How large is the Policy Space?
WTO Regime and Industrial Policy

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1. Introduction

Since the last decade, there has appeared a renewed interest in Industrial policy in both the developed and developing economies (OECD 2013). This, of course, has to with the disappointing economic performance of the past two decades under the Washington Consensus of the 1980s and 1990s and the impact of the 2008 global financial crisis (Lin and Stiglitz 2013; Lee 2013a; Lee and Mathews 2010). While it is often a broad concept, a traditional definition of industrial policy is, according to an early work like Johnson (1982), sector-specific policies that improve the structure of a domestic industry in order to enhance a country’s international competitiveness. Variants of industrial policies existed in successful countries, such as the UK from the 14th to the 18th centuries, the US and Germany in the 19th century, Japan in the late 19th century, and Korea and Taiwan in the late 20th century (Cimoli, Dosi, & Stiglitz, 2009).

Emerging new literature in the same vein include the works of Cimoli, Dosi and Stiglitz (2009), as well as those of Lin (2012), Lee (2013b), Lee and Mathews (2013), and Wade (2012). Two most recent ones include Lin and Stiglitz (2013) and a new flagship report by the OECD (2013) which tries to suggest new and broader uses of industrial policy to include not only sector-specific (or vertical) but also horizontal interventions. Thus, OECD (2013: 102) defines it as targeted government actions aimed at supporting production transformation that increases productivity, fosters the generation of backward and forward linkages, improves domestic capabilities, and creates more and better jobs.

These revived interests on industrial policy seem to reflect a new emerging consensus that all the well-known experiences of successful economic development seem to have not emerge spontaneously, but rather were pushed through strong policies stimulating new modern economic activity and that creating a virtuous circle of rising productivity, technological upgrading, and social progress in low-income countries typically would require a helping hand through combinations of public investment in infrastructure, and human capital and a set of policy incentives broadly labelled as ‘industrial policy’ (Cornia and Vos (2013). In words, industrial policy is now to be understood not merely as promoting manufacturing industries, but of modern production and service activities more in general
A new empirical research, such as Aghion, Dewatripont, Du, Harrison, and Legros (2012) and H. Shin and Lee (2012), is also verifying the positive impact of industrial policy, in contrast to the earlier literature finding insignificant impact of industrial policy, such as Beason and Weinstein (1996) or Lee (1996).

One of the reasons for the mixed outcome of industrial policy may be that it might be difficult to verify the average positive impact of industrial policy because the effects tend to appear only in certain conditions, depending upon specific contexts (H. Shin & Lee, 2012). Thus, OECD (2013) concludes that three basic ingredients for success of industrial policies include investment in skills, access to financing, and adequate infrastructure. In the meantime, a growing recognition is that industrial policy have often not been pursued and implemented consistently for enough long period of time due to the external conditions and interference, such as the WTO regime, and the related interest conflicts at internal and international dimensions. Some argues that WTO rules de jure restrict developing country policy space, limiting their development policies (Chang, 2003; UNCTAD, 2006). On the other hands, international interference on industrial policy pursued by national government may be justified because the effect and consequence of one country’s industrial policy flow into not only over the domestic economy but also into the foreign domain. Thus, some even argue that industrial policy may not result in gains for the world economy as a whole since the additional profits are often made at the expense of foreign competitors (Bhagwati, 1988; Grossman & Helpman, 1994; Spencer & Brander, 1983). This would be the basis for the WTO rules and regulations which prevent “unfairness” and “market distorting inefficiency” possibly rising from the use of industrial policies or protectionism.

Despite this theoretical debate, industrial policy has now been tried in diverse forms in countries around the word, especially to promote new, renewable energy industries. Nowadays, it seems to be the developed countries that use industrial policy more than the developing countries. Especially, during a time of recession since the financial crisis in 2008 many developed countries used industrial policies for bailout of their firms. However, few of such cases have been brought to the WTO court, in contrast to many cases raised against former attempt at industrial policy by the middle income countries. This situation raises the concern of possible asymmetries in the use (or abuse) of industrial policy between the developed and developing countries, under the WTO regime in particular.
As noted by Girvan and Cortez (2013), issues of asymmetric power compromising WTO governance are in particular reflected in the use of the dispute settlement mechanism (DSM), certainly not with respect to the transparency of the process and the independence of its rulings, but rather due to issues of access and actual use of remedies (retaliatory measures) against faulty parties that are unable or willing to act on a given ruling. In other words, the possibility of imposing retaliatory measures is in practice limited for developing countries and of negligible impact for the smaller countries due to the size of their markets countries, and more than half of the disputes are settled during consultations and just few decisions have not been complied with and led to counter measures (Girvan and Cortez 2013). For example, banana is major export product of Ecuador. Even though they won the three WTO dispute cases from 1996 to 2008 with the EU about banana, available option for Ecuador which WTO authorized was to implement retaliatory measures against the EU. This was not beneficial for Ecuador because the EU was one of major market of Ecuador’s banana (Langlois & Langlois, 2007).

Under the WTO regime, the governmental policies are required to formulate and implement in a manner that is i) non-discriminatory to exporters on the boarder (MFN: Most Favored Nation) and inside of the domestic market (NT: National Treatment), and the policy instruments for production subsidy should be ii) generic instead of specific to industry and all producers whether there are foreign affiliated or domestic. In practice, the South seems to use less of the WTO dispute settlement body (WTO DSB) while the North is vigorous in engaging the dispute. As of 5 July 2012, 440 cases have been brought to the WTO, 188 of which initiated by the EU and the US, but few small and low-income countries have initiated disputes (Girvan and Cortez 2013). The problems is that the costs of using the system are high and require a great deal of awareness and knowledge of WTO disciplines, which is lacking in many developing countries, LDCs in particular (Horn, Mavroidis, and Nordström (1999; NDESA, 2011).

In general, the WTO rule seem to restrict the pursuit of industrial policy space and flexibility to achieve policy objectives especially given to the developing countries in the previous trade regime (Bora, Lloyd, & Pengestu, 2000; Dicaprio & Gallaher, 2006; UNCTAD, 2006; Wade, 2003). The literature has described how specific industrial policies are often inconsistent with the WTO rules, and how the policies that the developed countries
previously enjoyed in their past have now become prohibited under the WTO regime in the literature on the political economy of industrial policy (Chang, 2002; Cimoli et al., 2009; Dicaprio & Gallaher, 2006; Wade, 2003). On the other hand, such as Mayer (2009) and Shadlen (2005) view that the developing countries have still room to expand their policy space under the current world trading system through regional integrations and bilateral approach such as FTA (Free Trade Agreement); however, the space through regionalism is depended on also political willingness of the countries, especially of the developed countries, rather than the mutually agreed rules (Ahn & Shin, 2011).

This paper is motivated by recognition that the current global rules on trade and industrial policy should be improved so that they may not intensify the existing asymmetries and should leave more room for policy intervention by the latecomers. We begin in section 2 by examining the data of the WTO dispute cases to reveal who have been the main users of the rules against whom. Section 3 we examine a set of comparable cases to show that there is an asymmetry in the implementation of the WTO dispute settlement system between developing countries and developed countries and that the developing countries eventually become victim of the trade disputes over the industrial policy. Section 4 elaborates the cases of industrial policy actually used in several countries and discussed how they were treated in the WTO systems. Section 5 examines in details the rules on SCM (Subsidies and Countervailing Measures) to measure the size of policy spaces and seek for policy measures possible under the current rules. Finally, in section 6, we first provide a summary of the current states of the global rules on industrial policy under the WTO rules, and then propose some suggestions for change of the global rules and also what can still be done under the current rules.

2. Who is making Claims against Whom: First Asymmetry

This section is to understand the question of who the main users of the dispute settlement devices of the WTO are, namely who are the main complainants and the responding countries in the disputes. To answer this question, we have investigated all the WTO disputes cases that were filed up to 2010, using the information available in the WTO document available in its web site (http://wto.org/english/tratop_e/dispu_e/dispu_status_e.htm). When a dispute arises, the complaining country or countries submit an official document for “request for
consultations” identifying the specific agreements in the WTO rules the responding country allegedly violates. Mostly, more than one agreement are brought under the WTO dispute; thus, the number of cited agreements is almost doubled in number compared to the number of unique disputes.

The list below in Table 1 shows the trend of the disputes by the classified agreement categories according to the method by Leitner and Lester (2011). We find that there are 419 WTO dispute cases for the period from 1995 to 2010, which involves 900 cases of various WTO agreements. The much larger number of the cases (900) in terms of the disputed agreement than the unique number (419) of the dispute cases implies that in general, complainants have tendency to pounce on the policy measures of the respondent by invoking the agreements as many as possible to increase the success rate of the cases. Table 1 also shows that the cases involving the general GATT Agreement are most frequent, followed the AD (ant-dumping) and SCM, which implies that the GATT provisions are invoked first before the more specific agreements are invoked. The general GATT/WTO principles touch upon such cases as MFN, NT, trade remedies (CVD/Safeguard), and more outlined type of provisions (eg. Local content requirements).

[ table 1, 2, and 3B, 3B here ]

Next, Table 2 shows the disputes by the developed and developing countries, with focus on the SCM cases. It shows first that most of complainants in the WTO dispute cases are filed by the developed and middle income countries with only one case by a low income country (Bangladesh requested consultations with India concerning anti-dumping measure imposed by India in 2004). Developed countries were complainant in 264 cases (62.29%) and middle income countries were complainant in 148 cases (35.32%). None of WTO member countries requests WTO litigation against low income countries as low income countries have little

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1 The paper deals with the cases only filed until 2010 since most cases initiated after the year are pending.
2 However, there is a discrepancy between the invocation of the rules and an actual ruling since the WTO DSB has distinctive judicial system called “judicial economy” to limit the unnecessary invocations in a given case on the actual legal process of WTO rulings.
3 India- Anti-dumping Measure on Batteries from Bangladesh (DS306)
foundation of industry that threatens the developed and middle income countries.\textsuperscript{4}

Developed countries were respondent in 261 cases (62.29\%) and developing (middle income) countries were respondent in 158 cases (37.71\%) similar to distribution of complainant countries. 40\% of cases were the cases between developed countries; thus, this indicates that the largest portion of WTO dispute occurs between developed countries. 22.2\% of cases were the cases that developed country requested investigation with middle income country. 20\% of cases were the cases that middle income country requested investigation with developed country. 15\% of cases were the cases between middle income countries.

Now, the table 2 also shows the data on WTO Subsidies and Countervailing Measures (SCM) Agreement dispute cases, which are more directly related to industrial policy. Its distribution is similar to the overall cases. Half of the cases were the cases between developed countries. A quarter of cases were the cases that developed country requested the WTO DSB with middle income country. However, only 17.44\% of cases were the cases that middle income country requested the WTO DSB with developed country and just 4.65\% of cases were the cases between middle income countries. It shows that in the SCM Agreement cases, the developed countries are more active than in total WTO dispute cases.

While middle income countries seem to be involved in many WTO Dispute cases, they are heavily concentrated among a few large country, such as Brazil, India, Mexico and Argentina, as shown table 3. First, Table 3A shows distribution of respondent countries in total WTO dispute cases requested by developed countries against middle income countries. In 77\% of these cases, the respondent countries are for five major middle income countries (India, China, Argentina, Brazil, and Mexico). These countries are those who are trying to catching up with developed countries, competing with developed countries in many areas of industries and services. On the other hands, Table 3B shows distribution of complainant countries in WTO dispute cases requested by middle income countries. Major 7 middle income countries (Brazil, India, Mexico, Argentina, Thailand, Chile, and China\textsuperscript{5}) were complainant in two thirds of all cases, which suggest that many of middle and low income countries barely utilize

\textsuperscript{4} Another possible reason is that various provisions of Special and Differential Treatment (SDT) may protect them from any WTO dispute (Bown & Hoekman, 2008).

\textsuperscript{5} Considering the China’s accession to the WTO in 2004, China is shown as an active user of the WTO DSB.
3. Another Asymmetry in Enforcing Compliance in the Dispute Ruling

While some praise the WTO dispute settlement system as effective legal institutions to induce compliance, there are different perceptions, too. This is because, in practice, empowering to counteract violations of the WTO rules is one thing, the enforcement of the rulings by the WTO members are quite another. In other words, inducing compliance through the WTO dispute rulings on the matters of industrial policies is a challenging issue that the current WTO system has faced to resolve (Bown & Pauwelyn, 2010; Pauwelyn, 2000). Although the retaliation system for non-compliance or delayed compliance looks compelling *de jure*, enforcing the WTO rulings to others is *de facto* relied on the country-specific factors and political motivations (Schwartz & Sykes, 2002). More importantly, there is an asymmetry in enforcing the rules between the South and the North, depending upon the size of economic power and resources. In what follow, we suggest the example of such asymmetries, to show how two groups of countries (North and South) respond differently to the rulings of WTO dispute settlement body.

1) The North as a Respondent

[US – ZEROING CASES]

If the policies are challenged by the other WTO member countries and found to be inconsistent with the WTO rules, the policies are advised to be abandoned or adjusted according to the rulings from the WTO. The policies are established on the regulations or national legal systems, it requires enough times for a change; thus, the WTO DSB provides defeated countries with reasonable time for implementation pursuant to the WTO rulings. However, the defeated countries decline to abide by the rulings, the retaliation is allowed but this retaliation should be claimed by interest countries individually. During this long process of legal battles—raising issues in the request of consultation, the WTO rulings (Panel and Appellate Body), and implementation of the rulings—, the damages for complaining countries last while the responding country satisfies the policy goals, at least, to some extent. The United States is the one actively utilizing the WTO legal system in both offensive and
defensive ways. The ‘US zeroing’ cases (listed in Table 4) is a typical example of one of defensive-and-delaying cases where the US government keep implementing regulatory measures for their industry protection, which exhibits the problem of continued noncompliance of WTO rulings. After a series of WTO Panel and Appellate Body rulings, the United States are supposed to stop practicing ‘zeroing’ in antidumping investigations and in the administrative reviews. However, all existing antidumping margin given to firms are unchanged since the United States accepted the WTO ruling, prohibition of zeroing practice, only to future cases.

As Table 4 shows, many developing countries have suffered from the US’s zeroing practice on various protected industries and products: metals, steels, cements, saw-blades, bags, oranges, and shrimps. Considering these products and industries have long been protected by political interest groups in the US, these dispute cases illustrate that the US’s still actively use bilateral protectionist measures on imports from the developing countries. We can observe products at disputes are major exporting products of the developing countries that once the US maintain the leadership position in the industry and in the world export market, but now it has lost its price competitiveness.

Table 4: US–Zeroing Disputes Complained by the Developing Countries

<table>
<thead>
<tr>
<th>DS NO.</th>
<th>Case Title</th>
<th>Consultation Request Date</th>
<th>Remark (Adoption Date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS239</td>
<td>US - Anti-dumping Duties on Silicon Metal from</td>
<td>Nov. 2001</td>
<td>No panel</td>
</tr>
</tbody>
</table>

6 "Zeroing" in the context of the WTO case, it stands for a specific methodology in calculating a general dumping margin—dumping margin = (normal value – export price)/ export price—for a product in question under which negative individual dumping margins are treated as zero (thus "zeroed") before aggregating all individual dumping margins; thus, zeroing practice has the effect of exaggerating dumping margins.

| DS281 | Brazil proceeding | US - Anti-dumping Measures on Cement from Mexico | Jan. 2003 | No panel proceeding |
| DS324 | US – Provisional Anti-dumping Measures on Shrimp from Thailand | Dec. 2004 | No panel proceeding |
| DS325 | US - Anti-dumping Determinations Regarding Stainless Steel from Mexico | Jan. 2005 | No panel proceeding |
| DS335 | US – Anti-dumping Measures on Shrimp from Ecuador | Nov. 2005 | PR (Feb. 2007) |
| DS344 | US – Final Anti-dumping Measures on Stainless Steel from Mexico | May. 2006 | PR/ABR (May 2008) |
| DS346 | United States – Anti-Dumping Administrative Review on Oil Country Tubular Goods from Argentina | June. 2006 | No panel proceeding |
| DS382 | US – Anti-dumping Administrative Reviews and Other Measures Related to Imports of Certain Orange Juice from Brazil | Nov. 2008 | PR (June 2011) |
| DS404 | US – Anti-dumping Measures on Certain Shrimp from Vietnam | Feb. 2010 | PR |
| DS422 | US – Anti-dumping Measures on Shrimp and Diamond Sawblades from China | Feb. 2011 | PR |
| DS429 | US – Anti-dumping Measures on Certain Shrimp from Vietnam | Feb. 2012 | No panel proceeding |

In fact, the more problematic issue revealed in the US zeroing case is that the developing countries were forced to bring the “remedial cases” to the WTO DSB since the US continues to reject to apply the WTO rulings directly (until her own regulatory system incorporate the WTO rulings) on the pre-existing cases without a specific WTO ruling for the case from individual challenge. In other words, unlike most of other WTO members that modify or eliminate ‘defective’ policy measures overall according to the WTO rulings, most of the time the US make the WTO rulings limited to specific case where the dispute arises (Ahn & Messerlin, 2013).

This case presents a blatant example of how a small country (Antigua and Barbuda) could become ineffective in resorting to the WTO rules and also feel powerless in retaliation against a big economy such as the US (size of the US economy is almost 1,500 times bigger than that of Antigua); and the WTO DSB system can be problematic if the system fails to induce compliance of the rulings.

As online gambling companies located and clustered in countries with friendly licensing regulations such as Canada, Curacao, Gibraltar, Costa Rica, Panama, and Latin American countries, the industry can be a major source of jobs, especially for smaller countries. In the United States, gambling statistics show that live and online gambling has generated as much as $91 billion per year as of 2006. The United States is the one of world’s largest online gaming markets although online gaming is a relatively small part of the gaming sector (8-9%).

The case filed by Antigua and Barbuda in request consultation with the US on March 21, 2003, and April 2005, WTO AB issued and adopted a ruling in favor of Antigua after the WTO panel ruling in favor of Antigua was circulated on November 2004.

This dispute regarded the measures applied by central, regional and local authorities in the US that affected the cross-border supply of gambling and betting services. Antigua and Barbuda claimed that the U.S. violated the WTO service agreements, GATS (General Agreement on Trade in Service) since the U.S made a full market access and a full national treatment commitment for the cross-border supply (mode 1) of "gambling and betting" services. After the technical legal battle over the interpretation and application of the related GATS Articles especially Article XVI, it was confirmed that the United States made specific commitments on gambling and betting services, and the three federal laws (the Wire Act, the Travel Act, and the Illegal Gambling Business Act) are inconsistent with the WTO GATS rules by the WTO Panel and AB.

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8 Antigua claimed that prohibition on the cross-border supply of gambling and betting services and its measures restricting international money transfers and payments relating to gambling and betting services are inconsistent with (a) the U.S. schedules of specific commitments under GATS; and (b) Article XVI:1, XVI:2, XVII:2, XVII:3, VI:1, VI:3 and XI:1 of the GATS.
The WTO gave the United States the option of either allowing all Internet gambling or repealing the related US law preventing Internet gambling service from abroad. At the DSB meeting of May 2005, the United States stated its intention to implement the DSB’s recommendations and indicated that it would need a reasonable period of time to do so. On August 2005, the Arbitrator circulated his Award to the Members, determining that the reasonable period of time for implementation was 11 months and 2 weeks from 20 April 2005, expiring on 3 April 2006. However, the US continued to disagree to comply with the recommendations and rulings of the DSB, Articles 21 (Implementation of rulings) and 22 (retaliation) of the DSU which are the subject to Article 25 (arbitration awards). On 8 June 2006, Antigua and Barbuda requested consultations. On 30 March 2007, panel report was circulated to Members. The Panel concluded that the United States had failed to comply with the recommendations and rulings of the DSB. On 21 December 2007, the decision by the Arbitrator was circulated to Members.

The US, instead of bringing its laws in line with WTO rules, announced in May 2007, it would withdraw gambling from the services it opened up under a 1994 world trade deal in the end. Under WTO rules it then had to offer comparable access in other sectors to interested countries. Antigua and Barbuda won compensation from the United States on Dec 21, 2007, in a long-running trade dispute about gambling, but the amount was far lower than the tiny Caribbean nation had been seeking. A WTO arbitration panel granted Antigua's request to levy trade sanctions on U.S. intellectual property, for instance by lifting copyright on films and music to sell it themselves, prompting concern from Washington. The WTO panel said Antigua was entitled to compensation of $21 million a year from the United States for being shut out of the U.S. online gambling market. However, the ruling was only partial relief, which built up an Internet gambling industry to replace declining tourism revenues, only to find itself shut out of the world's biggest gambling market. The award fell far short of what Antigua had demanded—$3.44 billion in "cross-retaliation", allowing it to seek damages outside the original services sector. Washington had argued Antigua was entitled to only $500,000 in compensation (The New York Times, June 21 and December 22 of 2007).

9 The WTO allows countries to modify the service sectors covered by the agreement but only if they compensated their trading partners for lost business opportunities when a sectoral commitment is changed of withdrawn.
This battle as lingering frustration of the small compliant country, Antigua, is still ongoing. Even after all this time—nearly decade of the US’s continual disagreement and un-compliance with the WTO rulings, in the DSB meeting on 28 January 2013, Antigua and Barbuda was granted an authorization on the suspension of concessions and obligations to the United States in respect of IPRs. However, there is concerned that this retaliation on IPRs leads another damage to Antigua economy, not only its tourism and the country’s reputation as a “Pirate”, but also investment and innovation environments.

2) The South as the Respondent: the Cases in Automobile Industry

[INDONESIA AUTO CASE]

After the two oil shocks in 1970s, the Indonesian government recognized the need for the structural reform in its economy, the government planned to develop its manufacturing industries by following the example of successful path of NIEs (Newly Industrialized Economies) under the national development plan (James & Fujita, 1989). The Indonesia attempted to specialize some of specific industries that require a higher degree of technology than the primary resources-based low skills. However, high-tech heavy industries such as shipbuilding and aircraft industries were not considered as a strategic policy-objective since the industries entail a high capital intensity. As the country was relatively labor-abundant, the government decided to develop industries of cars, trailers, car assembly, chemicals, chemical products, machinery and its parts; and this was the reason why the car industry was selected as one of the national strategic industries.

In the Indonesia auto case, a series of Indonesia’s National Car programs (The 1993 Program and The 1996 National Car Program) were concerned and subjects for the disputes started with the requests of consultation by the EC (WT/DS54), Japan (WT/DS55 and WT/DS64), and the United States (WT/DS59). The National Car programs was initiated pursuant to the Presidential Instruction No. 2 of Indonesia on Feb. 1996, which aimed for embryonic development in indigenous auto industry by reducing dependency from other foreign brand owners and increasing national capacity on the industry. To be recognized as national motor vehicle—import duty reductions or exemptions on imports of automotive parts are granted, cars should be i) domestically produced using facilities owned by national
industrial companies or Indonesian statutory bodies with total shares belonging to Indonesia citizens, ii) use trade-mark that is unregistered in Indonesia but owned by Indonesians, and iii) be developed with technology, designs, and engineering based on national capacity building. Moreover, maintenance of this status is dependent on fulfilling increasing local content; “National auto companies were to use an increasing amount of local content in their autos, starting at 20% at the end of the first year, 40% at the second and 60% by the end of the third year. At that time, PT. Timor Putra Nasional (TPN) was the first and the only company to satisfy the requirements of “National Car” status appointed by the Indonesian government. However, unfortunately PT. TPN was yet unable to produce car with its own capacity; therefore, the Presidential Decree No. 42/1996 was issued to allow PT TPN to have partnership and thus import auto either in the form of CKD or CBU from South Korea while securing a time for their own technology development. During the course of seeking foreign firms for producing the National cars through technical cooperation, Indonesian government (PT TPN) preferred to choose South Korea (Kia Motors) who agreed to incorporate the technology transfer clause in the outcome of B-to-B negotiations over Japan who unaccepted the condition of the technology transfer, even though Japan had operated and entered Indonesia market for more than 20 years. The National Car program provided great benefits to PT TPN for the Timor project through duties and taxes make-ups more than 60% of the showroom price of sedans. This Kia and TP TPN’s joint cooperation (or venture) to produce national motor vehicles called “Timor” left grounds for disputes especially from local firms controlled by Japanese firms who were the incumbents in the market excluded from the government incentives\textsuperscript{10} and the EU and US auto firms who already invested in auto sector and planned to enter the market in Indonesia.

However, June of 1996, the National Car program was modified to accommodate the goal of the program plan as TP TPN’s lack of production capacity to meet the goal of selling “made-in Indonesia: Timors” in the local market. If the use of domestic content and the employment of Indonesian workers are satisfied, free of duties and taxes are exempted even if cars for sales of Timors are imported in fully built-up form. Rather than requiring Indonesian parts and components actually be used in the Kia sedans imported from Korea,

\textsuperscript{10} Japanese auto companies had an almost 90% control over Indonesia automotive markets, and many Indonesia local firms were affiliated with Japanese car companies for a long time.
the government introduced a new policy that the domestic content requirement on national cars produced overseas can be satisfied if the producers purchased a certain amount Indonesian parts and components (export promotion of parts and components made in Indonesian at least). National cars, Timors, based on the car model of Kia Sephia was imported from August 1996 without tariff, and until April 1997, 19,000 Timors were imported from Korea where they were assembled using Indonesia parts and components—25% of the import value of the national cars was assembled abroad. In short, benefits were fallen into only Kia the one that had to purchase Indonesian made motor vehicles parts and components in an amount equal to 25% of the value of the Kia Sephia sedans it was imported from Korea duty-free as the Indonesian national motor vehicle.

The EU, Japan, and the US alleged that the exemption from customs duties and luxury taxes on imports of “national vehicles” and components thereof, and related measures were in violation of Indonesia’s obligations under the GATT (MFN and NT), SCM Agreement (specific subsidies), TRIMs (local Content Requirement), and TRIPs (NT with respect to the using trademarks).

In accordance with Article 9.1 of the DSU, the DSB decided that a single panel will examine the disputes complained by three developed countries. The Panel found that Indonesia was in violation of GATT principles of NT and MFN regarding sales tax benefits and customs duty exemptions, the local content requirement (Article 2 of the TRIMs Agreement), and significant price undercutting Article 5(c) and 6.3(c) of the SCM Agreement articles under the National Car program.

The Panel report were adopted on 23 July 1998, and Indonesia followed the WTO DSB recommendations within the reasonable period of implementation (12 months), exactly one year later, on June 1999, Indonesia informed the WTO DSB that it had delete 1996 National Car Program by substituting a new automotive policy on 24 June 1999 (the 1999 Automotive Policy), which effectively implemented the recommendations pursuant to the WTO rulings.

There were an unfortunate situation happened in the Indonesia auto development in the aftermath of National Car Program deletion, except for the drastic imports of auto products from Japan, the EU, and the US that were increased and dominated over the domestic market again. Many research and development on automotive products by National Agency for Technological Research could not be used or remained as prototype, including Machinery
and Parts development using eco-friendly materials. As the motorcycle industry under PT TPN ceased immediately, domestic industry for motorcycle producer—such as PT. Kanzen Motor Indonesia—have been also remained stagnant up until today.

[INDIA AUTO CASE]

This dispute concerns indigenization (i.e., local content) and trade balancing requirements imposed by India in the automotive sector. These requirements arose under the following circumstances. For this reason, for many years, India imposed import restrictions on a wide range of products, including passenger cars and chassis and bodies therefor. One aspect of the Indian import licensing regime was that licenses were used as inducements for companies to comply with indigenization and trade balancing requirements.

The import restrictions were imposed for balance of payments reasons, and were the subject of WTO dispute settlement in the India – Quantitative Restrictions disputes. A panel was established pursuant to a request by the United States on November 18, 1997, and the panel and Appellate Body (AB) reports in that case were adopted on September 22, 1999. As a result of an agreement reached after adoption of these reports, all of the import restrictions, including the licensing scheme for cars, chassis and bodies, were to be eliminated in India as of April 1, 2001; India had to remove the quantitative restrictions on imports in respect of 715 items. Separately, six other countries including the European Communities and India reached a mutually agreed solution on this matter, under which India agreed to phase out these

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11 Government policy called License Raj (Permit Raj – import controls) is initiated by the first prime minister of India Mr. Jawaharlal Nehru to strengthen the government control on manufacturing sectors and India’s economic development with strong policy sovereignty. This industrial policy was implemented for about 40 years (between 1947~1990) until it recorded a huge trade deficit, approximately $1.2 Billion during the Sixth Plan (1980-85) and $2.2 billion during the Seventh Plan (1985-90). This turn of events combined with a heavy shortage of foreign exchange, led to a serious balance of payments crisis. India requested a IMF loan of $7bill, and then the IMF forced India to liberalize their market. As a result of liberalization the industrial licensing was abolished in 1991.

restrictions. The complaining parties claimed that the indigenization and trade balancing requirements are inconsistent with GATT Articles III: 4 (National Treatment) and XI:1 (Quantitative Restrictions), as well as TRIMs Agreement Articles 2.1 and 2.2.

The European Communities and the United States claimed that the indigenization (i.e., local content) requirements and balance of payment requirements contained in Public Notice No. 60 and the MOUs (Memorandum of Understandings) violate GATT Article III:4. Article III:4 provides in relevant part. The EC and the US argued that the requirements are a typical government’s protectionist measure; the measures have to give a disadvantage to imports and the companies that use them and a harm to foreign manufacturers and input suppliers while benefiting domestic producers of inputs.

Public Notice No. 60 (PN 60) and the MOUs are initiated by India’s the Ministry of Commerce on 12 Dec. 1997, an auto components licensing policy issued under the Foreign Trade (Development and Regulation) Act of 1992 (the FTDR act). Companies desiring to obtain import licenses for CKD or SKD kits must enter a contract with the government—known as a MOU. MOUs required companies to achieve stated local content percentages (“indigenization requirements”) in their manufacturing operations, and to ensure that the value of their exports was equal to the value of their imports (“trade balancing requirements”). A car manufacturer that does sign a MOU may be denied a license for the importation of CKD/SKD kits if the requirements of Public Notice No. 60 are not fulfilled.

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\[ \text{CIF Imp (CKD/SKD kits/components)} = \text{FOB Exp (Cars and Auto components)} \]

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13 Australia, Canada, New Zealand, Switzerland, the EU (WT/DS91, DS92, DS93, DS94, and DS96) also requested consultation with India by raising the same issues in respect of India’s quantitative restrictions on the imports as in the request by the US (WT/DS90) of July 1997.

14 For reasons of judicial economy, the Panel did not address any of the TRIMs Agreement claims, nor did it address the U.S. claim that the indigenization requirements violated Article XI:1.

15 The trade balancing requirements enforced domestic manufacturer of autos to export certain amount of automotive products in return for import license. \[ \text{CIF Imp (CKD/SKD kits/components)} = \text{FOB Exp (Cars and Auto components)} \]

16 GATT Art. 3.4 stipulates: “The products of the territory of any Member imported into the territory of any other Member shall be accorded treatment no less favourable than that accorded to like products of national origin in respect of all laws, regulations and requirements affecting their internal sale, offering for sale, purchase, transportation, distribution or use.”

17 Public Notice No. 60 Requirements are such as i) Establishment of actual production facilities for manufacture of cars, and not for mere assembly, ii) A minimum of foreign equity of US$50 million to be brought in by the foreign partner within the first three years of the start of operations, if the firm is a joint venture that involves majority foreign equity ownership, iii) Indigenization (i.e. local content)
In other words, according to a condition stipulated by PN60 and included in each MOU, each car manufacturer was obliged to achieve indigenization, or local content, of a minimum level of 50 percent by the third year from the date of its first import of cars in the form of CKD/SKD kits, or certain automobile components, and 70 percent by the fifth year from that date. Therefore, companies that failed to comply with this condition could be denied a license to import CKD/SKD kits and components. On the other hand, the trade balancing requirements enforced domestic manufacturer of autos to export certain amount of automotive products in return for import license—CIF import values of licensed goods (CKD + SKD kits + components) should be equaled to FOB values of exports for cars and auto components.

In summary, India failed to provide coherent defense with respect to both of these issues. For many years, India applied import restrictions that it justified on BOP grounds and for their defense; thus, they referred to GATT Art. XVIII B, which contains provisions about assistance to the developing countries having BOP problems. But when the case arose, India failed to provide sufficient evidence to defend themselves. And also they tried to argue that once the import licensing regime was abolished, any requirements terminated their existence. So, India argued that no longer any company have to agree to the indigenization requirements to obtain an import license. However the panel found that the licensing regime was still in effect and that MOU remained enforceable as private contracts with the government.

Therefore, the WTO Panel ruled that India acted inconsistently with its obligations. The proceedings were consolidated before a single dispute panel, which ruled in favor of the EC and the U.S. with respect to both measures. India indicated that it would appeal, but later withdrew its appeal and thus the AB did not address the substance of the dispute. In a communication dated Nov. 6, 2002, India informed the DSB that it had issued new Public Notices withdrawing the indigenization and trade balancing requirements contained in Public Notice 60, and by implication suggesting that any such requirements in surviving MOUs would be deprived of effect.
4. Practices of Industrial Policy and the WTO Cases

1) Case of the USA during the 2008 crisis: Auto and Buy America Policy

GM (General Motors), Chrysler, and their financial subsidiaries became fragile and unstable after the global financial crisis in 2008. US government started to support giving emergency loan to them in December 2008. US Department of the Treasury provided them with loan and equity of nearly 81 billion dollar under the Automotive Industry Financing Program (AIFP). Due to government’s support, US auto industry rebounded since 2009 and US auto jobs increased by 341,000 during the period from June 2009 to July 2013.18

US Treasury provided GM with 51 billion dollars in 2008 and 2009. They provided GM with 6.7 billion dollars as a pure loan. Interest rate was only 7%, which was very beneficial condition for GM because GM bond at that time was below junk level. Remaining support was in terms of buying 60.8% of GM’s equity.19 US Treasury recovered 35.4 billion dollars in GM through repayments, sales of stock, dividends, interest, and other income, but GM still owes 15.6 billion dollars to US government as of August 31, 2013. US Department of the Treasury still have 211 million shares of GM common stock and they said they will exit its remaining GM investment by early 2014 subject to market conditions. US Department of the Treasury also provided Chrysler and Chrysler Financial with 12.4 billion dollars for stabilization of it. They recovered 11.1 billion dollars, but they lost 1.3 billion dollars. They also provided Ally Financial (financial subsidiary of GM) with 17.2 billion dollars, but they will recover only 12.1 billion dollars until November 30, 2013 (Canis & Webel, 2013; Reyes, 2013).

These government’s supports can be regarded as financial contribution because US Department of the Treasury provided low interest loan to GM and they revived US Auto companies. They can be also regarded as specific subsidies because it was given to some specific firms. There’s also possibility that these supports caused adverse effects on export of

18 TARP Programs; Program Status of Auto Industry, U. S. Department of the Treasury (www.treasury.gov/initiatives/financial-stability/TARP-Programs/automotive-programs/Pages/purpose.aspx)
foreign auto companies. Without their support, GM and Chrysler would have failed and foreign auto companies could have grown rapidly. However, no country, except China, raised voices over these cases. Only the Chinese government imposed anti-dumping and anti-subsidy duties on imported cars made by GM, Chrysler and other foreign firms in the US, arguing that US-made vehicles benefited from subsidies and dumping and they had caused material injury to China’s auto industry in December 2011. On 5 July 2012, the United States requested consultations with China with regard to this anti-dumping duty. Panel was established in October 23, 2012 and dispute settlement process is ongoing.

Buy America Provision is an attempt to foster US domestic economy by government procurement. US government included Buy America Provision in American Recovery and Reinvestment Act of 2009 (ARRA) in February 2009 when they legislated the ARRA. According to Buy America Provision, US government should use budget for the project which use only American iron, steel, and manufactured goods for construction of public building and public project. It was applied to the projects that use the budget of ARRA amounting to 275 billion dollars and ended in September 2011. However, Obama administration included Buy American clause legislating American Jobs Act in September 2011 (The White House, 2011). It is similar to Buy American Provision and applied to the projects that use government’s budget amounting to 80 billion dollars.

It is discriminative policy against foreign firms by restricting bidding of them. However, the US government argued that this policy does not violate the WTO regulation on the following grounds. The US federal and 37 state governments joined in WTO Government Procurement Agreement (GPA), but WTO GPA can’t be applied to procurement of state governments if the funds aren’t from federal government. Thus, when states governments use the budget according to Buy American Provision, this kind of procurements don’t violate WTO GPA if the states government don’t join WTO GPA or state government hand the fund over to municipal governments which don’t join in WTO GPA, or the fund isn’t from federal government. However, Canada argued that Buy American Provision impede economic recovery of Canada and retaliated against the US by import restriction and bidding restriction of US firms for Canadian city contracts in June 2009. After that, they compromised and agreed that the US ruled Canada out Buy America Provision for projects over 7.8 million dollars in February 2010.
2) Cases involving South Korea: Semi-conductor and Shipbuilding

Korea was severely affected by Asian financial crisis in 1997. To recover from the crisis, Korea used various kinds of industrial policies, and semiconductor industry was an example. Especially, Hynix, second largest semiconductor company in Korea, was in trouble in 2000 and 2001. Thus, Korean government provided it with various financial supports to revive it. The European Community (EC) and the US imposed high countervailing duty, which are 34.8% and 44.29% respectively, on semiconductor products of Hynix in August 2003 arguing Korean government subsidized Hynix by various financial supports. Korean government requested WTO investigation against countervailing duty of the EC and the US in November 2003.

First issue was syndicated loan. Ten banks including Korea Development Bank (KDB), Korea Exchange Bank (KEB), and Korea First Bank (KFB) provided Hynix with 800 billion Korean Won to solve its short term liquidity problem in 2000. In fact, KDB, KEB, and KFB already reached their lending limits to Hynix which had been put in place by the Korean government, so they couldn’t provide loan according to the regulation. However, Financial Supervisory Commission (FSC) granted an approval permitting banks to exceed these ceiling for “industrial development and stability of national life,” so these three banks could participated in syndicated loan. The EC argued that the participation of three banks was caused by governments’ direction, so syndicated loan was financial contribution. Panel accepted the EC’s arguments.

Second issue was guarantee of Hynix documents against acceptance (D/A). Korean government made Korea Export Insurance Corporation (KEIC) guaranteed Hynix D/A which bond bank of Hynix bought until June 30, 2001. The EC argued that this action was financial contribution in SCM Agreement. Panel accepted their argument because even KEIC questioned the guarantee at that time and no one argued that other private firms would have provided guarantee at their commercial logic because of low credit rate of Hynix in those days.

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20 Nowadays Korea is usually classified as developed country, but it was middle income country in 1997, which ranked 41th in the world according to GDP per capita (PPP) in Penn World Table 7.1.

21 WT/DS299/R, para. 7.66.
Third issue was Debenture Program of KDB. KDB formulated rule in June 2001 which KDB bought 80% of specific firm’s debentures if most of them mature in specific time at once. This rule was established because financial market didn’t work in process of financial restructuring. KDB sold 70% of purchased debentures to collateralized bond obligations (CBOs) or collateralized loan obligations (CLOs), made bond bank buy 20% of them, and had 10% of them for itself. The EC also argued this program was financial contribution in SCM Agreement. Panel also accepted the argument because without this program, there would have been no financial private firms which bought debentures of Hynix considering its low credit status.

Last issue was Restructuring Program in October 2001. Six bond bank of Hynix (including KDB) provided it with 650 billion Korean Won as a new loan in October 2001. The EC argued that this loan was made by indirect order of Korean government. Panel accepted their claim because KDB was public institution and Korean government had significant share of stock in other three banks and close relationship with other one bank. They accepted the EC’s argument which there would have been no new loan to Hynix due to low credit of Hynix without order of Korean government.

Overall, the argument of the EC and the US was accepted, so WTO panel and appellate body didn’t conclude that countervailing duty of the EC and the US violated the regulation of WTO. This case shows that Korean government used various financial supports to revive nationally important firm during a time of crisis, but advanced countries checked the firm by using countervailing duty and WTO regulation.

Another case is the Korean shipbuilding industry, which was also very weak after the Asian financial crisis. Korean government, the Export-Import Bank of Korea, and bond banks also provided shipbuilding companies with various supporting policies. The EC argued that it played a role of export subsidy.

First issue was commission of Advance Payment Refund Guarantee Bond (APRG). Ship owner gives prepayment to shipbuilding firm before completion of ship and shipbuilding firm

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22 In fact, in the case between the US and Korea, panel judged that the evidences which the US suggested didn’t have enough probative power, so the countervailing duty was not consistent with WTO SCM Agreement. However, WTO Appellate Body quashed a judgment criticizing that panel considered the evidences in isolation, not in its totality.
pays commission for APRG from financial company. Korean shipbuilding firms, Daewoo Heavy Industries & Machinery, Daewoo Shipbuilding & Marine Engineering (DSME), and STX/Daedong shipbuilding paid commission to the Export-Import Bank of Korea from 1998 to 2001. The EC argued it was export subsidy because the commission was lower than the other commissions which they paid to other financial companies. Panel accepted the argument of the EC.

Second issue was the Pre-shipment Loan (PSL) of the Export-Import Bank of Korea for shipbuilding. The EC argued that the Export-Import Bank of Korea provided Korean shipbuilding firms (DSME, Samho/Halla, STX/Daedong and Hyundai/MIPO) with PSL whose interest rate was lower than market interest rate. The EC calculated market interest rate for themselves using return of corporate bond which was announced by the Korea Securities Dealers Association considering collateral and maturity condition. Panel also accepted the argument of the EC.

Overall, the WTO panel judged that the above specific cases of APRG and PSL from the Export-Import Bank of Korea were export subsidies and recommended that Korea withdraw them without delay. However, APRG and PSL were not ruled as export subsidies because these program did not “mandate” beneficial guarantee and loan.

Korean shipbuilding industry was severely affected by Asian financial crisis, but they recovered by using industrial polices. In response to recovery of Korea, the EC requested WTO investigation and succeeded partially.

3) Case of Solar Panel War

Developed countries and some big developing countries, such as China, Brazil, and India, tend to use industrial policies to foster high tech industry. This is because they want to take the advantageous position first in the industry that is expected to grow rapidly. Solar panel industry is the typical example.

Global market size of solar photovoltaics increased rapidly from 2.5 billion dollars in 2000 to 79.7 billion dollars in 2012 (Pernick, Wilder, & Winnie, 2013). The US government wanted to foster solar panel industry, which is core equipment of solar photovoltaics, for creation of jobs and clean energy since global financial crisis in 2008. Solyndra was representative company in this industry which the US government provided full support to. It
received a 535 million dollars loan guarantee under Department of Energy’s Loan Guarantee Program (LGP) in September 2009 that was financed through Federal Financing Bank (FFB).\(^{23}\) It used 528 million dollars and interest rate was 1.025% per quarter, which is very low and a third or a fourth of interest rate of other project that government supported.\(^{24}\) Furthermore, California state government reduced the sales tax of Solyndra using Sales and Use Tax (SUT) Exclusion in 2010, which amounted to 25.1 million dollars. However, Solyndra went bankrupt in September 2011 even though these kinds of support. Government is projected to recover at most 142.8 million dollars of loan, but maybe nothing on remaining.

The main reason of Solyndra’s bankruptcy was increased competition from China. China caught up with the US, Japan and Germany rapidly in solar panel industry. Competition in this industry became fierce, so the price went down severely. The price of Chinese Crystalline solar panel decreased from €2.83 per peak watt in the 1st quarter of 2008 to €0.46 per peak watt in the 2nd quarter of 2013.\(^{25}\) China also increased their market share from 8% in 2008 to 55% in the last quarter of 2010. Market share of the US decreased from 39% to 13% over the same period (Baldwin, 2011).

In response to China’s catch-up, the US government imposed antidumping duty (highest duty was 250%) on Made-in China solar panel in May 2012 arguing that Chinese solar panel firms received subsidies from Chinese government and engaged in dumping sales. The EU also initiated anti-dumping investigation from September 2012 and imposed provisional anti-dumping tariffs (11.8%~47.6%) on Chinese solar panels in June 2013.\(^{26}\) These kinds of governments’ action were requested by American and European solar panel firms.\(^{27}\) They asked investigation of government arguing that price decrease of solar panel was caused by dumping sales of Chinese firm which received subsidies from Chinese government. Then, China requested WTO dispute settlement system for US antidumping duty on Chinese solar panel.


\(^{24}\) http://abcnews.go.com/Blotter/solyndra-lowest-interest-rate/story?id=14460246#.Uc1H23_08s8


panel in May 30, 2012. They also requested the WTO DSB for subsidies subject to domestic content restrictions and feed in tariffs program in some EU countries, such as Italy and Greece, in November 5, 2012 arguing that these kinds of policies hindered Chinese export. China argued that Italian and Greek governments provided discriminative subsidies to the projects where solar panel produced in EU or European Economic Area was used.\(^{28}\)

5. The Size of the Policy Space: WTO’s SCM Standard\(^ {29} \)

Member countries of WTO are to comply with WTO standards, which embodied the view that the national governments should not have any room to maneuver in WTO regime. This section examine WTO’s SCM (Subsidies and Countervailing Measures) standard, with focus on various subsidies including R&D, to figure out the size of policy spaces for the latecomers in their effort to achieve industrial development.

Under the World Trade Organization (WTO) system, R&D subsidies by governmental entities were permitted as a ‘non-actionable subsidy’ – i.e. allowable subsidies – in accordance with the Agreement on Subsidies and Countervailing Measures (SCM Agreement), although this provision on the non-actionable subsidies terminated as of January, 2000, according to provision of Article 31 of the SCM Agreement. The continuation of the provision became a stalemate due to the absence of the negotiation on its extension.

Figure 2 illustrates how the subsidy is defined and classified in the SCM Agreement. The SCM Agreement Article 1 defines the term ‘subsidy’. The definition of the subsidy contains two basic elements: (a), a financial contribution by a government or any public body within the territory of a member country, (b) which confers a benefit.\(^ {30} \) The forms of “financial contribution by a government” include (i) direct or potential direct transfers of funds (e.g. grants, loans, equity infusion, loan guarantees), (ii) foregone government revenue that is otherwise due, (iii) the provision of goods and services, or (iv) any form of income or price support.\(^ {31} \) However, not all financial contributions by a government are subsidies, and a

\(^{28}\) [http://news.xinhuanet.com/english/business/2012-11/05/c_131952482.htm](http://news.xinhuanet.com/english/business/2012-11/05/c_131952482.htm)

\(^{29}\) This section relies on (W. Shin & Lee, 2013).

\(^{30}\) SCM Agreement Article 1.1.

\(^{31}\) SCM Agreement Article 1.1.(a).
benefit should be conferred from the financial contributions to a recipient. In order to
demonstrate a conferred benefit, a government needs to prove that the recipient obtained an
advantage which it could not obtain in the market place. For instance, if a government
provides goods and services at market prices, no benefit is conferred and thus no subsidy
exists (Sykes, 2005). Despite the clear answer, in considering market prices, no clear answer
yet exists to the question of which market should be used to benchmark.

If a program is defined as a “subsidy,” it then has to be proven “specific” in order to be
subject to possible constraints under the WTO. Subsidies are “specific” when they are
limited to “certain enterprises or industries”. On the other hand, if a subsidy is available on
the basis of “objective criteria or conditions,” then it is not specific. Even if the subsidies
appear to be not specific on legal documents, it can still be specific if it is de facto specific,
meaning the subsidy is in fact specific being used by certain enterprises. Also, a subsidy
that is limited to certain enterprises in a particular region within the jurisdiction of the
administering authority is defined to be specific.

The SCM Agreement governs subsidies by classifying them under the traffic light system –
red light, yellow light, and green light subsidies. The “red light” subsidies are prohibited
subsidies. The two types of the prohibited subsidies are export subsidies and import
substitution subsidies. Export subsidies are subsidies that are tied to export performance, and
import substitution subsidies are the ones that are contingent upon the use of domestic over
imported goods. These subsidies are deemed to be specific regardless of their details. When subsidies are found to be prohibited, the remedy is repayment or removal of the

32 According to Sykes (2005), the concept of specificity originated from the U.S. law.
33 SCM Agreement Article 2.1.
34 According to Sykes (2005); SCM Agreement Article 2.1(b) stipulates “Where the granting
authority, or the legislation pursuant to which the granting authority operates, establishes objective
criteria or conditions governing the eligibility for, and the amount of, a subsidy, specificity shall not exist,
provided that the eligibility is automatic that such criteria and conditions are strictly adhered to.”
(Author’s emphasis included)
35 SCM Agreement Article 2.1(c) stipulates: “If… there are reasons to believe that the subsidy may in fact be specific, other factors may be considered. Such factors are: use of a subsidy program by a
limited number of certain enterprises…” (Author’s emphasis included)
36 SCM Agreement Article 2.2
37 SCM Agreement Article 3.1; Annex I of the SCM Agreement lists prohibited export subsidies.
38 SCM Agreement Articles 3 & 2.3.
scheme. The “yellow light” subsidies are actionable subsidies that are not prohibited altogether yet can be challenged when they are specific and cause “adverse effects”.\textsuperscript{39} The SCM Agreements lists three types of adverse effects on a member country: (a) damage to a domestic industry, (b) nullification or impairment of the benefits of a tariff concession; or (c) serious prejudice to the interests of another member.\textsuperscript{40} The “green light” subsidies, also known as “non-actionable” subsidies, were permitted and offered “countries a method for structuring subsidies to avoid attack under countervailing duty laws. Governments could provide subsidies that fall under the categories above without fear of challenge or countervailing measures. This provision was temporarily in effect for five years\textsuperscript{41} and expired in January, 2000. The types of subsidies that were provisionally permitted were R&D subsidies, regional development subsidies, and subsidies for complying with environmental requirements.\textsuperscript{42} As the provision is no longer in effect, R&D subsidies for other products, besides civil aircraft, can be subject to challenge under the WTO.

When member countries file complaints, the WTO evaluates what constitutes a subsidy and identifies which subsidies are illegal under the WTO rules. The legality of subsidies is largely assessed by looking at whether subsidies impose illegal conditions or distort trade by causing adverse effects on free trade.

6. What can be done

1) Practices of the Current Rules and the Size of the Policy Space

First, the developed countries have been effectively using the WTO rules for their benefits and to check the rise and catching-up of the middle income counties. This paper has shown that in a total of 419 WTO dispute cases or in a total of 86 cases of SCM dispute cases, the majority or more than half have been raised by the developed countries. In the SCM dispute cases (which is closely related to industrial policies), half of the cases were the cases between developed countries, and a quarter of cases were by developed countries against middle

\textsuperscript{39} SCM Agreement Article 5
\textsuperscript{40} SCM Agreement Article 5
\textsuperscript{41} SCM Agreement, Article 31. According to SCM Agreement Article 31, the provision could be extended after the WTO members review it.
\textsuperscript{42} SCM Agreement Article 8.2.
income countries. However, only 17.44% of SCM cases were raised by middle income countries against the developed countries, and 4.65% of cases were the cases between middle income countries. The reasons for the less use of the WTO system by the South seems to include the fact that trade flows of developing countries is usually small, thus expected benefit of WTO disputes is small accordingly, and the fact that the South usually have insufficient legal capacity, such as international lawyer or specialist of international trade and law, to initiate a dispute as Horn et al. (1999) argued.

Second, in 419 WTO cases or 86 SCM cases, there is no single case at all against the low income countries, which implies that these countries may not have to worry too much when they use various tools of industrial policies. Unless they are making a real success to the level of threatening the interests of the developed countries, they would not be brought to the WTO.

Third, the developed countries use various industrial policies but only a few cases have been brought to the WTO, and, more importantly, even in such cases developing countries cannot effectively remedy the situation due to the limited resources or retaliation power to enforce the remedies. This is consistent with a reasoning that executing retaliatory measures against big countries like USA is in practice impossible or of negligible impact for developing countries with smaller domestic markets. Furthermore, even in case developing countries win the filed WTO dispute case against developed countries, it is not beneficial for them to execute the remedies since the allowed retaliatory action is in general either exemption of the WTO commitment or an import-restriction against the developed countries. Then, these remedies are not much feasible because the developing countries usually is dependent on imports from developed countries such as capital and consumer goods, or their exports often heavily depend on market in the developed countries.43

Fourth, large incidence of claims via the WTO rules by the developed countries against the middle income countries indicates that the current WTO rules serve as one source of the middle income trap by frustrating the middle income countries effort to build industrial basis. Banning of export subsidies but allowing R&D subsidies is not easy to be justified. A remote

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43 For example, banana is major export product of Ecuador. Even though they won the three WTO dispute cases from 1996 to 2008 with the EU about banana, available option for Ecuador which WTO authorized was to implement retaliatory measures against the EU. This was not beneficial for Ecuador because the EU was one of major market of Ecuador’s banana (Langlois & Langlois, 2007).
reason might be that R&D is more like to involve market failure. If that is the case, then market failure arising from monopoly or oligopoly in international markets should also be corrected by encouraging more entries by new firms backed by subsidies.

2) What can be done to Change the Current Global Rules

First, there is a strong need to improve the asymmetries and arbitrariness in access and actual use of remedies (retaliatory measures) against faulty parties that are not willing to act on a given ruling, and one way for this would be to set up a third party which will enforce remedies not just by the resources of the involved parties but by international-level resources and penalties. Otherwise, WTO may have to consider introducing a rule that can limit a country with a bigger market size (representing the size of retaliation power) to raise a complaint against a country with a much smaller size when the size difference of the two involved parties are beyond a certain level. Or, there should be set up a committee which will conduct a pre-review of submitted cases.

Second, there is a need to improve the situation that the developing countries are not getting the “promised technology transfer” which was promised to them in return for their agreement with the stricter IPR protection rules in the TRIPs. Otherwise, higher income countries who have failed to deliver the promised technology transfer or ODA commitments (xxx % of GDP) should not be allowed to raise complaint against developing counties who uses R&D or other subsidies to enhance their technological capabilities.

Third, the WTO rules on permitted subsides (so-called green right subsidies), such as on R&D, regional development and environmental compliance is expired by 2000, and there is a need to extend the rule and /or establish a new rules on this in a broad consideration of the interests of the developing countries. While expiration should mean that those subsidies are no longer viable, taking no explicit action after the expiration date could also be interpreted as implicitly keeping the permitted subsidies going on, unless somebody raises a serious objection. If so, it is better to make the scene clear by taking new agreement to allowing these subsidies for an extended or infinite period of time.

Fourth, effort for late entry by newly emerging countries into product market characterized as near monopoly or oligopoly should be treated in a special manner in the WTO rules, because it had the impact of promoting competition and hence efficiency by correction
market failure and distortions associated with monopoly. In such cases, promoting late entry by subsidies or in the form of the SOEs may be justified. Furthermore, a strong international body (like “global fair trade commission”) to monitor the market dominance or distortion by a few big players should be established, which is also to have authority over permission of international M&A which could have anti-competition implications.

Fifth, as noted by Girvan and Cortez (2013), despite the formal equality in terms of decision-making rights, in practice, decisions are made by consensus building which have been dominated by a few major industrial countries, and thus there is the dissatisfaction of the kept out majority. In this regard, a better procedures should be established for smaller, issue-based meetings, with authorization coming from all members and the meetings being governed by transparent rules, and all meeting, such as “Green Room” or “Mini Ministerials,” should be called by all members and should be inclusive and transparent (Khor and Ocampo, 2010).

Sixth, measures to enhance the resources and capabilities of the South in understanding and use of WTO rules and procedures should be implemented, such as training sessions and technical assistances. A pool of international expertise and lawyers can be mobilized and should be available for the South when they need WTO-specific legal services in the cases the South countries are involved. A promising move in this regards is the establishment of the ACWL (Advisory Centre on WTO Law) which is to provide legal service, supports, and training to developing countries.

3) What can be “still tried” under the current rules

First, the developing countries, especially low-income countries, are advised not to take the WTO restriction on industrial policies as an excuse for not doing anything because members can deviate from WTO disciplines provided no other member initiate legal action (and make the case) against that measure, which will happen only when your industrial polices make a significant success. As noted above, the developed countries have been in a sense taking advantage of this feature, and there has been zero case in which low income countries have been the target of dispute in WTO.

Second, in general, subsidies on R&D have not been restricted (or classified as green light subsidies), and, while subsides on export are prohibited, subsidies on production are “green
light subsidies” or have not been prohibited unless they are deemed as specific and causing adverse effect to other member countries, as noted by UNIDO/UNCTAD (2011). Moreover, the SCM does not prevent governments from subsidizing activities—particularly through regional, technological and environmental policies—provided Governments have enough ingenuity to present such subsidies as WTO compatible (United Nations, 2006). In general, the developing countries may try to take advantage of the fact that many rules in WTO’s SCM leave some room for flexible interpretations or loop holes as the term “yellow” light for certain types of subsidies are classified, and that even if you are brought to the WTO process, it is a length process and enforcement is sometimes dubious.

Third, the South may be able to use some “non-specific” subsidies, because non-specific subsidies are not prohibited under the WTO. In other words, when subsidies are not limited to “certain enterprises or industries” but available on the basis of “objective criteria or conditions,” they are regarded as not specific. Along this line, Avnimelech and Teubal (2008) suggested a new “industrial policy” based on the concept of evolutionary targeting in the name of ‘Program Portfolio Profile’ for the innovators to leverage domestic market forces and local demand to stimulate indigenous technology. The proposed evolutionary targeting is an alternative approach to “firm-specific targeting”, and it focuses on the specification of the selection mechanisms. It involves the design and implementation of targeted “programs” for emergence of multi-agent structure.

Last, as noted by Cornia and Vos (2013), developing countries can use a stable and competitive exchange rate as an effective alternative to tariff, as studies (Helleiner, 2011) found that it have a far greater protective effects on the import-competing domestic manufacturing sector than tariff rates of 30 per cent or so. Specifically, they can combine subsidies on production to targeted sectors (which is allowed in the WTO rules) with general under-valuation of their currencies, which would have the same effects as export subsidies on targeted sectors.


Table 1A. The WTO Dispute Cases by the Agreements at Issue

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Source: Authors own based on the WTO dispute settlement data.

Note: The classifications of the agreements at issue according to (Leitner & Lester, 2011);
## Table 1B: The Classifications of WTO Agreement

<table>
<thead>
<tr>
<th>WTO Agreement Title</th>
<th>Abbreviations</th>
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<td>Agreement on Agriculture</td>
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<td>Agreement on Implementation of Article VII of the GATT 1994</td>
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<td>Understanding Regarding Notification, Consultation, Dispute Settlement and Surveillance</td>
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<td>Differential and More Favourable Treatment Reciprocity and Fuller Participation of Developing Countries</td>
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<td>Agreement on Trade Related Aspects of Intellectual Property Rights</td>
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<td>Marrakesh Agreement Establishing the World Trade Organization</td>
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*Source: www.worldtradelaw.net*
Table 2. Classification of WTO dispute cases (Complainant vs. Respondent Countries)

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<th>Classification</th>
<th>NO. of Cases (%) (Request for Consultations)</th>
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<td>Developed country</td>
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<td>Sum</td>
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Source: Authors’ own based on the statistics on WTO dispute settlement data (http://wto.org/english/tratop_e/dispu_e/dispu_status_e.htm). See more details in the Appendix.

Note: Classification between developed, middle income, and low income countries is according to the World Bank definition.
Table 3A. Distribution of Respondent Countries in WTO Dispute Cases Requested by Developed Countries against Middle Income Countries.

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<th>Number of Cases</th>
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*Source*: Authors’ own based on the statistics on WTO dispute settlement case.
Table 3B. Distribution of Complainant Countries in WTO Dispute Cases requested by Middle Income Countries

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Source: Authors’ own based on the statistics on WTO dispute settlement case.
Note: Cases requested by two or more countries jointly are not considered.
Figure 1. Subsidy Classification under the WTO SCM Agreement

**Definition of Subsidy**
- Financial Contribution *Article 1(a)*
  - Direct/indirect transfer of funds
  - Foregone government revenue
  - Provision of goods or services
  - Income or price support

- Benefit *Article 1(b), 14*
  - More favorable than those available in the market

**Elements of Subsidy**
- Specific *Article 2*
  - Limited to certain enterprises
  - Related to a specific sector or activity

- Adverse Effects *Article 5 & 6*
  - Injury to domestic industry
  - Nullification of benefits of tariff concession
  - Serious prejudice

- Deemed specific *Article 2.3*

**Types of Subsidy**
- "Red Light" Prohibited Subsidy
  - "Yellow Light" Actionable Subsidy
  - "Green Light" Non-actionable Subsidy

- R&D subsidy
- Regional development subsidy
- Environmental compliance subsidy
- Not specific *Article 8*

*Source: Author’s analysis based on the SCM agreement*