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**Comments Regarding U.S. International Trade Commission's Forthcoming Study on
Modifications to the Korea FTA Affecting Passenger Vehicles
Investigation No. 332-523
Public Citizen's Global Trade Watch
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Public Citizen is a national, nonprofit public interest organization with 150,000 members and supporters that champions citizen interests before Congress, the executive branch agencies and the courts. We thank the U.S. International Trade Commission for the opportunity to submit comments regarding its forthcoming study on the modifications to the Korea Free Trade Agreement (FTA) affecting passenger vehicles.

Before turning to the question of how to best model the new auto supplemental agreement, we must first assess the accuracy of the original modeling exercise conducted for the Commission's 2007 Korea FTA study. The 2007 study used a modeling technique called a computable general equilibrium (CGE) model that has had a very poor track record in accurately predicting the effects of change in trade policy upon trade flows and the U.S. economy. Furthermore, even if the CGE modeling technique were to be deemed acceptable, the 2007 study's treatment of the auto sector was extremely unrealistic, as it assumed that Korean consumers respond to changes in the price of U.S. autos in the same way that U.S. consumers respond to changes in the price of Korean autos. If the Commission hopes to render more accurate predictions of the effect of the auto supplemental agreement to the House Ways and Means Committee, it must address these shortcomings of its 2007 study. Finally, there are several considerations that the Commission may wish to take into account in order to improve its estimate of the impact of the supplemental agreement itself.

Defects of Computable General Equilibrium Models

In its 2007 assessment of the Korea FTA, the Commission relied almost entirely upon the results of a CGE model using the Global Trade Analysis Project (GTAP) framework to develop its quantitative predictions of the effect of the Korea FTA upon the U.S. economy. This heavy reliance upon CGE modeling is somewhat disturbing since past CGE-based estimates of trade agreement effects have exhibited very poor accuracy.

The North American Free Trade Agreement (NAFTA) has been the most economically significant and most studied U.S. FTA. CGE models figured prominently in the discussion about the possible effects of NAFTA before Congress voted on the pact. In fact, the Commission convened a symposium on the possible effects of NAFTA in 1992 and received no fewer than ten studies that attempted to predict NAFTA's economic effects though the use of CGE models.¹

An economist at the Federal Reserve, Timothy J. Kehoe, undertook a study to measure the accuracy of CGE models in predicting the effects of NAFTA. His study found that the three CGE models he examined “drastically underestimated the impact of NAFTA on North American trade.”² Kehoe also found that the CGE models “failed to capture much of the relative impacts on different sectors,” which is a conclusion particularly pertinent to the present discussion of the impact of the Korea FTA upon the auto sector.³ Importantly, two of the three NAFTA CGE modeling exercises that Kehoe examined were presented at the symposium organized by the Commission that aided in the development of estimates of the economy-wide effects of NAFTA for the Commission’s official report to Congress.⁴ In Kehoe’s evaluation of the CGE study that focused on NAFTA’s anticipated effects upon the United States, he found that the model’s predictions of NAFTA’s impact upon U.S. imports was less than a tenth of the actual effect of NAFTA.⁵ Kehoe concluded his study with a recommendation: “If a modeling approach is not capable of reproducing what has happened, we should discard it.”⁶

Despite Kehoe’s suggestion that CGE models be discarded (or at least radically redesigned), the Commission has continued to employ upon them to inform policymakers’ decisions, resulting in predictions as inaccurate as the CGE predictions on NAFTA. For example, the Commission’s study on the likely effects of China’s tariff offer for WTO accession estimated that the U.S. trade deficit with China would increase by only \$1 billion dollars due to China’s accession.⁷ In reality, the trade deficit with China skyrocketed by \$167 billion between 2001 and 2008.⁸ Although China’s WTO accession alone (and the favorable trade treatment that came with it) likely did not cause the entirety of the huge rise in the trade deficit with China, it almost certainly contributed more than \$1 billion dollars to the rise in the deficit.

Economists at the Commission itself have recognized the low explanatory power of the GTAP CGE framework in particular. A 2001 Commission working paper found that the economic behavior modeled in the GTAP framework explains less than 20 percent of the variation of bilateral trade flows in 33 of the 50 GTAP sector groupings.⁹ Other economists have criticized the models as having structures that do not take into account what is known about economies from empirical investigation.¹⁰

One possible reason for the low predictive power of CGE models is that they tend to model only changes in tariffs, yet FTAs contain much more than just tariff cuts. In fact, FTAs can be thought of as primarily investment agreements, since much of the content of the texts of the FTAs limit the options of governments to regulate foreign and domestic companies without risking a trade dispute. This curtailment of policy space makes shifting of production abroad much more attractive to multinational corporations. Thus, following an FTA, there tends to be much greater imports into the U.S. than would have been predicted from tariff cuts, since goods formerly produced in the U.S. are subsequently being produced in the territory of U.S. FTA partners.

An examination of the historical record of how FTAs have affected trade flows would be a useful proxy for the effect of FTAs on investment flows and employment changes. The Commission could use the knowledge gained from such an examination and apply the historical lessons to the Korea FTA. This may be a way for the Commission to supplement CGE modeling – already shown to have a poor track record – since CGE models do not explicitly take into account historical experiences with changes in trade policy.

2007 Model Ignored Reluctance of Koreans to Purchase Imported Autos

The Commission's original modeling exercise completely failed to take into account the differences between American and Korean consumers' preferences for imported autos. The text of the study itself noted that anti-import bias among Korean auto consumers likely restrict sales of U.S. autos in Korea.¹¹ Despite this acknowledgement, the quantitative CGE modeling exercise assumed that Korean and American consumers have the same propensity to substitute imported autos for domestic autos.

A 1999 consumer survey found that 42 percent of potential Korean owners of foreign cars thought that their car would be vandalized if they owned an imported car and 30 percent were concerned that they might be assaulted for being an owner of an imported car, suggesting a widespread nationalistic sentiment against the purchase of foreign autos in Korea.¹² The low Korean propensity to purchase imported cars is revealed in the persistently low level of import penetration in the Korean auto sector, which was 5 percent in 2008, or 35 percentage points below the OECD average of 40 percent.¹³ The auto supplemental agreement may even somewhat reduce the likelihood that Korean consumers would purchase imported cars since U.S. cars will be known to be noncompliant with Korean safety standards. In the wake of the 2010 Toyota "sticky gas pedal" scare, a Korean auto market analyst described the strong response of Koreans to foreign autos' safety concerns: "[N]o matter how much emphasis is put on locally imported vehicles being safe, people will be skeptical."¹⁴

Given this strong anti-import bias, considering U.S. and Korean auto import preferences to be identical appears to be an unsound methodological decision. Yet, as described in Appendix F of the 2007 study, the model used by the Commission sets the elasticities of substitution between domestic and imported varieties of autos – known as the auto "Armington elasticity" – for both the United States and Korea to 2.8. The Armington elasticity largely determines the increase in imports that results from tariff reductions. Larger Armington elasticity values in an importing country typically result in larger changes to imports into that country.

This decision to use the same value for the U.S. and Korean auto Armington elasticity is quite consequential. The founder of the GTAP CGE model, Thomas Hertel, has written that estimates of the effects of implementation of free trade agreements derived from CGE modeling "have been shown to be particularly sensitive to assumptions on the price elasticity of export demand."¹⁵ In other words, the modeler's choice for the Armington elasticities strongly influences the results of the model. A Commission working paper on Armington elasticities came to the same conclusion.¹⁶ Therefore, the Commission's decision regarding the appropriate handling of the Armington elasticity may have a greater effect upon the results of the study than even the quantitative estimate of the tariff-equivalent effects of the auto supplemental agreement.

It is possible that the Commission chose to set the auto Armington elasticity to 2.8 for both Korea and the United States because the standard GTAP model assigns all regions the same Armington elasticities (although the elasticity is different for each sector).¹⁷ However, this fact does not eliminate the possibility of setting different auto Armington elasticities for different regions when modeling with the GTAP framework. In fact, Elena Ianchovichina, a World Bank

economist, sought to incorporate duty drawbacks into the GTAP model and was able to assign different Armington elasticities for different regions through modification to the computer code contained in the GTAP program's TAB files.¹⁸ If the Commission wished to use the GTAP model to develop its quantitative estimates of the effects of the auto supplemental agreement and let Armington elasticities vary by region, Ianchovichina's paper could act as a guide since it describes in detail the necessary modifications to the GTAP code. A recent empirical study has revealed ample evidence that, in reality, the Armington elasticities are different for each country.¹⁹

To improve the accuracy of its modeling exercise, the Commission should take into account the fact that Korean and U.S. consumers view imported cars as substitutable for domestic cars to different degrees. The Commission could set the U.S. auto Armington elasticity to 3 and the Korean auto Armington elasticity to 1 within its model in order to account for these differential consumer preferences.

The Commission may choose to use a partial equilibrium model instead of a CGE model to examine the impact of the supplemental auto agreement. The Commission used such a model for a 2001 study on the likely effects of an acceleration of apparel tariff phaseouts in NAFTA upon the domestic apparel industry. That exercise is similar to the study that the Ways and Means Committee has now requested of the Commission; the Commission had previously published its prediction of the economy-wide and sectoral effects of NAFTA, but it was later required to give predictions of the impact upon a particular sector of a proposed modification to the implementation of the trade agreement.

Use of a partial equilibrium model, like a CGE model, requires the Commission to choose Armington elasticities for the U.S. and Korean auto sectors. As discussed above with respect to the CGE modeling, it is crucial that the Commission not assume that the Armington elasticities for the U.S. and Korean auto sectors are the same. Rather, it should ensure that its model is the most realistic possible.

Finally, if the Commission chooses to use a partial equilibrium model, it is important that the Commission report the full quantitative results of the predicted changes in trade flows and impact upon the domestic U.S. industry. In previous studies using partial equilibrium models such as the study on the effects of accelerated apparel tariff elimination under NAFTA, the Commission has described the effects only with references to very coarse categorizations: "little or no adverse effect", "significant adverse effect", and "substantial adverse effect".²⁰ The Commission has justified reporting with these categories by asserting that they provide consistent descriptors across many reports.²¹ While uniformity across reports for comparison purposes is a desirable goal, nothing prevents the reporting of the full numerical results alongside the standardized categorization. Indeed, failing to report the full numerical results would deprive policymakers and the public of valuable information about the likely effects of the Korea FTA.

Considerations for Modeling Effect of the Supplemental Auto Agreement Itself

The Commission should take into account two considerations that may diminish the effects of the auto supplemental agreement. First, previous commitments on the part of Korea to reduce

barriers to U.S. autos have not resulted in increased U.S. auto sales in Korea, as noted by Ford Motor Company in its official comments to the Commission.²² Although this may be due to the Korea's somewhat uneven implementation of the commitments, the Commission should consider the possibility that the changes in the regulatory requirements for U.S. autos imported into Korea mandated in the supplemental agreement will induce only a negligible rise in Korean consumption of U.S. autos, given the history of similar attempts in the past. Second, as was made explicit in the exchange of letters formalizing the auto supplemental agreement, U.S. autos will not have to comply with Korean environmental and safety standards. Therefore, the supplemental agreement itself may alter Korean consumers' preferences for U.S. autos by intensifying the already existent perception in Korea that U.S. autos are less safe and more environmentally harmful than Korean autos, which *will* have to comply with higher safety and environmental standards. These two considerations should persuade the Commission to employ conservative estimates of the potential effect of the supplemental agreement for modeling purposes. For example, if the Commission chose to estimate the effects of the safety and environmental standards econometrically, the Commission could reduce its empirically obtained estimate by 25 to 50 percent for the final modeling exercise to take into account these less quantifiable mitigating factors.

But the estimate of the magnitude of the nontariff barriers addressed in the auto supplemental agreement comprises only half of the modeling task. The other half is the timing of the implementation of the safety and environmental exceptions and the tariff phaseouts. Consistent with others' modeling of tariff reductions, the Commission has typically modeled the long-term equilibrium when estimating the effects of trade agreements, which meant modeling the effects of full implementation of the tariff implementation. So, for instance, the Commission's study of the Korea FTA illustrated possible effects on the U.S. economy twenty years after entry into force of the agreement, since the final tariff phaseout would be completed in the twentieth year of implementation (corresponding to staging category P in the Korea's tariff schedule under the FTA). It is then crucial to note that the exemption from compliance with Korean environmental regulations granted to U.S. automakers in the supplemental agreement will only last until 2015.²³ If the Korea FTA were to enter into force in 2012, the auto tariff reductions would only be complete in 2022.²⁴ Thus, if the Commission followed its typical modeling procedure and assumed complete tariff phaseout for autos, it would in effect be modeling the barriers existing in 2022, which means the environmental exemptions would no longer apply. Given the expiration date of the fuel economy exemption, the Commission should not model a scenario in which the tariff phaseouts are complete but the fuel economy exemptions are in effect, because such a scenario will never exist.

ENDNOTES

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