



The Use of Industrial Subsidies by Major Economies

Economic and legal perspectives

2020



Executive summary

This study by the Swedish National Board of Trade combines economic and legal perspectives in order to shed light on the current use of industrial subsidies by major economies, based on examples from China, the EU and the US. It has been commissioned by the Swedish government.

From an economic point of view, the report notes that industrial subsidies risk distorting prices, competition, supply and demand as well as causing harm to, for example, the environment. On the other hand, there may be political and economic justifications for a subsidy – mainly if that subsidy is given with the aim of remedying a market failure.

By mapping out the use of industrial subsidies, excluding fishery subsidies, we identify the most common measures and sectors. The available data show that export subsidies are the most frequent type of subsidy, followed by loans and loan guarantees, direct support measures, and taxes and social insurance relief, as defined by the Global Trade Alert database. Subsidies are most frequently used in the machinery and vehicles, aircraft and vessels sectors, as well as for minerals and chemical products. Moreover, we observe that a significant share of the global trade flows is potentially affected by these industrial subsidies.

We also provide an overview of the regulation of the most common types of industrial subsidies under the WTO Agreement on Subsidies and Countervailing Measures (the SCM Agreement). The vast majority of the existing types of subsidies seem to constitute financial contributions, which is one of the criteria that must be met for a measure to constitute a subsidy under the SCM Agreement. The subsidies thereby fulfil an important criterion for being challengeable under the agreement. For a thorough assessment of the industrial subsidies studied, however, each one of the individual subsidies would have to be evaluated on its own merits – an exercise which falls outside the scope of this study.

The study finishes by highlighting lack of transparency as a fundamental aspect that should be addressed in any possible modernisation of the subsidy regime.

Certain limitations with respect to the scope of this study are entailed by the complexity of industrial subsidies. For example, the collection of data predates the COVID-19 pandemic and the measures resulting from this crisis, meaning that the economic effects of such measures are not assessed, and nor are their legal implications.

1 Introduction

The theme of government funded industrial subsidies is intensively discussed on the trade policy agenda, and such subsidies are a factor that may affect international competition.

The purpose of this report is to provide an overview of the current use of industrial subsidies by major economies.¹ Combining legal and economic perspectives, we shed light on a very complex issue, while providing the reader with examples from China, the European Union (EU) and the United States (US).

To set the scene, we start by giving a brief account of the ongoing debate on industrial subsidies. We follow this with an overview of the World Trade Organization's (WTO) Agreement on Subsidies and Countervailing Measures (the SCM Agreement) and relevant economic theories. Fishery subsidies are excluded as they are negotiated separately in the WTO.²

With the use of the Global Trade Alert (GTA) database,³ which to our knowledge is the data source that lends itself best to presenting an overview of the use of industrial subsidies, we map out the most common measures and sectors. We then discuss their potential economic impact and their regulation under the SCM Agreement. The study highlights the lack of transparency that we identify as an aspect that it will be important to address.

Our analysis is primarily based on the current literature on subsidies, and data from the GTA as well as the SCM Agreement. The collection of data predates the coronavirus pandemic and crisis-related measures, meaning that neither the economic effects nor the legal implications of such measures is assessed.⁴

¹ In its appropriation directions of 2020 to the National Board of Trade, the Swedish government gave the following instructions when it commissioned this study: 'Analyse existing subsidies on industrial goods, based on a number of examples of subsidies in the EU and other major economies, by illustrating and explaining the economic effects of these subsidies on trade with third countries. The study shall include reflections on the relationship of the subsidies with regard to WTO regulations and, if possible, proposals for how the legal framework could be developed.' (Translation from Swedish by the National Board of Trade).

² Fish and fishery products are included in the group of non-agricultural products in the WTO, but are negotiated separately within the framework of the Doha Development Round.

³ Evenett and Fritz (2020).

⁴ The World Health Organization characterised COVID-19 as a pandemic on 11 March 2020. Our data cover subsidies implemented before 1 January 2020.

2 Global competition – global rules

In today's globalised world, companies from around the world compete for market shares. Depending on their country of establishment, they may, however, operate under very different conditions.

For this reason, some WTO Members express strong concern regarding the current use and economic impact of industrial subsidies. Some of them raise concerns that the WTO rules are not sufficient to address and prevent market distortions. This has led to calls for a modernisation of the regulatory framework. Various proposals are circulating. For example, the EU, Japan and the US have jointly proposed, in a trilateral statement, the strengthening of the WTO rules on industrial subsidies. Separately, the US has put forth related proposals on market-oriented conditions, emphasising the importance of a free, fair and open trading system to ensure a level playing field.⁵ Not all Members support the idea of stricter rules, however. Below, we present an overview of some of the many issues that feature in the modernisation debate.⁶

Is there a need for subsidies to ensure a sustainable future?

In the light of the crisis caused by the COVID-19 pandemic and the economic recovery plans that will follow, policy-makers have the chance to address sustainable development and 'build back better'. Economic theory holds that one of the main justifications for subsidies is to address market failures, such as a lack of investment in research and development (R&D) and activities that generate positive externalities. Subsidies could, for example, involve support for green technologies. While the global economy seeks to recover from the pandemic, a relevant question is how rules allowing subsidies that address certain market failures can be designed and possibly reintroduced without causing unnecessary distortions to trade.

The debate on industrial overcapacity

Market distortions caused by '**overcapacity**' is a topic that is subject to debate, although the term itself does not feature in the SCM Agreement. The issue has been discussed in the WTO as well as, for example, the Organisation for Economic Co-operation and Development (OECD) and the Group of Twenty (G20).⁷ At its core is the concern that continuous government support results in enduring excess capacity, causing global

⁵ See, for example, WTO (2020a).

⁶ For further reading on the issues that feature in the debate, see, for example, Bacchus, Lester, and Zhu (2018) and Bown and Hillman (2019).

⁷ See, for example, the OECD Steel Committee and the G20 Global Forum on Steel Excess Capacity.

distortions and inefficient resource allocation. Moreover, to address trade-distorting subsidies in the WTO, the EU, Japan, and the US propose, among other things, that the list of prohibited subsidies in the SCM Agreement is extended to include subsidies to enterprises that cannot obtain long-term financing from commercial sources or in sectors where there is overcapacity.⁸ The concept of overcapacity mentioned in this trilateral proposal may, however, prove difficult to define and to calculate.

Providers of subsidies – the term ‘public bodies’

One of the legal conditions for a measure to be defined as a subsidy is that it involves a financial contribution by a government or public body. The term ‘**public body**’ and, in particular, the WTO Appellate Body’s interpretation of the term has, however, been debated by policy-makers and commentators.⁹ For example, the trilateral statement held that the Appellate Body’s interpretation undermines the effectiveness of the WTO subsidy rules. Therefore, the EU, Japan and the US called for the definition of public body to be developed.¹⁰ We will come back to the definition of public body in section 5.2 when we discuss the scope of the SCM Agreement.

Changing dynamics in the world economy

Another issue that is debated is the failure of the SCM Agreement to keep pace with the intensification of global value chains. For example, differential tax measures that result in cheaper inputs for export-oriented domestic firms may fall outside the coverage of the SCM Agreement.¹¹ In relation to this, the EU, Japan and the US have suggested that the burden of proof should be reversed in certain cases, such as when subsidies have the effect of lowering input prices domestically¹² – an example of how the concept of burden of proof also features in the debate.

In sum, there are many challenges involved in a possible modernisation of the legal framework, and diverse interests to take into account. Against this backdrop, we will now look at the economics of industrial subsidies and study how they are used in practice.

⁸ Joint Statement of the Trilateral Meeting (2020), 14 January.

⁹ See, for example, United States Trade Representative (2020) pp. 82-89.

¹⁰ Joint Statement of the Trilateral Meeting (2020), 14 January.

¹¹ See for example *EU – Biodiesel (Argentina) (2016)* and *EU – Biodiesel (Indonesia) (2018)*.

¹² Joint Statement of the Trilateral Meeting (2020), 14 January.

3 Economics of industrial subsidies

Subsidies risk distorting prices, competition, supply and demand, as well as harming the environment. At their worst, subsidies can therefore cause great harm to the global economy. This probably goes a long way towards explaining why WTO Members have regulated the use of subsidies in the SCM Agreement. On the other hand, there are justifications for using subsidies. Often the use of subsidies is not the best solution to a policy issue, but may well be the only instrument available to a government in practice. It is therefore important to note that many subsidies are probably politically justifiable and, given the circumstances, even desirable from a welfare perspective.

3.1 Harmful effects

At their core, subsidies represent inefficient resource allocation. Public funds need first to be raised and then to be properly allocated. There is strong empirical evidence suggesting that either the revenue or the expenditure side (or both) imposes undue costs on the economy.¹³ These are, however, domestic concerns and will not be pursued further in this report, since our focus is on international trade.

The pivotal point in an economic analysis of subsidies is a consideration of how they affect the incentives of producers and consumers. On these grounds, it is common to divide subsidies into two broad categories: production subsidies and export subsidies. From the perspective of the implementing country, the short story is that, if one assumes well-functioning markets, production subsidies are distortive and export subsidies even more so.¹⁴ The main reason for this is that a production subsidy leads to a higher-than-optimal domestic production level, and an export subsidy additionally leads to a lower-than-optimal domestic consumption level.¹⁵ The cost of this inefficiency is financed by the government in the subsidising country – or its tax-paying citizens.¹⁶

From a trading partner perspective, the distinction between an export subsidy and a production subsidy aimed at an exporting sector is less

¹³ There are many examples of this. For an overview of inefficient resource allocation and loss-making state-owned enterprises (SOEs), see OECD (2010) pp.17-29. For a discussion of moral hazard and the rent-seeking behaviour of firms, see The Swedish Agency for Growth Policy Analysis (2015).

¹⁴ Note that the assumption of well-functioning markets (or perfect competition) is a strong one in many cases. It will be relaxed later in the text.

¹⁵ We assume here that the production subsidy is aimed at an exporting sector, i.e. a sector where domestic supply exceeds domestic demand.

¹⁶ Economists call this loss of efficiency ‘deadweight losses’.

important. In both cases, the firm receiving the subsidy is able to produce at an artificially lower marginal cost and, as a result, to expand its output and exports. In general, this actually leads to an overall increase in welfare in the importing country. The reason for this is that consumers in the importing country gain access to cheaper goods at the expense of the foreign (subsidising) government. However, not everyone in the importing country gains from the foreign subsidy. Domestic suppliers, faced with competition from their subsidised foreign rivals, are unable to maintain output levels at the lower subsidy-induced prices. As a consequence, they lose market share and revenue.

It is therefore tempting for a government to respond with an equal subsidy, or another policy instrument such as countervailing duties, to protect the domestic industry from harm. This can, however, only be done at the expense of domestic welfare, since any effort that offsets the adverse effects of a foreign subsidy must necessarily also offset its benefits.¹⁷

Under certain market conditions, countries may subsidise domestic firms to help them gain market share at the expense of foreign rivals. If implemented correctly, these so-called ‘strategic’ subsidies may improve the welfare of the country’s own economy. Research shows that this requires the proper identification of the market conditions that apply – a daunting task for any government.¹⁸ There is therefore a high risk of implementing the wrong policy, leaving only negative welfare effects. Moreover, if there is retaliation from the foreign country, the scope for a positive outcome is more or less erased.

State-owned enterprises (SOEs) warrant special attention here. The reason for this is that state ownership (or control) may have similar effects to a subsidy on the supply of a firm, and thus on prices and international competition. Usually, an SOE targets not only profits but some combination of profits and a desired output level. Consequently, it is able to produce larger volumes than would otherwise have been allowed by their cost structure.¹⁹ For the purposes of this report, SOEs are therefore treated as subsidised firms.

Moreover, a distinction is sometimes made between so-called horizontal subsidies and specific subsidies, and this is also discussed in section 5.2. The economic rationale for this separation is that support provided to a

¹⁷ See, for instance, Deardorff (2010) for an overview.

¹⁸ Eaton and Grossman (1986).

¹⁹ A discussion of this is found in Deardorff (2010) and OECD (2010).

number of firms does not alter the relative competitiveness of those firms. Support provided only to a single firm, on the other hand, will give that firm a competitive advantage. This may allow the firm to behave like a monopolist, distorting the domestic market and lowering domestic welfare. The distinction between horizontal support and specific support is probably less relevant in an international context, since foreign competitors will be put at a disadvantage regardless of whether the subsidy is provided to a single firm or to many firms within an industry.²⁰

In the light of the mainly negative effects of subsidies summarised above, one might wonder why governments would want to implement them in the first place. We will briefly explore some common cases in the next sections.

3.2 Market failures

To be accepted by economists, the justification for imposing a subsidy should preferably emanate from the existence of a market failure.²¹ There are many examples of market failures and we will not cover them all. Those listed in this section do, however, illustrate the point that subsidies may be warranted in some circumstances.

It is arguable that the most commonly discussed market failure is **economies of scale**, which rests on the fact that production requires a large fixed entry cost. This cost is later recovered through the production and sale of a large quantity of goods, implying that average production costs decline with greater production volume. If a firm will not be able to charge a sufficiently high price to cover the fixed cost, it will not enter the market. This results in a situation in which total output falls short of a level that would be socially desirable, and possibly in higher-than-reasonable consumer prices. By subsidising the initial investment, the government can correct this type of market failure.

Another type of market failure, **externalities**, is present in a market when the societal benefit of a product or service is not reflected in the revenue or cost of the producing firm. This situation typically leads to underproduction in the absence of a state intervention if the externality is

²⁰ The ultimate effect of the subsidy on total production and exports depends on the initial and resulting market situations in the implementing country. The most likely outcome is that domestic supply and, along with it, exports, increases.

²¹ Market failure is the term used when a market-based solution diverges from the solution that would have been desirable from some other perspective, e.g. the environmental or social perspective.

positive (and vice versa). Examples include knowledge spillovers from R&D activities and learning-by-doing.

Both economies of scale and externalities are linked to the idea of higher motives for support, such as environmental or climate protection or R&D investment. One should bear in mind that, regardless of the reason for implementing them, subsidies distort price signals. For instance, subsidies to the coal industry lead to an artificially low price of carbon dioxide emissions. The result is that both supply and demand are higher than in a market-based situation. In addition, incentives for the adoption of green technology are weakened. In this case, the subsidy amounts to financing a negative externality at the expense of a positive one! This is but one example of how subsidies can give rise to substantial environmental hazards.²²

Moreover, as a result of **imperfect capital markets**, some businesses struggle to finance their ideas, even those ideas that are likely to be profitable. One reason for this is that information might be insufficient or not available to the relevant actors. Such information asymmetry can result in less-than-optimal capital volumes on the market.²³ The existence of imperfect capital markets does lend support to the use of subsidies to help finance investments, but there is a risk that public funds crowd out private capital.²⁴

3.3 Other justifications

By no means all the subsidies used worldwide are motivated by market failures as discussed above. Even in the absence of a market failure, imposing a subsidy may make economic sense. One example is the presence of knowledge spillovers, that may justify governments in attracting (or keeping) private investment by using subsidies for individual firms. While there is evidence in favour of such positive spillover effects, there is a high risk that the ensuing subsidy races between governments result in a massive waste of public funds globally.²⁵

Another example is the use of subsidies to restore competitive conditions in a market, perhaps to counterbalance the effect of foreign subsidies. The worry is that a subsidised foreign firm forces its domestic rivals out of business and then uses its market power to the detriment of domestic

²² Another interesting case is described by the OECD (2019).

²³ Akerlof (1970).

²⁴ See The Swedish Agency for Growth Policy Analysis (2015), pp. 16-17.

²⁵ OECD (2010) p. 27.

consumers, thereby lowering welfare in the long run. This argument is theoretically valid, but the question remains as to whether it is empirically relevant. Furthermore, using subsidies as a counterbalance tends to overcompensate domestic firms at the expense of taxpayers.²⁶

Subsidies are sometimes motivated by other economic objectives, for instance reducing unemployment or redistributing income across groups. Subsidies are, in general, an inefficient way to address these issues because they generate price distortions. Subsidising certain sectors also risks creating vested interests, making it politically hard to withdraw support in the future. Instead, fiscal tools are probably more appropriate in these examples.

Finally, governments continuously grant subsidies that make little economic sense. This observation has been explained in the political economy literature by the presence of special interest groups.²⁷ Subsidies that rest solely on these grounds are troublesome for at least three reasons. First, they represent a waste of public funds, as those funds could have been put to better use elsewhere. Second, they induce rent-seeking behaviour by firms, which draws their resources away from productive activities. Third, as mentioned above, they risk creating vested interests, thereby introducing long-term distortions into the economy.

Pinpointing which subsidies are justifiable and which are not is not an easy task. Neither is it easy to separate political reasons from economic ones. It is, however, generally less straightforward to argue in favour of subsidies in cases where there is no market failure. Like most other government policies, any subsidy should be preceded by an economic analysis that weighs the costs of the measure (often in terms of distortionary effects) against its benefits. The analysis should also carefully assess whether a subsidy is the proper policy measure in the given circumstances.

²⁶ Deardorff (2010).

²⁷ See for instance Strand (2013).

4 The use of industrial subsidies by major economies

To illustrate the use of subsidies, there is no shortage of examples worldwide. To prove this point, one fifth of all cases brought before the WTO Dispute Settlement Body since 1995 have been filed under the SCM Agreement.²⁸ Finding a coherent source of data that are comparable across countries is nevertheless a challenge. For instance, consistent failure to notify the WTO Secretariat, and a lack of government transparency, means that WTO notifications data are not suitable for providing an accurate overview.

In this section, by using the Global Trade Alert (GTA) database,²⁹ we map out the use of different subsidy instruments in three large economies, China, the EU and the US. We identify the most common types of measures and the sectors that are most frequently subsidised by these economic actors.

4.1 Subsidy data: the most common measures and potentially affected trade

The GTA records the number and type of trade policy measures undertaken since the 2008 financial crisis.³⁰ Measures are classified as ‘harmful’, ‘potentially harmful’, or ‘liberalising’. This categorisation is based on economic reasoning,³¹ without regard to the legal status of the measure within, for example, the WTO or the EU state aid framework. For this reason, we do not know which of the GTA measures fall within the definition of a subsidy in the SCM Agreement, or whether they are actionable or prohibited.

The GTA data primarily illustrate the ‘popularity’ or frequency of certain measures, rather than the size or relative importance of different measures. The amount of each subsidy is not available in the database, meaning that small subsidies and large ones are given equal weight. For this reason, the primary focus is not to measure the impact of subsidies on trade. However, the researchers behind the database do publish estimations of the affected trade shares (‘trade coverage’) at the aggregate level.

²⁸ $130/594 = 0.22$.

²⁹ Evenett and Fritz (2020).

³⁰ The measures are entered into the GTA database on the basis of algorithms and a manual screening process. A large number of sources are used, both public and non-public. No measure is automatically included in the database.

³¹ See Evenett and Fritz (2020).

The GTA records 16 different types of subsidies. We have selected 13 types that are relevant for the purposes of our study, and merged them into four broader categories (see table 1). This classification is mainly for illustrative purposes.

Table 1 Re-classification of subsidy types

| Original classification in GTA database | Our classification |
|---|--------------------------------|
| Tax or social insurance relief | Tax or social insurance relief |
| Capital injection | Loans and loan guarantees |
| Interest payment subsidy | |
| State loan | |
| Loan guarantee | |
| Financial assistance in foreign markets | |
| Financial grant | Direct support |
| In-kind grant | |
| State aid, nes. | |
| Production subsidy | |
| Tax-based export incentive | Export subsidies |
| Trade finance | |
| Export subsidy | |

In order for a subsidy to be recorded in the database, the motivation behind it has to be predominantly commercial. This requirement means that measures resting on a ‘higher motive’, such as policies relating to health, security, or environmental issues, are not included. This means that we can interpret the database entries as subsidies that are not aimed at correcting market failures. Another important criterion is that each subsidy must constitute a ‘meaningful change’, effectively eliminating subsidies valued below US\$10 million. This excludes, for instance, support provided under the *de minimis* rule of the EU state aid framework.³²

It is important to note that the subsidy entries currently in the GTA database form a sample drawn from a possibly much larger population. We do not know how representative this sample is of all subsidies in use worldwide. For this reason, one should be careful when comparing the use of subsidies between countries.

There is also no one-to-one relationship between the discussion on the economics of subsidies in section 3 and the subsidies found in the data. The one exception is export subsidies, which are defined similarly in economic terms and in the data.

Spread across industrial sectors and economies

The prevalence of harmful interventions in the four categories across the industrial goods sectors is shown in Figure 1. Export subsidies, as

³² The *de minimis* rule excludes from state aid control support not exceeding 200 000 € over the course of three years. See for instance https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM%3A0802_2.

defined by the GTA, make up 46 per cent of all entries. They are most frequently employed in the **machinery and vehicles, aircraft and vessels** sectors. The second most commonly used instruments are loans and loan guarantees (30 per cent). Direct support measures account for 19 per cent of all subsidies. Loans and loan guarantees, as well as direct support measures, are primarily used to subsidise **mineral products and vehicles, aircraft and vessels**. Taxes and social insurance reliefs make up the remaining 5 per cent of subsidies and are most common in **chemical products and vehicles, aircraft and vessels**.

Figure 1 Spread of subsidy instruments across industrial sectors

| | Direct support | Export subsidies | Loans & loan guarantees | Tax or social insurance relief | All measures |
|--|----------------|------------------|-------------------------|--------------------------------|--------------|
| Arms and ammunition; parts and accessories thereof | 0.2 | 0.4 | 0.5 | | 0.4 |
| Articles of stone, plaster, cement, asbestos, mica or similar materials, etc. | 0.9 | 1.4 | 3.1 | 2.0 | 1.8 |
| Base metals and articles of base metal | 3.5 | 6.0 | 7.7 | 6.9 | 6.1 |
| Footwear, headgear, umbrellas, sun umbrellas, walking sticks, etc. | | 0.9 | 0.4 | 0.3 | 0.6 |
| Machinery and mechanical appliances; electrical equipment; parts thereof, etc. | 11 | 45 | 14 | 15 | 29 |
| Mineral products | 51 | 3.5 | 35 | 16 | 21 |
| Miscellaneous manufactured articles | 0.7 | 2.1 | 1.3 | 2.0 | 1.7 |
| Natural or cultured pearls, precious or semi-precious stones, precious metals, etc. | | 0.7 | 0.5 | 1.3 | 0.6 |
| Optical, photographic, measuring, precision, medical or surgical instruments and apparatus, etc. | 1.7 | 3.5 | 3.0 | 3.0 | 3.0 |
| Plastics and articles thereof; rubber and articles thereof | 2.1 | 2.6 | 4.6 | 7.2 | 3.3 |
| Products of the chemical or allied industries | 2.8 | 3.2 | 11 | 21 | 6.2 |
| Pulp of wood or of other fibrous cellulosic material | 1.3 | 1.4 | 2.5 | 3.3 | 1.8 |
| Raw hides and skins, leather, furs and articles thereof, etc. | 0.4 | 1.3 | 0.4 | 0.7 | 0.9 |
| Textiles and textile articles | 1.9 | 1.9 | 1.6 | 2.0 | 1.8 |
| Vehicles, aircraft, vessels and associated transport equipment | 22 | 25 | 14 | 18 | 21 |
| Wood and articles of wood; wood charcoal; cork and articles of cork, etc. | 0.7 | 1.0 | 1.5 | 1.3 | 1.1 |
| Works of art, collectors' pieces and antiques | | 0.2 | | | 0.1 |

Note: Numbers are percentage shares of each subsidy type employed in each industrial sector. For instance, 51 per cent of direct support was granted to mineral products, and 45 per cent of export subsidies went to machinery and mechanical appliances etc. Darker colours indicate higher shares.

Source: Calculations by the National Board of Trade based on the GTA database.

Next, we look at how the economies differ in their use of subsidy instruments that may be considered harmful to trade. This is illustrated in Figure 2, which shows the number of policies implemented in each economic region, divided by subsidy type.

The dispersion across policy instruments differs between regions. For instance, the US used direct support in 75 per cent of cases, while the corresponding numbers for China and the EU are 12 and 4 per cent. Export subsidies make up 68 per cent of subsidies in EU Member States, 46 per cent in China and close to zero per cent in the US.

Figure 2 Policy instruments as a percentage of subsidy interventions, by implementing region

| | Direct support | Export subsidies | Loans & loan guarantees | Tax or social insurance relief |
|-------|----------------|------------------|-------------------------|--------------------------------|
| China | 13 | 46 | 19 | 23 |
| EU28 | 4.1 | 68 | 27 | 0.9 |
| USA | 75 | 0.3 | 8.5 | 16 |

Note. EU28 = Sum of interventions made in all 28 EU Member States, incl. the UK. Numbers are percentage shares of each country's subsidies across subsidy types. For instance, 13 per cent of China's subsidies were of the direct support type. Darker colours indicate higher shares.

Source: Calculations by the National Board of Trade based on the GTA database.

Potentially affected trade

Many factors contribute to the effect of an industrial subsidy on trading partners. Among these are the amount of the subsidy, the market size and structure, value chains, cost shares of production and the actions of trading partners. These figures are not readily available to us. However, trade volumes may help us to assess which subsidies have the largest impact on the commercial interests of other countries – and which those countries are. We have therefore linked the GTA entries to the trade statistics on industrial goods from the United Nations Comtrade Database.

For interventions deemed to affect exports, we have identified the markets 'targeted' by the intervention, and all countries with exports to that particular market.³³ For example, if the EU implements a subsidy affecting car exports, we have noted the markets to which the EU Member States export cars, as well as the trade values. Then, we have identified other countries in the world that also export cars to those same markets. The resulting countries are the trading partners that are potentially hurt, and the trade values are the values that are potentially affected.

³³ We also require that the trade flows exceed USD 1 million.

Some entries (like production subsidies) in the GTA database are assumed to affect only import competing industries. In this case, the linkage is simpler: affected trade flows are limited to exports to the implementing WTO Member's market.

Note that these linkages are very crude measures and they should not be interpreted as the 'trade effect' of the subsidies, but rather as the share of potentially affected trade. By comparison, one recent econometric analysis shows that post-2008 subsidies, particularly export subsidies, have had detrimental effects competitor countries' exports.³⁴

Figure 3 shows the share of world trade that is covered by at least one harmful measure implemented by China, the EU, or the US.

Unsurprisingly, the largest trade volumes are affected when countries implement export subsidies.

Figure 3 Share of bilateral trade potentially affected by different policy instruments used by the EU, China and the US

| | Direct support | Export subsidies | Loans & loan guarantees | Tax or social insurance relief |
|-------|----------------|------------------|-------------------------|--------------------------------|
| China | 1.9 | 67 | 12 | 12 |
| EU28 | 39 | 82 | 13 | 53 |
| USA | 30 | 5.2 | 21 | 39 |

Note. EU28 = Sum of interventions made in all 28 EU Member States, incl. the UK. Shares are calculated as bilateral trade in goods affected by a subsidy in relation to total bilateral goods trade. Darker colours indicate higher shares.

Source: Calculations by the National Board of Trade based on the GTA database.

In sum, the data generally show that export subsidies constitute the most frequently used type of subsidies in China and the EU, notably in the manufacture of machinery, mechanical appliances and transport equipment. Significant trade flows are potentially affected.

³⁴ Evenett and Fritz (2017).

5 Subsidies and global trade rules: the SCM Agreement

We will now look into the main elements of the existing WTO rules on industrial subsidies and subsidised trade, and then examine the most commonly used subsidies from an economic and legal perspective. While the General Agreement on Tariffs and Trade of 1994 (GATT)³⁵ lays the foundation of the subsidies framework, the SCM Agreement goes beyond the GATT and includes more detailed provisions on industrial subsidies.³⁶ The two agreements should be read and applied in parallel.³⁷ This section presents an overview of the main elements of the SCM Agreement.

5.1 Objective of the SCM Agreement: balancing competing interests

Back in 1947 the logic behind the introduction of disciplines on subsidies in the GATT was that if subsidies remained unregulated, they could offset the benefits of the trade liberalisation achieved through the negotiations.³⁸ The SCM Agreement was a result of the Uruguay Round, and thus a later addition to the multilateral framework. It entered into force in 1995. At the time, it was considered a major achievement, particularly as regards the definition of a subsidy.

Finding a balance between competing interests is at the core of the SCM Agreement. Although this objective is not explicitly indicated, rulings of the WTO adjudicating bodies (panels and the Appellate Body) have pointed to the delicate balance required by the WTO Members' aspirations to find the middle ground between, on the one side, their interest in providing subsidies and, on the other side, their interest in obtaining remedies to protect domestic industries. In effect, the Appellate Body has stated that the objective is to increase, strengthen and improve the disciplines relating to the use of both subsidies and countervailing measures.³⁹ Moreover, in contrast to dumping, subsidies are not condemned by the WTO rules,⁴⁰ and not all subsidies are prohibited *per se* under the SCM Agreement.⁴¹ This indicates that WTO Members have

³⁵ See Article VI, Article XVI and Article XXIII.

³⁶ There are other WTO agreements that may regulate subsidised trade but are not covered in this study, including e.g. the Agricultural Agreement, which covers agricultural subsidies, and the 1980 Agreement on Trade in Civil Aircraft.

³⁷ Panel Report, *US – FSC (1999)*, para. 7.82 relying on Appellate Body Report, *Brazil – Desiccated Coconut (1997)*, p. 16.

³⁸ For more information, see Müller (2017) p. 5.

³⁹ See, for example, Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China) (2011)*, para. 301.

⁴⁰ Cf. Article VI(1) of the GATT.

⁴¹ Appellate Body Report, *US – FSC (Article 21.5 – EC) (2002)*, para. 85.

been eager to maintain the possibility of granting subsidies, and even, in some ways, to acknowledge that subsidies might be justified in certain cases.

Together with the rules on anti-dumping, the rules on subsidies could be considered to provide for rules on ‘unfair’ trade.⁴² In the discussion about how subsidies should be regulated, it should be noted that competition policy is also an integral principle of the WTO, and that elements of competition policy are integrated into the WTO legal framework, even though there is no agreement on competition policy. Both the WTO regime and competition policy in general have the same purpose – an economic system based on the principles of a market economy.⁴³

5.2 The scope of the SCM Agreement – the three requirements

The SCM Agreement applies to goods, but not to services.⁴⁴ Broadly speaking, Article 1.1 of the SCM Agreement defines a subsidy as a **financial contribution** by a government or any public body, or any form of income or price support, in the sense of Article XVI of the GATT 1994, that confers a benefit.

In the SCM Agreement, either a government or a public body can be considered as a provider. Such a body can be a regional or local entity, or an SOE. While the term ‘public body’ is not defined by the SCM Agreement, the Appellate Body has interpreted it to mean an ‘entity that possesses, exercises or is vested with governmental authority’,⁴⁵ stating that ‘being vested with governmental authority is the key feature of a public body’.⁴⁶ This interpretation has, however, been criticised and the term ‘public body’ is therefore one of the key issues in the discussion on the modernisation of the SCM Agreement.

Furthermore, the WTO rules on subsidies and subsidised trade only apply to **specific** subsidies.⁴⁷ All three requirements (financial contribution, benefit to recipient and specificity) must be present for a measure to be a subsidy subject to a claim under the SCM Agreement.

⁴² Van den Bossche and Zdouc (2017) p. 41.

⁴³ Matsushita et al. (2015) p. 787.

⁴⁴ For more information, see e.g. Benitah (2019) p. 3.

⁴⁵ Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China) (2011)*, para. 317.

⁴⁶ Appellate Body Report, *US – Anti-Dumping and Countervailing Duties (China) (2011)*, para 310.

⁴⁷ Article 1.2 and 2 of the SCM Agreement.

The **benefit** criterion is also not defined in the SCM Agreement, but the Appellate Body has held that there is a benefit if ‘the “financial contribution” makes the recipient “better off” than it would otherwise have been, absent that contribution’.⁴⁸ In order to establish this, a comparison normally has to be made between the financial contribution offered by the government or public body and the amount the recipient could have obtained in the market.

As regards specificity, the criterion is connected to the overarching objective of the SCM Agreement to discipline trade-distorting subsidies⁴⁹ but not subsidies that are generally, broadly, or horizontally, available to economic operators throughout the economy. As discussed in section 3.1, this provision is based on the notion that a specific subsidy could be more trade-distorting than a generally available subsidy.

The SCM Agreement differentiates between three types of specificities:

- (i) **Enterprise or industry specificity**, i.e. subsidies limited to ‘certain enterprises’, defined as a particular enterprise or industry or a group of enterprises or industries;⁵⁰
- (ii) **Regional specificity**, i.e. subsidies targeted at producers in a specified part or sub-region of the territory;⁵¹ and
- (iii) **Prohibited subsidies** – these are deemed to be specific *per se*.⁵²

Subsidies that are applied broadly, generally, or horizontally are, however, not deemed to be specific. They are what are popularly called ‘horizontal subsidies’. Subsidies that are available to everyone on the same conditions are not covered by the SCM Agreement. The agreement also specifies that specificity does not exist if access to the subsidy and the amount of the subsidy are limited by objective criteria or conditions, provided that the eligibility is automatic and that such criteria and conditions are strictly adhered to.⁵³ The objective criteria or conditions have to be neutral, must not favour certain enterprises over others, and must be economic in nature and horizontal in application, referring to such things as the number of employees or the size of the enterprise.⁵⁴

⁴⁸ Appellate Body Report, *Canada – Aircraft (1999)*, para. 157. It should also be noted that Article 14 of the SCM Agreement includes guidelines for calculating the amount of a subsidy.

⁴⁹ Benitah (2019) p. 24, with reference to Panel Report, *US – Softwood Lumber IV (2003)*, para. 7.116.

⁵⁰ The chapeau of Article 2.1 of the SCM Agreement.

⁵¹ Article 2.2 of the SCM Agreement.

⁵² Article 2.3 of the SCM Agreement.

⁵³ Article 2.1(b) of the SCM Agreement.

⁵⁴ Article 2.1(b) and footnote 2 of the SCM Agreement.

The criteria and conditions for receiving a subsidy must also be clearly spelled out in a law, regulation or other official document, in order to be capable of verification. It should be noted that a subsidy can be both *de jure*⁵⁵ and *de facto*⁵⁶ specific. Both types are covered by the SCM Agreement.

5.3 Types of subsidies – prohibited and actionable

The SCM Agreement currently distinguishes between two types of subsidies, based on the harm they are considered to cause to global trade.

The first type are **prohibited subsidies**. These include export subsidies and import substitution subsidies that are linked to local content requirements.⁵⁷ Import substitution subsidies are subsidies that are contingent upon the use of domestic, rather than imported, goods. Export subsidies and import substitution subsidies are prohibited *per se* because they are considered to have direct trade-distortive effects,⁵⁸ pursuant to Article 3. Subsidies of this type are prohibited regardless of their actual effect. Neither the amount of the subsidy⁵⁹ nor the impact on competition in third countries is relevant in the assessment.

Export subsidies are defined as subsidies contingent upon export performance, which means that export has to be a condition for the granting of the subsidy.⁶⁰ A non-exhaustive illustrative list of eleven types of export subsidies that are deemed to be prohibited is found in Annex I of SCM Agreement.

Both *de jure* and *de facto* practices, so called, are covered by the provisions on prohibited subsidies.⁶¹ As regards *de facto* export subsidies, it is not enough that the subsidy is granted to exporting enterprises.⁶² A measure is considered to be an export subsidy when the facts demonstrate that the granting of the subsidy is in fact tied to actual

⁵⁵ Pursuant to Article 2.1(a) and (b) of the SCM Agreement. *De jure* generally signifies something that can be demonstrated from the law, i.e. the very words of the relevant legislation, regulation or other legal instrument.

⁵⁶ Pursuant to Article 2.1(c) of the SCM Agreement. *De facto* generally signifies something that can be demonstrated in practice from the facts available.

⁵⁷ It should be noted that Annex I of the SCM Agreement is essentially the same as the Tokyo Round Subsidies Code.

⁵⁸ Van den Bossche and Zdouc (2017) p. 802.

⁵⁹ Müller (2017) p. 201 footnote 1.

⁶⁰ Müller (2017) p. 208 and Appellate Body Report, *Canada – Aircraft (1999)*, paras 166 and 170.

⁶¹ Pursuant to Article 3.1(a) of the SCM Agreement.

⁶² Footnote 4 to Article 3 of the SCM Agreement clarifies that ‘The mere fact that a subsidy is granted to enterprises which export shall not for that reason alone be considered to be an export subsidy’.

or anticipated exportation or export earnings.⁶³ In practice, WTO Members do not often pursue claims based on allegations of *de facto* export subsidies.⁶⁴

The prohibition on export subsidies does not apply to least-developed countries or to countries with a per capita annual income of less than US\$1,000, pursuant to Article 27 of the SCM Agreement. As regards the rest of the SCM Agreement, most other special or differential treatment rules for developing-country members have been phased out.

The second type of subsidies are **actionable subsidies**; these are not prohibited *per se*,⁶⁵ but are challengeable to the extent that they have adverse effects on the interests of another Member. This means that they must be withdrawn, or at least their adverse effects removed, when they have *adverse effects* on the interests of another Member.⁶⁶ In effect, besides prohibiting certain subsidies, the SCM Agreement only imposes an obligation not to cause any harm to other WTO Members when granting subsidies.⁶⁷

Previously, the SCM Agreement also covered **non-actionable subsidies** (or so-called ‘green light subsidies’), which were introduced on a trial basis.⁶⁸ These included subsidies for R&D and regional development, and subsidies for complying with new environmental regulations. Such subsidies were non-actionable even if they were specific and caused adverse effects. If they caused serious adverse effects, however, the subsidising Member could be requested to modify the measure in such a way as to remove the serious adverse effects.⁶⁹

5.4 Remedies

The two different types of subsidies, prohibited and actionable, have their own substantive and procedural rules and remedies, which differ from the general rules of the Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU). However, as for dumping, it is possible for WTO Members to impose **countervailing duties** on subsidised imports for both types of subsidies. This unilateral option

⁶³ Pursuant to footnote 4 to Article 3 of the SCM Agreement.

⁶⁴ Benitah (2019) p. 69.

⁶⁵ As defined by Article 3 of the SCM Agreement.

⁶⁶ Article 7.8 of the SCM Agreement.

⁶⁷ Müller (2017) p. 2 with reference to Hahn & Mehta (2013).

⁶⁸ Article 8. Pursuant to Article 31 of the SCM Agreement, this category expired five years after the entry into force of the Agreement, i.e. by the end of 1999, and it was not renewed.

⁶⁹ Article 9.4 of the SCM Agreement.

exists for subsidies that cause injury to the domestic industry producing a like product (the so-called ‘injury to competitors test’).⁷⁰

Besides this unilateral option, the SCM Agreement includes a **multilateral remedy** for prohibited subsidies. If a panel finds that a measure is a prohibited subsidy, it must recommend that the subsidy be withdrawn without delay.⁷¹ By contrast, and as mentioned above, the multilateral remedy for an actionable subsidy only requires that the adverse effects of the actionable subsidy are removed. It is, however, also possible to remove the entire subsidy. The parties may also agree on compensation or voluntary undertakings. In addition to the alternative options under the SCM Agreement, it is also possible, for example, for the two parties to agree on a solution, pursuant to Article 3.7 of the DSU.

5.5 Transparency obligations

Like many other WTO agreements, the SCM Agreement also includes notification requirements. WTO Members must, for example, regularly notify their use of subsidies to the WTO Secretariat,⁷² and must notify the preliminary and final actions they take with regard to countervailing duties.⁷³

As regards specific subsidies, WTO Members are obliged to notify them, pursuant to Article 25 of the SCM Agreement. The aim of this provision is to promote transparency, without prejudging the legal status of a subsidy.⁷⁴ The notification of specific subsidies should include, for example, information about the form of the subsidy, the subsidy per unit or the total amount budgeted for that subsidy, the policy objective, the duration of the subsidy, and statistical data permitting an assessment of the trade effects of the subsidy. In addition, WTO Members must notify any other subsidy (whether or not specific) that leads to increased exports or decreased imports within the meaning of Article XVI(1) of the GATT.

⁷⁰ Pursuant to Article VI of the GATT and Articles 10–23 of the SCM Agreement.

⁷¹ Article 4.7 of the SCM Agreement.

⁷² According to Article 25 of the SCM Agreement and in Article XVI(1) of the GATT (in conjunction with Article X(2) of the GATT).

⁷³ Paragraph 11 of Article 25 of the SCM Agreement.

⁷⁴ Appellate Body Report, *Brazil – Aircraft (1999)*, para. 149 and Article 25.7 of the SCM Agreement, which states that ‘notification of a measure does not prejudice either its legal status under GATT 1994 and this Agreement, the effects under this Agreement, or the nature of the measure itself’.

6 Assessment of the most common types of subsidies

We will now examine each of the four subsidy categories that represent the most common industrial subsidies according to the GTA data. These are export subsidies, loans and loan guarantees, direct support, and tax or social insurance relief.

From a legal perspective, we will look at whether subsidies in each of the four categories may constitute financial contributions as defined by Article 1 of the SCM Agreement, and thereby fulfil one of the criteria that would make them subject to the SCM Agreement. However, in order to be prohibited or actionable the subsidies would also have to be specific, to provide a benefit and to be provided by a government or a public body. Actionable subsidies would also have to cause an adverse effect in order to be challengeable. For a proper assessment, each one of the individual subsidies would, however, have to be evaluated on its own merits – an exercise that falls outside the scope of this study.⁷⁵

6.1 Export subsidies

Export subsidies are, as discussed above, subsidies contingent on export performance. In economic terms, export subsidies are generally the most harmful to international competition. They are also the most prevalent among the entries in the GTA database. Examples include VAT rebates, export credit and financial support.

Export subsidies are also considered the most harmful type of subsidy from a legal point of view, as further discussed above in section 5.3. They are prohibited *per se* because they are considered to have direct trade-distortive effects, pursuant to Article 3 of the SCM Agreement.

6.2 Loans and loan guarantees

For the selected economies, 466 individual loans and loan guarantees have been recorded by the GTA since 2009. The vast majority of these were assessed as harmful by the GTA team. Examples include the following: Swedish government guarantees in favour of the automobile

⁷⁵ The analysis below constitutes our assessment of each of the four subsidy categories. Disputes regarding the interpretation and application of the WTO agreements are generally adjudicated by dispute settlement panels, the Appellate Body, and other WTO bodies. The Appellate Body hears appeals from panel cases. An ultimate ruling about the compatibility of each of the entries with the WTO agreements would, of course, have to be legally assessed by the Appellate Body.

industry, guaranteed loans to US bio refineries, and state loans to strategic ‘advanced manufacturing’ sectors in China.

Grants, loans and loan guarantees are potentially actionable subsidies, as they are explicitly covered by the definition of a financial contribution in Article 1.1(a)(1)(i) of the SCM Agreement. Loans constitute direct transfers of funds, while loan guarantees are mentioned as an example of potential direct transfers of funds or liabilities.

6.3 Direct support

Direct support may include financial grants, in-kind grants and various types of state aid. Like loans, direct support measures help firms overcome fixed investment costs. The difference is that direct measures require no repayment or interest payments. Direct support in China, the EU and the US contributes to 590 harmful entries in the GTA database. Support for building a solar panel plant in the US and investment aid for regional airports in France are two examples of direct support.

Many forms of direct support fall within the definition of a subsidy in the SCM Agreement, given that grants are explicitly mentioned in Article 1.1(a)(1) as a type of financial contribution. As a result, grants generally fulfil an important part of the criteria for being actionable.

Financial grants – transfers of funds

Financial grants are covered by the definition of a financial contribution under item (i) regarding the direct transfer of funds. The Appellate Body has stated that the term ‘fund’ includes money, financial resources and other financial claims that are made available to a recipient,⁷⁶ normally without there being an expectation or requirement for anything in return.⁷⁷

In-kind grants – goods and services

In-kind grants are also covered by the definition in the SCM Agreement of a financial contribution, under item (iii), which refers to the provision of goods or services by the government. General infrastructure is, however, not covered by the definition of financial contributions in the form of in-kind grants. The reason why in-kind grants are covered is that this type of transaction may constitute a valuable input and lower the cost

⁷⁶ Appellate Body Report, *Japan – DRAMs (Korea) (2007)*, para. 250; Appellate Body Report, *US – Large Civil Aircraft (2nd complaint) (2012)*, paras 614, 615, 617 and 621.

⁷⁷ Appellate Body Report, *Japan – DRAMs (Korea) (2007)*, paras. 251 and 252; and Appellate Body Report, *US – Large Civil Aircraft (2nd complaint) (2012)*, para. 616.

of production for one or many firms.⁷⁸ A common example is the provision of land free of charge. The Appellate Body has, for example, deemed that granting a right to harvest standing timber under a stumpage arrangement, as well as the grant of mining rights, falls under the provision.⁷⁹ However, it is unclear whether emission permits or intellectual property rights constitute goods under the provision.⁸⁰

6.4 Tax or social insurance relief

This category involves cases where firms are granted exemptions from paying taxes or social insurance costs. Of the 233 individual tax cases involving the selected economies, 181 are marked as harmful in the GTA database. A few examples on this list are tax exemptions to the US aerospace industry, corporate income tax reductions granted to key software enterprises in China, and a tax relief for German industrial gas producers.

WTO Members have the sovereign authority to decide on the level and rules of taxation in their jurisdiction, as long as they comply with their obligations under the legal framework of the WTO. However, certain taxes are actionable under the WTO regulations, and some are even prohibited.

When is a tax measure actionable?

Fiscal incentives such as tax credits, when government revenue that would otherwise be due is foregone or not collected, constitute financial contributions, pursuant to Article 1.1(a)(1) of the SCM Agreement.

The appropriate benchmark for assessing whether a tax credit has been awarded is to compare the measure in question with the tax treatment of comparable income of other, comparably situated, taxpayers applied by the WTO Member in question.⁸¹ This means that a tax credit could be an actionable subsidy under the SCM Agreement if, for example, the tax credit is targeted at an enterprise or industry.

Direct and indirect taxes supporting exports – treated differently legally

Regarding tax-based export incentives, the SCM Agreement distinguishes between so-called **direct** and so-called **indirect** taxes. Indirect taxes, such as value added taxes, are imposed directly or

⁷⁸ Cf. Appellate Body Report, *US – Softwood Lumber IV (2004)*, para. 53.

⁷⁹ See Appellate Body Report, *US – Softwood Lumber IV (2004)*, paras 57–67; and Appellate Body Report, *US – Carbon Steel (India) (2014)*, paras 4.60–4.75.

⁸⁰ Müller (2017) p. 98.

⁸¹ *Ibid* p. 88.

indirectly on the product.⁸² Direct taxes, such as corporate taxes and social welfare charges, are imposed on the producer.⁸³ The SCM Agreement permits the full or partial exemption, remission, or deferral of indirect taxes⁸⁴ and prior-stage cumulative indirect taxes,⁸⁵ as long as the exemption, remission, or deferral is not in excess of those levied in respect of the production and distribution of like products sold for domestic consumption.⁸⁶ Remissions or drawbacks of import charges on imported goods that are used as inputs for goods intended for export are also permitted as long as they are not in excess of those levied on imported products.⁸⁷ However, the SCM Agreement does not allow for any exemption, remission, or deferral of direct taxes.⁸⁸

⁸² Indirect taxes are defined in footnote 58 to item (e) in Annex I of the SCM Agreement as ‘sales, excise, turnover, value added, franchise, stamp, transfer, inventory and equipment taxes, border taxes and all taxes other than direct taxes and import charges’.

⁸³ Direct taxes are defined in footnote 58 to item (e) in Annex I of the SCM Agreement as ‘taxes on wages, profits, interests, rents, royalties, and all other forms of income, and taxes on the ownership of real property’.

⁸⁴ Pursuant to item (g) in Annex I of the SCM Agreement.

⁸⁵ Prior-stage cumulative indirect taxes are defined in footnote 58 to item (e) in Annex I of the SCM Agreement. ‘Prior-stage’ indirect taxes are those levied on goods or services used directly or indirectly in making the product. ‘Cumulative’ indirect taxes are multi-staged taxes levied where there is no mechanism for subsequent crediting of the tax if the goods or services subject to tax at one stage of production are used in a succeeding stage of production.

⁸⁶ Pursuant to footnote 1 to the SCM Agreement. Pursuant to Article XI of the GATT quotas (but not duties or taxes) on exports are eliminated.

⁸⁷ Item (i) in Annex I to the SCM Agreement.

⁸⁸ See e.g. item (e) and item (f) in Annex I to the SCM Agreement.

7 Discussion of findings

Despite the fact that subsidies of many types are economically harmful in theory, some are legally prohibited and others are actionable, a great number of industrial subsidies are currently in use. However, the data used here do not reveal the motives behind the measures. Therefore, it has not been possible to assess whether any of the industrial subsidies could be economically justified on the basis, for example, of correcting market failures, or whether they rest on other, possibly weaker, grounds.

Further analysis would be needed in order to understand the dynamics fully. Nevertheless, based on our own analysis, we would like to mention some possible explanations for the widespread use of industrial subsidies.

At first glance, the vast majority of the different types of subsidies that we have observed seem to constitute financial contributions as defined by Article 1 of the SCM Agreement. However, the other criteria in the SCM Agreement would also have to be fulfilled in order for these subsidies to be challengeable. In addition, given that the SCM Agreement only covers **specific subsidies**, any horizontally provided subsidies would not be challengeable even if they did create economic distortions.

Interestingly, whereas export subsidies are, in theory, one of the most distortive forms of subsidies, and are prohibited by the WTO rules, they are still the most frequently used measure in China and the EU in practice, according to the GTA data. One possible factor contributing to this observation is that many industrial subsidies are complex in the sense of having **multiple purposes or incentives**. In such cases, the measure could be registered as an export subsidy in the data, although the provider of the subsidy may not primarily consider it to be an export incentive.

In more general terms, one potential explanation for the wide use of industrial subsidies is that they **escape the coverage of the SCM Agreement**. For example, a measure could have the economic effects of a subsidy but fall outside the scope of the legal definitions established in the 1990s. The existence of such measures could, for instance, be a consequence of complex value chains. A related question is whether the WTO subsidy regime should take further consideration of the economic effects of a subsidy and address new forms of subsidies.

At the same time, it can be **difficult for a trading partner to prove the existence of a subsidy** even if the SCM Agreement does cover a certain type of measure. A trading partner might consider the process of

collecting evidence in order to meet the evidentiary standard to be too difficult, burdensome and costly to be worthwhile.

There is also the question as to **whether trading partners refrain from challenging each other's subsidies**, even if the SCM Agreement does cover the measure. In this regard, we note that only 11 WTO Members notified countervailing actions taken during the first six months of 2019, while 88 Members notified that they had not taken any countervailing actions.⁸⁹ Among the 164 WTO Members, there are even 42 Members without authorities competent to conduct countervailing investigations.⁹⁰ The relatively modest number of retaliatory measures could thus be a result of political considerations or fear of retaliation.⁹¹

Meanwhile, the SCM Agreement has been in place for years. In an ideal situation, WTO Members should be able to assess the compatibility of their own measures with the SCM Agreement before implementing them. There may be straightforward cases that could easily be assessed under the SCM Agreement. Having said that, there may also be less clear-cut cases, which would have to be referred to the WTO's adjudicating bodies for a final ruling.

Ultimately, we believe that the **lack of transparency** may be a major explanation of why many subsidies remain in use unchallenged. As mentioned earlier, the SCM Agreement imposes a set of transparency and notification requirements. However, many WTO Members do not comply with these obligations. For example, by the end of 2019 only 41 Members, including China, the EU and the US, had notified their subsidies for 2017-2018.⁹²

The lack of transparency is admittedly not a new problem. Transparency and notification obligations have, for example, been highlighted by the 13 WTO Members participating in the Ottawa Group as important aspects that should be addressed in order to strengthen and enhance the WTO.⁹³

One way of addressing transparency is to **strengthen the notification requirements**. For example, the trilateral proposal from the EU, Japan and the US advocates stronger new incentives for WTO Members to

⁸⁹ WTO (2019a), para. 32.

⁹⁰ Ibid., para. 33.

⁹¹ For further reading, see, for example, Bown (2002).

⁹² WTO (2019a), para. 8.

⁹³ Government of Canada (2019). The participants in the Ottawa Group Meeting in Paris on 23 May 2019 were Australia, Brazil, Canada, Chile, the European Union, Japan, Kenya, South Korea, Mexico, New Zealand, Norway, Singapore and Switzerland.

notify industrial subsidies by including a possibility of counter-notifications by other WTO Members. The suggestion implies that any non-notified subsidies that are counter-notified by another Member should be prohibited, unless the Member that is alleged to be subsidising provides the necessary information in writing within a certain timeframe.⁹⁴

Another, possibly complementary, option is to **sanction non-compliance**. A recent proposal from a group of WTO Members outlines how penalties could be imposed in phases, ranging from name-and-shame measures to economic sanctions. In the first phase, a WTO Member that has failed to comply with the requirements would, for example, be designated as a ‘Member with notification delay’, would only be invited to speak last at meetings, and would not be able to nominate its representatives to chair WTO bodies. In the second phase, respondents would not be obliged to reply if the WTO Member asked questions during trade policy reviews. The WTO Member would also have to pay a charge in addition to its annual contribution to the organisation. Moreover, the proposal recognises that the obligations should be adapted for developing countries and least-developed countries, and that technical assistance should be made available for these Members.⁹⁵

Besides revisions to the rules on transparency and notification, we have seen in this study that there might also be reasons for modifying aspects of the substantive rules in order to adjust the rules to today’s reality.

⁹⁴ Joint Statement of the Trilateral Meeting (2020), 14 January.

⁹⁵ WTO (2020b).

8 Conclusions

In this study, we have combined economic and legal perspectives in order to shed light on the current use of industrial subsidies by major economies, with examples from China, the EU and the US.

Despite the fact that subsidies of many types are economically harmful, a large number of industrial subsidies are currently applied by the economies studied in this report. The available data show that the most popular types of industrial subsidies are export subsidies, followed by loans and loan guarantees, direct support measures, and taxes and social insurance relief, as defined by the GTA database. Looking at the destination of these subsidies, we mainly find them in the manufacturing sector, and, in particular, in the machinery and vehicles, aircraft and vessels industries as well as for minerals and chemical products.

Whereas export subsidies are one of the most distortive forms of subsidies and are prohibited by the WTO rules, the data show that export subsidies constitute the most frequently used type of subsidy in China and the EU.

From an economic point of view, industrial subsidies risk distorting prices, competition, supply and demand, as well as harming the environment. On the other hand, there may be political and economic justifications for a subsidy – with economic justifications mainly being the aim to remedy market failures. However, the data analysed in this report provide evidence of the widespread use of subsidies where such a ‘higher motive’ is absent. These subsidies are hard to justify on the basis of economic theory.

Based on our analysis of available data from the GTA database, it is not possible to make estimations of the trade effect of the measures that are implemented. However, we observe that a significant share of global trade flows is potentially affected by industrial subsidies.

Moreover, the vast majority of the existing types of subsidies seem to constitute financial contributions, fulfilling one of the criteria necessary for a measure to constitute a subsidy pursuant to Article 1 of the SCM Agreement. The subsidies thereby fulfil an important criterion for being challengeable under the agreement. However, in order to be prohibited or actionable the subsidies also have to be specific, to provide a benefit and to be provided by a government or a public body. The actionable subsidies would also have to cause adverse effects in order to be subject to claims from other trading partners. For a thorough assessment of the

individual entries, each one of them would have to be assessed on its own merits.

There is an evident lack of transparency regarding the use of subsidies globally. This makes it difficult to draw conclusions about the extent of subsidy usage and its distribution across countries. The lack of transparency affects not only the possibility of carrying out economic analyses and comparisons, but perhaps also the possibility of trading partners taking legal action. It would be desirable for WTO Members to introduce more transparency, including stronger incentives to notify subsidies. Tools to strengthen incentives could range from name-and-shame practices to economic sanctions.

At the end of the day, transparency is a fundamental principle for the WTO that needs to be strengthened in order to safeguard a strong, open and functioning rules-based multilateral trading system.

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Sammanfattning på svenska

Summary in Swedish

I den här utredningen kombinerar Kommerskollegium såväl ekonomiska som juridiska perspektiv för att på ett mångfacetterat sätt analysera befintliga subventioner för industrivaror i tongivande ekonomier, baserat på exempel från Europeiska Unionen, Kina och USA. Studien är ett uppdrag som följer av regeringens regleringsbrev till Kommerskollegium 2020.

Utifrån ett ekonomisk-teoretiskt perspektiv riskerar subventioner för industrivaror att störa marknadens prissättningsmekanismer, konkurrens, utbud och efterfrågan. De riskerar också bl.a. att skada miljön. Samtidigt kan det finnas legitima politiska och ekonomiska skäl till att införa subventioner. Den senare kategorin innefattar framförallt subventioner som syftar till att korrigera marknadsmisslyckanden.

I utredningen kartläggs användningen av industrisubventioner, med undantag för fiskesubventioner. Syftet är att identifiera de vanligaste typerna av industrisubventioner samt inom vilka sektorer de främst används. Tillgänglig data på området visar att de mest frekvent använda kategorierna av industrisubventioner är exportsubventioner, lån och lånegarantier, direktstöd, samt skatter och undantag från socialförsäkringar, såsom dessa definieras av databasen *Global Trade Alert*. Dessa subventioner används främst inom tillverkningsindustrin, och då i synnerhet inom sektorerna fordon, maskiner, luftfartyg, varvsindustrin samt till mineraler och kemiska produkter. Utifrån den breda användningen av industrisubventioner noterar vi att de riskerar att påverka en signifikant andel av de globala handelsflödena.

Utredningen innehåller även en översiktlig, men inte heltäckande analys av industrisubventionernas förenlighet med Världshandelsorganisationens (WTO) avtal om subventioner och utjämningsåtgärder, samt om de kan anses förbjudna eller angripbara. Majoriteten av de befintliga typer av industrisubventioner som studeras i utredningen förefaller utgöra finansiella bidrag i enlighet med ett av kriterierna för definitionen av en subvention i avtalet. Därmed uppfyller de ett viktigt kriterium för att kunna anses vara angripbara eller förbjudna. För att en WTO-medlem ska kunna vidta rättsliga åtgärder mot en subvention som ges av en annan WTO-medlem måste dock fler kriterier vara uppfyllda. En fullständig bedömning av industrisubventionernas förenlighet med WTO-rätten hade dock behövts

göras utifrån en individuell prövning av samtliga aktuella subventioner – en analys som faller utanför ramen för denna utredning.

I utredningen framhävs avslutningsvis att bristen på transparens kring industrisubventioner utgör ett centralt problem när frågan ska förhandlas och diskuteras.

Industrisubventioner är ett komplext område och detta har inneburit ett behov att avgränsa utredningen i flera avseenden. Exempelvis baseras analysen på data insamlad före covid-19 pandemin och innehåller därmed inte ekonomiska stödåtgärder som införts i kölvattnet av krisen. I och med detta analyseras varken de ekonomiska effekterna eller de juridiska aspekterna av sådana åtgärder i denna utredning.

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The National Board of Trade, via SOLVIT, helps businesses and citizens encountering obstacles to free movement. We also host several networks with business organisations and authorities which aim to facilitate trade.

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