with tax-like policies. The only case where measurement of the trade effect is likely to be problematic is where the state trade runs a complex policy mix that taxes producers and consumers in conjunction with trade measures [18].

Large-country case:
The large-country analysis does not change markedly when the terms-of-trade are affected by an STE's activities. This is illustrated in figure 5. The demand faced by the monopolist is the sum of domestic and foreign demand curves (D_{Dom} and D_{For} , respectively, as shown on the left part of the figure), and is less than infinitely elastic. The monopolist equates total marginal costs, MC_0, to the total marginal revenue, MR_{Tot}, and not just to domestic marginal revenue, MR_{Dom}. Profits are earned by reducing production and pushing up the world price, P_W'. The impact on trade flows can be depicted by a producer-tax equivalent (τ_0) on domestic production, where the height represents the degree of market power in the total market [18].

The domestic monopsonist also has some market power if world prices are affected by the restriction of purchases on the domestic market (not shown in figure 5). With less purchased from the domestic market, imports would increase, and world prices would rise. The trade effect is due to the reduction in production and can be calculated from the producer-tax equivalent as before [18].

The situation becomes a little more interesting when one considers a profit-maximizing "pure" trade monopolist/monopsonist, which could discriminate among markets and impose optimal trade taxes. Essentially, a monopolist trader would equate its excess supply schedule with the marginal export revenue function and impose an optimal export tax. This is in addition to the trade taxes that might be used to exploit the domestic market. A monopsonist trader, on the other hand, would equate its excess demand schedule with the marginal cost of import function and impose an optimal import tariff (see reading in Vousden). The trade effects, in both cases, can be represented with a tariff equivalent [18].

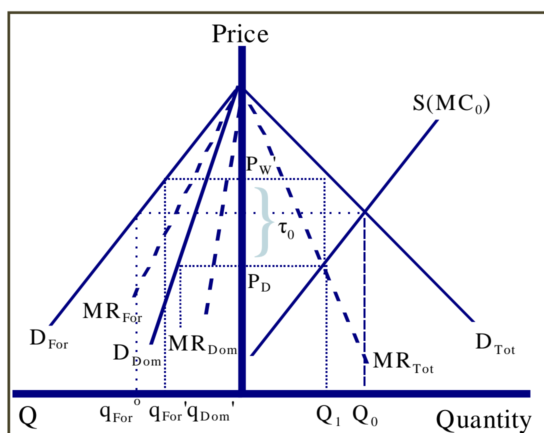


Figure 5. Tariff equivalent for domestic monopoly in a large net exporting country

Traders that function in support of producers and/or consumers would face similar situations. The coalition between the domestic monopolist and the state trader would set a somewhat higher tariff against imports so as to exploit the world market as well as the domestic one. The monopsonist with supporting trade controls would impose a lower domestic producer price so as to gain a little from weaker world market prices. In general, the terms-of-trade effect is a refinement on the calculation of the measure of the trade effect. It will not often shift either the direction nor dominate the magnitude of the effect on trade [18].

Analytical approach and complexity of STE behavior

Is the analytical framework adequate for addressing some of the theory issues associated with STEs? One of the primary concerns raised about STEs is their ability to cross-subsidize across markets as a result of the economic rent stemming from statutory powers given to them. In principle, this just means tat the tariff/subsidy equivalents must be measured in two or more markets rather than in a single market. Cross-subsidization between the internal and external markets would be measured as higher protection (tariff equivalents) in the domestic market and greater subsidization (export subsidy equivalents) in the foreign markets. The same would be true for cross-subsidization across commodities (e.g., milk and cheese).

Price pooling schemes to a large extent are no different than cross-subsidization across markets or products. Where the analysis would be more complex in in cases of price-pooling across time (between years) [17].

More useful, still, would be the development of a classification system for STEs. For example, looking at the trade balance for a commodity at a point in time establishes whether an STE is an exporter or an importer. The behavior of exporting STEs can be expected to be very different from STE importers. Where an STE exporter usually attempts to expand trade in the international market (Canadian Wheat Board), the STE importer is more interested in restricting trade and augmenting protection in the domestic market (e.g., Japan's Food Agency) [18].

Another consideration is over which specific activity, e.g., importing, exporting, domestic procurement (purchasing decision), and domestic marketing (sales), does the STE have market control. The ability of an STE to distort international trade depends, among other things, on the control it exercises over these activities. If an STE regulates all of these activities, then its capacity to distort markets is likely to be much greater than if it controlled note of the activities. The outcomes will vary depending on whether the STE has "single-desk" authority over imports or exports and whether the STE has monopoly/ monopsony power [18].

As noted previously, the policy regime will affect the degree of control over the market. In general, tariff protection will limit the amount of control and the "abuse" of market power that the STE can exhibit [18].

The product range might be another indicator of the STE's capacity to distort trade. If operating over several products, an STE will have more leverage to manipulate markets and more discretionary authority to move away from free trade for any specific commodity. Market power depends, among other things, on a firm's capacity to differentiate its product and regulate the use of substitutes. This capacity is likely to be even greater if the STE has control over upstream and downstream activities and is integrated vertically or horizontally with "rival" firms [18].

Examples of state ownership and trading in practice

When China joined the WTO in December 2001, many people hoped that this would curb the power of its SOEs. Ten years on, they seemed stronger than ever. A US Congressional report released in 2011 railed against the unfair advantages enjoyed by state-owned firms and lamented that China gave them "a more prominent role" [19].

In *China's Regulatory State*, Roselyn Hsueh of Temple University documents how, in sectors ranging from telecommunications to textiles, the government quietly obstructed market forces: steering cheap credit to local champions and enforcing rules selectively, to keep private-sector rivals in their place. State firms such as China Telecom dominated local markets without running afoul of antitrust authorities; but when foreigners such as Coca-Cola tried to acquire local firms, they could be blocked [19].

In the dozen or so industries deemed most strategic, the government had forced consolidation. The resulting behemoths were held by the State-owned Assets Supervision and Administration Commission (SASAC), the controlling shareholder of some 120 state-owned firms. In all, SASAC controlled $3.7 trillion in assets in 2010 (see chart, China's SOEs). Some SOEs had powerful friends and were hard to push around [19].

In some ways, SASAC aimed to modernise its enterprises. Peter Williamson of Cambridge's Judge Business School pointed approvingly to the steel industry. China was once littered with small, uneconomic

steel firms; SASAC urged them to merge, creating three "emperors" and five "kings". That, said Mr Williamson, meant there are enough steel firms to foster competition at home; yet they are big enough to venture overseas [19].

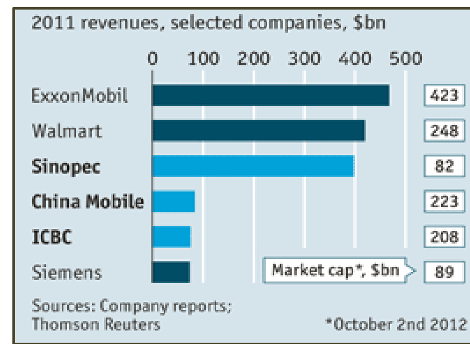
According to the Congressional report, SOEs accounted for two-fifths of China's non-agricultural GDP. If firms that benefit from state largesse (eg, subsidised credit) were included, that figure would rise to half. Genuinely independent firms were starved of formal credit, so they relied on China's shadow banking system. Fearing a credit bubble, the government began cracking down on this informal system, leaving China's "bamboo capitalists" bereft [19].

Those who argued that SOEs were modernising point to rising profits and a push to establish boards of directors with independent advisers. Official figures showed that profits at the firms controlled by SASAC increased, to $129 billion in 2010. But that did not mean that many of these firms were efficient or well-managed. A handful with privileged market access—in telecoms and natural resources—generated more than half of all profits. A 2009 study by the Hong Kong Institute for Monetary Research found that if SOEs paid a market interest rate, their profits "would be entirely wiped out" [19].

In 2012, expert opinion varied as to whether the state made up half or a third of economic output but agreed that the share is lower than it was 20 years before. From the late 1990s state-owned enterprises (SOEs) appeared to be in retreat. Their numbers declined (to around 114,000 in 2010, some 100 of them centrally controlled national champions), and their share of employment dropped. Even while the number of private companies has grown, the retreat of the state slowed and, in some industries, reversed [20].

However, statistics obscure the state's growing power, wrote James McGregor on China's "authoritarian capitalism". Foreign investors complained that the playing field, never level for private firms, tilted further in favour of domestic champions. The US and EU Chambers of Commerce reports pressed for SOE reform and market opening. Foreign firms were hit hard by what the EU Chamber of Commerce called "a massive asymmetry in market access", unfairly losing out because of discriminatory regulatory or market-access barriers. US firms complained that in markets such as electric cars, officials verbally arm-twisted foreigners into conceding intellectual property to joint-venture partners. The OECD considered China's foreign-investment laws the most restrictive in the G20 [20].

Though fewer in number, SOEs were becoming more powerful than ever. One reason is that some were becoming vast (see chart, 2011 revenues) and so their market power is often greater in a given industry. The smaller number is the result of efforts to consolidate disparate SOEs into national champions in a range of "strategic industries", e.g., telecoms and shipbuilding [20].



Liberal reforms were boosted with China's WTO entry in 2001—but slowed after 2006, before going reversing as stimulus spending flowed to SOEs following the crisis of 2007-08. In 2004 the average industrial output of SOEs was six times that of the average private firm; by 2010 it was 11 times more [20].

In addition to sheer size (and leniency from the antitrust authorities), SOEs enjoyed a range of unfair advantages: guaranteed profits and state backing, official bank lending at a third of the cost of credit available to private companies (those that can get official loans); tax breaks and a range of subsidies, and favouritism in procurement contracts. Unirule, a Chinese think-tank, reckons not having to pay for the land SOEs sit is a subsidy valued at 4 trillion yuan ($640 bn) in 2001-09 [20].

The setting of industry standards is an issue. Elsewhere standards are usually drafted by industry bodies after wide consultation, and not tied to the right to sell products. In China the opposite often happens. Whether in data protocols for mobile telephony or the technical specifications for electric-vehicle recharging, China has chosen to go its own way in a manner that confers advantage to domestic firms. Foreign firms are typically not consulted, whereas local companies help write the rules. The EU's experts calculated that only 40% of China's standards were in line with international norms. Mr McGregor cited the example of UnionPay, a domestic payment system that had a virtual monopoly on yuan credit cards. China ignored a pledge under its WTO commitments that it would open its payments market by 2006 [20].

Complaints lodged by multinationals are that they were being frozen out of government procurement—a market estimated to be $1.3 trillion. China promised in its WTO accession protocols to bring its rules in line with global norms but dragged its feet. The EU Chamber issued a thinly veiled threat on reciprocity: if China did not open up, the relatively free access its firms enjoy to the EU's market might become "untenable" [20].

International Marketing Boards

The Canadian Wheat Board (CWB) and its Australian counterpart between them controlling about one-third of the world's annual 100m-plus-tonnes of wheat exports in the late 2000s. In 1935, Canada's wheat-growers were going bust during the Depression. The CWB, a state-run but voluntary body set up to market the crop collectively and get better prices, played a central role in Canada's western grain market. It was a state-run but voluntary body set up to market their crops collectively and get better prices. In wartime 1943 it became compulsory. It set a fixed price, paid farmers a portion of the sale proceeds for their products up front, and occasionally compensated

growers with subsidies if the market price fell short. It was responsible for quality control, monitoring the grain to guarantee its quality. It was also charged with sales and marketing, negotiating with buyers in more than 70 countries, and arranged for rail and ship transport for about 21 m tonnes of cereals a year [21] [22] [23].

Until 2012, the CWB was still compulsory, still state-controlled, and still had a monopoly of all west-Canadian wheat (and barley) exports. In 1998, it ceased to be a government agency and the board along with the farmers took over its funding and control. In some years, it was the biggest grain-exporting body in the world. And the US was fed up with it [21] [22] [23].

In 2003, after repeatedly attacking CWB's monopoly and alleged state subsidies, the Americans, seeing it take 20-25% of their own demand for hard red spring wheat and durum (pasta wheat), slapped on duties of 4%, later raised to 14%. That killed the trade. The Americans also denounced the CWB to the WTO. The WTO replied that the CWB's monopoly did not break WTO rules. Canada hit back, calling first for a WTO probe of US duties. In July 2004 the WTO called for new restraints on all farm monopolies such as the CWB. The EU too was hostile: it made plain in China that if it was to cut export subsidies, others must end export monopolies [21][22][23].

Less predictably, some west-Canadian farmers were hostile, too. Why should they be forced to sell their grain for export—and inside Canada, if for human use—to a single agency, on its terms, at its "pool" price? The CWB claimed that it received a premium price, but critics said producers could do better themselves. If others want to sell through it, fine—but let all be free to choose. Its supporters, often smaller farmers distant from the US border, said the board turned Canadian wheat into a global brand that commands a premium price because of its uniform high quality. Its detractors among farmers said that they could beat the board's price by selling directly, and that decentralised sales would encourage local food industries [21][22][23].

Australia's "wheat board" was odder still. Officially, it no longer exists. Set up in 1939, it was privatised in 1999 as the AWB is was quoted on the stockmarket. It still had a legal monopoly of all but the smallest exports until 2008, following a bribery scandal. And, just by the way, in 2003 it bought Australia's largest supplier of farm inputs and handler of 20% of the wool clip and livestock trade [21][22][23].

It faced little criticism from Australia's 40,000 wheat growers. They want more information on AWB's supply-chain costs, so they could judge alternatives better. But they firmly supported its bulk-export monopoly, reckoning its pool prices earn them more than they would get from the world's mighty commercial traders [21] [22] [23].

Supporters of such marketing boards state that they ensure that growers are not played off against each other and that the price for domestic wheat cannot be bargained down. Critics say what is precisely wrong with such boards is they do what monopolies are meant to—they enrich sellers, at buyers' expense [21] [22][23].

But by how much? In the world market, they are but two among many sellers. They are no more monopolists, argue supporters, than Toyota is in a car market with plenty of rivals. The real free-market case against them may be the opposite: their power inside the two countries, especially Canada, as dominant buyers [21][22][23].

Post script: *Economist*, "Canadian Wheat: As high as an elephant's eye", 23 Jun 2012, p. 53

On 1 August 2012 the era of the CWB ended. It lost its monopoly over marketing the grain of the Prairies. Preparations both by those who supported and opposed the change were under way. Viterra, the largest grain handler, accepted a C$6.1 bn ($6.2 bn) takeover by Glencore, a Swiss company that is the world's biggest commodity trader. Until 2007, Viterra was known as the Saskatchewan Wheat Pool, and was a farmer-owned co-operative (like the CWB).

5. Competition challenges for multilateral system

Multilateral competition policy

In the WTO Ministerial Declaration of the 1996 Conference in Singapore one item on the agenda was to establish a working group to study issues raised by Members relating to the interaction between trade and competition policy, including anti-competitive practices, in order to identify any areas that may merit further consideration in the WTO framework [24].

At the WTO Ministerial Conference in Doha (2001), Ministers "recognized the case for a multilateral framework to enhance the contribution of competition policy to international trade and development, and the need for enhanced technical assistance and capacity-building in this area". They instructed a Working Group to focus, until the WTO Ministerial Conference in Cancún (2003), "on the clarification of:

- core principles, including transparency, non-discrimination and procedural fairness
- provisions on hardcore cartels;
- modalities for voluntary cooperation; and
- support for progressive reinforcement of competition institutions in developing countries through capacity building" [24].

At the Ministerial Conference in Cancún (2003), no consensus could be reached on modalities for negotiations in this area, although Ministers "reaffirmed all their Doha Declarations and Decisions and recommitted themselves to working to implement them fully and faithfully". In the "July 2004 the push for a multilateral set of rules on competition policy ended with the WTO General Council decided that the issue of competition policy "would not form part of the Work Programme set out in that Declaration and therefore no work towards negotiations on any of these issues will take place within the WTO during the Doha Round" [24].

Competition policy in the EU

In the absence of multilateral rules on competition policy, the best example of common rules across national markets comes from the EU. EU competition policy drew its importance from the central role that economic factors and market principles had in the pursuit of EU market integration. It is concerned with setting standards of conduct rather than with obtaining tangible goals and is anchored in the principles of free-market capitalism.

The character and role of competition policy have therefore been controversial across the EU and in individual member states. Its development reflects the very varied economic systems ranging from highly liberalized markets, to those where the state has played an important role in the economy, to the post-socialist states

which only started to embrace capitalism in the 1990s (Schmidt, 2002) [25].

The vision in 1958 was of a common market based on market capitalism which was the natural alternative to the centrally planned economies of eastern Europe, but it was also regarded skeptically by many west European business and policy elites. That vision was the dominant principle in the neo-liberal revolution of the 1980s and the single market programme of 1992. This vision was consolidated by the collapse of Soviet communism and the re-modelling of the economic systems of control in eastern Europe in alignment with the capitalist norms of the Union [25].

The European Commission (EC) expanded competition policy as one of its key EU competences. Competition policy came to be used to discipline governments as well as firms. The emphasis placed upon the market and economic integration meant that competition policy became somewhat more important in the EU than elsewhere (with the exception of the USA, and possibly Germany) [25].

Competition policy is about protecting and expanding competition as a process of rivalry between firms to win customers, and also as a process of creating and protecting markets. There are both political and economic rationales for competition policy. The prior political rationale comprises a commitment by governments to allow economic actors freedom to compete in the market, and to protect consumers from exploitation by powerful companies. The US is the home of competition policy, where it is still called 'antitrust', which reveals its origins in the late 19th century as a commitment to protect 'the little man' from the power of the big industrial 'trusts' [25].

Accordingly Motta (2004) defines competition policy as 'the set of policies and laws which ensure that competition in the market place is not restricted in such a way as to reduce economic welfare'. Thus, economies where competitive pressure is intense will be more efficient than those where it is restrained, an influential argument made by Michael Porter (1990), which encouraged the Commission to reinforce competition policy as a way of making the European economy more competitive within globalized markets [25].

The impact of EU competition policy became more evident on a day-to-day basis, as it increasingly affected how we do our jobs, how benefits are distributed, and how and what we consume. This meant that a policy area that was traditionally regarded as specialist and arcane began to make the headlines. This applies to the big merger cases, such as *Nestlé/Perrier* in 1993, *Boeing/McDonnell Douglas* in 1997, and *GE/Honeywell* in 2001 which stretched beyond intra-EU cases to those with a global or extraterritorial dimension.

In the *Boeing* and *GE* cases the EC prohibited mergers between these huge US companies due to their adverse impact on the EU market. The US was outraged and media coverage was intense. Competition issues also surfaced in some of the big state aid cases, such as the EC's demand that the French electricity monopoly, EdF, be required to repay €900 million in unlawful tax breaks to the French government (*Times*, 17 October, 2002). 'Big name' cases also attracted great public interest, such as the EC's findings that Microsoft abused its near monopoly and acted illegally in bundling its 'media player' software into its Windows operating system. The Commission ruled that Microsoft share details of its software design with competitors and in March 2004 Mario Monti, the Competition Commissioner, announced a fine of €497 million, the highest ever against a single company (*Financial Times,* 25 March, 2004) [25].

Such headlines dramatize the key element in assessing the impact of competition policy, and the way in which it structures the business environment for companies across Europe. Today, the 'competition rules' are a dominant regulatory constraint when companies formulate their corporate strategy or consider their competitive behaviour. This shift in corporate awareness is partly due to the steady refinement and expansion of the law and the activism of the competitions authorities. For corporate executives the most extreme threat is 'dawn raids' when competition officials swoop on factories, offices, and private residences across several countries to seize papers and computers in order to find evidence of secret agreements, or 'cartels' to manipulate markets [25].

Box 5.1 Stages in the development of EU competition policy

	1960s	1970s	1980s	1990s	2000+
(1) Antitrust: agreements	Regul. 17; cases	Develop principles	First fines	Enforce-ment intensified	Stress cartels; moder-nization
(2) Antitrust: abuse of dominance	Not applied	First cases	Develop principles; first fines	Idea of collective dominanc e	Moderate applica-tion; moderni-zation
(3) Merger control	Not in Treaty	No action[1]	Regul. in 1989	Early enforce-ment	Reformed and intensified
(4) State aid	Not applied	Gradual develop-ment	Becomes a priority; first survey 1988	Tighter sectoral regimes	Treaty of Lisbon reinforced and steady progress
(5) Liberal-ized utilities	Ignored [2]	Ignored	More trans-parency; action on telecoms	Became priority; systematic challenge	Continued pressure; mixed progress

[1] 'No action' means that the problem was recognized but could not be acted on without legal powers;
[2] 'Ignored' means that the problem was not recognized.

In 1996 there were only four dawn raids, but in 2003 there were 21 (Guersent, 2003). Some arouse from the successful adaptation by the EC of a US-style leniency programme, a system of exemptions for 'whistleblowers' who provide information about a cartel in which their firms are involved. The intensification of action, in particular against 'hard core' cartels, has resulted in a huge escalation of fines [25].

It is worth remembering that competition policy was not always regarded with such approval and was once regarded as wasteful and destructive. For instance, in the Netherlands and Austria there was a widespread belief that 'strict competition policy would lead to cut-throat competition and decrease competitiveness' (van Waarden and Drahos, 2002: 932), a belief echoed in the UK (Wilks, 1999: 12). The use of cartels was widespread and not regarded as essentially illegitimate until the late 1960s. The industrial policies of many west European countries rested upon nationalization, selective intervention, indicative planning, encouragement of concentration and economies of scale, and the support of 'national champions'. Although these industrial policies are now largely discredited, they still attract some support among trade unions and national politicians. Thus, there remains a tension between competition policy and

company support, as well as with policies to encourage regional economic development, science and technology, and small and medium-sized enterprises. In all these areas competition is being distorted by governments for alternative policy goals [25].

European competition policy is broad and includes antitrust, merger control, and the control of state aid. Its overall thrust has been to press on every front for the liberalization of markets. There are five components of European competition policy, each of which relies on specific legal powers:

- a prohibition on agreements between firms that limit competition (Art. 81 TEC; ex Art. 85 EEC);
- a prohibition on the abuse of a dominant position by one or more large firms (Art. 82, TEC; ex Art. 86 EEC);
- the control of mergers which create a dominant position (Regulation No. 4064/89);
- the control of aid given by a member state to a firm of category of firms (Arts. 87 and 88 TEC, ex Arts. 92 and 93 EEC) and
- the liberalization of measures by member states to favour domestic utilities, and infrastructure industries (Arts. 31 and 86 TEC; ex Arts. 37 and 85 EEC) [25].

The sophistication and effectiveness of these components has grown over time (see Box 5.1), to create a complex agglomeration of principles and powers enshrined in practice and case law. Effective control of state aid began only in the late 1980s, control of mergers in the early 1990s, and liberalization of utilities in the late 1990s. At the heart of competition policy, however, is the prohibition on anti-competitive agreements [25].

The first three components of policy affect private sector companies, the last two, state aid and liberalization, are unique to the EU because they are targeted at the governments of the member states [25]. To illustrate the challenge of multilateral rules, it is useful to compare how competition policy varies between the US and the EU on the three main private sector components of the job: policing of cartels, merger control, and checks on dominant firms [26].

For antitrust regulators, the welfare of the consumer is the priority. Yet working out how to protect it is harder than ever. Competitiveness in most industries is a matter of degree. In the idealised marketplace of economics textbooks, the price people pay for goods equals the cost of producing an additional unit. Any higher, the theory goes, a competitor could cut the price by the thinnest of margins, sell another unit and profit [27].

Yet outside commodity markets, most firms can charge more than marginal cost. Competing products are not perfect substitutes (no two brands of pasta sauce are exactly the same) and rivals cannot swoop in at once. The more distinctive a product, and the hgher the barriers ot entry, the ore its sellers resembles the nasty monopolies of the textbooks: raising prices and gouging profits [27].

There is little doubt that breaking up such monopolies – as US regulators did with Standard Oil and AT&T (the phone company) - was good for consumers and the economy as a whole. But competitiveness of markets occurs along a spectrum, and research suggestions that business, in the US and the EU, has been moving along it, but not at the right direction. Research by Jan De Loecker of Princeton University and Jan Eeckhout of University College, London, provides dome stark evidence. The authors analyse data on publicly traded us firms from 1950 to 2014. From 1950 to 1980, average mark-ups – that is, what firms charge customers above their cost of production – were relatively low (and flat), at about 18% over costs. Since 1980, however, mark-ups have risen steadily, to 67% on average. That translates into growth in the consumer-price level, relative to firms' costs, of about 1% per year [27].

But this rise in market power comes in several guises, with varying implications for consumers. In some industries – such as airline, telecoms and retail banking – the public seem to be getting a raw deal. Consolidation has been accompanied by high profits and shoddy service. Elsewhere, however, margins are probably rising as a result of product differentiation and personalisation. Niche products seem to be on the rise in some professional services, in corners of the retail industry and on the high street – where quirky cocktail bars can charge far more than less funky mass-market watering holes. Such markets fall short of the ideal of perfect competition, but nor are they examples of lazy monopolies ripping off hapless consumers [27].

Amazon and other big internet firms belong to a different category from both the lumbering bullies of the airline industry and wallet-draining boutiques. High rates of profit combined with industry consolidation suggest there is no shortage of market power in the tech world. But it is tricky to work out what that means for consumers. In some cases, market power (and associated profits) can be seen as the prize for costly innovation [27].

When there are benefits to scale, dominant firms can cut costs and fatten margins without raising prices. The pile of data amassed by Google, for example, gives it an extraordinary edge in selling personalised advertisements, but also allows it to serve all its customers more effectively. And in the tech world, market power can be tenuous. New platforms displace old ones, and fresh technologies can undercut the value even of sprawling physical networks. Yet innovation-derived market power should not give firms a free pass – even if prices fall as a result [27].

Tech giants like Apple and Facebook work to enmesh their customers in ecosystems that are difficult to escape from. Big firms can use the hordes of customers acquired in one business to put pressure on suppliers or squeeze customers in another. Microsoft once argued that bundling its browser with its Windows operating system gave consumers an extra boon at not cost; rivals thought consumers would lose out by becoming more captive to Microsoft's systems. The question hanging over today's antitrust debates is whether startling deals for consumers – from Gmail to cut-price organic consumer goods – are happy by-products of innovation or the foundations of formidable barriers to competition, which will ultimately harm consumers [27].

Antitrust: restrictive practices

Cartel-busting policing is quite similar in both the US and EU. Europe mimics the US policy of offering immunity to firms that rat on their fellow price-fixers, for instance [26]. EU policy on anti-competitive agreements, or restrictive practices, 'prohibits' all agreements and concerted practices between firms that affect trade between member states and 'have as their objective or effect the prevention, restriction or distortion of competition within the common market'. There are exemptions from the prohibition in cases where an agreement 'contributes to improving the production or distribution of goods or to promoting technical or economic progress'. These provisions raise extraordinary problems of interpretation because virtually every agreement will 'restrict or distort' competition [25].

On the basis of case law and accepted economic theory some practices are presumed to be illegal (Goyder, 2003:

97). These include resale price maintenance, horizontal price fixing, export bans, and market sharing. Such practices tend to be administered through cartels among competitors in an industry so as to create or protect a collective monopoly and to make excess profits [25].

There is little doubt that cartels still proliferate across Europe and that the EC has put the attack on cartels at the heart of its enforcement effort. Evidence secured by the EC reveals astonishing illegal practices by leading companies and senior executives meeting in secret, using codes and subterfuge to outwit the authorities. In 2002 the EC concluded its first cartel case in the world of banking when it found that Austrian banking was organized by a cartel known as 'The Lombard Club', which covered all banking products, services, and advertising 'down to the smallest village' (Guersent, 2003: 55) [25].

Similarly principles have evolved to define the legality of agreements relating to intellectual property (where it can be pro-competitive to cooperate), and in respect of 'vertical agreements', this is, agreements between enterprises at different stages in the supply chain, which are now generally regarded as acceptable. This is in contrast to the horizontal agreements between competitors at the same level in the supply chain which often have cartel-like qualities and are regarded with suspicion [25].

Trustbusting cartels through bolder punishments

Collusion comes in many forms: agreements to raise, freeze or even lower prices, to co-operate in tenders, not to compete in certain markets and so on. Price-fixing can be "horizontal" (among competitors in a particular product) or "vertical" (involving, say, a manufacturer and its dealers) [33].

There is general agreement on right and left that cartels are bad. They impose higher prices on customers, reduce incentives to innovate and raise barriers to entry. One estimate suggests that overcharging costs consumers in poor countries around the same as those countries get in foreign aid [33].

Cartels have historically tended to form in industries with standardised products that inspire little customer loyalty, such as industrial components or road-building. Studies suggest that two-thirds of cartels are in industries in which the top four firms have 75% or more of the relevant market. Their median duration is five years, but some last decades [33].

International conspiracies have been bust in fields as diverse as seat belts, seafood, air freight, computer monitors, lifts and even candle wax. A growing number of cases are in digital commerce, such as e-books, and in finance, most recently interest-rate and foreign-exchange benchmarks [33].

Cartels often form in response to tectonic shifts in the competitive landscape, such as falling trade barriers or the advent of disruptive technologies. Manufacturers and retailers react to such pressures by squeezing their suppliers. Squeeze too hard, though, and those suppliers might feel forced into an "existential response", says John Connor of Purdue University [33].

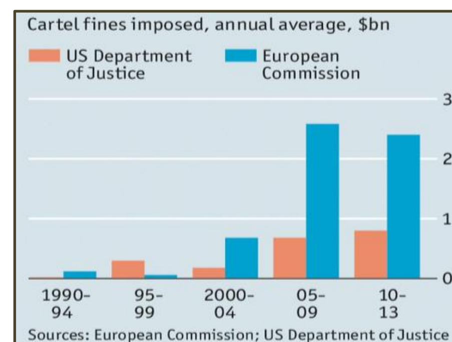
That appears to have happened in the US car parts sector, the subject of the largest criminal investigation yet pursued by the antitrust unit of the Department of Justice (DoJ), according to Brent Snyder, who heads its criminal-enforcement efforts. Companies used code names, met in remote locations to fix the prices of starter motors, seat belts, radiators and more, and followed up with each other "to make sure the collusive agreements were being adhered to," the DoJ alleges. It began raiding the companies in 2010.

By 2014, 26 firms, many of them Japanese, pleaded guilty and agreed to $2 billion in fines. Two dozen people have been charged. More pain was to come and other cartel authorities were on the case, too. In March, the EC fined five makers of automotive ball bearings €953m ($1.3 bn). Five days later the EC said it was investigating several car-parts makers suspected of fixing prices for exhaust systems [33].

The scale of the car-parts case owed something to the structure of the industry. By approving just a few suppliers of each part, which erected barriers to entry and encouraged supplier concentration, the direct victims, carmakers, may have created fertile conditions for cartel activity. Some may have been ripped off by firms they part-owned. Toyota owned 22% of Denso, which allegedly swapped information with rivals on "requests for quotation" made by Toyota for heater panels [33].

Only since 1990 has price-fixing been treated as worse than a misdemeanour. Before then, most companies "saw it as like going 5mph over the speed limit," says Roxann Henry of Morrison & Foerster, a law firm. Collusion has been illegal in the US since passage of the Sherman Act in 1890. But the nation's enforcers started to get tough only when the brazenness of the lysine conspiracy became apparent in the 1990s (members were recorded joking with each other about the FBI infiltrating their meetings) [33].

Since then, policing and penalties have grown harsher. The maximum corporate fine in the US has increased tenfold. The EC can fine companies up to 10% of group turnover. Fines levied on both sides of the Atlantic have jumped after the mid-2000s (see chart, cartel fines). Europe's national cartel offices are busier, too. This year Germany's has fined brewers €106m and sugar distributors €280m [33].



Largest cartel fines on individual firms:

Company (year)	Products	$m
imposed by the European Commission		
Saint-Gobain (2008)	Car glass	986
Philips (2012)	TV tubes	907
LG Electronics (2012)	TV tubes	884
Deutsche Bank (2013)	Interest-rate derivatives	619
F. Hoffman-La Roche (2001)	Vitamins	414
imposed by the US Department of Justice		
AU Optronics (2012)	LCD Panels	500
F. Hoffmann-La Roche (1999)	Vitamins	500
Yazaki Corporation (2012)	Car parts	470
Bridgestone (2014)	Car parts	425
LG Electronics (2009)	LCD Panels	400

Sources: European Commission; US Department of Justice

The US leads in putting price-fixers behind bars, and fines and jail terms have also shot up. The average jail term has risen, from eight months in the 1990s to more

than two years. The DoJ uses Interpol red notices (arrest warrants) to put pressure on foreigners indicted in cartel cases to submit to US jurisdiction. The EC can only bring civil cases, but criminal penalties can be imposed in Ireland and the UK, where they are being strengthened. Authorities in large emerging markets are also getting tougher. In India, the worst that colluding firms needed to fear before 2009 was a cease-and-desist order. Now they face heavy fines [33].

With a growing share of cartels being global in scope, competition authorities are doing more of what those they police are not supposed to do: sharing information and working in tandem. The Japanese Fair Trade Commission played an important role in the US-led investigation into car parts. In the biggest cases, offenders can be hit with suits in a dozen countries [33].

Japan's tougher stance matters because its companies have long had a lax attitude to collusion. A lawyer tells of a meeting with an executive at a Japanese manufacturer who claimed that collusion was a thing of the past; the lawyer's next meeting at the firm was with a middle manager who said he had been taken to meet several competitors soon after being hired. Asian firms often treat employees convicted of price-fixing as "a soldier who took a bullet for the company", says Robert Lande of the University of Baltimore's law school—though this is not solely an eastern habit. When Mr Lande looked to see what had become of dozens of price-fixers from various countries who had been jailed between 1995 and 2010, he found that roughly half had been rehired by their old employer or by another firm in the same industry [33].

Cartels are difficult to root out without help from insiders. To aid detection, the DoJ developed a leniency programme that provides incentives for companies to confess and snitch on rivals. This has become so successful that around 50 other countries have copied it. Most big cases today stem from such confessions [33].

Under the US programme, a firm that spills the beans can avoid fines, and its employees are spared prison. The second and third through the door can secure lesser benefits, though no criminal immunity, if they provide useful information. Under a policy known as "amnesty plus", a co-operating firm that exposes a separate conspiracy can secure partial immunity in that investigation, too. Samsung, for instance, was the source for several probes into computer monitors and television tubes. Leniency schemes are designed to be "trees that grow more and more branches" as edgy companies, fearful that rivals will squeal first, reveal hidden sins, says Ms Henry [33].

The flip side of leniency is that authorities take a particularly hard line against firms that, when admitting to one conspiracy, do not confess to participation in others. In 2011 Bridgestone paid a fine for colluding over marine-hose prices. Because it failed to disclose that it was up to the same tricks in car parts, it had to pay an elevated fine of $425m for the second transgression [33].

Some countries are employing eggheads to search for suspicious price patterns by "screening" markets. These statistical tests have proved most effective in markets with lots of data, such as financial benchmarks and derivatives, though they have also been useful in cement and fishing: they provided the first evidence of manipulation of the London Interbank Offered Rate (LIBOR) in 2008 and, in 2013, of foreign-exchange rates [33].

Not everyone is convinced by screening. The DoJ ditched it after concluding that it produced too many false positives. "Grand-jury subpoenas can rock companies," says Scott Hammond, a former DoJ cartel-enforcement chief, now with Gibson, Dunn & Crutcher, another law firm. It is a mistake to unleash them based on tests that have falsely pointed to wrongdoing [33].

Rosa Abrantes-Metz of New York University's Stern School of Business, whose number-crunching helped expose the LIBOR affair, thinks the Americans are too sceptical. She argues that market screening, like the medical sort, is useful as an indicator that prompts further investigation [33].

Price-fixers also have to worry about the growth of civil litigation, which almost always follows action by competition authorities, and in which cartelists can face treble damages. Private suits in the US generated awards and settlements of $33 bn—four times the level of official fines—between 1990 and 2008 [33].

Most suits are class actions brought by consumers or corporate customers, but large companies are increasingly opting out of these to bring their own cases, as Ford has done in car parts. In all, 28 car-parts suits have been filed in US courts. Adding to the pain, state attorneys-general have become more forceful in asserting claims on behalf of government purchasers and state residents [33].

Class actions are less common but on the rise in Europe, with Britain, Germany and the Netherlands leading the way. In some countries impediments remain, for example rules that hamper document discovery. To remove these the EC proposed a directive that would harmonise laws and procedures [33].

Despite more-severe punishments, cartels still form all the time. Messrs Connor and Lande think they know why. In a joint paper, "Cartels as Rational Business Strategy: Crime Pays", they argue that deterrence is still too weak. They studied 75 cartels and concluded that these could typically raise prices by 20%. That is double the estimate used by the US's Sentencing Commission when setting guidelines for fines and jail terms. Factor in the small chance of being detected, which the authors put at one in five, and US cartel sanctions are only 9-21% as large as they need to be to offer "optimal" deterrence [33].

Despite evidence that penalties are still too small, defence lawyers complain that the authorities cause alleged cartelists unnecessary pain by applying antitrust laws extraterritorially. Each jurisdiction is meant to base its penalties on the amount of business affected in its territory. But when commerce crosses borders there is sometimes double-counting (known in the trade as "the bump"). Jurisdictions often co-ordinate their actions but they do not have to take account of each other's fines, and do not always agree [33].

Trials expose grey areas in cartel law. Emails that reveal overt price-fixing make for a cut-and-dried case. But is it a conspiracy if a firm announces a price increase and soon afterwards rivals raise their prices to the same level? Has technology that allows rapid-fire price changes, such as the algorithms used in online travel, blurred the meaning of "agreement" and made it difficult to distinguish announcements from discussions among rivals [33]?

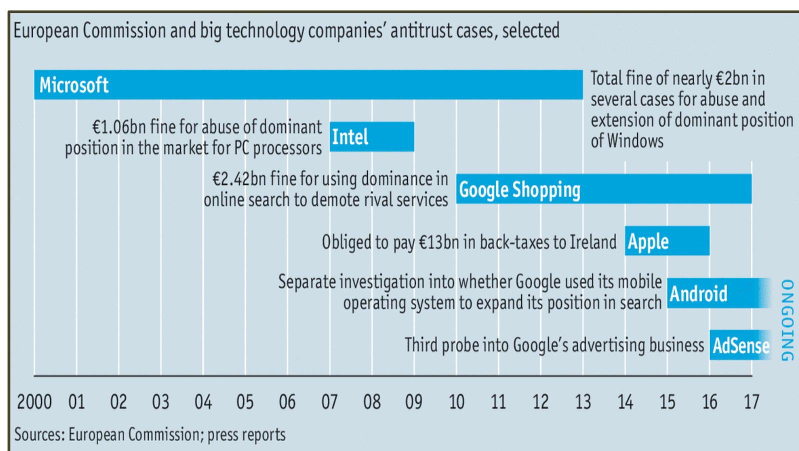
One problem is that competitive and collusive markets can look very similar. If firms are pricing at marginal cost, and costs (of commodity inputs, for instance) are bouncing around, then prices shift together in a perfectly competitive industry, just as they might in a cartel. Competition authorities try to get around this problem by

looking not only at pricing but at profitability too; profits in collusive environments are higher than those in competitive ones [33].

Trustbusters have worked hard to spell out where they consider the line between right and wrong to be, says Brady Dugan of Squire Sanders, another law firm. But their thinking is not uniform. The EC, for instance, often treats an exchange of information as collusion, even if there is no agreement to fix prices. The DoJ needs to see an agreement, though this does not have to be in writing [33].

Antitrust: abuse of dominance

While the control of restrictive practices is regarded as an EC success story, the same cannot be said of controlling the abuse of dominance [25]. The biggest transatlantic gap in competition policy is in policing dominant firms (known in the EU as Article 102 cases, after the relevant passage in EU treaty). Europe's trustbusters have been far more likely to worry that a dominant company (see chart, EC antitrust cases), of the sort that technology industries tend to producer, will force rivals out of business, leaving consumers facing less choice, higher prices and worse services. Trustbusting in the US, by contrast, took its cue from the economist Joseph Schumpeter who believed that the promise of monopoly profits is a spur to the innovation and risk-taking that drives economic growth. In this vie, the dominance of tech firms is likelier to attract competition than to crush it [26].



EC law prohibits 'any abuse by one or more undertakings of a dominant position within the common market'. This prohibition is aimed at monopolies or, since full monopoly is rare, at oligopoly, where a small number of firms dominate a market. Since European governments are decidedly ambivalent about the control of oligopoly, the law itself has several significant flaws, and the EC has been hesitant about exploiting this aspect of its powers. Cini and McGowan (1998: 94) go as far as to assert that 'the EC's monopoly policy has been largely ineffective'. This is an overstatement, but implementation is indeed impeded by the complex dynamics between the EC and member states [25].

For member states large companies have several attractive features. They enjoy economies of scale, they have financial muscle, and are representative of national industrial prowess, but most of all they can fund high technology and may operate as powerful multinationals able to compete directly with Japanese and US multinationals in global markets. These are the classic features of 'national champions', and many governments, including those of France, Germany, Italy, and the Netherlands, have been loath to see these benefits eroded by active attack from the competition authorities. This in part explains the hesitancy of the EC. Very few actions have been taken against the bigger European companies [25]. Few in Silicon Valley would doubt that EU competition policy is anything but thinly veiled protectionism aimed at shielding the region's old-economy firms from disruption [26].

Brussels believes the growing power of big [foreign] tech firms to shape politics, society and the economy requires a counterweight. The battle is of urgency, the commission reckons, because the data that tech monopolies have accumulated make it far harder for upstart firms to displace them or keep them in check [26].

There have been several high-profile clashes with US tech firms since 2000 (see chart EC and big tech antitrust cases), but many are recent. In 2016, Apple was ordered to pay €13bn ($14.5bn) in back-taxes to Ireland, to the fury of many in the US. In May 2017 Facebook was fined €110m for misleading EU trustbusters about its takeover of WhatsApp, a messaging service. In June a long-running investigation resulted in a €2.4bn fine on Google foer using its search engine to promote its own comparison-shopping service. EU trustbusters also charged Google with using its Android operating system to promote its mobile-phone apps and services over those of rivals [26].

But in other headline-grabbing cases, it is not clear how consumer welfare has been much enhanced. The commission said Google abused its dominance of online search to promote its own comparison-shopping service and relegate those of rivals. Yet it did not show, for instance, that consumers were denied a superior service as a consequence [26].

The benefit to competition from the Apple tax case is harder still to fathom. Under European law, it is illegal for a government to provide a subsidy to an individual firm, known as "state aid", which gives it an edge over its rivals. At its best, the enforcement of state-aid rules has severed the links between governments and national champions, such as flag-carrying airlines. Very often such firms are loss-making and a burden to the exchequer. Preferential treatment makes it hard for better firms to challenge them—so state-aid rules that cut them loose hugely benefit consumers [26].

But the case against Apple did not fit the paradigm. The thrust of the commission's argument was that Ireland cut a bespoke tax deal with Apple that was not open to other companies, equivalent to state aid. But which firm is the peer against which Apple's tax affairs should be gauged? How was competition distorted? Where are the chronic inefficiencies? The politics of the case seem clearer than the competition-policy benefits. Big EU states have long been critical of Ireland's 12.5% rate of corporate tax. But it is a stretch to use state-aid rules to achieve the sort of tax harmonisation that is favoured in Brussels [26].

Elite firms are the winners who take most

Some striking research suggests that Schumpeterian mechanisms may have broken down. The leading firms are staying ahead much longer than is desirable and getting bigger and more powerful. A group of researchers at the OECD, a club of mostly rich countries, examined the performance of a representative set of companies in 24 of its 35 member countries between 2001 and 2013. They discovered that the top 5% of them, dubbed "frontier firms",

continued to increase their productivity while the other 95% (the laggards) were stagnant in this regard.

The OECD researchers, Dan Andrews, Chiara Criscuolo and Peter Gal, show that beneath the stagnation lies a deeper pattern: rising productivity at the frontier and a widening gap between the leaders and the laggards. Three-quarters of the gap emerged before the global financial crisis of 2008. The divergence varies between sectors: in manufacturing, for example, top-tier firms saw their labour productivity increasing by 2.8% a year, against 0.6% a year for the rest. The gap was even bigger in services: 3.6% compared with 0.4%.

The frontier firms appear to have certain things in common. Unsurprisingly, they are ahead of the pack in technological terms, and they make much more intensive use of patents. Perhaps the most striking difference is that frontier firms are always citizens of the world. They are frequently part of multinational groups and they constantly benchmark themselves against other frontier companies across the globe. So technological innovations from the frontier are spreading more rapidly across countries than they are within them. The gap between an elite British firm and an elite Chinese firm is narrowing even as the gap between an elite British firm and its laggardly compatriot is expanding.

An obvious explanation is that digital technology is unleashing a phenomenon of "winner-take-most" markets thanks to a combination of low marginal costs (which allow first movers to expand quickly) and network effects (which make popularity its own, profitable, reward). The OECD notes that the information-technology industry has produced a class of super-frontier firms: the productivity of the top 2% of IT companies rose relative to that of other elite firms. Other studies show that this is not because the top tier are investing more in technology (everybody is throwing money at it) but because they are investing more intelligently to enable their workers to do new things and to reinvent their business models.

Technological diffusion has stalled: cutting-edge ideas are not spreading through the economy in the way that they used to, leaving productivity-improving ideas stuck at the frontier. Such diffusion may be harder in a knowledge-intensive economy because frontier firms can hire the most talented workers and cultivate relations with the best universities and consultancies. But it is also made worse by bad policy. The OECD notes that divergence in productivity is particularly marked in sectors which have been sheltered from competition and globalisation, most notably services.

Economist, "Schumpeter: The great divergence", 12 Nov 2016, p. 58.

The renewed importance of size

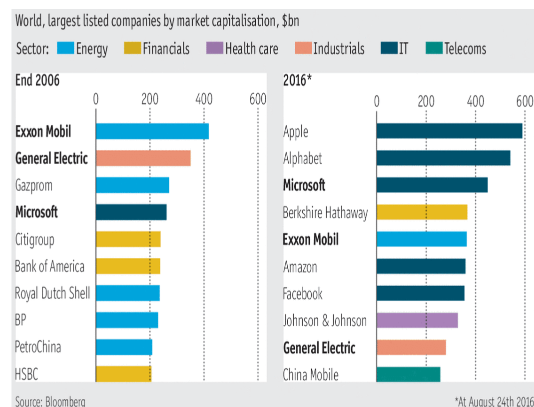
As a proportion of GDP, US corporate profits in 2016 were higher than they had been at any time since 1929. Apple, Google, Amazon and their peers dominate today's economy just as surely as US Steel, Standard Oil and Sears, Roebuck and Company dominated the economy of US president Roosevelt's day. They pulled ahead of their rivals in one area after another and built up powerful defences against competition, including enormous cash piles equivalent to 10% of GDP in the US and as much as 47% in Japan.

In the 1980s and 1990s management gurus pointed to the "demise of size" as big companies seemed to be giving way to a much more entrepreneurial economy. Giants such as AT&T were broken up and state-owned firms were privatised. High-tech companies emerged from nowhere.

Size seems to matter again. The McKinsey Global Institute, the consultancy's research arm, calculates that 10% of the world's public companies generate 80% of all profits. Firms with more than $1 billion in annual revenue account for nearly 60% of total global revenues and 65% of market capitalisation.

The quest for size produced a global bull market in mergers and acquisitions. In 1990 there were 11,500 M&A deals with a combined value equivalent to 2% of global GDP. Between 2008 and 2016 the number had risen to 30,000 a year, worth about 3% of global GDP. The US's antitrust authorities gave Anheuser-Busch InBev, one of the world's biggest drinks companies, the all-clear to buy SABMiller, another global drinks firm, for $107 billion.

The superstar effect is most visible in the US, the world's most advanced economy. The share of nominal GDP generated by the *Fortune* 100 biggest US companies rose from about 33% of GDP in 1994 to 46% in 2013, and the *Fortune* 100's share of the revenues generated by the *Fortune* 500 went up from 57% to 63% over the same period. The number of listed companies in the US nearly halved between 1997 and 2013, from 6,797 to 3,485, according to Gustavo Grullon of Rice University and two colleagues, reflecting the trend towards consolidation and growing size. Sales by the median listed public company are almost three times as big as they were in the mid-1990s. Profit margins increased in direct proportion to the concentration of the market.



The superstar effect is particularly marked in the knowledge economy. In Silicon Valley a handful of giants are enjoying market shares and profit margins not seen since the robber barons in the late 19th century. But in most of the world some consolidation is the rule. The OECD, a club of mostly rich countries, notes that firms with more than 250 employees account for the biggest share of value added in every country it monitors. James Manyika, of the McKinsey Global Institute, points out that today's superstar companies are big in different ways from their predecessors. In the old days companies with large revenues and global footprints almost always had lots of assets and employees.

Economist, "Rise of the superstars," special report on companies, 17 Sep 2016, p. 3-5.

Bundling

Behind antitrust actions against Microsoft and General Electric lie concerns about "bundling" different products together. Is bundling really so bad [34]?

Bundling in economists is a term used to describe selling two or more products together as a package for a single price. The world's two biggest companies, by market capitalisation, are under fire from antitrust authorities, in part because of concerns about bundling. In June 2014, an US appeals court upheld parts of an earlier judgment that, by bundling its Internet Explorer browser with its Windows operating system, Microsoft was seeking to preserve, or even extend, a monopoly position in operating systems. In July, the EC blocked General Electric (GE) from acquiring Honeywell, because it feared that the combined firm, by bundling together engines, electrical components and trade financing, would increasingly dominate the aircraft-manufacturing business [34].

In the 1940s, US's Supreme Court concluded that "tying agreements serve hardly any purpose beyond the suppression of competition." Economists have long challenged that absolutism. Many now think that, though there are exceptions, selling bundles of goods together as a package can be a source of economic efficiency [34].

Bundling covers many things. Two or more of the same product might be sold as a package—a "buy one, get the second at half-price" deal, say, or a railway season ticket. A camera might be sold in a box with a free film; a hotel room might come with accompanying breakfast [34].

A product can also be bundled together with a loan. Financial bundling has become so widespread that three economists at Morgan Stanley—Steven Galbraith, Mary Viviano and Elmer Huh—suggested in a report that, as manufacturers such as GE, General Motors and Lucent grow ever more involved in providing finance, so "manufacturing is becoming the loss-leader of the profit chain for many companies." In other words, give away the product; make money on the lending that is bundled with it [34].

Bundling can be good for consumers. It can reduce "search costs" (the bundled goods are in the same place), as well as the producer's distribution costs. There are lower "transaction costs" (because a single purchase is cheaper to carry out than multiple ones). And the producer may be a more efficient bundler than the customer: few of us choose, after all, to buy the individual parts of a car to assemble them ourselves [34].

In perfectly competitive markets, bundling should happen only if it is more efficient than selling the products separately. Where there is less than perfect competition—that is, most markets—economic models suggest that bundling sometimes benefits consumers and sometimes producers. Nicholas Economides, of New York University, says that when firms have a measure of market power, they can engage in price discrimination, charging different prices to different customers. Bundling can play a part in price discrimination, as different bundles of goods and prices may appeal to different customers [34].

Price discrimination in general, and bundling in particular, is usually a profit-maximising strategy for a producer that enjoys substantial market power, says Mr Economides. But if there is a deal of competition, two rivals selling bundled goods may see their margins fall even more readily than if they were not bundling [34].

Wherever there is market power, the antitrust authorities have reason to be watchful. Bundling a monopoly product with one that is competitively provided may result in the competitive market being distorted. But it would be wrong to assume that bundling is inevitably bad in those circumstances. If there is some loss of consumer choice, the cost may be outweighed by efficiencies from bundling. Each case must be judged on its merits [34].

The merits are harder to assess where there is "pure bundling", involving products available only as a package, than where there is "mixed bundling", with products available both as a package and individually [34].

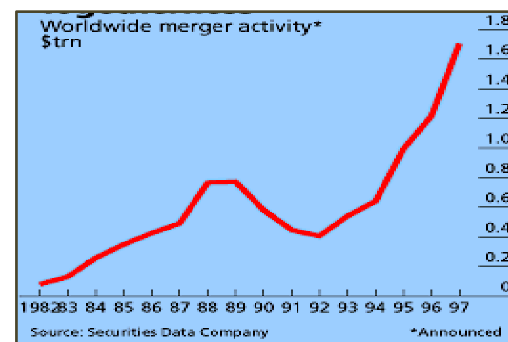
Microsoft's package of Explorer and Windows is a pure bundle. On the face of it, requiring Microsoft to sell Windows and Explorer as separate products as well as bundled ones would end the arguments—except that Microsoft claims they are not a bundle at all, rather a single product incapable of being broken into parts. In the past, such claims have been resolved by assessing whether a viable market exists for each product on its own: if it does, the product is a bundle [34].

Yet, as the appeals court noted, this does not work well in Microsoft's case, because any innovation that improves an integrated product might be stifled. Again, the costs and benefits of any such innovation, and whether it constitutes a genuinely new, integrated product, not a bundle, should be judged case by case [34].

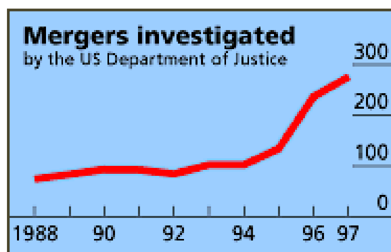
Product definition was also an issue in the proposed merger of GE and Honeywell. The European Commission concluded that GE's aircraft-leasing arm would favour GE/Honeywell's competitively priced bundles of engines and components for aircraft it financed, over (perhaps unbundled) alternatives sold by competitors. Maybe. But aircraft financed by GE could equally be regarded as a bundled product in competition with other, bundled aircraft. As long as a merger of GE and Honeywell did not reduce competition in this end market, and it appears it would not have done, should the antitrust authorities have a say in who makes the components that GE chooses to include in its bundle [34]?

Merger control

The third component of policy is the control of mergers and acquisitions that have the potential to generate monopolies. This is the dramatic, and often controversial, face of competition policy since its main target is big firms. It attracts huge media attention and frenzied political lobbying so that big mergers present theatrical shows of Shakespearean proportions. They affect thousands of jobs, transform household name companies, make or break fortunes in financial markets and establish or destroy the reputations of captains of industry [25].



The objective is to block or amend mergers which threaten to create a dominant position which they might then abuse. The wording of the test is of vital importance and in 2003 the EC persuaded the Council to pass a reformed Merger Regulation which introduced an adaptation to the wording of the test (Regulation 139/2004; Commission, 2004p: 59-68). This retains the dominance test which has been extensively criticized by the US and the UK [25].



The EU approach to mergers, especially "horizontal" tie-ups between competitors in the same industry, is also a lot like the US's method (though research suggests that merger control has been far more lax in the US) [26].

Since 2000, merger policy has suffered some major setbacks. In 2001 the prohibition of the *GE/Honeywell* merger precipitated a torrent of criticism from the US accusing the EC of arrogance, poor economics, outdated thinking, and incompetent analysis. The 'hammer blow' came in June 2002 when a CFI judgment overturned the Commission's prohibition of the *Airtours/First Choice* merger, the first appeal that DG of Competition lost. The shock was compounded by two further defeats in the *Schneider Electric* and *Tetra Laval* cases later in 2002. The CFI was damning. It criticized the EC processes, its use of evidence, its reasoning, the quality of its economic analysis, and stated that the EC had committed 'manifest errors of assessment' (Veljanovski, 2004: 184). This led US critics to renew their allegation that the EC was defending 'competitors not competition' or, in other words, protecting big European companies and not the interests of consumers (which is now the main declared objective of US antitrust policy) [25].

In response the EC moved to reform the merger regime. The changes were significant but not revolutionary. The new 2004 Regulation amends the merger test, makes the process more transparent, and introduces further flexibility in allocating merger cases between the EC and member states [25].

One of the main changes is more informal and involves the deliberate reinforcement of economic analysis across the DG. 'to develop an economic interpretation of EU competition rules was … Where the balance is struck between law and economics and, indeed, what sort of economics is employed, will have a marked effect on the development of policy in mergers and across the entire policy area [25]. This gives a sense for the complexity for harmonizing competition policy, especially for the WTO whose membership includes mature economies with established law and court interpretation and developing countries with inadequate laws or weak courts to enforce existing law. Moreover, the difference in court interpretation across the areas of competition policy in the EU and the US, for example, also makes envisioning multilateral rules difficult.

For most of 20th century, "industrial organisation"—the branch of economics that studies competition—was an intellectual backwater. As trustbusters weighed an unprecedented number of mergers (see chart, worldwide merger activity) and all sorts of novel business arrangements that would reshape industries from publishing to defence and accounting to aviation, the intellectual tide turned. The economic ideas of the 1970s and 1980s argued overwhelmingly that government activism in competition was often unwarranted and counterproductive. A shift in thinking justified tougher antitrust enforcement. That competition authorities seemed to be casting a more sceptical eye was partly thanks to these fresh ideas (see chart, mergers investigated by US DOJ) [28].

Technophiles are prone to assert that advanced technology has changed everything, but few new antitrust problems are posed by Microsoft's purported sins, which involve mostly predation against competitors in a supposed effort to monopolise parts of the software industry. If advanced technology has changed competition policy, it is for another reason entirely: that computers have greatly enhanced economists' ability to crunch numbers and model behaviour [28].

No matter the issue at hand, economists, lawyers and judges are wont to begin their analysis of competition by asking a single question: what market are we worried about? Yet, in one of the most startling developments in industrial organisation, economists have now concluded that "the market" does not necessarily matter [28].

Consider the most basic task of trust-busters: to keep any firm from exercising "market power", the ability to set prices higher than competition would allow. In the past, economists sought to measure market power with the Herfindahl-Hirschman Index, which is determined by adding the squares of the market shares of all firms involved. If the Herfindahl is low, there are many competitors and exercising market power should be hard; a high Herfindahl, on the other hand, was thought to warn of a concentrated market in which price rises are easier to sustain [28].

The Herfindahl's great virtue is its simplicity. But that virtue masks two shortcomings. First, there is often no clear way to define what market is at stake. In the investigation of a proposed alliance between British Airways and American Airlines, for example, the carriers asserted that the relevant market was travel between the US and Europe (of which their combined share was modest). EU officials, on the other hand, focused on US-UK travel (of which their combined share was huge). Second, even when the scope of the market is clear, the relation between the Herfindahl and market power is not. The US's soft-drink industry, to take one example, is noted for price competition although only two firms, Coca-Cola and PepsiCo, control three-quarters of sales [28].

Frustration with the Herfindahl's failings led economists in a different direction. Instead of calculating market shares, they seek to gauge if an arrangement such as a merger will drive prices higher than they would be otherwise. According to Jerry Hausman, an economist at the Massachusetts Institute of Technology, economists can actually model oligopolistic behaviour and predict what will happen if the merger goes ahead. This has become possible with the spread of two technologies since late 1980s: desktop computers with extraordinary number-crunching power and the scanners used at retailers' check-outs [28].

These techniques were first applied in 1995, when Interstate Bakeries, the US's third-largest wholesale baker, proposed to buy rival Continental Baking. Instead of arguing about whether the market for white bread is separate from the market for rye bread, the government obtained scanner data from a commercial-information company, providing weekly details about average prices and sales volumes for dozens of different breads in various cities [28].

Thousands of equations later, economists from the Department of Justice concluded that the price of Interstate's sliced white breads strongly affected sales of Continental's Wonder bread, and vice versa, but made little difference to sales of other white breads or other varieties, such as rye. Having shown that each company's brands were the main restraint on the other's prices, the authorities moved to block the merger. In the end

Interstate met their objections by selling some of its brands and bakeries [28].

The empirical analysis went still further with the 1997 proposed merger of Staples and Office Depot, two chains of office-supply "superstores" in the US. By traditional lights, the merger posed no problems, as thousands of retailers sell office supplies. But when economists hired by the Federal Trade Commission (FTC) scrutinised sales prices and quantities for every item sold by each chain, the computers spotted a pattern: Staples's prices were lower in cities where Office Depot also had a store than in cities where it had none. This was strong and unexpected evidence that the merger would allow Staples to raise prices. A court then blocked the merger [28].

When scanner data or similar information is available, defining a market need no longer be part of antitrust analysis. In the early 1990s, the courts had not yet fully accepted that view, but this econometric approach was greatly influencing the US's competition authorities. For the first time, there was an ability to predict whether a merger would raise prices for consumers, a concern of the Chicago School's thinking that rebuilt industrial organization in the 1970s and 80s [28].

Chicago's famously free-market thinkers defined two principles for competition policy. First, they said, governments should stop worrying about size and ask only whether a firm can exert market power. Second, even if a firm gains market power, the effect will usually be temporary, because high profits will attract new competitors. Hence, markets will erode most monopolies more quickly and effectively than will governments [28].

The Chicago analysis was hugely influential. Some of its tenets, such as an insistence on rigorous economic analysis and on consumers' well-being as the only meaningful gauge, are still widely accepted, but these tenets are supporting judgments that are far more interventionist than those that went before [28].

In 1990, under Chicago's sway, US competition authorities would probably have given the bakery and office-supply mergers their blessing. In doing so, they would also have relied on the theory of contestable markets, one of the most publicised economic ideas of the 1980s. Contestability theory still matters —but in a way that is opposite to its developers' original conception [28].

To understand contestability, first recall that monopolies are undesirable because they can restrict output and raise prices so as to increase their own profitability at the expense of consumers. But economists showed in the early 1980s that raising prices is not always in a monopolist's interest, because it may attract other firms to enter the market. If entry is easy and costless—in other words, if the market is "contestable"—a sensible monopolist will forestall competition by setting prices as if it were operating in a competitive market, and there will be no economic harm [28].

Contestability theory was conceived with telecoms in mind—indeed much of the research was sponsored by American Telephone & Telegraph (AT&T), then fighting attempts to dismantle its national telephone monopoly. But the idea was soon applied to other industries, notably aviation. Go ahead and deregulate routes and fares, the theory taught, because even if only one airline flies on a route, it will keep fares low to deter rivals. Contestability offered a rationale for easing anti-monopoly rules in both the US and the UK [28].

In the enthusiasm, however, one condition was forgotten. For a market to be fully contestable, firms must be able to avoid large sunk costs. The newcomer must be able to make a one-way bet, winning if profits are good, but losing nothing if it should decide to retreat [28].

The real world is not like that. A bakery would have to advertise its brand in a new market—an investment that would be wasted were it to back away. A new office-supply chain would have to continue paying rent even if it were to close its shops. As a firm weighs whether to sink costs, it knows that the high profits that look so enticing now will shrink with competition. And so, taken to its conclusion, contestability theory leads to an arresting result: the greater the sunk costs, the less the incentive for new firms to compete against an incumbent, which therefore can restrict output and raise prices [28].

The belief that firms would find clever ways to hinder competition was one of the original motives for anti-monopoly laws. This was a threat that the Chicago theorists did not take seriously. Their predilection was that firms do business in whatever way they find most efficient. Other motivations such as harming rivals are not likely to maximise profits, and are therefore improbable. Robert Bork, a Chicago-trained legal scholar, was one of the most influential antitrust thinkers of the 1970s. He argued that vertical restraints, such as "tying" (requiring the purchaser of one product to buy another) and "resale price maintenance" (in which a manufacturer tells retailers what they may charge) are unlikely ever to lead to higher prices and should therefore always be legal [28].

What has changed is the sorts of models that game theorists employ, which are far richer and more complex than those used in the 1980s. "The Chicago theories assume perfect competition or perfect monopoly, and nothing in between," said Steven Salop, an economist at Georgetown University Law School in Washington, DC. "The post-Chicago school is based on models of strategic competition among oligopolists" [28].

In the real world, where competitors face off again and again, a company that violates shared but unstated understandings might face retaliation. That makes it disinclined to be a rule-breaker. "The static game typically gives you non-collusive pricing," Mr Morris says. "But once you have a time dimension, you have conditions in which tacit collusion may occur" [28].

Predatory behaviour also looks less innocent through the lens of sophisticated game theory. Following the Chicago lead, most economists viewed it as pro-competitive. In its most obvious form, one firm charges unrealistically low prices to drive another out of the market. Low prices benefit consumers, went the thinking, and the predator rarely sustains monopoly profits for long [28].

This reasoning is correct—in some cases. Enforcers "really do have to worry about scaring off real competition," said Jonathan Baker, chief economist at the FTC. However, by simulating complex interactions among firms, economists are able to show that predatory pricing may be highly profitable. Authorities in both Europe and the US began studying allegations that big airlines slashed fares and added seats when a discount airline started service on a given route. Such predation would pay off if, by establishing a reputation for aggressive counter-attacks, a carrier could deter competition on other routes. This argument had yet to be tested in US courts. In 2000 the economics of predatory pricing was still fairly underdeveloped, and there were few theories to distinguish desirable price competition from undesirable predation [28].

In addition, the Chicago school failed to identify some other kinds of predatory behaviour:

• Raising rivals' costs**.** When the US Justice Department moved to block the merger of two aerospace companies, Lockheed-Martin and Northrop Grumman, among its concerns was the firms' role as components suppliers for other defence contractors. After the merger, might not those subsidiaries offer higher prices or less advanced products to Lockheed's rivals? In a highly competitive industry, the rivals could simply find other suppliers. But in an oligopolistic industry, the government fears, a dominant Lockheed might be able to get away with predatory behaviour, forcing up prices for competitors and thus squeezing their profits.

• Reducing rivals' revenues. A different sort of predation was behind a Microsoft strategy that obliged computer makers to pay it a royalty on each machine they sold, whether or not it carried Microsoft's software. Frederick Warren-Boulton, a Washington-based economist and former Justice Department official, labelled this a "tax" on competitors: customers will be unwilling to pay much for other firms' software, as they must already pay for Microsoft's. Microsoft changed its policy in 1995, but a court case, dealing with its efforts to undercut Netscape by giving away its Internet browser, raises similar issues. "This is a class of problem that had not been analysed before," Mr Warren-Boulton says.

• Connected markets. The Chicago school held that if markets are linked, a firm with a monopoly in one cannot boost profits by monopolising another. That is no longer accepted. If Microsoft monopolises browsers, economists now argue, it could prevent competitors such as Netscape from using browsers to challenge its dominant position in operating software. The EU examined similar issues in broadcasting, on the theory that if a firm obtains market power in, say, sports programming, it can leverage that into an even more profitable market position in pay-TV. This idea could open up whole new areas of investigation for the antitrust authorities [28].

None of these types of predation, it is worth pointing out, can succeed in a highly competitive environment of the kind the Chicago theorists assumed. However, economists concluded that matters are different if a firm has already gained a dominant position in a market. In that case, predation may strengthen the dominant company's position and generate more profits at the consumers' expense [28].

One example of new thinking is the importance of network effects. The notion is that some businesses—Internet access, credit cards and computer software, to name three—differ fundamentally from other economic activities because the desire for compatibility makes certain forms of competition impractical or even unwanted. Although this sounds dramatic, the consequences for policy are fairly minor and involve old-fashioned regulation. The question of how to keep the owner of an "essential facility", such as a credit-card approval network, from exploiting its monopoly power is an old one; the EU's examination of competition in Internet access raises questions similar to the investigation that led to the break up of AT&T by US authorities [28].

The new approach to competition by no means heralds a return to the pre-Chicago days when bigness itself was deemed to be an evil. Indeed, it explicitly emphasises market power rather than size, which was anyway only ever an unsatisfactory proxy. Nor does the new approach mean that trustbusters will bring more cases. "You still need to prove something bad is happening and get customers to complain about it," says Robert Litan, a former antitrust official with the Brookings Institution in Washington. "You can't make an antitrust case out of fancy economic theories." The fancy theories will, without doubt, motivate enforcers to investigate business behaviour that hitherto raised no eyebrows. They have come to understand new ways in which businesses acquire excessive market power [28].

Making markets work requires more than laisser faire

Questions surrounding competition policy tend to divide economists. Mainstream pro-market economists agree almost to a man that competition is an indispensable spur to efficiency and innovation, and hence to higher living standards and faster economic growth. However, there is far less agreement over the character and extent of the government intervention that is required to make sure competition thrives. The Microsoft anti-trust case divided the economics profession between those who thought that vigorous enforcement action was called for and those who felt that Microsoft's dominance of its markets could and should be left to correct itself [29].

In the annual public lecture of Britain's Royal Economic Society, John Vickers, a distinguished scholar and chairman of Britain's Office of Fair Trading (OFT), pointed out that this tension in economics went back a long way.[1] Just compare, he says, two of the best-known quotations from Adam Smith:

> It is not from the benevolence of the butcher, the brewer or the baker that we expect our dinner, but from their regard to their own interest.
>
> People of the same trade seldom meet together, even for merriment or diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices.

The point of the first quotation is to say that self-interest, uncoordinated except by the invisible hand (that is, by competition), promotes the public good. The second says, in contrast, that producers set out to subvert competition unless they are somehow prevented from doing so. So the first remark is broadly sympathetic to the principle of laisser faire, whereas the second apparently takes an opposite view. But Mr Vickers explains that Smith's comments must be seen as complementary rather than contradictory. Questions about the desirability of competition, especially those bearing on how best to arrange incentives so that welfare is improved, must be kept separate from questions about the inevitability of competition. "There is no inconsistency in regarding competition as beneficial but vulnerable to being undermined—for example, by cartel activity" [29].

Mr Vickers argues that the right way to think about competition policy is to see it as a form of regulation expressly intended to bring out the best of laisser faire. To the extent that competition policy succeeds, other forms of economic regulation will then become less necessary. Thus, judicious use of one kind of economic regulation—competition policy—can hope to lower the aggregate burden of all kinds taken together [29].

Seen this way, competition policy extends far beyond antitrust as traditionally defined. Cartel-busting, though, remains a central concern. The US relies heavily on combining leniency for those who first come forward with information and severity against hard-core offenders. Promising partial or total immunity to whistle-

[1] Vickers J., Office of Fair Trading, speech on "competition Economics", 2003, available at: www.oft.gov.uk/News/Speeches+and+articles/2003/index

blowers transforms the incentives facing cartel members, making their conspiracies against the public far less stable, even before the trust-busters turn their gaze upon them [29].

Mr Vickers also argues that broad-based deregulation should often be regarded as a primary tool of competition policy—not a view that the OFT or similar agencies have always eagerly espoused. Much of the public may be sceptical too, often regarding efforts to replace direct control with competition as a cause of subsequent grief. Excellent reading on this is provided by Alfred Kahn, doyen of the US's regulation economists[2]. In a study jointly published by the American Enterprise Institute and the Brookings Institution, Mr Kahn assaults the widely held view that the US's deregulation of airlines and telecoms was a terrible failure—and the main cause of the financial disasters lately visited upon those industries [29].

Not so, as Mr Kahn's methodical analysis makes plain. Deregulation of the airline industry was, he said, "a nearly unqualified success, despite the industry's unusual vulnerability to recessions, acts of terrorism and war." The benefits to consumers, in the early 2000s, were estimated at in excess of $20 billion a year, mainly in the form of lower fares and huge increases in the availability of fast one-stop services between hundreds of cities. Consumers do complain that standards of service have fallen. They did—because passengers are unwilling to pay for them. Through competition, the market has discovered that consumers prefer cheap tickets to frills. Such discoveries are the whole point [29].

US telecoms deregulation is a more complicated tale, but here, too, Mr Kahn draws attention to several large and clear benefits: much cheaper rates for long-distance calling; vastly cheaper cellular and other wireless services; and, in both cases, correspondingly huge increases in usage [29].

Reluctant as consumers may be to believe it, competition is far and away their best friend in economic policy. The first question to ask of any existing microeconomic policy, or of any proposed new one, is simply whether it promotes competition. Depressingly often, despite the efforts of policy-oriented economists such as Mr Vickers and Mr Kahn, the answer is still no [29].

In the late 1990s, two of the world's biggest defence contractors sought to merge into one. The US's six largest airlines were looking to form alliances pairwise, and so were the two main carriers flying between the US and UK. Bill Gates seemed determined to dominate software, Rupert Murdoch harboured ambitions in media, and a WorldCom-MCI merger might dominate the tumultuous world of the Internet. All of this courting and coupling had a remarkably invigorating effect on the business of setting competition policy [31].

After decades in the shadows, trustbusting was back in the spotlight. Economic liberals—conservatives, as they style themselves in the US—look upon this with ambivalence or even unease. Government, to their mind, is the enemy of the market, and competition enforcement inserts the heavy hand of government into matters where markets know best. They therefore took great comfort in the reigning economic theories of the 1970s and 1980s, which purported to show that many government antitrust efforts were irrelevant to, and even at odds with, the goal of promoting more competition in the economy. They are less comfortable with newer research which shows how firms' actions can reduce competition in ways hitherto unexplored. Competition enforcement is vital to the success of a free-market economy [31].

The achievements of those earlier theoreticians should not be minimised. Before the free-market-minded academics at the University of Chicago began thinking about competition in the 1970s, antitrust enforcement was usually illogical and frequently bizarre. In one famous case, in 1962, the US's Supreme Court blocked a company that manufactured just 4% of US's shoes from buying a retailer that controlled 1.6% of shoe sales, on the grounds that such a behemoth could "foreclose competition" in shoe retailing [31].

Those days are past, and good riddance. By introducing serious economic analysis into a field where a vague fear of monopoly drove policymaking, the Chicagoans forced competition authorities to think far more rigorously about what they are trying to accomplish. Instead of worrying about "bigness", "fairness" and a host of other general concerns, trustbusters began to ask two very precise questions. First, is the conduct at issue likely to make consumers pay more than they would otherwise? Second, can the higher prices be sustained against the forces of competition [31]?

Such questions remain the focus of competition policy in US and UK—though, regrettably, legalistic thinking still matters more than economic reasoning in the EU. But that does not mean that the Chicagoans had all the right answers [31].

Many of the Chicago school's adherents, who occupied important economic-policy jobs in the US and UK during the 1980s, had an admitted bias towards *laisser-faire*; they were inclined to believe that if two firms wished to form a joint venture, for example, or if a manufacturer wanted to restrict its dealers from selling competitors' products, government should let the play of market forces determine whether those actions were wise. It is here that newer thinking about competition leaves the old Chicago reasoning behind. An industry in which many firms compete may be a surprisingly fertile bed for collusion, the new thinking suggests. Seemingly consumer-friendly policies, such as giving a product away, may in fact have a chilling effect on competition [31].

Is that a new insight? Actually, it is: airlines, for example, have sustained huge fare rises despite the ease with which new carriers can enter a highly profitable route; and that has put paid to the 1980s notion that competition will quickly erode market power. The market does not always correct a lack of competition quickly, and the government's failure to step in can cause serious economic losses [31].

This certainly does not mean that bureaucrats always know the right answers, or that they can foresee accurately how fast-changing industries will develop. Yes, bureaucrats do pursue their own self-interest. And yes, competition policy necessarily involves guesswork and may result in costly misjudgments. But as Adam Smith was aware, capitalists, left to their own devices, would much rather collude than compete. Today's competition authorities should be praised for judiciously putting their new economics to use [31].

When two US presidents, Theodore Roosevelt and William Howard Taft, embarked on a trustbusting mission a century ago, they were taking government into a new policy area: competition. Industrialisation was still

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relatively new, and any monopolies that had emerged, such as the British and Dutch East India companies, had been created by governments [32].

The robber-baron companies of the late 19th century were accused of using their industrial muscle to drive competitors out of business. Private monopolies, the argument ran, diminished the benefits of capitalism; by definition, the existence of a monopoly made it impossible for a free market to operate [32].

Since then, most governments have had some kind of competition policy, though not necessarily a coherent one. Politicians try to juggle different priorities e.g.: putting government in control of "strategic" industries (a category that always includes defence but often a range of other industries, from airlines to car manufacturing, power generation and telecoms); shielding domestic businesses from foreign ownership or competition; and protecting consumers from price-gouging [32].

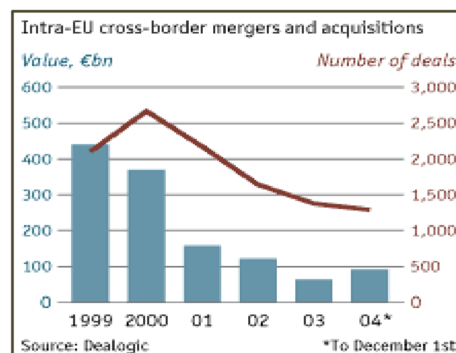
Since the mid-1990s a new concern has emerged: that monopolies may be restricting innovation. The technology industry seems to have been particularly prone to creating near-monopolies, from Microsoft in software to Amazon in retailing and Google in internet search. This is due to network effects. Consumers gravitate to the dominant technology, either because it offers more products or because many of their friends are already using the network concerned. These monopolists, it is feared, will be slow to introduce new technologies that might cannibalise their existing business; and they will be so entrenched that new competitors will find it hard to get a foothold [32].

Microsoft bundled its Internet Explorer browser with its dominant Windows operating software on personal computers. The US Dept. of Justice saw this as an attempt to force Netscape, a rival browser, out of the market. In a long court case beginning in 1998, Microsoft was initially ordered to break itself in two, but the ruling was overturned on appeal and a less onerous settlement was reached. At the time many commentators felt that the authorities had overreached themselves. Internet Explorer was provided free of charge, so it was hard to see how consumers were being harmed. But this is a tricky area [32].

On the one hand, rapid technological change can cause once-dominant companies to lose their position very quickly if they do not adapt, e.g. Nokia and BlackBerry's mobile-phone businesses. Some argue that if the market is capable of such adjustment, governments should not get involved. "The fact that some consumers make the wrong decision some of the time is not the basis for intervention, as long as all consumers are not being ripped off," says Simon Bishop of RBB Economics, a consultancy. On the other hand, such rapid change makes it hard to tell whether monopoly positions are being exploited, or whether a more competitive market would have produced more innovations [32].

Competition authorities are increasingly reaching beyond their countries' border. Competition authorities have also had to rethink their role in cross-border deals. If one multinational (MN) takes over another, that might not create a monopoly in the country where the two groups have their headquarters, but it could do so in another country. A proposal for a merger between General Electric and Honeywell, announced in October 2000, was cleared by the US Dept. of Justice but blocked by the EC the following year. That objection appeared to herald a new era of transatlantic takeover disputes; in fact it remains the only deal so far to have been cleared in the US but blocked on the other side of the Atlantic. However, there have been other instances of transatlantic disputes. In 2009 the EC imposed a €1.06 billion ($1.4 billion) fine on Intel, a chipmaker, after a complaint brought by a US rival, AMD. The ruling seemed to suggest that MNs faced the prospect of "double jeopardy" (i.e., being tried twice for the same offense) because of inconsistent international rules [32].

In 2004, after 20 years of talks, drafts, objections and waterings-down, the EU finally approved a directive on cross-border mergers. Europe needed a law on cross-border deals, said the EC, because unbridgeable differences in national laws make transnational mergers with companies in Austria, Denmark, Finland, Germany, Greece, Ireland, the Netherlands and Sweden impossible (see chart, intra-EU M&A). Acquiring firms have to resort to creating new subsidiaries in these countries or complex holding structures. This is costly and inefficient [30].



There are some philosophical differences between Europe and the US. Europe has a long tradition of state ownership of industry; even after privatisation, many such companies retain dominant positions, at least in their national markets. In the US, by contrast, market leaders have got there the hard way, by having superior technology or being more efficient. In Europe competition policy tends to be rules-based, with the EC issuing guidance for future mergers to follow; in the US merger decisions tend to be hammered out in the courts, establishing legal precedent [32].

But MNs also have to deal with competition policy in emerging markets. China is a particular challenge. "The Chinese use competition policy to achieve other ends—to keep out foreign firms or attack existing foreign businesses," says one expert. Latin American countries tend to adopt the US model of competition policy, whereas eastern Europe follow the EU's example. Merger authorities from different countries have set up the International Competition Network to share experience. Such efforts may reduce the double-jeopardy problems in international mergers, if only because rules may be applied more consistently [32].

In the longer term, the question is whether national competition policies will prove adaptable enough to cope with a globalised economy. It may make economic sense for global companies to exploit economies of scale and bring down prices for consumers, but national governments may be reluctant to accept the loss of control involved. In air travel, for example, fares have been reduced under pressure from low-cost airlines, but these newcomers are still held back by policies that favour flagship carriers. If regulators in rich countries were to prove more zealous than their counterparts in emerging markets in restricting the size of MNs, their firms might be put at a competitive disadvantage [32].

New concerns for competition authorities emerge all the time. Chris Walters, chief economist of UK's Office of

Fair Trading (OFT), cites the practice of "pay-for-delay", whereby a firm that holds a drug patent pays a generic manufacturer not to launch a rival drug to preserve the patent-holder's monopoly profits. David Currie, the chairman of the Competition and Markets Authority, pointed to a vast new potential problem: "the growing collection, processing and use of consumer-transaction data for commercial ends. This is proving an important source of competitive advantage; there is a possibility that it will be a source of consumer detriment" [32].

Trust busting in emerging market economies

In 2008, China, the land of the mega-monopoly, was about to adopt an antitrust law. After 14 years of wrangling China would introduce a comprehensive antitrust law. It was important: it has been called China's "economic constitution". The law could give China's economy a further big push from central planning and state ownership towards markets, said Lester Ross of the Beijing office of WilmerHale, a law firm [35].

On the face of it, the law is desperately needed: energy, telecoms, transport, steel and many other industries lack competition, with a handful of dominant firms controlling prices not only for consumers, but for other companies too. Even fragmented industries, such as rice flour and instant noodles, where competition ought to abound, were reported to have seen price-fixing and collusion organised through the trade groups that are a legacy of the state-controlled economy [35].

Competition was governed by a set of regulations from 2006, along with three other laws—the Anti-Unfair Competition Law, the Price Law and the Consumer Rights and Interests Protection Law. These various rules were scattered throughout China's bureaucracy, and were universally condemned as toothless and lacking clarity [35].

Many of the big Chinese monopolies are owned in part or whole by the state itself. One of the causes of the law's delay was the debate over whether these firms, which comprise a huge chunk of China's economy, should be covered by it. After a series of drafts included and then excluded state-owned monopolies, a compromise was reached. The law applies to them, but with an exemption when economic or national security is threatened—a loophole almost as big as China itself [35].

Worse was the suspicion that rather than going after the big monopolies, the law's initial targets would be foreign companies. Taking a lead from the EU, China would start reviewing mergers of companies, regardless of where they are based, so long as they operate within its borders or affect companies that do. Regulators would consider the effect on "the progress of technology" and "national economic development". At the very least, this meant that large mergers had to be blessed by the Chinese authorities [35].

Another concern is that the law would conflict with intellectual-property rights. Chinese manufacturers in many industries have long bridled at being forced to cut their own production costs to retain sales, even as they have to pay what seem like large royalties to patent holders (as in the production of DVD players, for example). In industries such as software and pharmaceuticals, where the market is dominated by just a few foreign companies, the law may also justify litigation based on a superficial definition of dominance. It then allows prosecution over royalty rates, or restrictions on licensing. It is not hard to see how the law could be used to legitimise expropriation [35].

Ten years on after the antitrust law China's SOEs were still hard to avoid. They accounted for 40% of its stockmarket and a third of its investment, and dominated heavy industry. They accounted for 45 cents of every dollar of debt in China, so they are an indicator of the wellbeing of the country's financial system [36].

SOEs are a sticking point on the negotiating table between China and the US. Treasury officials argue that China broke promises it made upon joining the WTO in 2001 about further liberalising its economy. According to one negotiator, it "abuses the system" by subsidising SOEs which in turn rig markets, dump cheap exports abroad and detering foreign firms from winning market share in China [36].

The State-owned Assets Supervision and Administration Commission (SASAC) is an agency at the heart of China's industrial deep state. It controls 100-odd of the largest SOEs. Forty years ago most industries were government departments without proper book-keeping or independent regulators. In 2018, 63% of SASAC's portfolio was listed on the stockmarket. Reform was intended to make firms more efficient and responsive to market signals. In the 2000s it was possible to dream that China might eventually relinquish control of its SOEs. But after the subprime crisis in 2008 things went in the other direction. China's stimulus programme led SOEs to expand and run up debts. Since Xi Jinping became China's leader in 2012, he has bossed about both SOEs and private firms [36].

At least 30 SOEs listed in Hong Kong have changed their constitutions since 2016, to give the Communist Party a formal role in their governance. The top 60 listed SOEs, excluding banks, collectively trade at a lowly 1.2 times capital employed—suggesting investors are unsure if they are run for politicians or shareholders [36].

While SASAC is not explicit about it, it has three, conflicting, objectives: to boost profits and cut debts; to persuade foreigners that SOEs have more autonomy, and to cement the party's muscular role [36].

SASAC's experiments fall into two buckets. In the first are less-than-convincing initiatives, such as changing SOEs' culture so that they allocate resources more like private firms. That is impossible to verify. It has promoted "mixed ownership" in which SOEs raise private capital. In 2017 China Unicom, a telecoms firm, raised $12bn from a consortium that included Tencent and Alibaba. But Unicom, like most SOEs, already had private minority investors so it is not clear what has really changed. SASAC has also pushed for mega-mergers, such as that between Shenhua Group, a coal firm, and China Guodian Group, a power company. It is likely that such combinations cut costs, improve profits and lower debt. But they might also create a new class of monster SOEs with even more clout [36].

In the other bucket are SASAC ideas that could make some difference. It says that in "competitive" industries (including coal, steel, pharmaceuticals and construction) it will let its stake drop well below 50%. That could signal a willingness on the part of the state to concede some ground. And SASAC wants SOEs to find ways to expand abroad while containing political tensions. An example is ChemChina, which in 2016 bought Syngenta, a Swiss chemicals firm, for $46bn. The deal was controversial and o convince customers and the Swiss that Syngenta is not run from the party's leadership compound, Zhongnanhai, ChemChina gave its target an unusual degree of autonomy—it kept its headquarters in Basel and has independent directors [36].

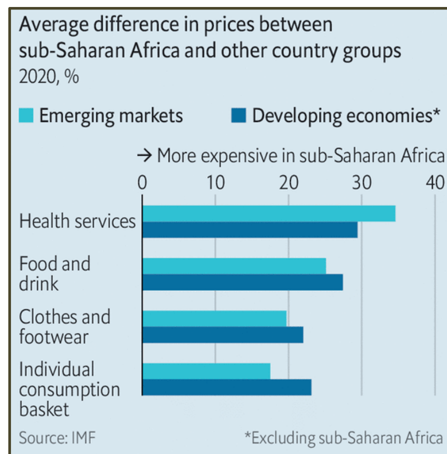
Competition in African countries

In much of Africa formal economies are dominated by large firms that rip off consumers. The IMF reckons that firm markups are about 11% larger in sub-Saharan Africa than in other developing regions, and that prices are 20% higher. The challenge for African governments is not only to make markets more efficient, but also to undo a history of economic exclusion [37].

Colonial economies were built around European trading firms, with licensing rules that hindered the emergence of black African capitalists. That logic was taken to extremes in South Africa, where just six conglomerates controlled 87% of the stockmarket at the end of apartheid. "The structure of our economy was designed to keep assets in a few hands," noted Cyril Ramaphosa, the president, in 2019. Change has been slow [37].

Politics continues to stifle competition. Public contracts are not always won fairly: in 2012, for example, Zambian authorities accused two fertiliser companies of dividing up the market and rigging tenders to supply a state subsidy scheme, costing taxpayers $21m. In other cases, governments use protective regulations to cosset state firms, such as national airlines. Some 70% of all air routes to, from or within sub-Saharan Africa have only one carrier flying them, according to Cirium, a data firm. New entrants are often kept out of the skies by regulatory barriers or are unable to compete with subsidised incumbents [37].

Economic factors are also at work. Most African markets are too small to sustain more than a few competitors in heavy industries such as steelmaking or cement, which is much more expensive in sub-Saharan Africa than elsewhere (see chart, average price differences). In emerging sectors such as telecommunications there are network effects, as consumers opt for the same service as their friends. In Kenya one mobile phone firm, Safaricom, held 99% of the market for mobile money through its M-Pesa service [37].



Policymakers acknowledge the problem. In 2019, 31 countries in the region had competition laws, up from 12 in 2000. But many competition agencies "just exist by name" and lack the resources to do their job, says Mor Bakhoum of the Max Planck Institute for Innovation and Competition. Those in South Africa and Kenya, the regional leaders, investigate several hundred cases a year; the average agency in Africa investigates just two [37].

There is debate about what competition law should do. African countries have borrowed from European and US models, which prioritise market efficiency. But they also try to promote development and "make markets more inclusive", says Grace Nsomba of the Centre for Competition, Regulation and Economic Development at the University of Johannesburg. South African authorities put unusual weight on public-interest criteria, such as how a merger will affect jobs or the growth of black-owned enterprises. A landmark case was the takeover in 2012 by Walmart of Massmart, a South African retailer. The deal was approved with conditions, including the reinstatement of retrenched workers and the creation of a fund to supp ort small businesses [37].

But some lawyers worry that competition policy is being asked to do too much. In South Africa the law has become politicised, says John Oxenham of Nortons, a law firm, especially after it was amended in 2019 to increase the scope for ministerial intervention. He argues that introducing vague notions of fairness into the technical field of antitrust law makes court decisions opaque and unpredictable [37].

Even those who favour an activist approach recognise that competition law has its limits. "It can help prise open markets," says Nimrod Zalk, who advises the South African government on industrial policy, but "it can't on its own stimulate firm creation and firm development." If small firms are to break the grip of incumbents they will need additional support and access to finance, Mr Zalk says [37].

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