



ARTNeT Policy Brief

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Recent “green” policies – limited environmental benefits and distorted imports: What should trade policymakers do?

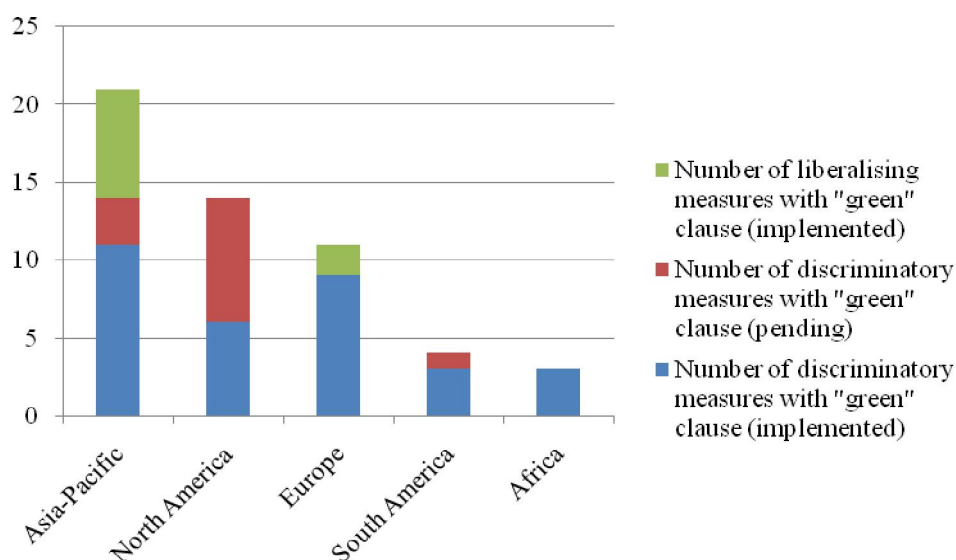
Martin Wermelinger*

1. Introduction

Climate change mitigation and adaptation actions have high priority in multilateral and unilateral policy agendas of governments around the globe (see, for example, Wermelinger and Barnes, 2010). This trend was not stopped by the recent global economic crisis and the succeeding period marked by increasing market uncertainties. Governments intervened to help and save domestic industries with the introduction of bailouts, export subsidies, local content requirements and green investment incentives, among others. Many of these state actions involve some clause as to climate mitigation or energy efficiency/conservation objectives. The recently published Asia-Pacific Trade and Investment Report 2011 (ESCAP, 2011) provides an overview of “green” state measures introduced worldwide since November 2008. Figure 1 illustrates that

the Asia-Pacific region used “green” clauses most often - to liberalise trade or introduce beneficial effects for the partner countries, but also to introduce new discriminatory measures against commercial interests of their trading partners. While the overall number of individual measures implemented by any given country is small, it is possible to identify some common features. “Green” clauses in combination with discriminatory measures are most prominently used in the Republic of Korea (4 measures), China (3 measures), Japan (2 measures) and the Russian Federation (2 measures). For two-third of the discriminatory ‘green’ measure clauses are combined with several other (mostly trade distortive) policies that have no climate or environmental purpose. This finding supports the argument that it is more accepted to use discriminatory measures and to protect domestic producers from foreign

Figure 1: Number of “green” measures since November 2008, by region



Source: Author's calculations, data retrieved from GTA (www.globaltradealert.org) in April 2011, figure taken from ESCAP (2011, p. 41)

* Martin Wermelinger, Ph.D. candidate, University of St. Gallen, Switzerland, email: martin.wermelinger@unisg.ch. The views presented are those of the author and do not necessarily reflect the views of the United Nations or other ARTNeT members and partners.

competition (particularly during economic downturns and during heated debate on climate change), if some environmental or climate objective is mentioned in the regulation. Interestingly, the “green” aspect is the main purpose of implementation for most liberalising measures and thereby shows nicely that climate-friendly and trade-enhancing policies can in fact be merged. Finally, 46 trading partners, 6 sectors and 42 product lines are, on average, affected by distortionary “green” clause measures. This illustrates the likely economic and political importance of these measures.

Some trade policy commentators have questioned whether state measures (often subsidy-like measures) provided under the mask of “green growth” strategies indeed do target or promote “green” production, consumption or investment. Or whether the use of such measures is just a consensual way to introduce new discrimination against some or all trading partners - especially if climate change mitigation action is widely supported around the globe (Aggarwal and Evenett, 2010). This policy brief reports the results and implications from the author’s work in progress “Do green state measures make import patterns climate-friendly?” (2011), which provides some answers to these questions for the case of the Asia-Pacific region. At the end, the brief derives recommendations for trade policymakers in the Asia-Pacific region.¹

2. “Green” measures and possible effects on trade

All reported “green” measures for the Asia-Pacific region affect consumption and investment related to production processes. Table 1 describes three channels how these measures may contribute to climate change mitigation or greenhouse gas emission reduction.

It should be noted that a comparative definition of “green” goods and technologies is used. Goods or technologies produced more energy efficiently by one firm or one country compared to the same (or similar) goods somewhere else are regarded as “green” goods. For example, Thailand produces electronics more energy efficiently than the Russian Federation and thus Thai electronics are “green” in comparison to their Russian equivalents. But, Australia is more energy efficient than Thailand in the same sector and therefore Australian electronics are “green” compared to Thai.²

¹ Data and methods used in the study are not presented in this policy brief. Details can be received from the author upon request.

² An alternative definition of “green” goods and technologies exists if goods are per se regarded as environmental friendly or climate-smart. Among others, ESCAP (2010) provide a list of 64 climate smart goods and technologies; wind turbines or solar collectors are examples. This definition is not used in this brief.

Table: “Green” measures affect production processes through three channels

<i>1. Fostering research and development of “green” goods and technologies</i> “Green” measures may provide financial incentives to domestic firms for research and development of “green” goods and technologies.
<i>2. Using “green” technologies for the production of other goods</i> Domestic firms may receive financial support from their governments if they improve production processes by using new technologies and thus reducing energy consumption of production.
<i>3. Using “green” inputs into production</i> Incentives are provided for the use of “green” inputs (or “green” intermediary goods) into production, that is, inputs that are themselves produced with less energy and better technologies.

All described channels also influence patterns of international trade - or the “climate friendliness” of trade. While increased research and development in the “green” sector (channel 1) should attract foreign expertise through consulting activities (“green” services), channels 2 and 3 are likely to increase the share of imports of “green” goods and/or technologies. Subsequently (after the full implementation of the new production processes), exports should become “greener” as a result of all three channels: Domestic goods will be produced more energy efficiently due to newly developed or acquired technologies. Consequently, inputs into production are “greener” and thus exports of such goods would ultimately be regarded as more energy efficient (with regard to their complete production cycle). Due to this sequential effects, that is, that imports are affected before exports, and given that the implementation of these measures is still recent, only the effects of technologies (channel 2) and inputs (channel 3) on import patterns can be considered.³

Furthermore, it is not directly observed to what extent the implementation of “green” measures extends preferences to domestic suppliers at the expense of foreign suppliers. Therefore, this brief firstly focuses on showing to what extent “climate-friendly” foreign suppliers (in terms of energy intensity) are preferred compared to less “climate-friendly” ones and secondly whether foreign suppliers, which compete closely with domestic suppliers (in terms of energy intensity as a proxy for quality levels), are more negatively affected by “green” measures than less direct ones.

³ The effects on imports through channel 1 are not investigated as data on services trade is not available to the author.

3. Limited environmental benefits

The results are surprising: Implemented “green” measures are associated with an increase of sourcing from more - rather than less - energy intensive countries. Depending on the model specification, a 10 percent increase in energy intensity yields an import share increase of 1 to 3 percent. These findings are contrary to expectations that “green” crisis-era measures decrease the share of imports from energy intensive producers. Stated differently, the efforts of governments to mitigate climate change through “green” crisis-era measures have in general not resulted in the “greening” of imports.⁴ One reason may be that governments have often titled state interventions as being “green”, although the main purpose of implementation was not the environmental aspect. This argument is reaffirmed when considering only the sub-sample of measures in which the environmental aspect was not the main purpose of implementation, that is, they were implemented in combination with other and discriminatory policies: the “non-greening” effect on the pattern of imports is the biggest in this sub-sample.

“Green” measures whose implementation was mainly driven by the environmental policy agenda – and less by other and potentially distortive purposes – are effective or at least neutral in “greening” imports.⁵ In the sample considered, these measures are among others the “removal of the local content requirement on wind turbines” in China, the “import duty reduction for green cars and components” in Thailand or the “green tax incentive on environmentally-friendly cars” in Japan.

The results for models looking at the propensity of importing from a specific source (also known as the extensive margin of importing) are slightly more promising. All models yield the expected negative sign: Given that “green” measures are implemented, the more energy intensive the source is, the less an importing country is likely to import from that source. The results are, however, not very strong as to statistical and economic significance.

In sum, energy intensive imports existing before introduction of a “green” measure (insiders) may benefit and energy intensive new imports (outsiders) may lose from “green” policies. Overall, evidence for environmental benefits of “green” crisis-era interventions through the import channel is limited. For some cases,

⁴ More specifically, import shares from countries with “greener” production became smaller and import shares from countries with less “green” production became bigger.

⁵ The effect may be “neutral” as none of the estimated numbers is statistically significant.

the implementation of such measures is in fact associated with imports that contribute to environmental degradation.

4. Protection of domestic suppliers against foreign competition

While the environmental benefits of the implemented “green” measures are limited, it might be that some of these “green” policies have trade distortive effects through their mercantilist characteristics. It is therefore tested whether source country suppliers, which are in close competition with domestic country suppliers, are discriminated. Stated differently, it is checked whether the indirect competitors can relatively increase their market shares in the interventionist country. Direct (compared to indirect) competitors are defined as producers from the source countries with energy intensity levels similar to those of implementing countries. Energy intensity is thus used as a proxy for quality.

In most models, bigger energy intensity gaps between local and foreign suppliers are associated with smaller import shares from the foreign sources. This finding demonstrates a stiff competition with some “direct” foreign competitors in the market: import shares of “direct” competitors are on average higher than import shares of indirect competitors. Interestingly, the coefficients have the opposite sign when measures studied have liberalising character and with those measures which have been implemented directly for the environmental impact. As import competition is not very intense in these markets indirect competitors have higher import shares), governments face less opposition from lobbies to liberalise.

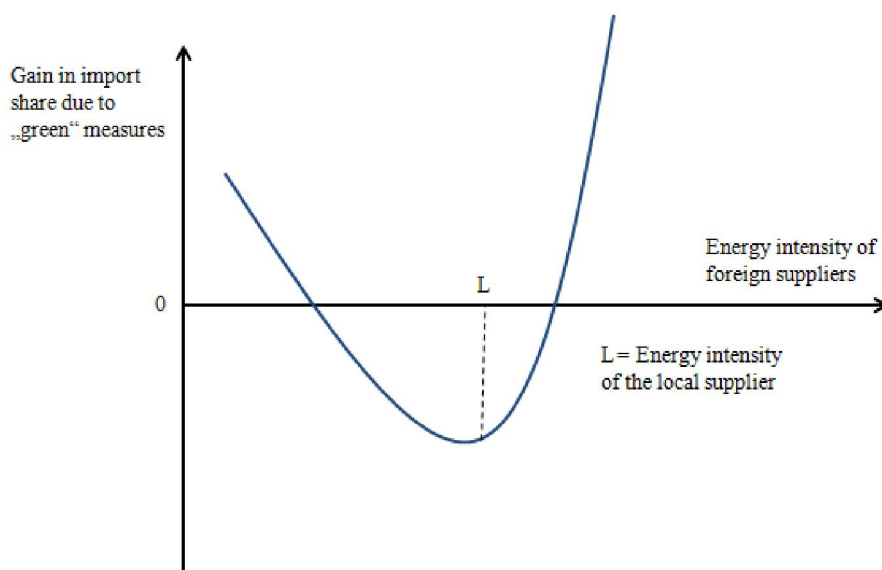
As stated in the hypothesis above, import shares of less direct competitors gain market share in the markets in which “green” measures have been implemented. Hence, governments introduced discrimination against commercial interests of “close” foreign competitors with their implementation of (alleged) “green” measures. As expected, such a development is not observed in cases where measures are labelled as liberalising and in cases where the environmental aspect was the main purpose of implementation.

Investigating these effects separately in cases where local suppliers are always less energy intensive than foreign suppliers and vice versa, the above described results are confirmed for both sub-groups. However, in the case where local suppliers are always less energy intensive, “green” measures involve a stronger relative gain in import share for less direct competitors than in the opposite case where local suppliers are always

more energy intensive. Figure 2 illustrates these asymmetric effects schematically. Thus, besides the confirmed discrimination against close competitors, the “green” measures may also decrease the “climate-

friendliness” of imports, which was also found in the benchmark results discussed above.

Figure 2: Schematic effects of “green” measures on import shares of foreign suppliers, by energy intensity levels of foreign suppliers



5. Recommendations for trade policymakers

Several recommendations for trade policymakers can be derived. Asia-Pacific “green” policies implemented since the global economic crisis have only minor or no environmental benefits – at least based on a study of the import channel. But, evidence for these “green” measures having distortionary effects is found. The results show however that liberalising “green” measures and measures, for which the “green” aspect is the main purpose of implementation are most likely to yield environmental benefits.

Trade policymakers (and policymakers more generally) should therefore contribute to climate change

documentation of proceedings make unilateral climate change mitigation and adaptation initiatives more credible and put peer pressure on other countries. This is not only relevant for trading partners, which may benefit from ideas of original “green” policies and instruments, but it is also relevant for self-evaluation purposes. Ultimately, as shown in this policy brief, transparency in the design of “green” measures is needed for their environmental effectiveness.

References

Aggarwal, V. K. and Evenett, S. J. (2010). Financial crisis, “New” Industrial Policy, and the Bite of Multilateral Trade Rules. *Asian Economic Policy Review*, 5(2): 221-244

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